

GEOGRAPHIC AND GEOLOCATION COMPETENCES FOR PEOPLE IN LATER LIFE



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This handbook offers pathways to explore and use expertise from project partners, trainers and their groups of learners in adult education, health care promotion, ICT and unifies these pools of knowledge by tailoring them to the needs of people over 45.

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CHAPTER 1. INTRODUCTION

Adamo, Annalisa; Bacioglu, Bulent; Epstein, Monique; Fabbro, Alessia; Florindo, Maria de Jesus; López, Juan; Pettelat, Françoise; Romo, Carmen; Yurduseven, Mükerrerem

1. FOREWARD

This publication is a product resulting from the activities implemented within the two years Grundtvig Learning Partnership project OUTDOOR ICT (Code Ref. 2011-1-HU1-GRU06-03650-2) in the framework of the Long Life Learning Program from the EU and brings together 6 different institutions from Turkey, Italy, France, Spain, Portugal and Austria.

The project intended to face the challenges of the new "Information and Communications Technology for Ageing: ageing well in the Information Society" and offered pathways to explore and use expertise and knowledge of project partners in the field of adult education, health care promotion and ICT and unified these pools of knowledge by tailoring them to the needs of people over 45.

2. RATIONALE

Ageing population is one of the main concerns of the European Union. Due to increased life expectancy and the decreasing number of births European population faces the challenges of having more older people and elderly as well as an ageing workforce. It has overwhelming consequences for not only the labour market but also for the society. Despite all the efforts of the EU to create greater social cohesion there seems to have an ever enlarging gap between generations. This gap is even more rapidly deepens due to the differences of competences in ICT.

Those who do not adapt to these changes and acquire new competences in this field will lose positions in the labour market and also can become subject to social isolation. While the young generation is motivated to use ICT and –we can state- grows up with absorbing its applications and manifold usage, people over 45 are lagging behind. It is not only that -as opposed to present day teens and youngsters in their 20ies- people 45+ do not find ICT as their natural part of their lives, but also most of the times they do not feel motivated enough to get a new start. Many times the reason is that they value active lifestyle and feel that using computers and other tools distracts attention from „more important” activities and enclosing individuals into a virtual world where sedentary and unhealthy lifestyle prevails.

This project undertakes to overbridge this gap by offering older people ways of acquiring knowledge on ICT, which combats sedentary lifestyle and offers use in active lifestyle, gives new means to create and maintain social connections, offers informal and motivational ways of learning, offers ways to share experience with national and

European fellows, gives opportunities to be creative and pro-active by exploiting the gained knowledge.

3. GENERAL OBJECTIVES OF OUTDOOR ICT

In general, the main objective of the project was to provide opportunities for exploring ways of applying knowledge gained in the field of ICT to the promotion of active lifestyle by gaining and sharing knowledge and experiences of partners and participants and empowering people over 45. Concrete objectives of the partnership are the following:

- Investigating the needs of adult users 45+;
- Exploring ways to combine knowledge and expertise gained in the fields of health promotion, ICT and adult education;
- Sharing knowledge and expertise of project partners;
- Giving opportunities for people 45+ to explore new, entertaining but also useful ways of learning ICT;
- Building up or empowering communities which -besides traditional ways of keeping contacts- are maintained by online social networks;
- Overbridging intergenerational gaps.

The group of this partnership project included professionals such as teachers, researchers and technical staff belonging to all the involved institutions that worked together in the planning, implementation and evaluation of the partnership, as well as people over 45 that were integrated into the learning activities in two different ways. On the one hand, learners have been engaged in the cooperation and have worked and shared experiences actively inside and among the created communities in the different involved countries. On the other hand, learners' points of view and beliefs expressed have been vital to reach the goals of the partnership, as they have been the principal receivers of it and also the main source of information. There has been a continuous cooperation between project coordinators, trainers and end-users. The final target group (people 45+) with the guidance of trainers and project managers has acquired knowledge and competence towards the end of the project, which they can use for further activities with people previously not included in the project. More information is available in the Project web site: <http://www.outdoorict.uma.es>.

4. PARTNERSHIP

The European institutions that participated in this partnership were the following:

Università delle LiberEtà del Fvg

ITALY

www.libereta-fvg.it

Die Kärntner Volkshochschulen

AUSTRIA

www.vhsktn.at

Aula de Mayores de la Universidad de Málaga

SPAIN

www.uma.es

E-Seniors Institute

FRANCE

www.e-seniors.asso.fr

Cultural Institute of Évora

PORTUGAL

EdirneTurism and Hospitality Vocational High
School

TURKEY

www.edirneaotml.k12.tr

5. RECOMMENDATIONS ON EXPLOITATION OF RESULTS OF PREVIOUS PROJECTS

In the first phase of OUTDOOR ICT, several projects were presented as best practice examples, by partners involved. These could bring new ideas for training possibilities.

The presented projects could also deliver inputs for the design of OUTDOOR ICT activities and support the exchange between the partners through sharing methods and contents. Therefore this subchapter contains descriptions of various projects, presented at this meeting.

5.1. Grundtvig Learning Partnership “A Sense of Place: presenting your locality” (Università’ delle Libere del FVG - Italy)

This partnership between four residential learning centers has been targeting adults, including those who are socially disadvantaged through limited access to education. It addressed a common need to build confidence and self-esteem and it promoted a spirit of sharing and cultural learning, garnering enthusiasm to engage proactively with those from similar backgrounds in an international context.

Four groups of 16 eligible volunteers, typically over 40 years old, from communities near to each residential partner’s base each attended a 4 day Hosting Skills workshop at their respective residential colleges. This provided them with skills in presenting to others, help in finding out about the history, geography and popular culture of each locality.

Subsequently, each national group planned, organized and hosted a 5 day Guest Visit for 8 participants from each of three partners. These four transnational visits took place in April and September 2010, and in February and June 2011. At each guest visit, host group members acted as guides and facilitators for their guests, presenting what was of particular interest to them. In a residential setting, friendships have been formed and participants have shared and learnt about three other cultures, their languages and lifestyles.

It has been a really interesting experience on different regards and therefore we believe that the following information can be useful into the implementation of the Outdoor ICT project and other similar ones:

Best Practices

Within this project there has been an important social interaction, where the following best practices or key achievements can be highlighted:

- Receiving and giving encouragement
- Being critical and sharing ideas
- Building trust and valuing others

- Clarifying, negotiating, challenging, learning
- Enhancing self-esteem through ‘achievement’

Innovative character

Within this project individuals had the possibility to be independent, self-motivated and willing to participate in the programme, with a level of native language and social and life skills, appropriate to understanding information geared to the general public. They have been able to complete clearly defined tasks with appropriate support. They have lived locally and therefore have had some knowledge and likely interest in their locality. They have been prepared to see things anew and keen to find out more about people and cultural legacy across Europe. What they were lacking and that they have gained through this experience

has been the self-confidence to work with others , the raising of their self-esteem and contributing to a sense of well-being.

Sustainable strategies

Through working with similar target groups, Partners recognised the positive impact that experiential learning, particularly based in a learning setting, can have. The increased opportunity for meeting those from diverse backgrounds, traditions and experiences which this partnership provided, helped further broaden perspective, and learning insights into other localities and promoted more active citizenship and involvement in the participants’ own communities. Participation in these learning activities had the possibility to increase the chances of individuals seeking and taking advantage of further participation in their own learning development and to encourage others within their community. The project provided participants with a range of skills which would be transferable back into their community.

In this project, the partner saw the possibility to employ and connect elderly persons to their cities, through training. Also Outdoor ICT is involved and included.

5.2. Leader Project “Learning moves! Innovative forms of learning ICT for women in rural regions” (Die Kärntner Volkshochschulen – Austria)

Learning moves is an open and flexible training offer that makes participants to learner. The target groups are educationally disadvantaged women, which are trained directly in their local communities. In order to reach out to the target group, we cooperate very closely with the community councils and the mayors. We ask them to send out invitations to the information-event “to all households“. Interested women can register for the information-event directly at the town hall, which also takes place in premises of the town hall.

The content of the workshops are ICT and learning competences, while the focus lies on the practical usage of the internet. Also learning how to learn and setting realistic

goals is of importance. Supported are the women by trainers which are also acting as learning-coaches.

At the first module the course content is transferred mainly by the trainer. At the second module - through e-government - the women are made aware of the practicalities and benefits of the internet. The women are learning mainly through guiding texts and already materials, while the learning coach withdraws and only assists if all other supporting possibilities were used. The highlight of the course is the final presentation in festive manner. We present the participants in public and make them visible.

Best Practices

- Making learners from participants
- The women learn ICT-Basics and learning skills for independence by learning in the future
- We use playful methods for more fun in the courses and because of a better retentiveness

Innovative character

- Learning/training in local communities with regard to the structural conditions of the women
- Reach out the target group by cooperating with the local community councils and the mayors

Sustainable strategies

First results of our evaluation show that the women are more confident in working with the computer, that they buy new devices, install programs and in particular use the internet and e-mail. Moreover they are motivated to continue learning.

We implement the new methods in our classical courses and develop new course-concepts. We transfer the know-how to other trainers.

The mobile-ICT workshop and the learning-network were invented by Prisma (Centre for training and jobs, Voitsberg) in the framework of an EU-Project and the development-partnership „learn forever“. It was transferred to the adult education centers Carinthia in 2008.

5.3. Grundtvig Project “HEuRIT(AGE)” (E-Seniors Institute - France)

The procurement of ICT-skills for older generations is also very relevant in the following project and linked with cultural and historical heritage. HEURIT(AGE) deals with senior citizens learning groups, promoting their cultural and historical heritage and developing their European citizenship, in dialogue with younger generations and using new technologies.

During the project a multilingual searchable web tool has been developed. This tool "www.heuritage.eu" offers local groups and communities a web platform to upload pictures, movies, documents from the past. By doing this, they built up a global local memory site from localities all over Europe. All local groups and partner organizations can share memories on community life and patrimony in a multilingual database web tool; pictures, stories and movies from the past.

Best Practices

Each partner organization worked on a own rhythm and structure with senior citizens groups: some partners organized computer courses how to deal with images, others organized on regular base workshops on the same theme or brought together small groups of seniors citizens on the theme of local heritage.

The web platform was the general outcome from the project, but besides that local partners developed publications and other forms of presentations on the local heritage, brought together by senior citizens.

Innovative character

The innovative character comes from the fact that we have a collection of very simple pictures whose subject is just real life but, because of the explanation which goes along with the photos, he becomes a testimony of the past for the BIG HISTORY and a transfer of memories for the next generation.

Sustainable strategies

The Heuritage web platform is an ongoing process, open for all local organizations in Europe.

5.4. Grundtvig Learning Partnership “Project Natural Sciences for Adult Learners Natur(S)_AL” (Senior University of Évora - Portugal)

This project presents something new for all partners: the intention to use ICT for transnational activities and also to research and as innovative in Natural sciences. All Institutions in the partnership work with adult education. The idea of a project considering natural sciences seemed very good idea considering specifically four main areas in which we intent to act: Community; intergenerational relations; gender and ICT.

Community, because we want to open the doors of our work and make it available to the community living around us.. Natural Sciences are the perfect aim for captivate new learners and explore realities around us and show them to the community.

Intergenerational relations are a path to relate adult learners with children and make profitable relations and atmospheres, considering the adults knowledge and life experience in opposite with children's.

In the activities of the partners there are a highest number of learners' women, meaning that men are not so available or motivated to participate in educational activities. Considering natural sciences we believe that it's an area that allows both man and women to participate, but within we can see different subjects that are more specific for men and some for women.

We can use ICT in the learning of natural science as an instrument of research, knowledge, developing subjects and work in groups or individual. The use of ICT in adult learners can also be considerate a very innovative way of doing experiments. Transnational activities can also be done using ICT resources.

Best Practices

To execute this project, first we've identified the following problems:

- big distance and no relation between different generations
- low number of men in educational activities
- low interest in natural sciences area
- low interest in keep the environment around us
- difficulties using new technologies

To solve the mentioned problems we've chosen, as best practices to:

- Create and develop an activity that encourages learners to take an active role in the net. Gather and test different approaches to achieve this active involvement.
- To apply the concepts acquired from the partnership over one or more courses with our own learners.

- Write out new curriculum for the college on natural sciences, environment protection and sustainable development.
- To implement the good practices in the methodology of senior's teaching.
- Approach natural sciences considering some uncommon practices.
- Create, develop and update a website for the project activities.
- Do experimental workshop where master plans are carried out in the fields of the environment, welfare, cultural assets and environmental protection.
- Organize common learning activities for the children and old people - intergenerational relations.
- Share materials and experiences considering previous activities in Natural Sciences.

Innovative character

In this project we consider very innovative the possibility to work in four main areas, in order to solve some identified problems:

- ICT
- Age
- Community
- Intergenerational Relations

Sustainable strategies

Within our institutions our sustainable strategies are to make an approach to the community, to promote intergenerational relations, to allow both men and women to participate in educational activities, but especially men and finally to use ICT to transnational activities and also to research and as an innovative tool in Natural sciences.

5.5. Grundtvig Learning Partnership E-COM+45 “E-Competences and e-communication for People from their Mid-forties and Seniors” (Aula de Mayores, University of Málaga - Spain)

The last project presented carried out a needs assessment (with questionnaire) among the target group +45 and can therefore deliver very useful information for all partners. Furthermore, Aula de Mayores de la Universidad de Malaga offers important inputs for a successful design of OUTDOOR ICT project. Information about this project is available by the link www.outdoorict.uma.es.

We can state that the first aim of our project was to adopt a multidisciplinary approach to ICT (Information and Communication Technologies) education for people from their mid-to-late forties and seniors in order to analyze crucial aspects underlying this issue. In particular, we were interested in aspects such as: (a) how these people can integrate themselves in the current scenario designed by the application of ICT in new forms of work organization and new opportunities of employment or civil engagement, (b) how to encourage them to have a longer working life either as professionals or as volunteers, or (c) which pedagogical methods and practices can most effectively promote learning processes for that purpose. All in all, our aim was to give answers to the following research questions:

(1) What does this population segment want to learn regarding ICT to improve their skills in order to enlarge and improve their working or social life?

(2) Which are the main pedagogical methodologies and practices that the different partners use?

(3) How effective are such pedagogical methods and practices with our senior students?

The participants of the 7 institutions from all over Europe:

- have explored subjects together,
- have shared ideas on teaching methods and techniques,
- have exchanged ideas on topics concerning the main interests of this population segment, and
- have discussed about best practices carried out.

The research methodology has been extensively based on questionnaires. Moreover, participants have exchanged visits organized by the different participating teams alternatively which have proved invaluable in enabling the teaching/researching staff to experience first-hand other teaching techniques and models and thus improve their own practices. But central to this project has been the fact that the students themselves have been invited to play an active role in the development of it by cooperating to achieve the goals of the project. Students exchange visits and regular contact by the internet have enabled them to reach common topics of interest in ICT that have certainly nourished our own conception of the state of the art.

We were of the view that ICT learning and the development of e-competences on their part could facilitate both their integration and also a higher standard of living to this group of population in several ways:

1. It may enhance their everyday tasks (shopping, arranging medical appointment, general information search, etc.) even if they are physically handicapped.

2. It may strengthen their social links (social groups, blogs, chats, etc.) and hence improve their perceived quality of life at the realization that isolation does not exist any longer.

3. It may empower them to become familiar with and develop a new form of work organization, such as E-work, particularly useful for promoting the qualification of the weakest segments of the society¹.

Regarding the suggestions we would like to make, based on our previous experience with reference to aspects of innovation and sustainability aiming at succeeding, the following seem of particular relevance:

Best Practices

A good plan to disseminate the results through adequate means and events, enhancing access to reliable materials through the internet, and supporting it also with other mass media communication (printed press, TV, radio, Facebook, and so on) that may echo the conclusions achieved is also of importance. Another aspect that should never be neglected is the attention to the materials created while the project is being implemented, whatever their nature: written materials, power point presentations, videos, etc. All of them must have a carefully designed layout (colour, aspect, typology of letters, images, etc.) so that it is motivating. Also, the information must be well organized and be reader-friendly with indexes, charts, summaries or mind maps. The interface is of remarkable importance in the case of on-line materials.

Innovative character

It is important to take into account the target group's point of view, in this case, seniors with an open mind, flexible, and eager to live new leisure experiences and to improve their digital competences through geocaching. Passing questionnaires and making interviews, knowing their opinion first hand so as to include it in the implementation of the teaching materials are just about essential keystones to guarantee the success of any project. Interestingly, it seems to us essential to build a learning community so that we can interact with them all the time long while the project is being implemented. The feedback we can obtain is critical in order to obtain valuable and quality results.

Sustainable strategies

Moreover, it seems essential to involve local institutions as much as possible so that they contribute to achieve the pursued goals. They can facilitate useful resources for the

project (contacts, access to mass media, dissemination local events, etc.) as well. It is very important that the community surrounding the project appreciates not only the potential usefulness of it, but also the manifold benefits associated with it.

To sum up, all these best practice examples are dealing with adults, especially with elderly generations and use ICT – skills as means for communication and education. The project partners can use these ideas for their own educational programmes, as well as the ICT-examples for the OUTDOOR ICT project.

CHAPTER 2. GEOLOCATION, A WORLD OF POSSIBILITIES FOR PEOPLE IN LATER LIFE

De Lázaro y Torres, M. Luisa; Delgado Peña, J. Jesús

1. INTRODUCTION

The growing importance of geolocation in today's society reinforces the use of GPS. It is already used by a large number of people, although the challenge of its use in teaching and learning in adult education is still pending. Field work takes on a new dimension with the GPS, by integrating information obtained from this system with other geographic information and providing new conclusions. This contributes to territorial research and analysis.

In the last few years, the view of the Earth represented in three multiresolution dimensions has become widespread through a number of events such as improvement in computer power and software, growth and improvement of the Internet, virtual globes, for example, Google Earth, Spatial Data Infrastructure (SDI) within the framework of the INSPIRE European directive, the increase in land remote sensors, and more recently, the emerging technologies that come from mobile devices. All this has resulted in a revolution in geographic information, consisting in an increase in the amount of geoinformation, the multiplicity of formats and access opportunities, etc.

It is a proven fact that teachers in elementary and secondary schools have no experience in using geographic information systems or GPS (Baker, Palmer and Kerski, 2009). For that it is essential for teacher training to pay attention to the contents that are typical of geospatial science. Tools for which teachers are not properly trained cannot be introduced in the classrooms. It is reasonable to believe that this can be extrapolated to adult education, and especially to senior adult education, where the effects of the well-known digital divide are aggravating. All this can be part of the European Union's Digital Agenda 2020, aimed at promoting this scientific-technological area, and of the initiative recently created by the UN called Global Geospatial Information Management, UN-GGIM" (<http://ggim.un.org/>).

In this chapter we will focus on introducing some key concepts about what the satellite navigation systems are, approaching to the possibilities that a GPS offers such as how to export and visualize the information collected and some suggestions for its use for senior adults. Later on in this publication we will present some specific application experiences.

2. GEOLOCATION: MAIN TECHNICAL CONCEPTS

2.1. Satellite navigation systems

Europe is the United States' *Global Positioning System* (GPS), initially reserved for military purposes. The signal liberalization in 2000, eliminating its intentional degradation has made more widespread its utilization in civil uses as personal positioning system use in much of the world, and in Europe. Further work is under way on the GPS precision and improvement. However, this liberalization can be changed at any time by the United States, if this country so decides. That is why Europe is currently developing the *Galileo system*. Other countries have their own navigation system, such as China with the system called *Beidou* and Russia with the *GLONASS* system. The latter is available in a great number of mobile phones as positioning system, sometimes together with the GPS, so we can consider it to be accessible to any citizen.

All of them are outdoor systems, since they cannot receive the satellite signal indoors, although technological improvements make many terminals able to receive the signal when they are close to a window. We can set up the unit of measurement in the receiver (m, km, foot...), and other elements (datum, altitude...). There are various GPS terminals that have different accuracies according to the type of receiver, satellite visibility (number and position), etc. For example, Garmin GPS Dakota 20 can have a maximum error of +/- 6 m, and there are others with centimetre-level precision such as Posify (Rivista Geomedia, 2012). Apart from the conventional GPS terminal we can find satellite navigation systems for mobile phones, tablets, etc. that are very useful to teach Geography (Jarvis et al, 2012). Many digital cameras models already include GPS so images can be recorded with their own spatial reference, which very helpful for a subsequent territorial analysis. In short, to have at our disposal a GPS device can be relatively easy and economical.

2.2. GPS operation

Terminals having a GPS offer increasing services, as well as the GPS own positioning. However, the data recorded are not always in the own format of the GPS called GPS Exchange Format (GPX) that it is the most widespread format and allows to export the layers created by these devices to various applications we can use on a computer. Another widespread format has a .kml extension or Keyhole Markup Language, which are files where the name of a location, its longitudinal and latitudinal coordinates in decimal degrees, some characteristics –point, line, polygon, image...– and some other information are specified, so that applications such as Google Earth can redraw the layer geometry locating it in its correct place. KMZ files are compressed.

Once we have looked at the file formats that enable high interoperability with the GPS we will list the main possibilities offered by a GPS:

- To find the route to go to a point. With this tool we tell to which point we want to go with the tool GOTO, and it displays the route to follow through different

points we should pass. Routes are the lines that linked the origin and destination points. This is the use most widespread in car GPSs, although it is also used in geocaching activities.

- To log a route we have followed or we are following (track), every time that we change our course or direction it records a new point with its UTM coordinates and the altitude called Z coordinate. This option is very useful for field work.
- To mark a point (Waypoint) to know its location through its UTM coordinates (X and Y) and rename it, making easier its recognition. The marked point provides us at least with information of its coordinates (X and Y), its altitude (Z) and its new name.
- To measure areas and distances on the ground. This differs from measurement on conventional cartography on paper maps, as the latter does not take into account the relief.

The visualizing possibilities vary for the different applications and terminals, by the quality and quantity of the cartography provided. Most of them have at least a compass and a distance meter. The latter meets the need of knowing data by people practicing sports such as jogging. The technological improvements provide every day new services.

2.3. Location through GPS

In the traditional orientation games, very popular among Geography teachers, it was common to orient oneself watching the nature from the sky, Sun, the North Star, the plant species, etc. or just with a map and a compass. Nowadays field works with GPS also enable us to log the track followed and mark the relevant points through waypoints and then work with these data in the classroom or at home in some application allowing us to incorporate them into other geographic information so as to enrich the conclusions of our work. This is possible thanks to the inclusion of navigation systems in mobile devices such as Smartphones or tablets. The progressive fall of the prices of these devices and the increasing services provided by them, allow now their use in adult education.

However, for that is necessary that teachers transmit to their students some concepts related to spatial referencing or georeferencing, that can be defined as the location or positioning of an object (point, line, polygon...) on the Earth surface, on a system of specific and real geographic coordinates projected against a specific *datum*. Therefore, we need to know at least these three concepts mentioned, which we must set up (table 1) before starting to collect data, if we want an accurate idea about what we are doing with the GPS. These are geographic coordinates, cartographic projections and *datum*:

- Geographic coordinates are the reference numbers that are used for locating a point and orienting oneself. The projection system adopted transforms the real coordinates in projected coordinates. And datums, as we will see below, can give different coordinates for the same point. The two coordinate systems that can be set up in a GPS are:

- UTM coordinates, based on the Universal Transverse Mercator (UTM) projection, where the Earth is projected on a cylinder. In this case, it is applied tangent to a meridian (not to the equator) and it is expressed in metres above sea level, according to the datum we are using. In this way the earth is divided into 60 zones, each 6° of longitude in width, and whose name is a number, and into 20 bands of 8° each, named with letters. Within each grid zone defined by a zone and a band points are defined by X and Y coordinates measured in metres. As can be seen, Band N includes the equator, therefore a letter after “N” is in the northern hemisphere and before “N” is in the southern hemisphere.
- Geographic coordinates themselves, defined by latitude and longitude, in degrees, minutes and seconds (DMS) or in decimal degrees (DD).
- Projection defines the relationship between represented data and the real world. The main types of projection are cylindrical, conical and polar, although there are many others more complex such as Goode homolosine, Robinson, Peters, etc. All of them imply complex mathematical calculations.
- *Datum* is a reference ellipsoid from which measurements on the earth surface are made to be able to define the coordinate systems. As different datums have different radii and centres they give different coordinates for the same point. In 2007 the entire EU agreed to use the ETRS89 or European Terrestrial Reference System 1989. For world data the most widespread is the WGS84 (World Geodetic System 1984), commonly used in GPS, digital cameras, etc.

Element	Parameter Setting
Datum	WGS84
Layer format (<i>track and waypoint</i>)	GPX, KML, KMZ
Altitude and area	Decimal Metric System (unit): metre
Compass	Calibrate and find the North
After switching on the GPS	Wait for calibrating, enter your current location (with the minimum error as possible)

Table 1: *Parameters recommended for using GPS*

2.4. Incorporation of the geographic information obtained by a GPS into Web GIS

2.4.1. Geographic Information Technology (GIT)

Geographic information is a representation or of the real world or modelling with spatial components that have a geometry and a topology (relation between entities), it has thematic (semantic) and temporal components. Different technologies are used to process the information known as Geographic Information Technologies or GIT.

GIT can be defined as organized integration of hardware, software, statistic data, spatial data, etc. that are designed to capture, store, handle, analyze and display all

forms of referenced information to solve planning and management problems that help to make right decisions about the territory. As GIT we can mention:

- Geographic Information Systems or GIS, they encompass a wide range of hardware, software and procedures prepared to “facilitate the capture, managing, manipulation, analysis, modelling, representation and output of spatially referenced data, to solve complex problems of planning and management” (National Centre of Geographic Information and Analysis, NCGIA, 1990).
- Global Navigation Satellite Systems or GNSS, which we have already mentioned, the GPS is the most widespread. They can be an essential part of the field work in Geography as help and support of the direct observation itself.
- Remote sensing technologies, which obtained spatial data from sensors installed in satellites. A relevant example is the Lidar technology, which has caused a revolution in getting information of the Earth relief by obtaining quickly digital models of the terrain with a resolution never known before.
- Other applications that allow the management and analysis of spatial or territorial databases that integrate the “cloud” and the GIS, are the known as WebGIS (ArcNews Online, 2008), providing geoviewers, virtual globes, etc. They can include a huge amount of data, most of them put in maps. They are usually public data with a quality proven by the institution that produces them, and they have the facility that any error detected in them can be reported, thanks to the Web 2.0. Although the recent policy of data reusing has allowed that they appear in applications different from the institution that generates them.

All of them are very much used by public services and companies, and recently by the general public. The spatial data infrastructures or SDI, already mentioned, uses these technologies opting for those that have a proven interoperability and are free. This large availability of data must be used teaching Geography.

2.4.2. Integration of geographic information in Google Earth y ArcGIS Online

The growing and popularization of visualization tools have increased the importance of the geographic science, thanks to the Web 2.0, this social diffusion has been branded by many authors as “neogeography” and it is considered a new paradigm in the geographic discipline (Capel, 2010).

So that, known a point’s geographic coordinates, which are clearly defined by the GPs, it is countless the large amount of information that can be obtained about it from the Internet “cloud”. There are many programs or applications for mobile devices than allow you to access to this information or even obtain the coordinates of a point, visualize tracks and waypoints in GPX or KML and KMZ formats, they include at least two applications with Android operating system: my track, and OruxMaps; and for iPhone and iPad from Apple the MotionX GPS.

This information can be easily integrated in geoviewers (Arranz, Pueyo and Zúñiga, 2012) or WebGIS from GPX format or in ArcGIS Online and Google Earth also from KML and KMZ formats. We describe some features of each one of them:

- Google Earth (Google) <http://www.google.com/earth/index.html>, that it is the most popular virtual globe, with the drawback that its functioning requires many resources. It also allows integrating GPS layers with GPX extension as well as KML or KMZ extension that are the most usual formats for importing Layers in the GPSs. It has the Map Maker tool that allows us to create our own maps. Google also has Google Maps with less computing exigencies and that it is widely used to create simple maps

- ArcGIS Online (ESRI) <http://www.arcgis.com/home/>, it is a fast, simple and free tool in a large part of its operation. It allows us to share information and create maps in a collaborative way, being able to integrate our own data or files, to the layers taken from the ESRI server or other servers, and to a new layer edited by us. It supports different formats: GPX, KML, KMZ and the traditional ESRI shapes, among others. We can compare two maps or images in parallel and visualize a route elevation profile. From the points georeferenced by geographic coordinates or street and number entered in an Excel worksheet, we can create a new layer in CSV format (De Lázaro, 2012), which speeds up enormously the data input to create maps.

3. GEOLOCATION: APPLICATION POSSIBILITIES FOR PEOPLE IN LATER LIFE

GPS usefulness derives from the learning, understanding and use of the data collected in the territory we are visiting by the mobile devices and their integration into computer applications that allow us to view images of that place. This is possible nowadays by means of the mentioned webGIS (Milson, 2012).

We are going to present some suggestions for using it, thinking especially of senior adults and from the approach indicated for the Web 2.0, where people play an active role in regard to the Internet-related contents and applications, being able to participate actively in the inclusion of new contents, many of them with a geospatial significance and format, and with different purposes, from dissemination of information for potential visitors of a certain place close to the user (by establishing theme routes of interest, for example), to reporting complaints about different aspects whose territorial impact should be reviewed or corrected by the relevant authorities (creation of a map where there are hazardous places for older people because of damage to urban infrastructure). Let us see some suggestions:

Geocaching, as we will see in later chapters, is an activity widely spread and whose application for senior adults conveys many benefits: improvement of spatial and digital competences, stimulation of physical activity, concern about natural and cultural heritage, etc. For all these reasons, right from the beginning of the project that has led to this publication, we adopted it as one of the essential activities to carry out, and that is why we will devote some chapters to present its bases and describe some experiences carried out on this line within the framework of the OUTDOOR ICT project.

Territorial analysis from the point of view of spreading spatial realities of our environment is another key application. It derives from field work, the use of the GPS being essential for obtaining data and georeferencing them. We can say that activities

where GPS is used have a certain component of research that reinforces to think of and understand the territory, and that help to spread its inherent realities. We can provide various examples of territorial analysis, according to different objectives:

- a) *Detection of mobility barriers.* For this it is necessary to track the district and collect through the GPS the exact location of those places of difficult access for older or disabled people, either because there is not a pedestrian crossing, or the pavement is damaged, or cars are parked where they should not, blocking the way for pedestrians, or because any other reason detected. Once the points are collected, they can be located through Google Earth or ArcGIS Online and create a map. To send this map to the local authorities could provide an added value for them be able to improve our environment if possible. The exact location of the points always will help to an earlier solution of the problem.
- b) *Detection of unauthorized dumpsites:* Similarly to the previous case, it will be necessary to track the surroundings and collect with the GPS the exact point of those places used as unauthorized dumpsites.
- c) *Detection of black points of noise pollution.* For this it will be necessary to track through the GPS the exact point of places at issue with regard to noise pollution. In this respect, simple applications are available that can help us to measure the noise levels of the place where we are.
- d) *Planning of a route or itinerary for presenting the main monuments or landmarks of interest where we are living or that we want to show.* We can attach to this routes images and texts, and have this information fully available from the Internet.
- e) *Search for applications or web pages that allow us to participate with georeferenced information of interest.* An example of this, which we are also going to deal with later, is Google Goggles, which allows us, by taking a photo of a monument or work of art through our mobile device, to obtain other images of it, as well as information about it. It is a tool for social building of knowledge, so that any user, apart from consulting existing information and images, can add new ones.

In short, GPS promote an active, participatory, global and comprehensive methodology, encourage interdisciplinary and transdisciplinary learning by encompassing knowledge, know-how and know to be, that was formulated by the Delors report (1996). It favours territorial analysis and enables students to understand the multiple causalities of spatial processes. This type of learning is in accordance to a comprehensive and interdisciplinary vision of Geography (Marrón, 2011) that allows a better approach to the problems presented in the real space and establishing the required measures to solve them within the framework of a sustainable development, what is the essence of a new paradigm in Geography (Koutsopoulos, 2008).

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THE DEVELOPMENT OF KEY COMPETENCES BY GEOLOCATION

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1. INTRODUCTION

Information and communication technologies (ITCs) are having a huge impact on many aspects of our daily life, changing the habits and practices, since they are opening new communication channels with public administrations, and banking, commercial, cultural and communication institutions. It is even more significant the consolidation of the social networks, chats, e-mail and blogs as tools for interpersonal and group relations.

The Internet has become the largest source of information, knowledge and communication we ever had and it is a resource we should not miss. Educational institutions should meet the training needs of citizens that must have competences to interact through them. The competence approach can be carried out from any of the existing learning models or from an integration of them providing an opportunity to analyze and build educational options more appropriate for the present individual and social needs (Tobón, 2010).

2. KEY COMPETENCES THROUGH GEOLOCATION

In this globalized world the information society offers a wide range of possibilities for information, communication and managing daily activities and, therefore, for acquiring key competences. Next we will describe in detail how our proposal contributes to achieve the competences identified in the DeSeCo project (2005):

1. Individuals should be able to use a wide range of tools to interact effectively with the environment, they need to understand them, adapt them to their own goals and use them in an effective way.
2. In an increasingly interdependent world, people need to be able to communicate with others and, since they will meet people of different origins, it is important that they are enabled to interact within heterogeneous groups.
3. People need to take on the responsibility of managing their own lives, put them in a wider social context and act by themselves.

These three categories, each with their specific approach, are interrelated and together they are the basis to identify and map the key competences:

1) To use the tools in an interactive way. For the spatial location of historic landmarks situated in a route, individuals need to create and adapt their knowledge and skills. This requires certain familiarity with the tool itself, as well as understanding how they can interact with the world and how it can be used to achieve wider goals, which can be achieved by stimulating the use of tools in the field of the Web 2.0 (e.g. social mapping), through which students can create contents and make them visible on the

Internet, in many occasions linked to the enhancement of and concern about the cultural or natural heritage of the place where they live, or even to the report of certain cultural and environmental conflicts (heritage damaging, the presence of unauthorized dumpsites, noise pollution etc.). In this respect, a tool is not only a passive mediator, it is an instrument for an active dialogue between an individual and their environment, which implies to empower citizens with respect to their environment, since using tools in an interactive way new possibilities are opened in the way how individuals perceive and relate to the world.

1-A) Skill to use interactively language, symbols and text, since regardless of an individual's birthplace, it is necessary to interpret map symbols, language characterized by its universal nature, which make possible a social tool for global communication.

1-B) Skill to use interactively this knowledge and information, since it is necessary individuals to recognize and determine what they do not know, to identify, locate and access to appropriate information sources, including the arrangement of knowledge and information at the cyberspace, to assess the quality, propriety and the value of that information as well as its sources and to organize the knowledge and information asked for to them.

1-C) Skill to use interactively the technology, since in our proposal users understand the nature of the technology and reflect about its potential. It is even more important that students connect the possibilities provided by the technologic tools to their own circumstances and goals. A first step is that they include the technology into their common practices, which create certain familiarity that allows expanding its use.

2) To interact within heterogeneous groups. In our proposal, individuals learn and work with others without any intercultural or intergenerational problem.

2-A) Skill to connect well with others. Through this kind of activities, individuals are able to respect and value other people's beliefs, cultures and history to create an atmosphere where they feel welcomed, are included and can grow.

2-B) Skill to cooperate. Many goals cannot be reached by an individual alone; it requires a group where each one can contribute certain qualities, since it allows: presenting ideas and listening to other people's ideas; understanding the dynamics of discussion and following an agenda; building tactic and sustainable alliances; negotiating; and making decisions that allow different opinions.

2-C) Skill to deal with and solve conflicts. Elements and interests at stake were analyzed, admitting that there are different potential solutions, areas of agreement and disagreement were identified; the problem was contextualized; and needs and goals were prioritized, deciding what they accepted to leave aside and under which circumstances.

3) To act by themselves, since empowerment of the individuals was required, so that they made their own decisions and choices, and acted, in a way that this did not mean social isolation.

3-A) Skill to act within the big scheme. Participants decided to fit their actions into a wider scene, so that they understood its patterns, got an idea of the system where they existed; identified the direct and indirect consequences of their actions; and chose between different courses of action reflecting about their potential consequences with regard to individual and shared rules and goals.

3-B) Skill to make and carried out plans. According to the proposed itinerary, they set and prioritized their goals, identified and assessed the resources accessible to them, learnt from past actions, projecting future results and made the necessary adjustments as the project was going on.

3-C) Skill to assert rights, interests, limits and needs. In this respect, they understood their own interests, knew the rules and principles for developing the proposed case, built arguments to convince the others and emerged compromises or alternative solutions.

3. CONCLUSIONS

Information in itself is not able to generate knowledge; information society is a reality, knowledge society is a utopia towards which we should direct our efforts. Geolocation is an alternative education focused on competences that allows:

- Complex cognitive activities, since it requires putting into effect skills related to geospatial orientation, observation, group interaction, or handling electronic devices, among others.
- Links between theory and practice, since, after explaining in the classroom the different computer applications, we organize a field trip that stimulates learning through an active methodology.
- Combinations of personal and environmental resources that allows transferring the learning to other contexts.
- Links between different disciplines such as Computing (strong technological component), Geography (spatial location) and others linked to the valuation of cultural or natural heritage (Tourism, History, Art History, Ecology...)

In short, it allows developing key competences in a comprehensive way through a complex cognitive activity that requires establishing links between theory and practice and also between different disciplines, combining personal and environmental resources and transferring the learning to various contexts. Learning and education escape in this way from institutionalized spaces, providing opportunities of network learning, where we set our own objectives, through learning communities, which creates numerous opportunities

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GEOCACHING, THE MODERN WAY OF TREASURE HUNTING

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Geocaching – What is it?

The word geocaching (ge:okεfɪŋ) has its origin from the Greek word “geo” and the English “cache”. Someone hides a logbook and some bartering objects within a watertight box. With the help of a GPS-gadget, coordinates can be determined by latitudes and longitudes and can be found online on special Geocaching-Websites. The other players are using the information with their GPS-gadget to show them directions to the cache. If the cache is found, you sign the logbook inside the box and can take a reward out. Additionally you have to log your find on the appropriate Geocaching-Platform

Geocaching - Why?

Geocaching it's a cost-effective activity available to everyone. Regardless whether young or old, casual or not, alone or in a group. Geocaching it's an outdoor adventure, to keep you fit and well. You find beautiful places, you otherwise would have never seen. There is a large variety of caches, for a variety of tastes. And geocaching educates! A lot of caches are dedicated to special places or events, you learn about orientation with map and GPS, handling the GPS / GPS equipment/PC/ internet/plants/ animals.....



Figure 1: *Geocaching is fun for everyone*

Where are geocaches hidden?

Geocaches are hidden around the world. They can be found in many different places, at a park, in the woods, in the water, on a mountain, along a bikeway or in a town.



Figure 2: *Geocaches can be found everywhere*

Geocaching platform

To find a geocache, you must look up the location on the homepage of a geocaching website. There are different platforms, here is a selection:

- Groundspeak Inc.-www.geoaching.com. GC is the most popular and most extensive platform. There are geocaches listed from all over the world. There is the option for a free or a charged account.
- Opencaching.de – www.opencaching.de. Also referred to as OC and has geocaches located in Germany, Austria and Switzerland.
- Opencaching.com – www.opencaching.com. Also referred to as OX and operated from the company Garmin. There is no connection with opencaching.de. All information about the caches are provided without registration.

Various types of Geocaches

Caches have varying types, different sizes and levels of difficulty. According to Geocaching - the platform classification is different. Here are the important types:

- Traditional Cache. This is the simplest type. Cache is hidden in the denoted coordinates.
- Multi-Cache you must complete different stages in a certain order, until you come to the end. The published coordinates give the first station.
- Mystery/Puzzle Cache. Before you can begin the search, you must first solve complex questions.
- Event Cache: This is a meeting of people who want to get to know each other and go treasure hunting together.
- Challenge: You don't need to find a box, but have to follow the description to pass the challenge.

You can find an exact list of all caches under www.geocaching.com.

The different sizes:

- Micro Cache is 100 ml in size, such as a 35mm film canister. A particularly small variation is known as Nano-Caches with less than 10ml in size, e.g. labels for pets.
- Small Caches are between 100ml and 1L in size, such as plastic cans the size of a butter dish.
- Regular Caches are between 1l and 20l in size, e.g. the size of a shoe box.
- Large Caches are more than 20l in size e.g. a great cask
- Other Caches

The different levels of difficulty:

The difficulties as a rule and the difficulties of the premises will be on a scale of 1 to 5 for ever cache delivered.

Level:

1. EASY: beginners should find the cache in a short time
2. ADVANCED: it may take the person 30 minutes to find the cache
3. CHALLENGE: it can take the experienced cacher up to half day
4. DIFFICULT: experienced cacher could need multiple days
5. VERY DIFFICULT: needs special knowledge

Terrain:

1. EASY: handicapped accessible
2. CHILD-ORIENTATED: distance to 3 km
3. NOT FOR SMALL CHILDREN: This distance is not for children because it is longer than 3 km and rough terrain. Light climbs or creeps
4. LONG HIKES: difficult, cleared area, difficult climbs or slides
5. VERY DIFFICULT: special equipment required (eg boat, climbing equipment, diving gear)

What do you need for geocaching?

GPS-tackle and for the arrangement at home you need a PC with an internet connection. To find geocaches you will need an account with a geocaching-platform for example www.geocaching.com and a GPS compatible mobile phone or tablet with Geocaching APP.

Mobile Phone or proper GPS-Gerät

GPS compatible mobile phone:

- Often existing
- Big, coloured display
- Free geocaching-Apps
- Internet connection
- Spontaneous geocaching
- Long battery life when using online GPS (2-6h)
- Display also readable in direct sunlight
- Weatherproof and shockproof
- Often more inaccurate in difficult terrain (eg in the mountains or wood)

Outdoor GPS-tool:

- Long battery service life (20 h)
- Spare batteries
- Weatherproof and shockproof
- Display also readable in direct sunlight
- Middle class GPS-tools offer exact information in difficult areas
- No internet
- Smaller display as mobile phones

What do you need to know about GPS?

GPS stand for Global Positioning system and refers to a worldwide function satellite-navigations-system. More than 24 satellites circle at 6 determined orbits at ca. 20.000 km altitude. The satellite takes around 12 hours to circle around the world. Every satellite sends signals that are analyzed by GPS tools.

You need to know that the GPS signal depends a lot on the number and constellation of the satellites as well as what is in the area, the foliage of the wood and the weather. In good conditions the accuracy of the measurement is between 5 and 15 m.

The GPS functions the best when the sky is clear. If rock wells/mountains or buildings reflect the results might be incorrect.

The location of the GPS is right while you are moving. When you stop the GPS is in position but not at the right point of the compass. Hint: GPS-tool with integration electric compass gives the right position even when you aren't moving.

Geocaching with the mobile phone

1. Download a geocaching app: e.g. c:geo (only for android smartphones) or the geocaching.com app. You can find instructions for the c:geo app under <http://appmanualreader.sourceforge.net/manuals/cgeo/cgeo-help-de.html>
2. Start your app and register with geocaching.com. user data
3. Turn on GPS
4. Select cache. Read the instructions and logs.
5. Get ready with the right equipment and have fun!
6. Click at the compass symbol to get the detailed description
7. If you are near the caches within 5m, search the place for the cache. Mind the data at the GPS-signal at the display of the compass.
8. You have found the cache. Sign the book in the caches to show you found it. Additionally you can sign your name at the internet-book of the Geocaches. Either now with the mobile phone or later with your PC at home.

Offline-geocaching with the mobile phone

To save data-volume or to go geocaching in regions with slow or no internet reception, you can download the description and the map before the search (eg. via WLAN). Here are instructions for the c:geo app:

1. *Open Street Map (OSM) to download (free): Call at your PC the follow website: <http://download.mapsforge.org/maps> /to search the information about the land and to speech-read the card with a click at your PC.*
2. *To save the map on your mobile, please connect it to the pc. Then copy the selected maps to your mobile. Separate the mobile from the pc and start c:geo.*
3. *Click the menu button and go to settings.*
4. *scroll to “Kartenherkunft” and than to OSM: to shift to offline.*
5. *at the button with the 3 points to bush. Now wait, c:geo find all disposable card at the memory card. If the name is displayed you push on the button and ready.*
6. *Now you must save the geocache-description. You are looking for the cache (z.B Live-Ansicht) and look for the description. If you scroll down to the “not offline disposable. Then click to save.*
7. *All saved cache-description (logbook und waypoints) you find that at c:geo start screen under “save”. Evidence: When you come to an area that is not marked on the card , you must connect to the internet. When you push “in near” a internet connection will be constructed.*

What do you need for treasure hunting?

- Pens and notepad
- Hiking sticks
- Calculator
- Tent pegs
- Gloves
- Penknife
- First aid kit
- Spare battery
- Map
- Flashlight
- (Telescope)

Rules

- Walk as long as possible on the footpaths or roads and not cross country.
- Take care of the animals and environment
- Pick up the cache unwatched and without attracting attention – Muggles
- Write your name and the date in the logbook of the cache
- If you leave something in the cache, please leave something of the same or higher value
- Don't leave explosives, munitions, knives, drugs, alcohol or food in the cache

- Please leave the logbook and the pen/pencils in the cache
- Leave the cache at the same place where you found it
- Write about your experiences at the geocaching-platform on the internet
www.geocaching.com

Terms around GEOCACHING

- Final:** last station at a multi-caches
- Find:** the items of the found geocaches
- GPX:** a popular file format about GPS data
- Hint:** a hint for a cache (zB „magnetic“)
- Listing:** the cache account
- Lost Place:** a“ forgotten place, how zB
- Muggle:** Person, who doesn't know geocaching (like in Harry Potter)
- Owner:** the person you hides and owns the cache
- Spoiler:** hint to find the cache easier
- Stage:** Station eines Multi-Caches
- TFTC:** “Thanks for the cache”
- Trackable:** trackable item with a tracking number, eg. Travel Bug or
www.geocaching.com/about/glossary.aspx

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CHAPTER 5: GEOCACHING IN THE PARTICIPANT COUNTRIES: STATE OF THE ART ANALYSIS

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1. FOREWORD

The main objective of the project was to provide opportunities for exploring ways of applying knowledge gained in the field of ICT to the promotion of active lifestyle by gaining and sharing knowledge and experiences of partners and participants and empowering people over 45.

To have a concrete starting idea on the situation regarding ICT and digital tools' availability and request in each partners' communities, the partnership has produced a State Of The Art analysis report which has also investigated the needs of adult users and seniors aged 45+ in the different locations of the partners. This work has mainly been useful for each partner institution to reflect and investigate on what is available at the moment in the field and act within the project aims in accordance with the resources in the territories and the progressive ageing of the population. Nevertheless this analysis could be useful also for other interested people to get new ideas or discover new opportunities for training and exploitation of the territories through ICT and multimedia tools.

2. ANALYSIS OF THE PARTNERS

2.1. Università' delle Libereta' del FVG - Italy

In 2008, thanks to a regional law, it has been possible at Università delle LiberEtà and in other adult education institutions in the Region Friuli Venezia Giulia, to improve and increase the offer of ICT courses and resources and in particular it has been possible to offer these courses for free to the most vulnerable sectors of the community: elderly, adults over 50 (mostly unemployed and immigrants).

A quite large number of people has benefitted from this incentives and has had the possibility to obtain a basic level of ICT literacy. After the end of this law activation, the request for ICT courses has started to increase and we can now say that a large part of the adults and senior citizens in the region has a good level of ICT literacy and knowledge.

In particular during the school year 2010-2011 at Università delle LiberEtà, 500 adults (45+) out of 1700 (adults 45+ enrolled at ULE) have attended a total number of 50 ICT courses, at different levels and covering different ICT applications (Figures 1 and 2).

ADULTS 45+ IN THE SCHOOL YEAR 2010 – 2011

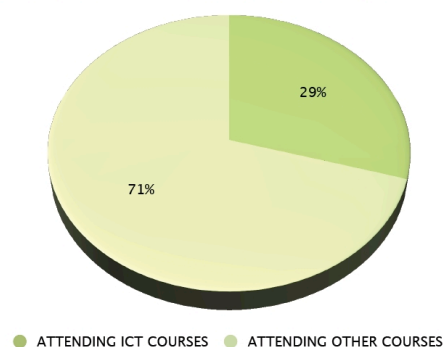


Figure 1: *Adults 45+ in the School Year 2010-2011*

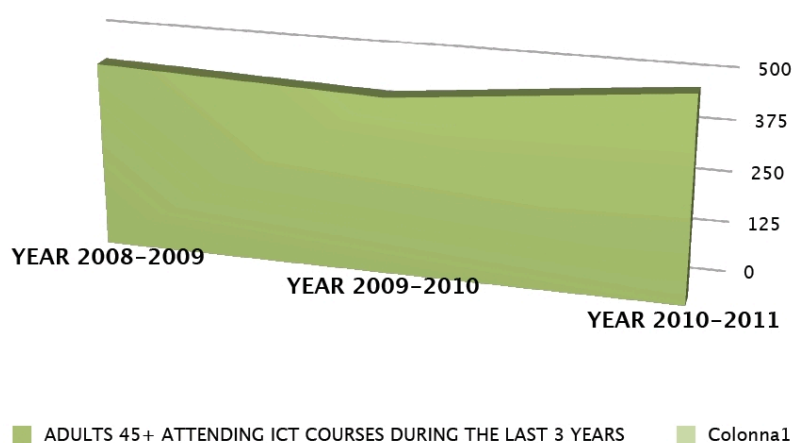


Figure 2: *Adult 45+ attending ICT courses during the last 3 years*

This shows both the growing need for this kind of knowledge among adults and seniors, and the growing necessity to offer them new and innovative ways of using their ICT skills and develop them following the modernization of the society. The lack of knowledge regarding the use of ICT tools for purposes outside the working or domestic typical reasons, has been clearly identified among users both at Università delle LiberEtà and within citizens in the community in general.

There are some new and innovative ICT and multimedia programmes available, especially in the framework of some departments of local authorities, but the link between them and the public in general - especially adults 45+ and seniors – is still lacking.

There is an interesting opportunity with the local Municipality project “SUUPERagenda” in the framework of the Agenda 21 activities. This is a project aiming at creating a network for the sustainable mobility for the community able to link and assign a higher value on the cultural, natural identity and economic resources available

in the territory. The main result of this project is a database that has been made joining all the local knowledge of citizens and users in the community and it includes:

- around 100 km of routes and itineraries that are joining different municipalities in the territory
- around 270 centres of interest georeferenced (services, natural places, monuments, etc)
- around 130 stakeholders (economic centres, associations, cultural centres...)

The main aims of this local project are:

- to assign a higher value on rural, economic, cultural and environmental heritage of the territories in the region
- to link a network of local stakeholders and operators who are interested in the development of and efficient use of the territory
- to transfer the vision of the local environment as an heritage to be preserved as well as an incentive for the local economy
- to strengthen the identity of the sites through the involvement of economical, social and cultural territories of the region

Therefore we can see many interesting links between this local project and the OUTDOOR ICT project. In particular SUUperagenda project could provide a set of territorial information that, as for kind and space typology, is suitable for the implementation of didactical activities based on the use of ICT tools. From one side these information could be included into thematic maps, thus allowing the users to experiment ICT tools on “already made” material. On the other side, once the users have got a kind of operational autonomy, they will be able to give their contribution through ICT tools, exploring the territory searching for some precise elements and places and also for possible new ones and new ideas.



Figure 3: *Aerial image from Google Earth*

As far as Geocaching, this tool is quite well spread in Italy. In our region it is used mainly for touristic reasons also by people coming from other countries (Austria , Slovenia and Croatia mainly). The average age of the users is from 20 to 40 with a low minority of adults 50+ or seniors. Through the OUTDOOR ICT project we will try to include also this tool to our groups of participants both adults and seniors.

2.2. Aula de Mayores de la Universidad de Málaga – Spain

2.2.1. Analysis about the knowledge and uses of GPS devices among students in the practical ICT course of U3A University (University of Málaga, Spain)

Stage: Our students are divided into three courses: Basic (aimed at absolute beginners), Intermediate (for people with prior knowledge of PCs) and Advanced (for people with prior knowledge and experience in PC usage and moderate level of ICT competence).

Questions:

- Do you know what a GPS device is?
- Do you use frequently a GPS device?
- Do you have a cell phone?
- Do you have a cell phone and It's a SmartPhone?
- Do you use frequently GPS in the SmartPhone?

Results:

GPS Knowledge	Basic		Intermediate		Advanced	
	Total	Percentage	Total	Percentage	Total	Percentage
Students	28		26		32	
Know what is a GPS device	17	61%	20	77%	28	88%
Use frequently a GPS device	0	0%	5	19%	15	47%
Have a cell phone	28	100%	26	100%	32	100%
Have a cell phone and It's a SmartPhone	11	39%	3	12%	7	22%
Use frequently GPS in the SmartPhone	0	0%	0	0%	3	9%

Table 1: GPS knowledge

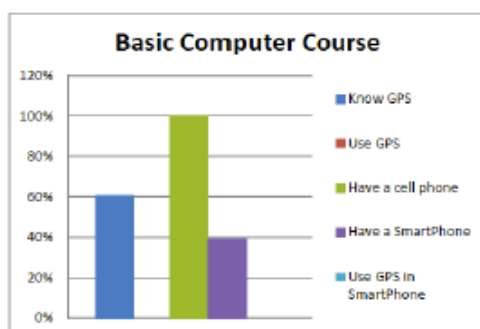


Figure 4: Basic Computer Course

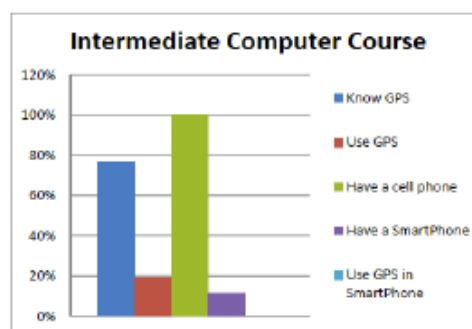


Figure 5: Intermediate Computer Course

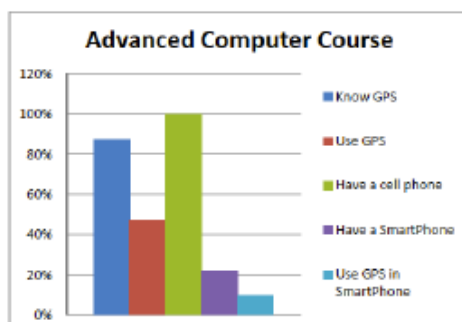


Figure 6: Advanced Computer Course

Conclusions:

From the students who know what a GPS device is, 39 % belongs to the advanced course, 34 % to the intermediate course and 27 % for the basic course (Figure 7).

From the total of students who are digital competent in the use of GPS devices, 71 % belongs to the advanced course and only 29 % at the intermediate course. There era nobody showing these skills in the basic course (Figure 7).

So, it seems to be a growth in knowledge and digital skills in the advanced students if we compare them with the students in the basic and intermediate course.

It is significant that all students who use GPS with their SmartPhones are attending the advanced course.

To sum up, although it is easy to confirm in the light of these results, an increase in the use of SmartPhones (obviously due to the wide range of possibilities and apps that they can offer), the use of a GPS device seems to be in a very early stage among this population (people over 50 years in our case). For this reason, we think that is worthy and very useful to promote the use of this technology (e.g. by Geocaching) from a practical perspective, and in an enjoyable way, linking learning digital skills to the promotion of social skills and environmental and cultural heritage awareness.

2.2.2. What is geocaching?

Geocaching or Gymkhana GPS (Global Positioning System) is an outdoor sporting activity which results from a combination of trekking, orientation plus adventure. “It is the activity of hiding and seeking “treasures” anywhere in the world with the help of a GPS receiver or mobile device” (Wikipedia). It was first conceived on May 2, 2000, it’s slightly over ten years old. And after almost 12 years of activity there are 1,652,080 active geocaches and over 5 millions geocachers worldwide. As already said, it basically consists of hiding and seeking containers, known as “geocaches” or simply “caches”, in towns or in the country with their coordinates recorded. These details, together with other regarding the exact location, are posted on a listing site so that other people may find them. Those who manage to do so and successfully find one of these caches

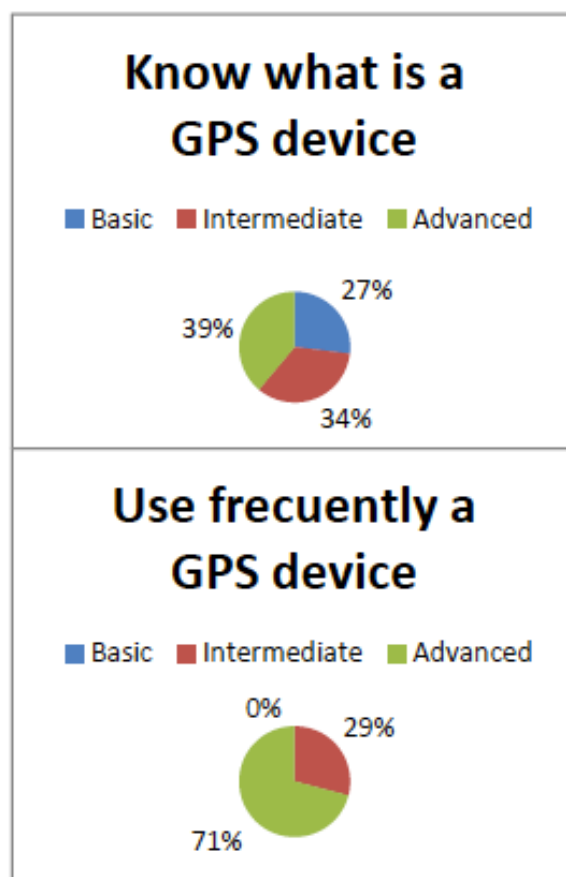


Figure 7: *To know what is and to use frecuently GPS device*

(usually a waterproof container of not much value) may take it with them as long as they leave another in exchange for the following geocacher to come. There is a notebook in every treasure (called logbook) so that geocachers may record their names (logbook).

We can find descriptions of other varieties of this activity in wikipedia. We read that they share the philosophy of leaving any object (books, bicycles, cameras) in public places so that they can be used by other people (or friends, or acquaintances) in an unselfish way: bookcrossing, bike crossing, PhotoTag, etc. At times, tickets are logged and followed worldwide. Eurobilltracker, Where's George? Where's Willy?

New variations of this activity have emerged: geocaches may vary in size, difficulty and location. Now we can find them in towns, group competitions, multi-cache (a series of linked discoveries of various intermediate points containing the coordinates for the next stage), etc. (from Mora, 2008: Geocaching. Descubre una nueva actividad Aire Libre). There are also different kinds of treasures: traditional ones, multiple ones, virtual ones, etc. (from GEOCACHING tipos de Caches –Tesoros-).

In this kind of activity we can highlight its spirit, which can be noticed in the same motto coined by its creators: "Cache in, Trash out". In certain places, practitioners are invited to take a bin liner so as to clean the environment where the activity is carried out.

The satisfaction is obtained once achieving the goal and also as a result of the experience of sharing the symbolic value and the trade items. Its difficulty lies not only in locating the treasure (the coordinates of which we are acquainted with), but in overcoming both physically and intellectually the route to follow, and going over material obstacles and/or adverse conditions: the point in practicing this activity has to do with knowing where it is and how to get to the treasure. It is an activity that integrates physical exercise, mental one and technological competence (web applications, mobile phones, etc.) in which age does not mean an unsurmountable hindrance to practice it, as it can be easily adapted to any age and/or level, and activities can be developed for school-children (Tejedor Lorenzo, 2006) or for athletes (the case can be that it may become necessary to divide the activity into different stages or to have long days' walks). Treasures are classified according to a scale from 1 to 5 on the web depending on the difficulty to get to the treasure; at the top category "obtaining the prize requires the usage of special equipment plus knowledge about risky sports such as climbing or scuba-diving" (Vicente, 2001).

2.2.3. Situation of Geocaching in Spain

Currently, this activity does not belong to any federation or sports club. It is just beginning to get disseminated among people by federations of rural tourism and public institutions, pushed by commercial reasons or in order to promote tourism, not being strange to find links to geocaching next to those of rural areas. As an example, we can find Rutas Jacobeanas along Castille and León (<http://www.turismocastillayleon.com/cm/>)

[jacobeo/](#)) (Figure 8)



Figure 8: Screen shot from “Los Caminos de Santiago en Castilla y León”

The organisers of geocaching are usually groups of friends who have become so as a result of their interest in this activity (<http://www.geocachingspain.com>). They generally enjoy specific blogs, websites, groups in different social networks, etc. usually focusing their interest on a particular geographic area:

- Geocaching in Madrid: <http://geocachingmadrid.blogspot.com/>
- Mallorca Geocaching: <http://www.mallorcageocaching.com/>

At times it seems as if they were personal invitations not supported by any group; for example, that’s the case of <http://www.terracaching.es>. We can also find some websites whose main topic of interest is leisure and outdoor activities, with a specific subsection devoted to geocaching, such as Airelibre y Tecnología, a website that offers information on events to be held (<http://www.airelibreytecnologia.com/geocaching/>) (Figure 9).



Figure 9: Screen shot from Arte Libre y Tecnología

It is not strange to use websites corresponding to firms related to this kind of activities, such as <http://www.opencaching.com/> acquired now by a company focused on making navigation systems, or <http://geocaching-hispano.com/> which makes publicity of its products.

And last, but not least, we can observe the slow emergence of activities with the aim advertising, such as the one known as Hunters of Experience: <http://www.cazadoresdeexperienciasbifrutas.es/> promoted by a milk company). It consists of

an urban game developed in Madrid and Barcelona. Experiences (over 200), hidden in both cities, is what have to be sought.

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2.3. Die Kärntner Volkshochschulen – Austria

Geocaching is a new trend, a new hobby, a modern scavenger hunt. Also in Carinthia exists a big network of persons interested in this new sport. If you are dealing with this topic for the very first time, you will be surprised how much there already exists in this area!

Certain persons in our institutions have already heard about geocaching, and others have already tried it out. Otherwise this new trends seems to be quite unknown.

In the Internet you can find various clues and hints, that geocaching is carried out in all over Carinthia: in particular in the touristic field you can find very often recommendations to combine geocaching with hiking and biking. This refers to the fitness-component of this modern scavenger hunt.

The region around the Millstätter-Lake together with the geocaching community offers a lot. At the Goldeck trial caches are organizes, which guarantees a new way of experiencing the summit. The rental items are available on location and you are ready to climb up to 2.000 m!

On www.geocaching.com you can find a list of castles, ruins, churches and weir systems in Carinthia, which are tagged with a cache. In this way you can experience history and culture in a new way.

Unfortunately you can also find sad news, when researching the topic geocaching: www.orf.at, the national TV and radio-station in Austria, reports: “Sunday night a

woman of twenty years, was hurt severely while geocaching, a kind of scavenger hunt, at the Zwangerberg in Carinthia. During her descent the woman fell and was only found Monday morning by the rescue crew". Like any other kind of sport, also geocaching can be dangerous while being in the mountain. Nevertheless, this should not keep us away from trying it out!

The largest sports shop chain „Sport Experts“ already organized in 2011 a geocaching challenge with the theme, „Evergreen meets High-tech: the real outdoor fans take part, combining outdoor adventure and fun.“

Outdoor activities are very popular in Carinthia. Because of the lakes, the mountains, an ample countryside and the love for sport by the locals, geocaching is made for this region.

As an ad-on program for various pensions and guesthouses, combined with Nordic walking or a bike tour: geocaching is always present!

Also at the Katschberg it is the new summer-highlight for families and promises a nature adventure for everybody. Also here, the tourist offices offer rental devices and you can choose between easy caches close to cozy cottages and real adventures for well-trained treasure hunters.

Next to the touristic track, there is also an educational initiative working with geocaching in Carinthia: Department 6 of the Carinthian provincial government, division school administration, has conducted for example in 2008 the project „GIS (geographic information system) in education“:

“On June 25th 2008 the geogames took place for the third time at technical college Carinthia. In the framework of the project “GIS in education”, 140 pupils of grades 7 to 10 from 5 Carinthian schools, had the possibility to get a first glimpse in the world of GIS. By means of various stations and exciting exercises, such as: Geocaching – a scavenger hunt with GPS, planning of a field day with CarinthianAtlas, as well as the exploring the world with Google Earth, the teenagers could dive deep into the world of GIS.”

Geogames, a cooperation of the Carinthian Provincial Government, the technical college Carinthia – degree programme Geoinformation and the institute of geography and regional research of the Alp-Adria-University Klagenfurt, also took place in 2007 and 2006 and brought, among other things, geocaching to teenagers.

The technical college Carinthia, degree programme geoinformation, deals regularly with geocaching and offers also for schools special modules, in order to give pupils a short theoretical introduction the topics “GPS-technology” and “geocaching”. The technical college Carinthia has a geocaching park at disposal and can organize event at this site.

An interview with the responsible person at the Institute of Geoinformation at the Technical collage Carinthia, showed good cooperation possibilities: the technical college was interested to work with the Carinthian Folkhigschools at the project outdoor ICT and the Folkhigschools were glad to have met an experiences partner in the area of geocaching. The technical college works on a training concept for the target groups, brings experiences trainers and makes necessary devices available. Furthermore a train-the-trainer seminar for working trainers the Folkhigschools is planned. The technical college, institute for geoinformation, will therefore form an associated partner within the project and gains because of that additional recognition.

2.3.1. What do elderly people need?

The target group is of course no homogenous:

- 45+: These people are usually still in the profession and have little leisure time. They are looking for a compensation to their job or a leisure activity for the whole family.
- 60+: Their professional life ends. Complaints of the age are noticeable. People have more leisure time. Many of them are looking for activities they can do with their grandchilds or life partner.

What do elderly people need to learn optimally in computer courses?

- Build on existing knowledge and skills.
- Enough time - Learning without time pressure.
- Practical exercises with a reference to their life.
- Repetition of the learned.
- Small course groups.
- The same operating system just like at home (e.g. Windows 7).
- Functional devices without error messages.
- Ergonomic learning place (e.g. room lighting, not reflecting screens, font on the screen is large and clear).
- Handouts
- Patient trainers with the ability to take away fear of new technologies or making something broken.

What are elderly people especially interested in?

- Internet and eMail
- Digital photography
- Making photo books

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2.4. Incultev- Instituto Cultural de Évora – Portugal

2.4.1. Geocaching in Évora

Geocaching is a real-world outdoor treasure hunting game. Players try to locate hidden containers, called geocaches, using GPS-enable devices and then share their experience online.

In our research we've looked about possible geocaching routes within our area. We've found some interesting groups of lovers of this modality. Accordable to what we've checked, most if the practicants enjoy to go to Évora in two perspectives. First to find a cache and then to visit a great world heritage city.

In our research Évora is a place where it is possible to find geocaches in the following locations:

Giraldo Square:

Center of the city, where, throughout the centuries, the most important secular and religious celebrations have taken place (Figure 10). In this square King D. Duarte built the Estaus Palace (which even today maintains its Gothic look), the Henriquina Fountain and St. Anton's Church, from the 16th century, constructions where the Royal Architects Miguel de Arruda, Manuel Pires and Afonso Álvares contributed.



Figure 10: *Giraldo Square*

In the temple, of late Renaissance style, hangs painting of the Alms, attributed to Jerónimo Corte Real, the Portuguese Virgil. Corte Real was also the author of the epic poems “O Segundo Cerco de Diu” and “Naufrágio de Sepúlveda”. He was buried in Évora on November 16, 1588.

The cache: Placed in a very busy area, it is necessary description to remove and replace the cache. Due to the size of the cache, there is only a log book and a stash note. You should have a pencil or pen to make the regist.

Bones Chapel:

The Igreja de São Francisco (Royal Church of St. Francis) in Évora is best known for its chapel that is not for the faint of heart (Figure 11). In the ghoulish Capela dos Ossos (Chapel of Bones), entered next to the Church of St. Francis, the chancel walls and central pillars are artfully lined with human skulls and other parts of skeletons, held together by cement.



Figure 11: *Igreja de São Francisco*

The Capela dos Ossos was built in the 16th/17th-centuries by monks who wished to contemplate and communicate the message of the transitory nature of life. Over the door is a painted message that reminds visitors of their own mortality: Nós ossos que aqui estamos, pelos vossos esperamos: "Our bones that are here await yours!"

The number of skeletons decorating the chapel has been estimated at 5,000, and legend has it that the bones came from soldiers who died in a major battle or from plague victims. It is likely, however, that they were collected from the cemeteries of local churches.

In addition to the bones embedded in the walls are two full corpses hanging from the wall near the ceiling. Their identities are unknown, but colorful legends abound: one popular story has it that they are an adulterous man and his infant son, cursed by the jealous wife. The bones of the monks responsible for the interior decorating are in a small white coffin inside the chapel (Figure 12).



Figure 12: *Capela dos Ossos*

We hope that when you visit this magnificent monument, you can enjoy the full tranquility and have the perception that this is a brief passage in life...

The Cache: It's located about 25 meters from the Chapel's entrance. Please pay attention during the replacement of the micro-cache, because it's a very populated place. Due to the type of container, please keep inside it only the log book and pencil.

Palm Garden:

This cache seeks to present the "Jardim da Palmeira" in the Historic Centre of Évora (Figure 13). This is one of Évora Municipal Garden, located behind the Hotel M'Ar de Ar Muralhas, recently opened, the garden is reserved and very welcoming and few people know. Presents unique features of being a contained space with a strong presence of the city wall. The entrance to the Garden is made through the back straight (when it is facing east) of the main building by a large metal gate at Travessa da Palmeira. The cache is not within the garden, since it has a schedule, and thus can be made at any time or day. The garden where the cache is located is not "Jardim da Palmeira", but this is

also nice. It is widely used by Muggle walking dogs. I call attention to when are doing the log or simply looking the cache, for the possibility of Muggles at windows of the building, or in parked cars. Garden Time: The opening hours of the gate will be from 9 am to 20:30 pm during the months of May to August and from 9 to 17 hours from September to April.



2.4.2. ICT activities in Portugal for Seniors

In Portugal non formal education it is not a very usual practice. In these days there the public universities that develop free courses of different themes, especially in the summer times and then for a senior target group, the senior universities that develop non formal activities in different areas. We have a partnership with Evora Senior University and our participants participate in the ICT classes of this institution that are divided into three different levels – beginners, intermediate and advanced – considering the level of each learner. The idea is to give the learners the basic competences for each level in order to the learners to be independent ICT users.

Figure 13: *Jardim da Palmeira*

In the past years some training course happened to the general population within the governmental Program “Novas Oportunidades” – New opportunities. In this program some people had the opportunity to develop IT competences and receive a support grant for participating. Of course, there were many persons interested in these courses, once that the extra motivation (money) was something that is nor usually and shouldn’t exist. This polemic program is now ending and this kind of education was considered formal, because in the end of each course the participant got a certificate, some not addicted to this program questioned if this competences were real.

Besides the mentioned above, in Portugal several initiatives related to the e-inclusion were done that the main and important are going to be presented and summarized:

- Green Book on the Information Society in Portugal launched in 1997;
- National Initiative for Citizens with Special Needs in the Information Society launched in 1999;
- Connecting Portugal – National Action Plan for the Information Society for the period of 2005-2010;
- National Action Plan for Growth and Employment for the period of 2005-2008;
- National Action Plan for Inclusion for the period of 2006-2008;
- National Strategy for Sustainable Development for the period of 2006-2015;
- National Action Plan for the Inclusion of People with Disabilities launched since 2006.

All the above national strategies aim to allow info-excluded groups to have access of the benefits that the info-society in order to promote and facilitate the inclusion of

different groups of risk of social exclusion: women, non-literate, unemployed and elderly people. Another aim of those initiatives includes citizens with special needs to ensure their access of ICT and also minimize content-related accessibility barriers....

2.5. Institute E-Seniors – France

They first asked their technicians to study the software "OPEN STREETMAP" (www.openstreetmap.fr or www.openstreetmap.org) and also two editing tools « Potlatch2 and JOSM », in order to be able to prepare courses supports for their teachers.

They took as example the creation of a pedestrian circuit in an area of Paris called "The circuit of churches of the Marais." They got into the role of a senior living in the Paris area.

Here are the technical difficulties encountered:

- impossibility to create new routes on the existing ones and especially to keep them; there is a moderator for the site and he removes post of the daily updates , unless he can agree that it is of general interest and therefore worth keeping
- the only additions accepted by the moderator are paths created in the countryside, which is not an interesting case for us,
- it is therefore only possible to keep their creations on paper , which greatly reduces the interest,
- difficulty of understanding by all students because the site is in English and all their seniors are not bilingual,
- the existing icons have a label different from that usually used in France : this means some more difficulty of understanding for their seniors,
- to create new icons you need to download another software and work on two software at once: another difficulty for their seniors.

Here are their next steps before making or offering course materials for their teachers:

1. Go thoroughly into the site "GOOGLE EARTH" and in particular explore the possibility of keeping the work.
2. Go thoroughly into the editor "JOSM" as to make it compatible with their goals.
3. Recently their discovered new products that could be used for the project and that they have to study as well: <http://showmystreet.com/> and TripGeo (Google product) <http://tripgeo.com/Home.aspx>

And also <http://www.vianavigo.com/>

2.6. Edirne Tourism and Hospitality Vocational High School Parents Union - Turkey

Adult education institutions and the developing seminars in the region of Edirne has been possible to improve and increase the offer of ICT courses. In recent years the impact of social media and using the power of communication technologies has been an important source of motivation. Especially, governmental public adult education centres are the places where these education is done.

Computer Using in Adults: there has been some ICT programs in order to generate qualified manpower, educate individuals with the knowledge and skills. Computer has become a tool facilitates and speeds our business from sports to art, from cinema to theatre, advertising to banking, military to hospitals. And in fact it provides an opportunity for adults while they are sitting in their homes they can do a shopping with ICT. At the same time, they have been aware of all over the world. They have been using the computer as a tool for shopping ,playing a game for entertainment, sometimes for watching a film for resting.

Organizations Regulation information and ICT communication Courses

- Community education centres
- Private institutions' in-services training for adults
- Individual trainings
- Training for employees of public institutions
- Free ICT courses of municipality

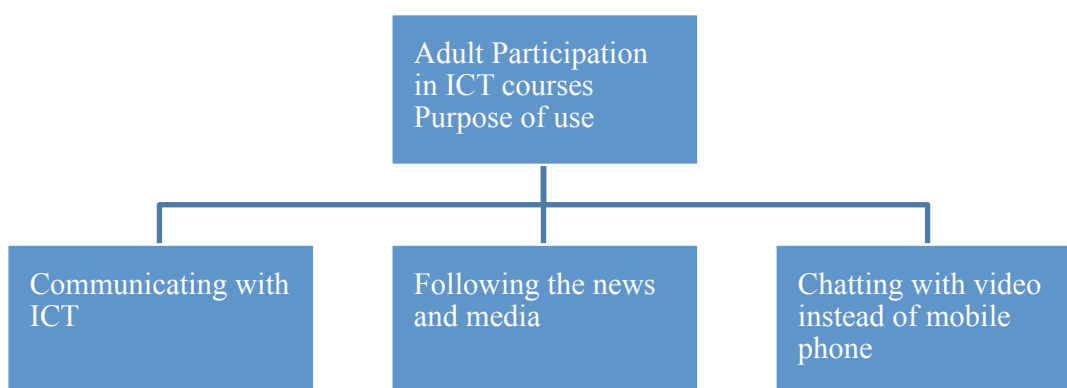


Figure 14: *Adult participation in ICT courses*

In the results of studies It is possible to analyze that, especially facebook and twitter, meeting with their friends and relatives, and following the news, increase the motivation of adults ICT using.

In order to analyze the using of ICT, we asked the parents following questions, and the responses are as it is shown;

Q1- Do you use computer?

a- Yes, almost everyday

- b- Sometimes, with the help of someone
- c- I can't use
- d- I can use, but I don't have a computer at home
- e- Rarely

Q2- For which purpose do you use computer?

- a- For following facebook, twitter, and e-mails
- b- For shopping
- c- For computer games
- d- For watching video and listening music.
- e- For getting information and for my job

Q3- Which ICT tools, except computer, do you use?

- a- With mobile phones, which have internet programs.
- b- GPS
- c- Navigation
- d- Tablets
- e- Nothing

These questions were applied to the 40 students and their parents. All the students use the computer almost everyday. The responds showed that 85% of students use Ict tools for communicating with their friends, and watching video and music, 20 % of students use it for getting information; 30 % percent of students use mobile phone as ICT; 60 % of parents use computer almost everyday. And 30 % use computer with the help of someone. 80 % of the parents use Ict for facebook and twitter, 40 % of the respondents use for their jobs and 25 % of the parents use mobile phones for ICT.

3. CONCLUSIONS

A major challenge of European societies is the progressive ageing of the population, including the risk of a growing gap between the generations. Especially as fast developing new technologies increase the distance between the younger and the older generations. 2012 is the European Year for Active Ageing and Solidarity between Generations.

It aims to encourage debate on the challenges related to growing older, and at the same time raise the awareness and recognition of how older people can contribute to society.

The acquisition of ICT and Digital Competence is an important element of supporting active ageing, opening up new learning opportunities for this group, either in formal or in informal settings. Using ICT is also a privileged means of learning while creating benefits across different generations, bringing young people and seniors together and tackling the “digital divide” and promoting healthy and active lifestyles.

CHAPTER 6: GOOGLE MAPS, GOOGLE STREET VIEW & GOOGLE GOGGLES

Pacheco Reyes, Angel Diego

1. GOOGLE MAPS

1.1. Introduction

Google Maps is the name of an intuitive and user-friendly web mapping application service provided by **Google**¹ that offers scrollable map images, satellite photos of the world (exceptions for national security) and a route planner between locations with choice of transport.



Google Maps also has a powerful **locator** where users can enter an address, an intersection or a general area to search the map and even **GPS**² coordinates.

Google Maps runs inside a browser, so you can enjoy this program on any device (PC, mobile phone or tablet), platform (PC, Mac) or system (Windows, Mac, Linux or Android³).

The Google Maps experience can be extended by an **App**⁴ available for **Android**. This App lets you get maximum performance of the program running natively on the device thus achieving a considerable increase in speed over the application running within a web browser.

Other advantages of the application regarding the implementation of a web browser are that the device's microphone can be used to enter addresses by voice (if you have a voice recognition system) or GPS can associate to map the location of the device (if the device has this technology).

¹ **Google Inc** is a company whose main product is the web search engine Google. The company also offers other Internet-related services such as email **Gmail**, the video site **YouTube** or recently the social network **Google+**, among others.

Google Inc also leads the development of Linux-based operating system, Android, currently used in mobile phones and tablets.

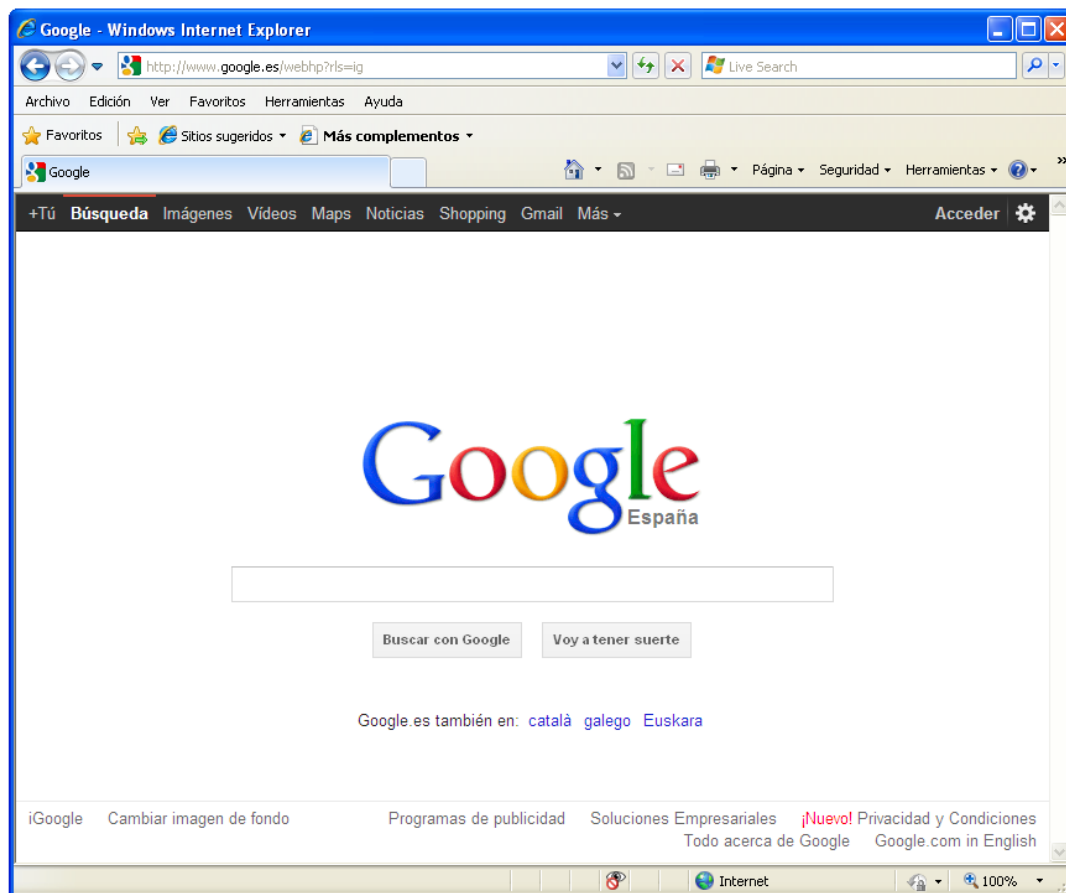
² **GPS** (Global Positioning System) is a technology that allows us to set global position of an object.

³ **Android** is an operating system based on Linux, designed primarily for touch screen mobile phones or tablets.

⁴ An **App** is a software application that can be installed on mobile devices or tablets.

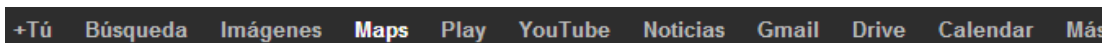
While the user experience is richer in the Google Maps app, this document is based on the operation of Google Maps on a web browser. This is because not all the readers of this document will have the app, but I'm sure anyone can make use of a browser where the mentioned service runs.

We can access to various Google services from the home page of Google Search at www.google.com.



The webpage is very simple. It has a central text box where you can type what you want to seek, the button to start the search and some other things with very descriptive names.

To start **Google Maps** we can click on **Maps** in the Google service bar, located on the top of the page.



1.2. Google Maps services

1.2.1. Scrollable map images

Google Maps provides map views in which is possible scroll to see the surroundings. There are some different methods of **map navigation**:

- Dragging the map to change region. Note that the pointer becomes a hand.
- Using screen controls on the top left of the map.

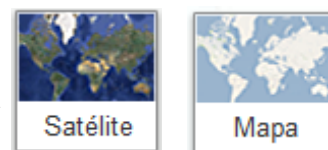
Zoom to focus on the map is very similar to the previous case. It is possible by using the screen controls on the top left of the map or by using the mouse wheel over the area of interest.



(You can also expand an area by double-clicking on the area of interest).

1.2.2. Satellite photos of the world

Google Maps also provides high-resolution satellite images all over the world except in some countries where the image has been blurred by request of their governments.





The view can be changed to **Satellite view** or **Map view** and back by clicking on Satellite or Map respectively, at the top right of the screen map.

The mode of operation is the same so that scrollable methods in the satellite view are the same as in the map view, although depending on the internet connection used you may notice some delays on the satellite view.

1.2.3. Address finder

Google Maps has a powerful address locator that you can find at the top, just above the map. We can enter in the dialog box towns, localities addresses, intersections or even museums, cathedrals, monuments or other points of interest.

The method used to enter the search parameters is separated by a comma, from concise to most general.

Here's an example by addresses:

- España
- Málaga, España
- Calle Carretería, Málaga, España
- Calle Carretería, 8, Málaga, España



If you search by point of interest, the input method of search parameters is also by separating the parameters with commas.

Below there are other examples by monuments:

- museo picasso, malaga
- castillo de san jorge, lisboa
- torre eiffel, paris
- mezquita de selim, edirne
- coliseo, roma
- opera, viena

As a result we will get a map with a red balloon that target the search result.



A click on the red balloon returns a table of information of interest.

1.2.4. Route planning

The route planner allows finding the way between point A and point B.

If you were using Google Maps over a Smartphone or a tablet with GPS device, you would indicate that the point "A" is your current location.



To use the route planner provides by Google Maps we can click on the **Get Directions** button in the left panel next to the map.

Different modes to get directions can be selected: By car, walking and, depending on the area by public transport and by cycling.

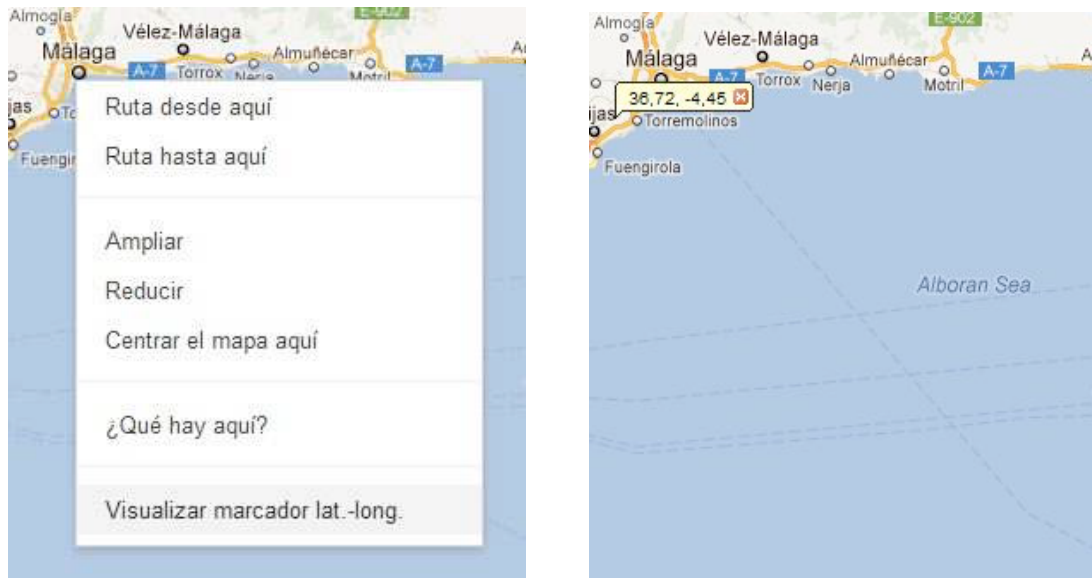


We can approach the route closer focus by the methods previously seen or modify easily the intermediate points of the route obtained by dragging any points of it. This is very useful when we want to find the route from a city A to city B but through an intermediate city of interest.



1.2.5. GPS Location

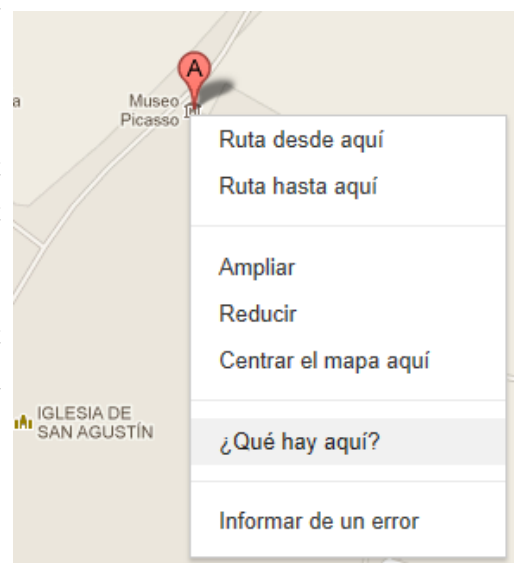
There are several methods to get the **GPS coordinates of a point on the map**. Until now it was necessary to log in with a Google account (**Gmail**⁵) and have activated a plug-in called "lat. Long" of Google Laboratory (Maps Labs).



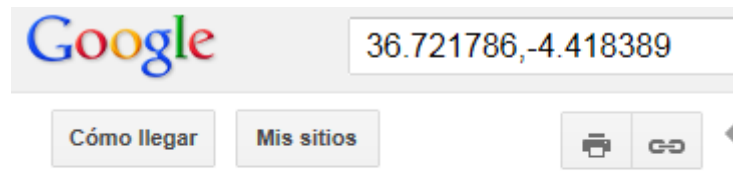
Now you do not need any of this, so do not devote more time to this method.

Simply click the right mouse button on the desired point on the map and click the left mouse button **What's here?** from the context menu.

We will get the GPS coordinates of the point of interest in the search box and related information in the left panel.

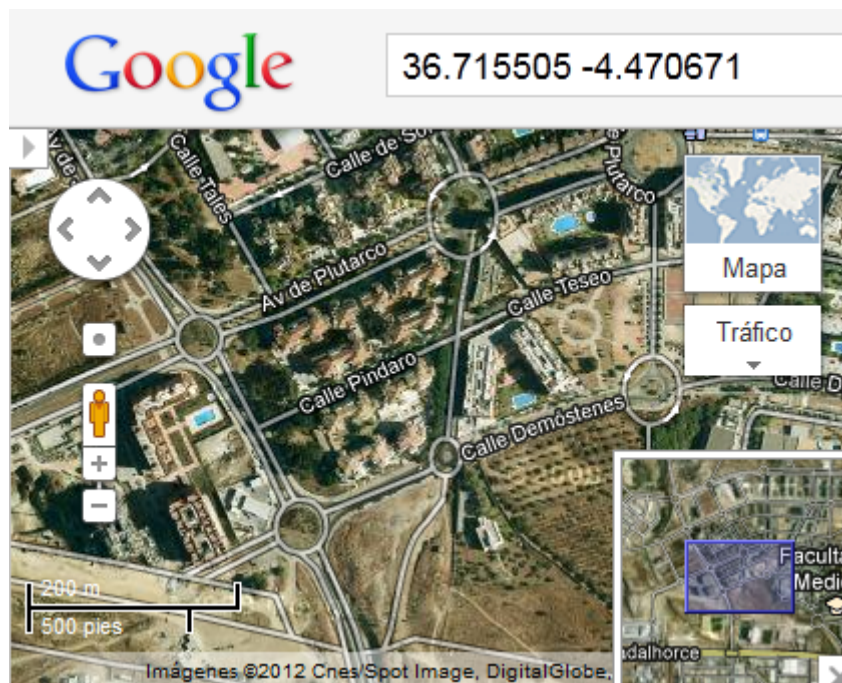


⁵ **Gmail**, also known as Google Mail, is a free email service provided by Google Inc.



 **Calle San Agustín, 8-14**
29015 Málaga 0.7 m NO

The reverse way is also possible. We can obtain **GPS coordinates from a point on the map**. It is very important to remember to use English notation when introducing the coordinates.



2. GOOGLE STREET VIEW

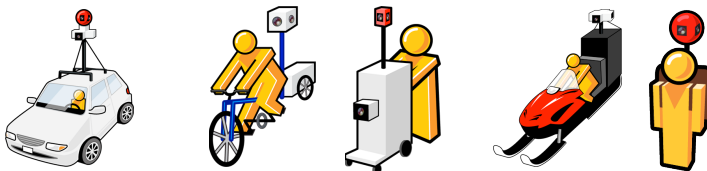
2.1. Introduction

Google Street View is an internet service from which you can get views and virtual tours of streets or roads of cities around the world using panoramic photos.

This feature is available from **Google Maps** and **Google Earth**⁶ and provides panoramic views from positions along many streets. It is possible to navigate through these images 360° in horizontal movement and 290° in vertical movement.



Photos are taken from devices with 9 cameras that mount panoramic images. These images are linked to satellite compositions and linked to its location on the map.



⁶ **Google Earth** is a software application similar to a **geographic information system** (GIS), which allows you to view images of the planet combining satellite imagery, maps and the Google search engine.

In the latest versions of the software the user can also view 3D images of the Moon and Mars.

2.2. Google Street View services

2.2.1. Virtual tours



To rotate an image left and right or up and down you can use the controls on the top left of the image, where 'N' indicates which is north of the image.

You can also click and drag the image focus directly on this and if you are using a Smartphone or a tablet with GPS device than runs Google Maps as an application, you can enable "compass mode".

The controls also include image zoom in the + and -. We can use the mouse wheel for zooming directly.

2.2.2. Navigation

There are different ways to change (or to move) the current view.

- Double clicking on circles that appear in the image when the pointer moves over it (Click to zoom, two clicks to move the focus) or using the controls at the bottom of the image.
- Dragging a circle or a **Pegman** (Yellow figure).



3. GOOGLE GOGGLES

3.1. Introduction



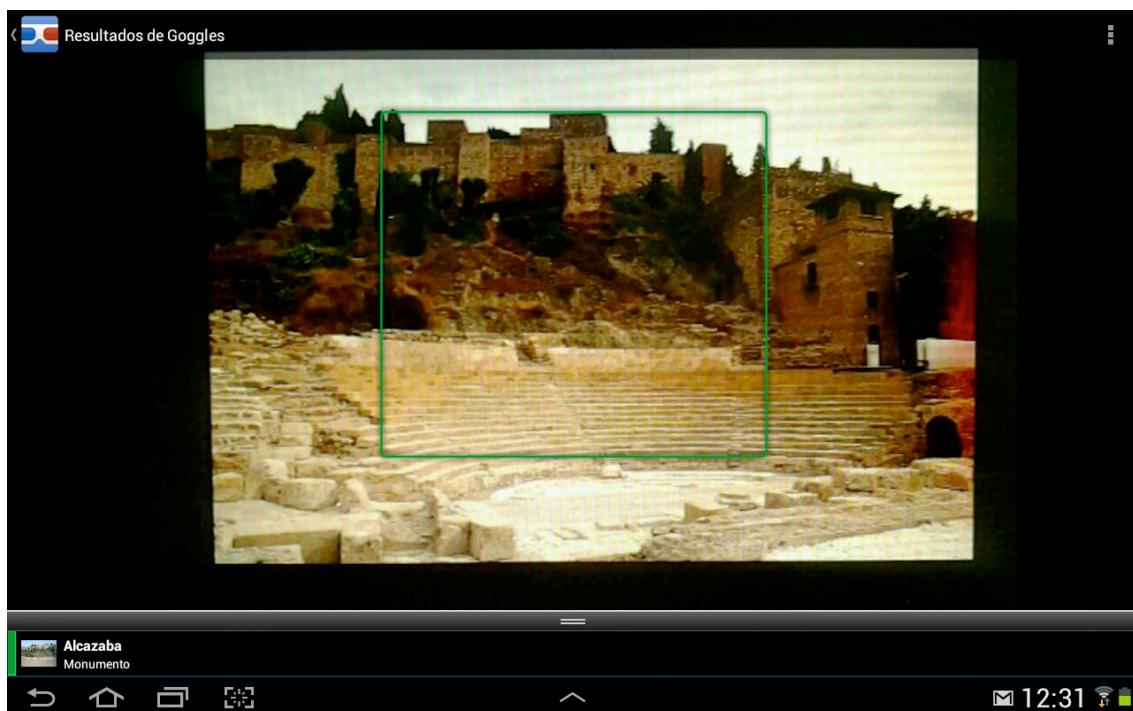
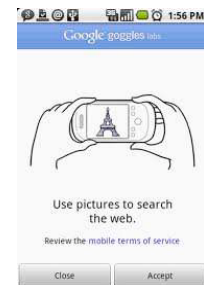
Google Goggles is a Google service that provides an object recognition using photos taken with a Smartphone or tablet and return search results and related information.

Google Goggles is available for **Android** and **iPhone**⁷ through **App**.

3.2. Google Goggles services

3.2.1. Object recognition

These can be places or popular images, products, logos, pictures, books or barcodes. The procedure is very simple, just take a photo from **goggles** and frame your subject to quick scan of the image. If Google finds it in its database, it will offer information in different languages.



⁷ **iPhone** is a line of Smartphones designed by **Apple Inc.** that runs a proprietary operating system known as **iOS** (iPhone Operating System).

3.2.2. Related information

Google returns search results and related information of the images found in its database with links to related sites.



If you have a Google account (**Gmail**) you have the ability to upload information about the image taken and thus contribute to increasing the database.

CHAPTER 7.1. ORIENTATION IN THE NATURE. PHYSICAL ACTIVITY AND SPATIAL SKILLS FOR ADULTS IN EDİRNE (TURKEY)

Bacıoğlu, Bülent

1. INTRODUCTION. ORIENTEERING

The International Orienteering Federation (IOF) defines orienteering as "a sport that combines both a physical and a mental element. The basic idea in orienteering is to proceed from course start to finish by visiting a number of control points in a predetermined order with the help of map and compass. In order to choose the best possible route, orienteers look at the characteristics of the terrain, and the winner is determined by the fastest time to complete the course. What is unique to orienteering is that an orienteer must navigate and make quick decisions while running at high speed" (IOF: <http://orienteering.org/about-orienteering/>)

Other definitions available in the Net are the following:

“a family of sports that requires navigational skills using a map and compass to navigate from point to point in diverse and usually unfamiliar terrain, and normally moving at speed.” (Wikipedia: <http://en.wikipedia.org/wiki/Orienteering>)

“a competitive international sport that combines racing with navigation. It is a timed race in which individual participants use a specially created, highly detailed map to select routes and navigate through diverse and often unfamiliar terrain and visit control points in sequence. Courses also can be enjoyed as a walk in the woods, with difficulty levels from beginner to expert offered at most events.” (Orienteering USA: <http://www.us.orienteering.org/new-o/what-orienteering>)

The web Orienteering Unlimited underlines that “orienteering has been likened to a scavenger hunt in the woods, but it's much more than that! Orienteering provides: mental Challenges, fun, lifetime skills, physical activity, excitement” (Orienteering Unlimited: <http://orienteeringunlimited.com/aboutorienteering.shtml>).

In that sense, other website emphasize that “orienteering offers many benefits, but its real attraction is that it is fun! It is a joy to walk and run through forests and fields. If you like competing, there are many age and skill-level groups to fulfill that wish. The ultimate quest for the orienteer is to find the balance between mental and physical exertion, to know how fast you can go and still be able to interpret the terrain around you and execute your route choice successfully. Orienteering is a lifetime fitness sport that challenges the mind. It offers the obvious development of individual skills in navigating while problem solving to locate each control.” (Human Kinetics: <http://www.humankinetics.com/excerpts/excerpts/learn-the-benefits-of-orienteering>)

2. PRACTICAL ACTIVITIES: ORIENTEERING EXPERIENCES IN EDİRNE

Outdoor ICT Project meeting activity/Orienteering activity: One of Outdoor ICT Project meeting activities of was orienteering race for adults between 17-20 september 2012. Educators, adults and students who came to Edirne for Project meeting did an orienteering in mapped area in söğütlük Forest. First, participants were instructed what orienteering is by a specialist. In the instruction, the psycological, and physical benefits of the activity were introduced. And then the identified targets were found by team and individual. The people, who has a degree in the race, were promoted with symbolic prizes, and that made the activity entertaining.

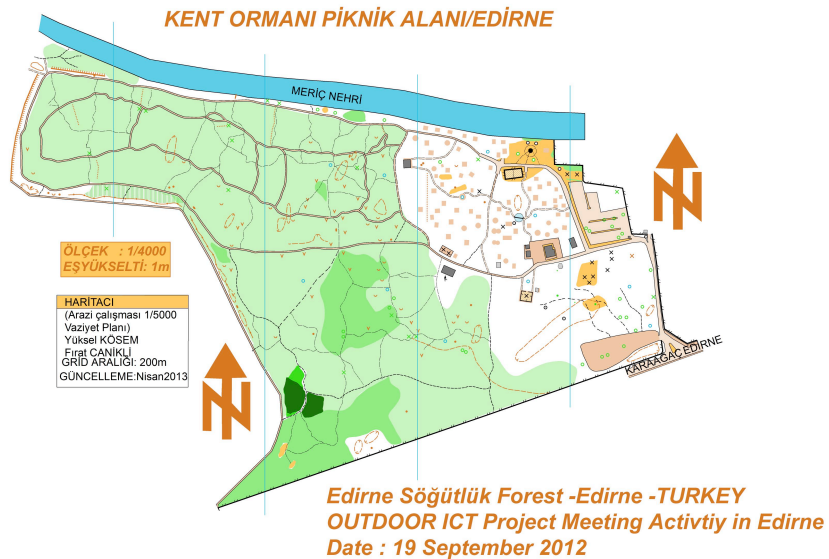


Figure 1: Activity in Edirne Söğütlük Forest. September 2012

One of the Edirne local activity of Outdoor ICT Project was an orienteering activity which was announced for adults and parent teacher association. The activity was done in Söğütlük Forest, and it was during two days and in 3 hours periods. The students and adults who participated the activity learnt lots of things about this sport and raced eagerly. 22 adults participated the activity, at first they were a little anxious but they stated that they relaxed both in psychological and physical at the end of the activity.

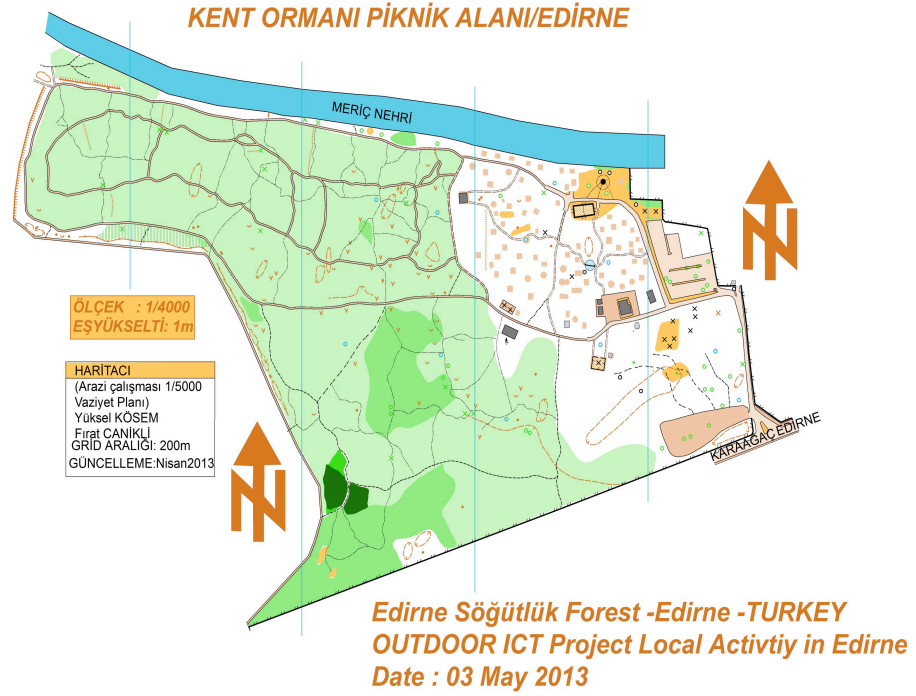




Figure 2: Activity in Edirne Söğütlik Forest. May 2013

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Orienteering USA (United States Orienteering Federation): <http://www.us.orienteering.org/new-o/what-orienteering>
Türkiye Oryantiring Federasyonu: <http://www.oryantiring.org/turkce/default.asp>
Wikipedia: <http://tr.wikipedia.org/wiki/Oryantiring>
<http://www.msxlabs.org/forum/diger-sporlar/11894-oryantiring-nedir-oryantiring-hakkinda-genel-bilgiler.html>

CHAPTER 7.2. GEOGRAPHICAL SKILLS AND CITIZEN EMPOWERMENT BY THE WEB 2.0. THE CASE OF UDINE MUNICIPALITY

Fabbro, Alessia; Romanini, Andrea

This section has been produced thanks to the cooperation with the Agenda 21 office of the Municipality of Udine and in particular with their project SUUpperAgenda that has been connected to the OUTDOOR ICT project activities.



Figure 1: *Udine Municipality and Agenda 21 logos*

Agenda 21 is an international agreement about environmental, social and economical sustainability which means having equal life quality opportunities both for present and future generations. Agenda 21 in Udine is based on three kinds of approaches:

- Top-down** approach: authorities institutions planning and management
- Bottom-up** approach: each citizen can be part of the solution
- Integrated approach**: authorities institutions and stakeholders cooperation

Therefore the main keywords regarding their intervention in the local community are: sustainable mobility and tourism, local culture and traditions, identity, life quality, environment, ICT, participation, outdoor activities.

The local project SUUpperAgenda was born within this context and under those main concepts.



Figure 2: *pictures from Udine and surroundings*

1. WHAT IS SUUPERAGENDA ?

It is a project aiming at promoting and creating a system of sustainable mobility to connect and exploit the natural, cultural, identity and economical realities of the territory and create a local network among companies, farms, local shops, monuments, natural habitats and tourism services.

This local project has involved not only the city of Udine but also 9 other small towns in the region Friuli Venezia Giulia.

In order to be part of this system, the components had to meet at least one of the following requirements:

- environmental sustainability (natural habitat, endemism, landscape..)
- social sustainability (identity, tradition, culture...
- economical sustainability (energy efficiency, zero Kilometers, integrated services)



Figures 3-4: Udine itineraries – pictures and final layout

2. THE OBJECTIVES OF SUUPERAGENDA

- To valorize and develop the economical, rural, cultural and environmental heritage of the territories of the SUU municipalities (SUU = Udine Urban System), trying to find the relations among them for a correct usage
- To connect a network of local stakeholders interested in the development of an effective fruition of the territory
- To transmit a vision of the environment as a treasure to be protected, but also as an incentive for the local economy
- To strengthen the identity of the places with an involvement of the economical, cultural and social resources existing in the Udine territory and its surroundings.

3. THE PHASES OF SUUPERAGENDA

At present the initiatives that have been implemented are:

1. Preliminary education: lessons in schools to understand the spirit of the project and the requirements listed above
2. Proposals from the students: students' field exploration and paths and points of interest identification (around 1000 students in three years)
3. Stakeholders identification: local companies and associations involvement, sharing and integrating students' proposals and setting up the network

4. Integration and sharing of the system by the stakeholders (institutions, associations, committees): ICT tools implementation and testing
5. Integration and validation of the system by the Municipalities: network promotion and enhancement using ICT tools
6. Editing of a geo referenced database, comprehensive of all the gathered information

4. THE DATABASE

The database has been produced and composed by a number of local information and knowledge from users and interested persons and stakeholders.

It includes:

- around 100 Km of sustainable mobility paths interconnecting all the 10 cities and towns involved
- around 270 points of interest geo referenced (services, natural places, monuments...)
- around 130 stakeholders (economical realities, associations, cultural institutions...)

These paths have been validated by the 10 municipalities that will also be engaged in assuring their usability, clearness and improvement.

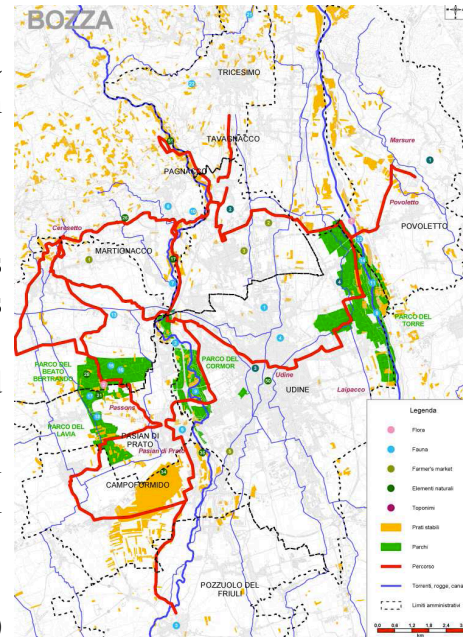


Figure 5: *example of path/ itinerary*

5. THE 2.0 INTERACTIVE WEBSITE

The maps will be available in the future on an 2.0 interactive website that will be financed by a regional project.

This 2.0 web site is now in the process of being completed and, when it is ready, the citizens will have the possibility to consult the map tracks, the places of interest, important locations, etc.

Furthermore each user will have the possibility to give a contribution indicating new places of interest, tracks or events, sharing his/her knowledge with all the users, guests or friends.

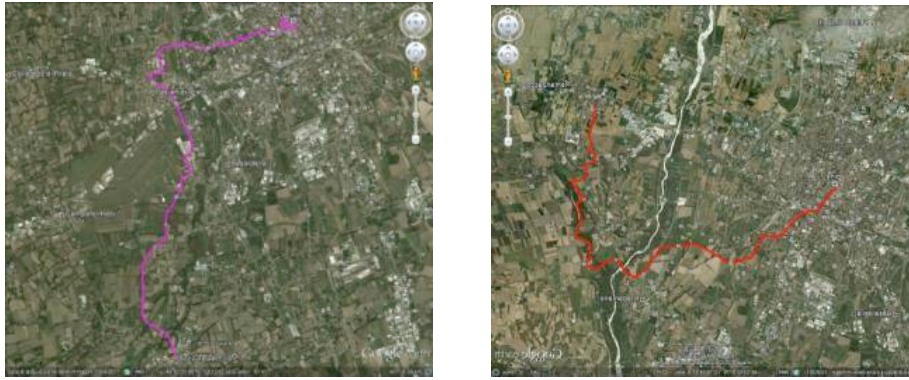


Figure 6: *examples of digitalized paths/itineraries*

6. THE RELATIONSHIP BETWEEN SUUPERAGENDA AND OUTDOOR ICT

SUUPERAgenda provides a set of territorial information that, for its geographical and typology level, can be applied in didactical modules based on the use of ICT tools provided by Università delle Libere.

From one side it is possible to include thematic maps, thus allowing the users to experiment ICT tools and techniques on pre prepared material.

On the other hand, once gained an operational autonomy, the users can give their contribution through ICT tools, exploring the territory and also inserting in the paths and maps new elements and ideas.

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Municipality of Udine Agenda 21

http://www.comune.udine.it/opencms/opencms/release/ComuneUdine/cittavicina/territorio/agenda21/Agenda_21/agenda_21_a_udine.html

Suuperagenda project:

http://www.comune.udine.it/opencms/opencms/release/ComuneUdine/cittavicina/territorio/agenda21/progetto_SUUPERAGENDA/?style=1

CHAPTER 7.3. GEOMEDIA AND CULTURAL HERITAGE. A WALK THROUGH THE HISTORICAL CENTER OF PARIS (LE MARAIS, FRANCE)

Epstein, Monique; Pettelat, Françoise; Miro, Marguerite

1. THE FIRST STEP: THE PREPARATION

The first step for this historical walk in Paris was : how to create this track and with which tools? We organized training workshops /courses for seniors to learn the software «GOOGLE MAPS» and its use from a gmail account. Thus we were able, while logged, to access into «GOOGLE MAPS». We have organized several courses in which we observed difficulties encountered by seniors less skilled in this type of exercise (figure 1).

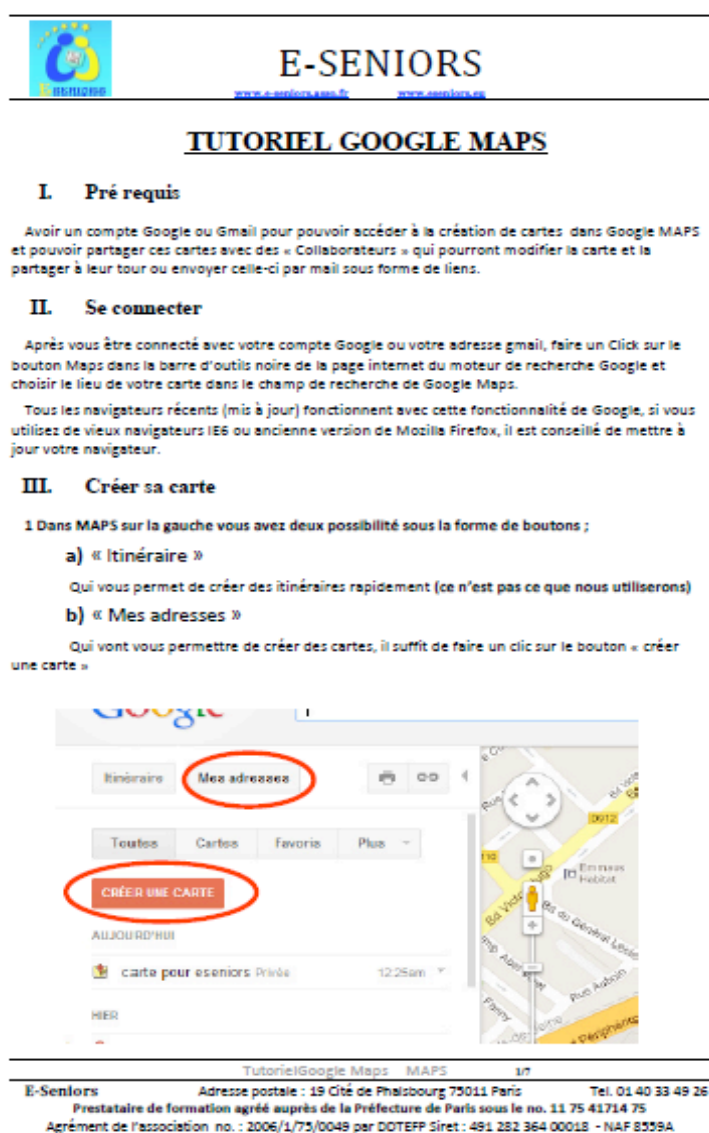
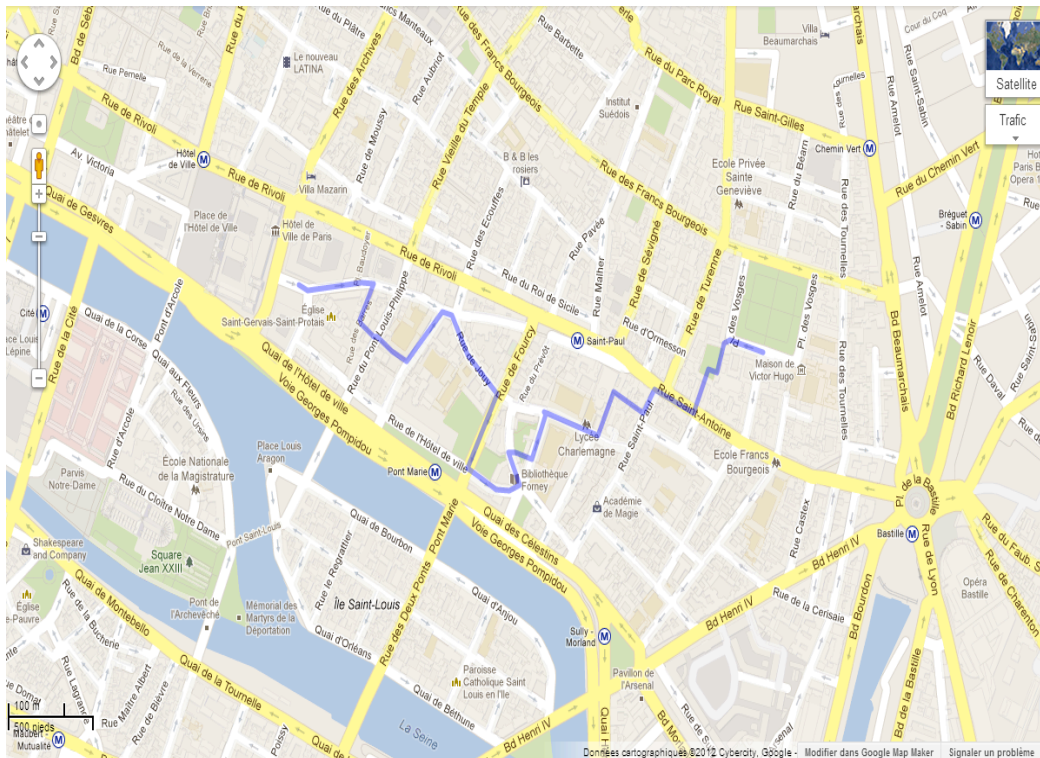


Figure 1: Example of a page of course printed support

2. THE SECOND STEP: THE ROUTE PATH

- Now the second step was how to find the area we were interested by, and we choose the 4th district of Paris and in particular the map of the “Marais”.
- After, we spoke about the short history of the Marais : In the 12th century, the Templars cleared the marshlands located north of the walls of King Philippe Auguste. From the 16th century, especially after the creation of the Place Royale (Now Place des Vosges), the aristocracy built large mansions with the building style used between the 16th and the 18th century. The transfer of the royal residence to the Louvre and then Versailles marked the beginning of the decline of the Marais. In the 19th century Le Marais became denser by becoming an industrious area devoted to clothes and jewelry. But the buildings are hardly maintained, even mansions are often disfigured by warehouses and workshops. In 1969, André Malraux, Minister of culture, made the first “conservation area”.
- Then, after a brainstorming, we conceived and prepared our circuit in this

Figure 2: *Itinerary of the circuit*

historic area and we drew the itinerary (figure 2). We choose also the starting point (Place St Gervais) and the end point (Place des Vosges).



Figure 3: *The three buttons*

3. THE THIRD STEP: THE FINAL DESIGN OF THE MAP

3.1. How use the 3 buttons in order to indicate the different stops?

To indicate a stop we had to click on the second button and to drag it to the place where we intended to make a stop (figure 3).

3.2. How to give a title to this stop?

When the mark is at the intended place we have to click on it, a label appears to be completed (figure 4).

3.3. The different stops

We choose the departure point (figure 1) and the second step Saint Gervais church (figure 2).

And after we decided to make different stops :

Hôtel de Chalon and Luxembourg: The Chalon-Luxembourg mansion was built from 1623 on behalf of William Perrochet, treasurer of France. It has been scheduled as an ancient monument only in 1977).

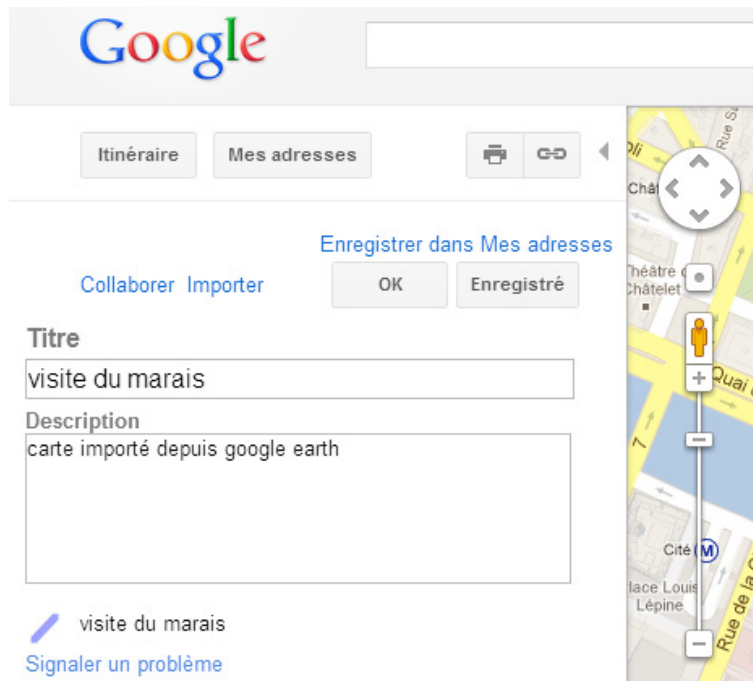


Figure 4: The title of the map

Ourscamp House: Ourscamp house, headquarters of the Association for the preservation and enhancement of historic Paris, is a mansion whose origins are in the Middle Ages. Initially, this house was an urban pied-à-terre for the Cistercians from the Ourscampabbey, installed in Oise. It has a gothic thirteenth century cellar which was from the thirteenth to the sixteenth century, a place of storage of goods.

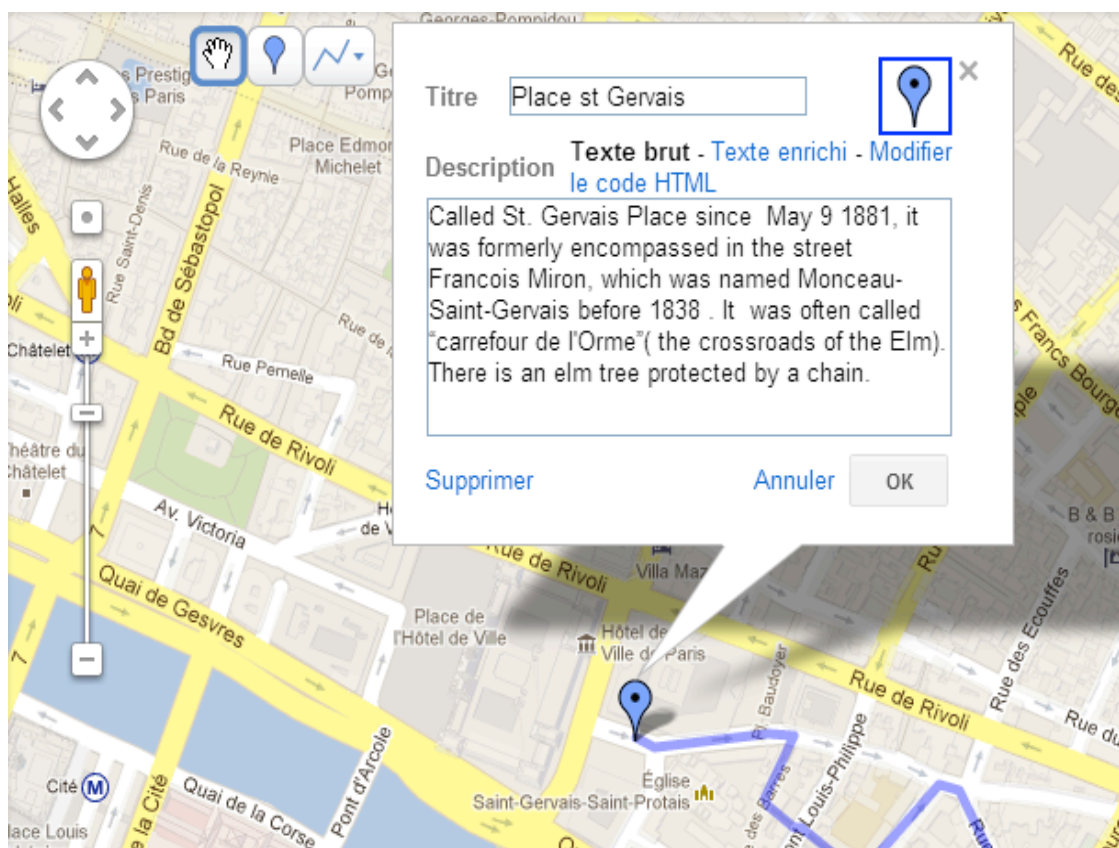


Figure 5: The departure point

Hotel de Beauvais: Built in 1655 by Antoine Lepautre, the first King's architect, this building has changed over the centuries. Its latest modification is that made by the state to house the headquarters of the Administrative Court of Appeal of Paris and a legal resource center.

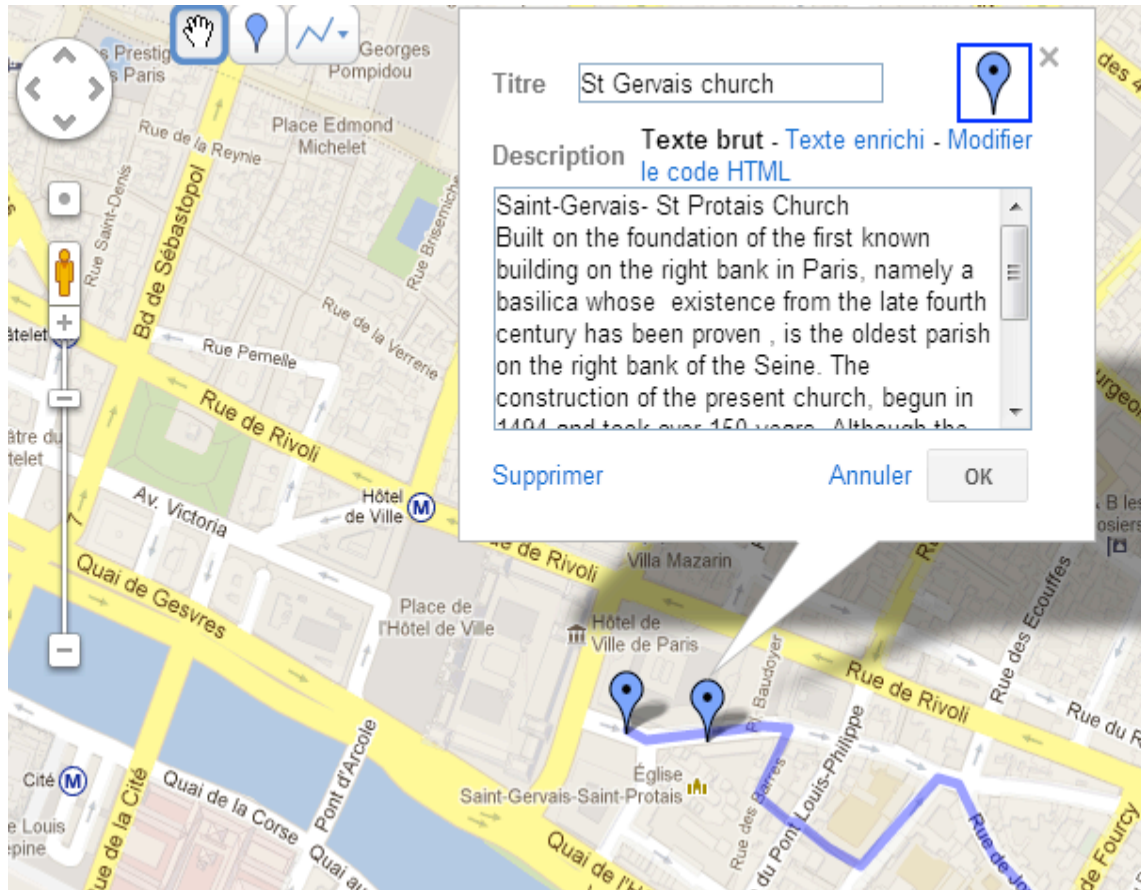


Figure 6: The Saint Gervais Church

Hotel d'Aumont: Built following the plans of Le Vau in the seventeenth century (1644-1648) for Michel Antoine Scarron, a King's counselor, the hotel was occupied by the end of its construction by the Duc d'Aumont, which asked Mansart to enlarge and transform the main building, from 1656. In 1938, the Hotel d'Aumont was purchased by the City of Paris who rehabilitated it. The administrative court moved there in 1959.

Hotel de Sens - garden and - Bibliothèque Forney: Built in 1475 by the Archbishop of Sens, from which depended Paris. It is the oldest civil Middle Ages building of this magnitude in Paris.

The hotel houses since 1961 the library Forney (specialized in Art and Technology. Artisans can come to draw or borrow books and models),

Hôtel de Sully: Hotel with Renaissance architecture. In the garden, Sully, Henry IV minister, has installed an orangery.

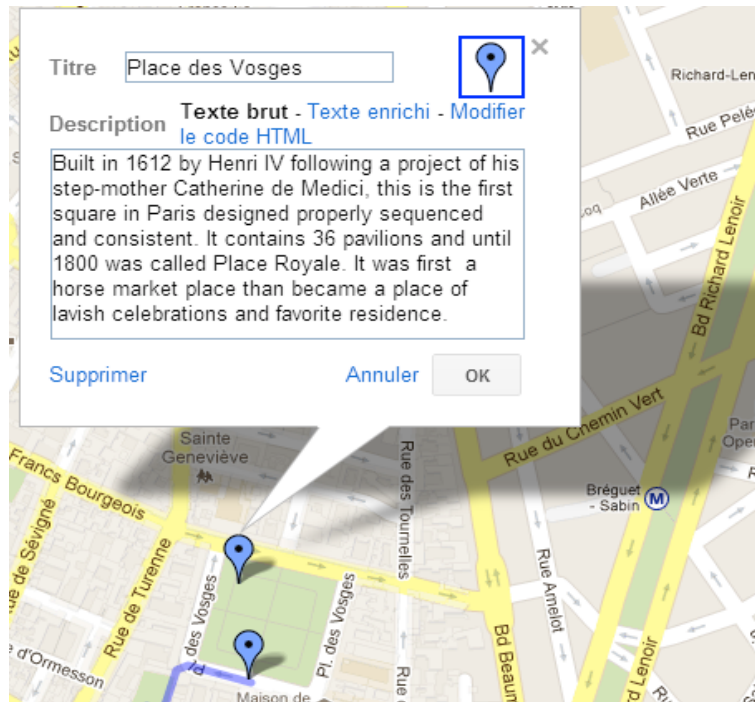


Figure 7: *Place des Vosges*

And the final points of our track: Place des Vosges (figure 7) and the Victor Hugo Museum (figure 8) .

Place des Vosges: Built in 1612 by Henri IV following a project of his step-mother Catherine de Medicis, this is the first square in Paris designed properly sequenced and consistent. It contains 36 pavilions and until 1800 was called Place Royale. It was first a horse market place than became a place of lavish celebrations and favorite residence.

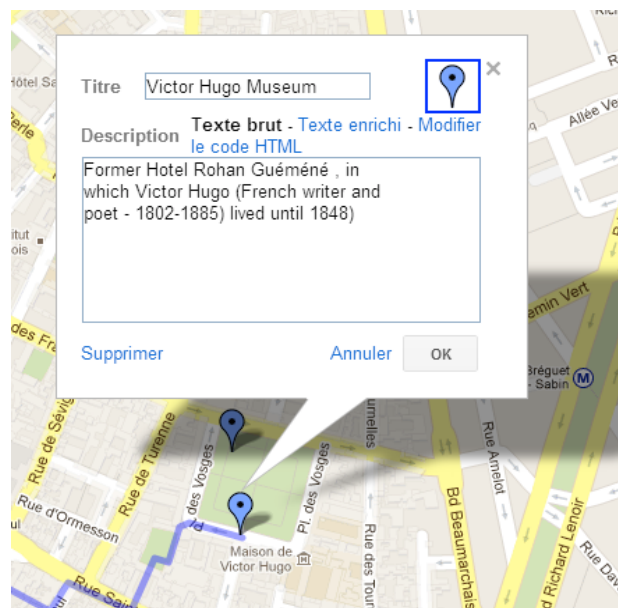


Figure 8: *Victor Hugo Museum*

The Victor Hugo Museum: Former Hotel Rohan Guéméné , in which Victor Hugo (French writer and poet - 1802-1885) lived until 1848.

3.4. THE FINAL MAP

After we did appear on our map first all the steps and the images to recognize the monuments by clicking on traffic and then picture (figure 9). And at the end we compared our results with an ancient map of the Marais (figure 10).

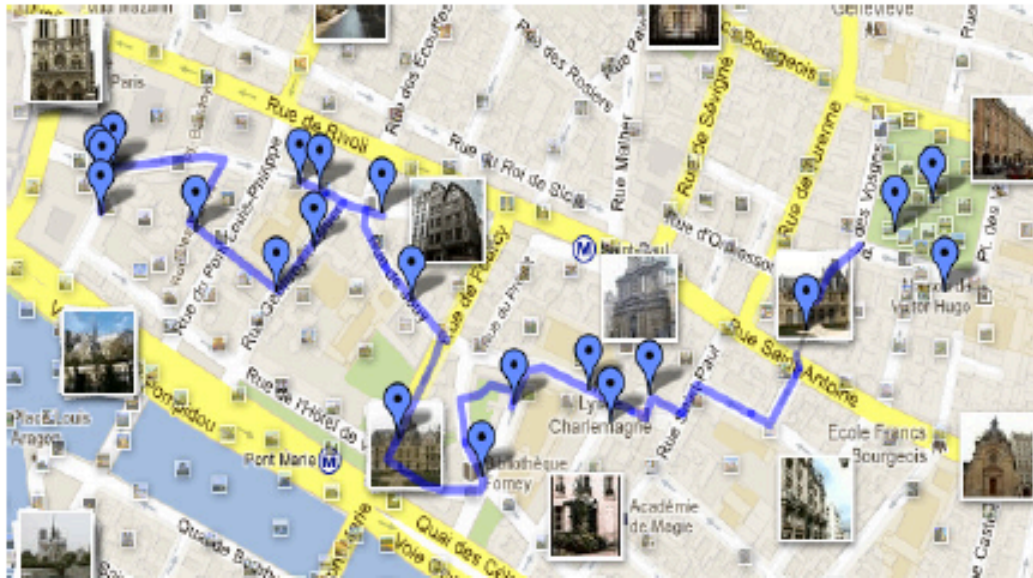


Figure 9: Our final map

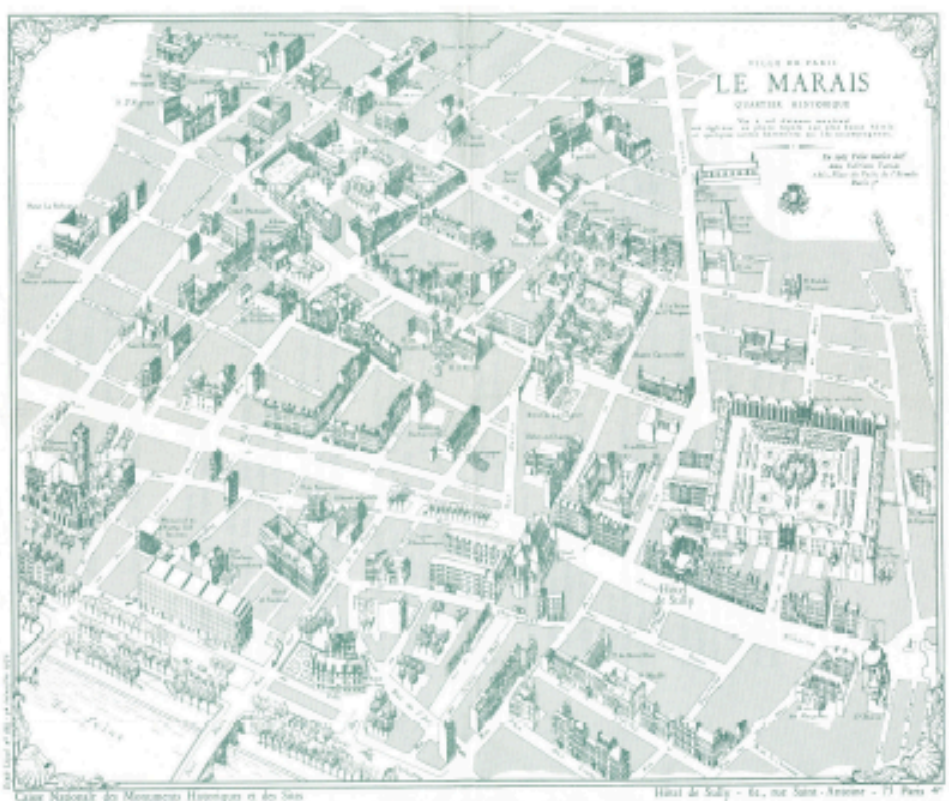


Figure 10: Old map of the Marais

CHAPTER 7.4. SPATIAL SKILLS FOR THE IMPROVEMENT OF THE QUALITY OF LIFE OF SENIORS. EXPERIENCES IN MÁLAGA AND ANTEQUERA (SPAIN)

Delgado Peña, J. Jesús; Fernández González, J. Carlos

1. INTRODUCTION

Two aspects that we consider to be essential for people over fifty in present-day society converge on this chapter, namely digital competence stimulation (fighting the well-known digital divide) and promotion of active methodologies for learning such as field work (encouraging their own philosophy of life-long learning through an awareness of heritage and environment issues, and a more active and healthier lifestyle). To that end, we have developed a learning activity in the area of geocaching by means of common mobile GPS (mobile phones or tablets) with free software (as Google Maps or Goggles), using Malaga and Antequera historic city-centres as operation fields.

Overall, the importance of the digital competence is enormous, since nowadays the information society in a globalized world represents a real challenge for older people. This society is the product of the widespread computerization of the information and the digital revolution, and it offers a wide range of possibilities with regard to information, communication and managing of daily activities. Older people value the learning of aspects related to computing from three perspectives: as a means of communication with their family and friends, reducing the effects of isolation; as a way of social relation, allowing them to stay informed in a constantly changing environment; and as resource for mental training (Delgado Peña et al., 2009, 133-136). The experience presented here is based on all these premises.

From a social constructivist view of competences, it is necessary to develop their implementation on the educational programs for older people in general (Bermejo García, 2005). What is certain is that older people enjoy more availability of free time, which requires an internal personal change and certain training in that respect (Fernández Lópiz, 1998, 239). Therefore, it is important to create activities and prepare materials in this line.

2. GEOCACHING ACTIVITY IN THE HISTORIC CITY CENTRE OF MALAGA

It was necessary to put into effect a dynamic where the participants reinforced their interest in Geography, and also to develop various competences and skills useful for their daily life: use of digital devices, geolocation, spatial orientation, valuation of the heritage richness of their close environment, stimulation of a healthy lifestyle, etc. That is why we decided to choose an activity that brought together all these aspects, and geocaching offered numerous possibilities to achieve those goals. It is an activity that integrates mental and physical training and mastery of the technology (web

applications, mobile phones, etc.) in which age is not an obstacle to carry it out, for it can be adapted to all ages and levels (Tejedor Lorenzo, 2006).

The object of this activity is in general to hide objects in the country or in town, note down their coordinates and make them public for other people to be able to seek them with a GPS location device. In this case, we chose some key monuments and established a route from one to another following a list of coordinates that we entered in those devices, displaying on the screen the way to get to the place whose coordinates were given in advance.

Instead of seeking for a “treasure” -a specific physical object- the treasure was the monument itself, establishing in every stop two tests: one of observation and the other one of search for information on the web (figure 1). In this way, the development of geographic competences of crucial importance such as map interpretation (map of the city) and observation of the environment, together with digital competences by using geolocation software (Google Maps and Google Street View) in common devices such as Smartphones or tablets, were stimulated simultaneously. As the activity was carried out by a team, socialization and development of social competences were also stimulated. In addition, we also used Google Goggles, a computer application that allows us to identify, through images taken from our own device, those object or monuments, providing information about them. It must be highlighted that the image database and information related to the different sites is uploaded in a collaborative and unselfish way (as it happens with the wikipedia), being a significant example of what we know as web 2.0 or social web. The teaching of that application can be addressed from two perspectives: 1) development of digital competences, since it process and upload images and texts, information search, etc., and 2) Raising awareness of the heritage and the environment, as this application can contribute to the enhancement of monuments or natural sites of special significance, even those that are little known.

However, it should be noted that previously to the field trip, a sessions in the computer room was held, aimed at introducing the students to all these computer application, quite generally unknown, we should say, to the target group of this experience.

Open Google Maps and write the coordinates for the next stop:

36.717631,-4.420428

We have arrived in a square. What is its name?

Visual test

In in which part of the square that faces the harbour there is a statue? How is it called?

Internet Search

Which artist from Málaga created it and when?



Education and Culture DG

Lifelong Learning Programme

OUTDOOR ICT



Centre of Educational Research
UNIVERSITAT DE MÀLAGA



die künftigen
volkshochschulen



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The project Outdoor ICT aims to face the challenges of the new "Information and Communications Technology" and offer pathways to explore and use expertise and knowledge of project partners in the field of adult education, health care promotion and ICT and unify these pools of knowledge by tailoring them to the needs of people over 45. This group is stated to be low awareness of the opportunities and insufficient sharing of experiences.



BOCACINGS in MÁLAGA



27h-november-2012

Project 2011-I-HUI-GRU06-03650-2

<p>Open Google Maps and put the coordinates in the first stop: 36.723386, -4.417743</p>	<p>Stop 1</p> <p>We have arrived in a square. What is its name?</p> <hr/>		<p>Visual test</p> <p>To whom is dedicated the obelisk in the center of the square?</p> <hr/>	 <p>Internet Search</p> <p>We are close to Picasso's birth place. You know in which year he was born?</p> <hr/>	<p>Open Google Maps and write the coordinates for the next stop: 36.72153, -4.417209</p>	<p>Stop 2</p> <p>We are now in a famous street in Malaga. What's its name?</p> <hr/>	 <p>Visual test</p> <p>In which part of the street we can find this image? Who is him?</p> <hr/>	<p>Internet Search</p> <p>In which century was the Roman theater built?</p> <hr/>	<p>Open Google Maps and write the coordinates for the next stop: 36.720169, -4.420256</p>	 <p>Stop 3</p> <p>We have arrived in a square. What's its name? What's the meaning of its name?</p> <hr/>	<p>Visual test</p> <p>In which part of the square we can find this image?</p> <hr/>	<p>Internet Search</p> <p>Why is the Cathedral known as "la manquita"?</p> <hr/>	<p>Open Google Maps and write the coordinates for the next stop: 36.721054, -4.422101</p>	<p>Stop 4</p>	<p>We have arrived in a square. What is its name?</p> <hr/>	<p>Visual test</p> <p>How many spouts has this fountain?</p> <hr/>	 <p>Internet Search</p> <p>How was this place called in the nazim period?</p> <hr/>	<p>Next page</p>
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Figure 1: Activity worksheet with coordinates and tests in Malaga (in English)
Source: José Sánchez, Ángel Diego Pacheco & J. Carlos Fernández



Figure 2: *European participants during the activity next to the Cathedral of Malaga*

3. GEOCACHING ACTIVITY IN THE HISTORIC CITY CENTRE OF ANTEQUERA

When the time came to think of a geolocation activity in Antequera historic city centre, we realized that it was necessary to put into effect a dynamic where participants reinforced their interest in the vast historic-artistic heritage of this city, while they developed various competences and skills useful for their everyday life: how to use digital devices, geolocation, spatial orientation, stimulation of a healthy lifestyle, promotion of the learning-to-learn competence, etc. That is why we decided to choose an activity that brought together all these aspects, and geocaching offered numerous possibilities to achieve those goals. It is an activity that integrates mental and physical training and mastery of the technology (web applications, mobile phones, etc.) in which age is not an obstacle to carry it out, for it can be adapted to all ages and levels (Tejedor Lorenzo, 2006). The object of this activity is in general, as we have seen before, to hide objects in the country or in town, note down their coordinates and make them public for other people to be able to seek them with a GPS location device. To this effect, we chose some key monuments and established a route from one to another following a list of coordinates that we entered in those devices, displaying on the screen the path to get to the place whose coordinates were given in advance.

¿Qué símbolos y figuras encontramos en la parte superior del arco? _____

Búsqueda en Internet

¿Qué representan y significan estas figuras y símbolos?

A través de él podemos ver una obra maestra del siglo XVI, la Antigua Colegiata de Santa María, primer templo renacentista andaluz. A la derecha, la entrada del conjunto monumental de la Alcazaba, y a la izquierda, un mirador sobre los restos de las termas de lo que fue la ciudad romana de Antikaria y al valle del río de la Villa.



Abre Google Maps y pon la coordenada de la siguiente parada: 37.0136, -4.55775

Parada 6

En frente de este impresionante arco de piedra nos encontramos una magnífica panorámica de Antequera, con el Viejo Coso a nuestros pies y a la izquierda, la torre de San Sebastián, llamada por su "angelote" dorado. Pero, fijémonos en el arco.

Prueba visual

¿En qué libro de que famoso escritor estadounidense aparece esta fuente? _____

¿Qué elemento decorativo común has encontrado en muchos de los monumentos? _____



Búsqueda en Internet

¿Cuál es el origen y significado de la célebre frase "¡Duenos, salga el sol por Antequera!" ¿Quién la dijo? _____

ESPERO QUE TE HAYA GUSTADO ESTE PASO Y QUE ENCUENTRES ESE TESORO QUE TE INDICA LA RIENTE DEL TORO....



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Geocaching en ANTEQUERA



15-marzo-2013

<p>Abre Google Maps y ponga las coordenadas de la siguiente parada: 37.01623, -4.55730</p>	<p>Parada 1</p> <p>Hemos llegado a...</p> <p>Esta es una de las principales plazas de la Antequera del Siglo XVII con magníficos edificios a un lado y otro, como son el Convento de Santa Catalina y el Palacio de Nájera (actual Museo Municipal). El centro lo domina la estatua ecuestre del Infante Fernando, conquistador de la ciudad en 1492.</p> <p>Prueba Visual</p> <p>Entre ambos edificios existe una fuente ¿Qué representan las figuras de los caños? ¿Qué animal está también presente? ¿En qué año fue construido?</p> <p>Búsqueda en Internet</p> <p>¿Qué dos famosas esculturas masculinas se pueden ver en el Museo Municipal, una del S. I y otra del S. XVI?</p>	<p>Abre Google Maps y ponga las coordenadas de la siguiente parada: 37.020107, -4.554319</p>	<p>Parada 2</p>  <p>En esta insignie plaza nos encontramos edificios importantes como la Capilla de la Virgen del Socorro, la Iglesia de Santiago o la Iglesia de Santa Eufemia. ¿Qué significan?</p> <p>Prueba Visual</p> <p>¿Cuáles son los atributos de Santa Eufemia? ¿Qué significan?</p>	<p>Abre Google Maps y ponga las coordenadas de la siguiente parada: 37.015817, -4.55522</p>	<p>Parada 4</p> <p>Hemos llegado a...</p> <p>Prueba Visual</p> <p>¿En qué fecha el Infante D. Fernando conquistó Antequera?</p> <p>¿Qué representa la escultura de la esquina al pie de las murallas</p> 	<p>Abre Google Maps y ponga las coordenadas de la siguiente parada: 37.019103, -4.55394</p>	<p>Abre Google Maps y ponga las coordenadas de la siguiente parada: 37.01522, -4.55677</p>
<p>Parada 3</p> <p>Hemos llegado a...</p> <p>Prueba Visual</p> <p>¿En qué año se construyó la fuente cercana?</p> <p>¿Quién fue el comisario encargado de su construcción? Sr. D. Francisco Thomas de</p> 	<p>Parada 5</p> <p>En frente de este impresionante arco de piedra nos encontramos una magnífica panorámica de Antequera, con el Viejo Casco a nuestros pies y a la izquierda, la torre de San Sebastián, llamada por su "angelote" dorado. Pero, fijémonos en el arco...</p> <p>Prueba Visual</p> <p>¿En qué año fue construido?</p>						

Siguiente página

Figure 3: Activity worksheet with coordinates and tests in Antequera (in Spanish)
Source: J. Jesús Delgado & J. Carlos Fernández



Figure 4: *Participants during the activity at Coso Viejo (Old Square) in Antequera*

This activity cannot be described in the strict sense as geocaching, although it is totally inspired by its procedures and philosophy. As a basic derivation from a typical geocaching activity, instead of seeking for a “treasure” -a specific physical object- the treasure was the monument itself, establishing in every stop two kinds of tests: one of observation and the other one of search for information on the web. In this way, the development of geographic competences of crucial importance such as map interpretation (map of the city) and observation of the environment, together with digital competences by using geolocation software (Google Maps and Google Street View) in common devices such as Smartphones or tablets, were stimulated simultaneously. As the activity can be carried out by a team, the development of social competences, which are so needed for this group of population, is also stimulated.

In addition, it can also be used Google Goggles, a computer application that allows us to identify, through images taken from our own device, the photographed objects or monuments, providing information about them. It must be highlighted that the image database and information related to the different sites is uploaded in a collaborative and unselfish way by the users themselves (as it happens with the wikipedia), being a significant example of what we know as web 2.0 or social web. Teaching of that application can be addressed from two perspectives: 1) development of digital competences, since it process and upload images and texts, information search, etc., and 2) raising awareness of the heritage and the environment, as this application can contribute to the valorisation of monuments or natural sites of special significance, even those that are little known.

On the other hand, a number of important aspects should be pointed out when designing a route like the one we have prepared for this experience:

- First, and as a starting point, its length must be established correctly, by adapting it to the available time and number of stops, bearing in mind that, because of the target people, it must not involve excessive physical difficulties. In our case, we have established a route covering 1950 m with 6 stops. There was a certain elevation on the route, especially because the activity ends on a viewpoint (*mirador*) where there is a splendid panoramic view of the city, but we thought that it did not add an excessive difficulty. The route and some photos can be seen in detail on the link: <http://adventures.garmin.com/en-US/by/ruta-por-sevilla-este/geocaching-in-the-old-town-of-antequera/#overview>

- Second, it is important, if possible, to establish a leitmotiv or common thread for the route, some historical or ideological aspect, or some historic figure related to different points of the route, complementing the information gradually, and enhancing the knowledge intended to be acquired through the itinerary. In our case, the leitmotiv is the conquest of Antequera, appearing during the route in several occasions two key figures such as the Infante D. Fernando, the city's conqueror, and Saint Euphemia, one of the patron saints of the city. As symbolic elements ever-present on the route, we have the motifs that make up the city's coat of arms: the vase of white lilies, the lion, and the castle, among others. Along the route, the participants get complementary pieces of information, so that when they come at the end, they discover a consistent history and perfectly documented by the evidences of the observation and web search developed through the activity. It is true the saying "you can't value what you don't know", thus, in regard to the heritage, these kind of activities of knowledge and awareness can have very positive results.

- Finally, good background documentation is essential, especially when including in the route landmarks related not only to purely historical facts and merely artistic data, but also allusions to anecdotes, legends or curious elements, which we believe can arouse the students' interest and motivation in the route. In this case, we have included elements to explain the popular saying "*y que salga el sol por Antequera*", (and may the sun rise upon Antequera)" or the legend related to the "Fuente del Toro" (The Bull's Fountain), as high point of the route. We firmly believe in the experience component of the learnt, so if we link the contents of the route to feelings of wellbeing, and joy when, for example, they discover an interesting or curious detail, or listen to an amusing anecdote, the learning process can be profoundly reaffirmed.

In sum, the proposed experience provides information about a highly topical and relevant subject such as the older adult needs of acquiring geographic competences through the use of ICTs. In short, this experience, even though it is an exploratory work, not only points out the needs of the target student, but reaffirms the importance of designing an offer that meets them, involving directly in creating initiatives on this line from both public and private institutions

Last, their limitations open new lines of research in the field of education, in general, and awareness of heritage values, in particular, by creating new resources, activities and methodologies that facilitates to older people, within the framework of lifelong learning, training in digital geographic competences that helps them to overcome the obstacles

that the digital divide could provoke in their way to be integrated in the present-day information society where we are living now.

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CHAPTER 7.5. PROMOTE ACTIVE AGING AND HEALTHY LIFESTYLE BY PREPARING OUTDOOR ACTIVITIES IN EVORA (PORTUGAL)

Florindo, Maria de Jesus

The senior population has an increasing role in the world demographic structure, with the growing inversion of the age pyramids mainly in the developed countries. There is a growing interest, particularly in the last decades, from different investigators of different fields of knowledge, for the welfare, health and quality of life of senior citizens. Although the life expectancy is increasing, human beings have been adopting sedentary lifestyles, being frequently, functionally dependents or having difficulties to perform basic tasks of the daily routine. Although it is undeniable that every human being gets older, it's a different process for each individual, depending essentially of each one's behaviors and lifestyles.

During the past few years, many institutions have acknowledged physical activity as an essential contribution in the maintenance of healthy lifestyles, providing a better life quality for seniors.

Keeping an active life it's now more important than never to the aging process, bringing itself significant changes in the functional capacities of each individual. The aging process cannot be avoided, but it can be delayed and decreased through regular physical exercise.

Within this perspective, physical activity has been gaining a growing importance, existing evidences that show that physical activity has a decisive role in health promotion and disease prevention, associated to this important population group. Regular physical activity reduces the risk of various chronic conditions among the elderly, including coronary heart diseases, hypertension, diabetes, metabolic disorders, as well as harmful emotional states such as depression.

Since the life quality is largely associated with a good motor performance, the regular practice of physical activity becomes essential for this age group. To maintain the quality of life and dealing with everyday activities is important for the elderly to stay with the best fitness.

Portugal, for its sea proximity, Mediterranean climate and rural landscapes is a suitable place for developing of physical activities that combine a healthy lifestyle with outdoor activities.

To properly state this issue, we selected a set of activities that we believe to be adequate to describe it, giving also detailed descriptions and concrete examples of these activities' development in Portugal.

We shall describe firstly hiking. Hiking can be defined as the sport of walking in nature and usually, in ancient paths, but also in urban areas. In fact, hiking is a complex

activity related to the sport, tourism and the environment areas. It consists in wandering by foot along paths and trails, preferably traditional or historical paths in a nature or urban environment.

Unlike other outdoor activities, the practice of hiking involves no major difficulties. It is usually an activity both relaxing and enjoyable. It can be done mostly by everyone, with family and friends.

In Portugal, there are many initiatives related to this type of outdoor activity. Particullary in Évora, we can state that many events of this nature take place throughout the year related to this activity, bringing together the physical well-being, discovering the natural and cultural heritage, tourism and undoubtedly the sport itself .

Referring a specific example, in Évora an annual initiative is celebrated to promote an old countryside rail known as the "Path of the Mass," which connects the main centers of religious worship in the area of the steadings of the city - Senhor dos Aflitos, São Roque e Nossa Senhora do Espinheiro. This is a low level of difficulty route, with 3 kilometers long and suitable for all ages. By doing this initiative, each individual can become acquainted with all environmental heritages surrounding this route; perform a sport activity that seeks the welfare of each individual, through this initiative or not, and finally, general public can understand the importance of this ancient route, promoting directly or indirectly a product that can be considered tourist-oriented.

In addition, this initiative is charitable oriented, through a subscription with a monetary value added, which will be redirected to charitable institutions in Évora.

In the same city, as well in other parts of the country, sets of old decommissioned railway lines are now used as *Ecopaths*/ bike paths. This concept is quite common in Europe, but it was only implemented in Portugal in 1996, with the inauguration of the first *Ecopath* in Guimarães. Currently there are several sets of bike paths / *Ecopaths* scattered all over the country where it's possible to develop activities related to hiking, and biking practices.



Figure 1: *Evora Ecopath*



Figure 2: *Ecopaths in Portugal*

The Cultural Institute of Évora has performed several initiatives in the Ecopath of Évora, inviting seniors to participate in organized tours, in order to develop their physical and emotional well-being while can get to know the natural patrimony, flora and fauna surrounding the *Ecopath*.

promotion of outdoor fitness. The senior public has particular adherence. The advancing age and frail health are factors that seniors tend to give particular emphasis, by seeking it to improve their physical and psychological conditions.

To describe a concrete example of this activity in Portugal, in 2011 in the city of Proença-a-Nova, an event of outdoor fitness took place, every Sunday of June of that particular year. This event featured a massive adhesion of the population, particularly amongst senior citizens, whom proved to be very excited about this experience.

This was a key example to show that physical activity combined with an outdoor sporting activity can motivate people, especially senior citizens, to adopt new healthy behaviors that change their lifestyle.

And finally, the activity that deserves more prominence within this exchange is Geocaching and its practice in Portugal.

Geocaching is both a hobby and an outdoor sport in which a receiver uses the Global Positioning System (GPS) to find a "geocache" (or just "cache") that can be placed anywhere in the world. A typical cache is usually a small closed and waterproof box (or Tupperware), which contains a log book and some objects, such as pens, pencil sharpeners, coins or dolls to exchange, among others. Geocaching is an activity that can be seen as a way to not only develop the tourist practice, but also the promotion of healthy habits, through sport and the performance of an unusual activity.

It's not a very well-known concept in Portugal, however it continues, increasingly, to gain new practitioners who seek and create new caches, as those are now scattered all over the country.

The Cultural Institute of Évora, intends in future actions, organize a team of senior citizens to streamline this activity. Being outdoors, and surely an adventure activity, be, like the other activities listed above, a link between the promotion of healthy habits with outdoor activities.

To conclude our article, we will refer the activities carried out under the Outdoor ICT Project. Between the 4th and 7th of February of this year, the Cultural Institute of Évora (CIE) welcomed a group of European partners in Évora, from various entities of non-formal education of adults under the Grundtvig Partnerships Project, entitled Outdoor ICT.

Public Garden of Évora Orienteering-Competition



Figure 6: *Outdoor Activities*

This European project aims to promote the education of adults over 45 years of age, in matter of healthcare together with the Information and Communication Technologies (ICT) that can be used abroad to promote healthy lifestyles. Therefore, in this project six organizations from Austria, Italy, Spain, Turkey, France and Portugal are involved and CIE (local non-profit organization), was the recent host of the partners' meeting of the referred project.

The visit to Évora included the performance of various outdoor

activities to promote healthy lifestyles and even cultural activities to show the cultural heritage of Évora. For this purpose we performed a Pedy Paper / Guidance Activity in the Public Garden of Évora, which consisted in several activities which involved learning traditional games from the Alentejo region, Portugal, as well as *team building* enrichment exercises for fostering team spirit and cooperation between the participants.

Later on, a tour through the city of Évora was performed, and its participants got to know some of the city history through its most emblematic monuments, and also the vast cultural heritage that Évora contains. Both activities promoted healthy habits, cultivating a sporting activity, motor coordination, concentration and above the physical well-being, combined with cultural enrichment about Évora and its region.

To conclude our article, let us refer that these activities could also been carried out with the involvement of ICT's, through the GPS system for reconnaissance of the visited places. Despite the aid of ICT's hasn't been carried out, all activities are prepared to be done with it, if an individual choses to do it so.

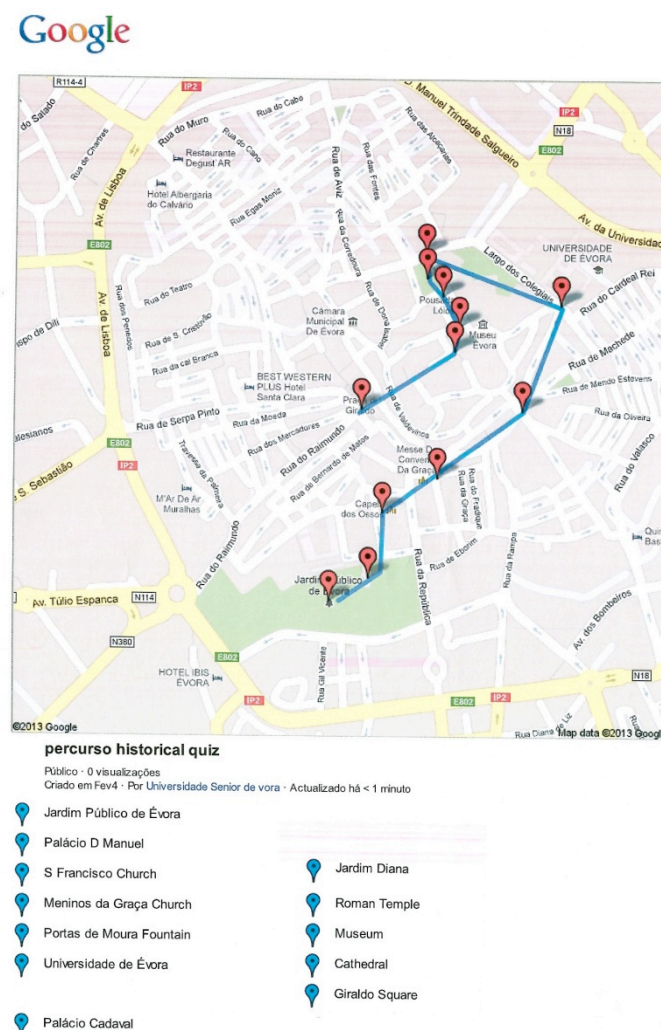
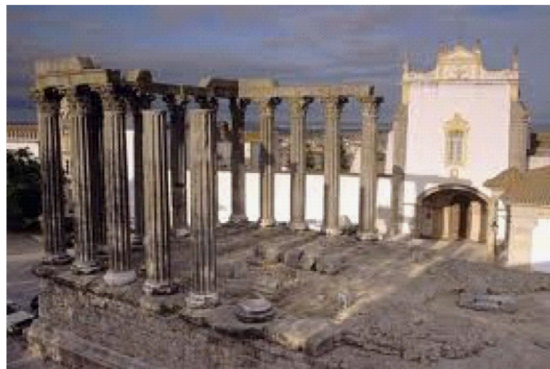


Figure 7: Évora map



Challenge Day

History Quizz



Team Name: _____



The Project Outdoor ICT aims to face the challenges of the new "Information and Communications Technology for Ageing: ageing well in the Information Society" and offer pathways to explore and use expertise and knowledge of project partners in the field of adult education, health care promotion and ICT and unify these pools of Knowledge by tailoring them to the needs of people over 45. This group is stated to be low awareness of the opportunities and insufficient sharing of experiences.

The Learning Partnership has Institutions from Portugal, Italy, Austria, France and Spain.

The present quiz was prepared for a Challenge day during a Partner Meeting held in Évora, Portugal.

Public Garden (5 points)

38.567529, -7.910489

Visual Test



Of whom is the bust located at the entrance of the garden?

D. Manuel Palace (5 points)

38.567529, -7.910489

In which century was this place build?

- ☐ XIV
- ☐ XV
- ☐ XVI
- ☐ XVII



S. Francisco Church (5 points)

38.568955, -7.908601

In what realm was the church finished?

- ☐ D. John II
- ☐ D. Afonso V
- ☐ D. John III
- ☐ D. Manuel I
- ☐ D. Sebastian



Meninos da Graça Church

38.569358, -7.90786

The Church is commonly known as the Sons of Grace Church, why? (5 points)

- ☐ Because of the 4 human figures carved on the façade
- ☐ Because of the two Angels who are in the pediment
- ☐ Because children tend to have fun
- ☐ Because there was a school for children in the area

Visual Test (5 points)

2- Choose three objects that we can find above the church's entrance.

- ☐ The 4 statues of the Atlantean
- ☐ The 2 Globes
- ☐ The Iron Cross
- ☐ The Statue of Christ
- ☐ The Two Angels

Portas de Moura (10 points)

38.57049, -7.905242

The Fountain in the square was built in 1556 and then supplied by the water of:

- ☐ Aqueduct Moreira
- ☐ Aqueduct of Pegões
- ☐ Silver water Aqueduct
- ☐ Divor Dam



Évora University

38.573308, -7.903901

1- Founded in 1559, what was it's official designation?
(5 points)

- ☐ College of the Holy Spirit?
- ☐ New College
- ☐ Royal College of Évora
- ☐ Eborenses Seminar
- ☐ Studies of Évora



2- Who was responsible for its foundation? (5 points)

- ☐ King Manuel I
- ☐ King Philip I
- ☐ King John II
- ☐ Cardinal D. Henry
- ☐ Bishop Afonso de Portugal

Loios Church (5 points)

38.572612, -7.907077

Can you describe the name of the building right next to the church that once was the Loios convent?

Diana Garden (10 points)

38.573082, -7.907807

Visual Test



Look to the center of the Garden. You can see a bust.

Discover the name of the person which the bus was dedicated to.

Cadaval Palace (10 points)

38.573468, -7.907965

2- Choose three of the various architectural styles used in this building :



- ☐ Manueline
- ☐ Renaissance
- ☐ Baroque
- ☐ Gothic
- ☐ Romanesque- Gothic
- ☐ Mudéjar

Roman Temple

38.572675, -7.907423

1- Recently historians argue that the temple was dedicated to: (5 points)

- ☐ The Cult of the goddess Diana
- ☐ The Cult of the goddess Ceres
- ☐ The Imperial Cult
- ☐ The cult of Juno

2- The capital of carved Estremoz marble temple ends are of the order: (5 points)

- ☐ Corinthian
- ☐ Ionian
- ☐ Doric
- ☐ Compound
- ☐ Tuscan



Inquisition Palace

38.572331, -7.907681

In which century was this building built? (5 points)

- ☐ XIV
- ☐ XV
- ☐ XVI
- ☐ XVII



Cathedral of Évora

38.571794, -7.907026

1- What is the other name of the cathedral? (5 points)

2- The Architectural style of the medieval building is: (5 points)

- ☐ Mannerist
- ☐ Renaissance
- ☐ Baroque
- ☐ Late-Gothic
- ☐ Romanesque- Gothic



Giraldo Square

38.570953, -7.909424

1-The name of the square honors Geraldo the Fearless.
Who was this historical character? (5 points)

- ☐ A chronicler of the king D. John II
- ☐ A Christian Warrior who conquered the city from The Moors in 1165
- ☐ An Arab Poet of the city of Évora
- ☐ A poet of the time of the king D. Manuel
- ☐ An historian of antiquity

2- To what King was the fountain known as “Henriquina” dedicated? (5 points)

- ☐ To King John II in 1495
- ☐ To King John III in 1537
- ☐ To the Cardinal-King D. Henrique
- ☐ To King Sebastian in 1571
- ☐ To King Manuel in 1520



Score:

Public Garden	_____
D. Manuel palace	_____
S Francisco Church	_____
Meninos da Graça Church	_____
Portas de Moura	_____
Évora University	_____
Loios Church	_____
Diana Garden	_____
Cadaval palace	_____
Roman Temple	_____
Inquisition Palace	_____
Cathedral of Évora	_____
Giraldo Square	_____

Total: _____

CHAPTER 7.6. GEOCACHING IN VILLACH (AUSTRIA)

Pließnig, Karlheinz

The first geocaching courses of the Volkshochschule Villach took place in October and December 2012 and started with a few hours in the IT-training room in VHS Villach. In those training sessions geocaching was introduced to the participants; they learned how geocaching started, its story and about the satellite system. The benefit of geocaching is the ability to visit unknown places in the context of culture, humanity and the arts, and natural science. This takes primarily place outdoors and can be combined with hikes, small climbing tours and cycling tours.

One of the geocaching meetings took us to Villach-Warmbad, which is a recreational area in the city of Villach. It is a thermal spa with a new Spa-leisure centre and a few spa hotels. Villach-Warmbad has a long history and even has its own railway station.

As our courses mainly took place in urban areas, our first contact with the practical part of geocaching was focused on buildings. However, the focal point was not just the architecture of those buildings, but in some cases special technical aspects, a little history of the buildings and flood control, which plays an important role in Villach on the (river) Drau.

In the woods surrounding Warmbad the remnants of a roman road, old ruins and roman excavations can still be found. Within the woods you also come across a large clearing called “Napoleon’s field” (Napoleonwiese) as history has it that Napoleon and his troupes had at one point set up camp there. A number of trails lead through the woods, which are popular with joggers and walkers. We went in search of our caches “camouflaged” as “normal” hikers.

On the day we were searching for caches, which were on historic ground or presented special natural phenomena.

Here is a short description of our caches:

First our way leads us to the car park at Heizwerk east of the cache:

Warm water

Coordinates: N 46° 35.148 E 013° 50.008.

The Zillerbach (a warm stream) is a special feature because its water temperature is 20 degrees Celsius throughout the year. It contains invasive species and neophytes that cannot be found in other waters, but could in some cases pose great danger to humans, animals and plants. Native aquatic animals and plants are killed off by diseases and fungal infections transmitted by the resistant invasive species who then take over. Some examples are the Dutch elm disease and crayfish plague. Neophytes also pose a danger

to humans. For instance, hogweed is has even found a mention in in industrial safety law because it causes serious injuries each year.

Hint: O-44. Uvagre V (a lot of fun)

Our journey now takes us to the castle ruins of Federaun.

The Castle Ruins of Federaun

Coordinates: N 46° 34.284 E 013° 48.843

The former medieval fortress built by the Bambergs lies directly above the historically important Highway leading from Villach to Tarvisio in Italy, passing below the castle rocks and across the river Gail.

Also belonging to the castle is the bridge watchtower, which stands on a rock over the river. It acted as a roadblock and was later converted into a residential tower. The second tower at Federaun mentioned in the records could not be located. The castle can be reached from the East via Warmbad/Graschelitzen, over a partially stony and steep pathway.

The first historic mention of Federaun was in 1311. In mid-13th century it was conquered by Rudolf von Ras (of Rosegg in Rosental – see also Herren von Ras) and used as a base for robberies on passing goods transports to and from Italy. In 1255 Bishop Heinrich von Bamberg put an end to these robberies and drove out the robber baron.

The decay of the Castle of Federaun may have already started before the 17th century.

After we found the treasure of the robber baron, we went on to the next cache.



Figure 1: *The group make a break after they found the cache!*

Photo-click

Coordinates: N 46° 34.908 E 013° 48.858

This cache is near the Hungerbach-spring.

The Warmbad-springs and the Maibachl ("May-stream") are at the more eastern side of the Dobratsch Mountain. This mountain consists predominantly of Wetterstein limestone and broken up in slabs through step-faults on the eastern face. Towards the east, these slabs descend further down, whereby the layers in the water reach depths where the seepage water heats up to 38°C. Layers of red clay situated upstream at Villach-Warmbad form a watertight barrier downstream and to the east, forcing the heated seepage water to the surface. Near the surface, the thermal water mixes with the cold water and exit the ground. The springs of the Maibachl are about 15 metres above the other thermal springs in Warmbad, that always carry water. This means that the Maibachl springs are only active with adequate water levels. After extensive rain or the annual snowmelt, the Maibachl-springs, and even the Hungerbach springs a little further up, become active. Together with the Maibachl and the run-off of the Warmbad-springs, it joins the river Gail as Zillerbach south of Villach.

Description:

At the first position with the coordinates: N46°34.908 and E 13°48.858 you can find a board. Written on it is a word in black letters. Emperors once ruled the place this word describes. A well-known emperor of that time was ... Count the number of letters of his first name. (B)

With the following formula you'll find the coordinates for the final:

$$N46^{\circ} 34.908+A*B-12E13^{\circ} 48.858+A-B/3$$

When you have found the final there is:

Various items to trade (lanyard, soft toy, cards, a leather collar, a plastic-carabiner with a clock), of course a logbook with a pen, and a disposable camera (not for trading!).

With this every finder should use the opportunity to take a picture of themselves in these wonderful surroundings, and then put the camera back in its place.

If the film is full, please place an owner-message or an entry in the log. The film will then be developed and the pictures posted.

Hint: Jrtjrvfre

Xnrvfre nhpu rvare orxnaagra Pbzvpfrevr iba Hqremb
Hagre rvarz Fgrva (Sryfra) qnf "Enhfpura" vz Eüpxra (have fun decoding this!)

The next Cache takes us to the famous Römerweg (roman trail)!



Figure 2: Karl and Carla had to make a difficult job. They must generate the new coordinates

Römerweg

Coordinates: N 46° 35.078 E 013° 49.083

The roman trail near Warmbad Villach is an antique track embedded in rock, and is one of the most important ancient routes between Italy and the Eastern Alpine region.

It dates back to pre-historic times and was still functioning in post-Roman times.

As a highlight and at the same time completion of our tour we went to Eggerloch!

Into the Darkness: Cavemen

Coordinates: 46° 35.492 E 013° 49.099

The cache is hidden in a big cave, called Eggerloch. You need very good hiking boots, a good torch and optionally a headlamp. I prefer a torch with LED. These lamps aren't good for the distance, but are very good at close range.

It's only a small, flat box. Please don't place any more items in it, or the box cannot be closed anymore and the logbook will become wet.

You can park your car near N46°35.696 E013°49.547. Start at these coordinates and follow the trail and your GPS. Use the trail until your GPS shows you the entrance of the cave about 50m to your right. Now get off the trail and use the smaller path up to the cave.

To find the cache you have to go about 200m-400m into the cave.

- Pass the first doorway.
- Pass the second doorway.
- Go deep into the cave until you reach a bigger room. The cave is turning to the right. On the left side you can find dripstone and a small pool beneath. On the right side you can see a big slope. Go up there.
- Now use the deepened trail.
- Go up some stairs until you reach a big room. From the left a big "stone nose" looms into the room.
- Pass the "stone nose". Take the stairs down till standing under the "stone nose".
- Now take the clay stairs up, until you reach a chamber with a big stone in the middle. On the stone you can find some blue marks.
- The cache is hidden near this big stone and is covered with stones.

The cache is a very small container that can only hold a few small items. Be sure you hide the cache well again, so that the cache cannot be seen from any direction.



Figure 3: *Yes we found the cache!!! A great pleasure*

Information about the Eggerloch in the middle of the Warmbad:

At the foot of the Kadischen is the entrance to the Eggerloch. It is a Karst cave, which with 709 metres is the longest cave known in the region of Villacher Alpe, not regarding the sensational stalactite-cave discovered by Oskar Hosse's team. Because of a tragic litigation, the entrance to that cave was never disclosed and the explorers took their secret to their graves. The Eggerloch cave can be securely entered without problem. The cave was first mentioned in 1576, but it is thought that it was already known in Celtic and Roman times. In 1927, Hosse was able to discover the next cave from the end of the chamber.

In 1975, the group Subterra managed the descent from the Knochenhöhle (bone cave) into the Eggerloch. In 1993, further parts (Richterstrecke) were discovered, where the cave reaches an altitude of 122 metres. There are signs that the cave carried water before the big earthquake in 1348, which caused the massive landslide of the Dobratsch Mountain. Potholers determined that the cave is connected to the Knochenhöhle (bone cave) on Tscheltschnigkogel.

It used to have many different names – Fledermausgrotte (Bat's Grotto), Napoleon's Grotto, Hosse's Stalagmite Grotto. The cave is home to an endemic ground beetle, which can only be found here. It pre-dates the Ice Age, which means, that in a way it transports information from those ancient times into our time.

In 2012, it was decided to close the Eggerloch to the public, after vandals had destroyed historic carvings.

Finally, a big Thank You to all participants for their positive participation, their input and views.

Geocaching should give an incentive to view special places from a different perspective in combination with some physical exercise.

This is what YOU need in order to decode:

Decoder key:

A|B|C|D|E|F|G|H|I|J|K|L|M

N|O|P|Q|R|S|T|U|V|W|X|Y|Z

(The letter above corresponds to - decodes - the letter below and vice-versa)

And at last.....



Figure 4: *We make a breake to take a lunch and celebrate our found caches!*

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<http://www.geocaching.com>

PRESENT AND FUTURE OF GEOLOCATION IN THE DAILY LIFE AND PARTICIPATORY MAPPING

Subires Mancera, M. Purificación

1. INTRODUCTION. GEOLOCATION, INTERNET AND SMARTPHONES

Geographical information on the Net has acquired a great importance in the last few years. Before, access to these data was more difficult for everyone, but nowadays, it has changed because of the Internet, and institutional and corporative consciousness-raising about the necessity of make available them for public administration, business and citizens. Practically, everything is capable of being geolocated or georeferenced since takes place in a particular position and time.

In that sense, some examples are Spatial Data Infrastructure (SDI), online maps applications, geolocation mobile apps for smartphones or tablets, geotagging of contents (geospatial metadata) through devices like photograph or video cameras, as well as computers and smartphones. In fact, this mobile device (the smartphone) is -due to its enormous expansion at the present time- one of the main factors that has contributed to the geolocation boom in our current society. So, Cisco System remarks in the white paper *Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2012–2017* that “global mobile data traffic grew 70 percent in 2012” (2013, p. 1) and “average smartphone usage grew 81 percent in 2012” with respect to 2011 (2013, p. 2). Nevertheless, in spite of their interesting usefulness and benefit, smartphones have some disadvantages too: security and privacy problems (when the person activate the geolocation mobile service –and more consumption of battery and bandwidth in that case-), and fraudulent applications (spyware, malware...) In order to mitigate this last issue, experts recommend to download apps only from official repositories.

On the other hand, through web 2.0 mapping applications, users can create their own maps and share them with other people. Institutions, business and citizens can use in the same way these resources. For example, a well-known web is Panoramio, Photos of the World (Figure 1). Moreover, those applications are included in other social media tools, such as the map of Flickr with geotagged photographs too.

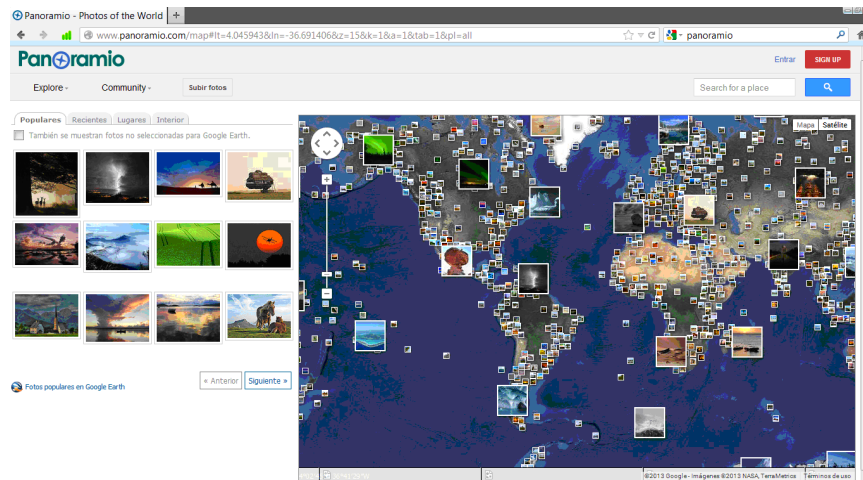


Figure 1: *Panoramio*

When we analyse statistical data in diverse European countries, we observe that percentage of population using computer and Internet decrease with the age of people, due to the existence of a generational digital divide of a global nature.

In these graphs (Figures 2 and 3), we can notice this fact in the case of Austria, France, Italy, Portugal and Spain (for Turkey, data are not available):

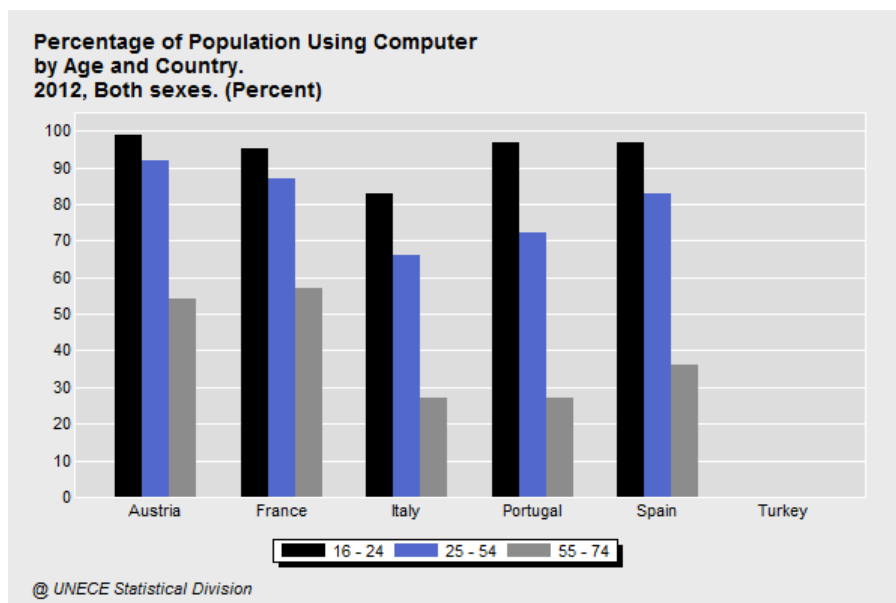


Figure 2: *Users of computer by age and country (2012)*

Source: United Nations Economic Commission for Europe (UNECE) Statistical Database, compiled from national and international (Eurostat) official sources

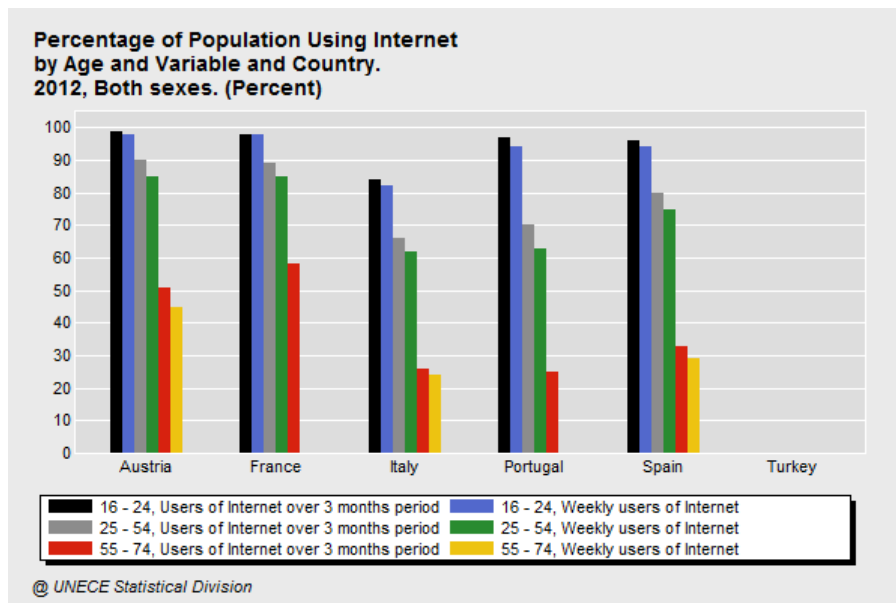


Figure 3: *Users of Internet by age and country (2012)*
Source: United Nations Economic Commission for Europe (UNECE) Statistical Database, compiled from national and international (Eurostat) official sources

We must keep in mind that in second graph “use of Internet includes any kind of use, whether at home, at work or from anywhere else, for private or professional purposes, using a computer or any other means.” (UNECE Statistical Database, 2012: web)

Other piece of information that we have to take in account is the use of smartphone by age. One source for measure that is *The Our Mobile Planet research*, “commissioned by Google and conducted by Ipsos MediaCT in partnership with the Mobile Marketing Association and the Interactive Advertising Bureau” (Google, 2013: web). Statistical data show a digital divide referred to mobile devices too (Figure 4).

We must notice, in that sense, the difficulties of some seniors with mobility or vision problems for use these devices, due to their small and tactile screens. Nevertheless, ICT companies are designing smartphones targeted elderly people, that even can include a pre-established geolocation service by default.

Before starting section about geolocation, we want to underline the importance of ICT for an active ageing and a better quality of life: information search, lifelong learning, intergenerational relationship, communication, access to culture, e-health, useful tools for daily life, etc. For overcoming generational digital divide and reaching a plenty access to Information Society, seniors have to develop digital competences.

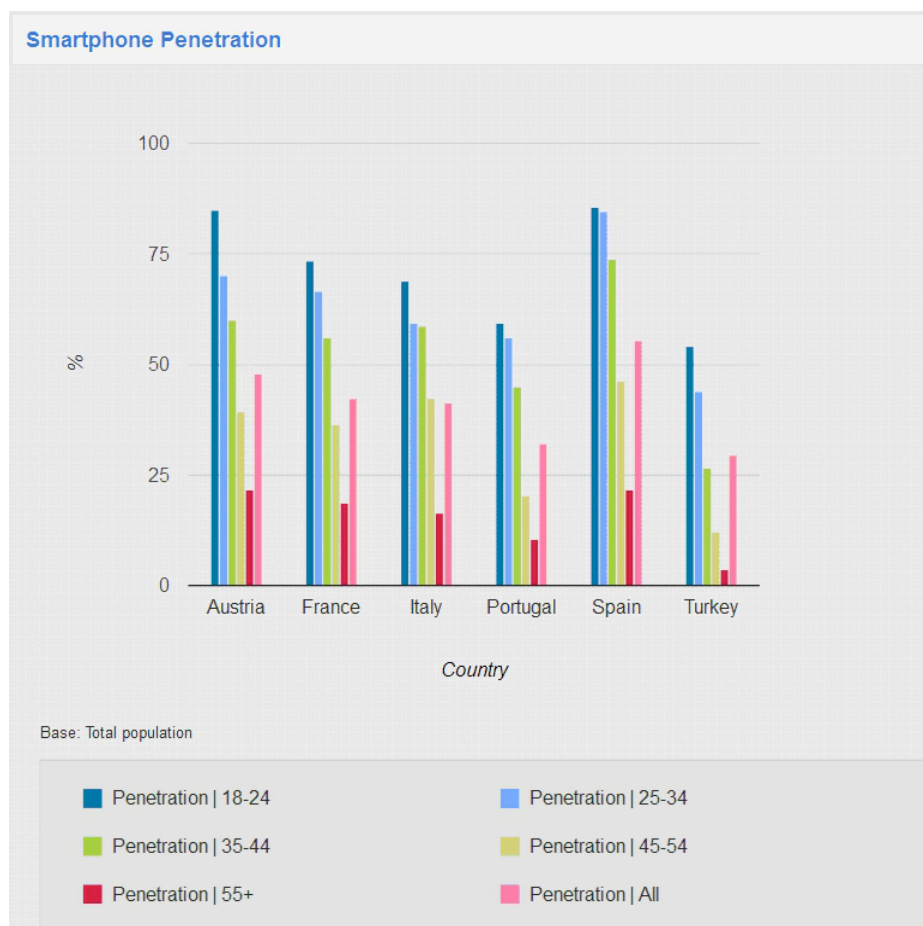


Figure 4: *Smartphone penetration by age (2013)*
Source: Google (<http://www.thinkwithgoogle.com/mobileplanet/>)

2. GEOLOCATION FOR ADULTS AND SENIORS AGED 45+

Possibilities of geolocation on the Net for adults and seniors are multiple nowadays: culture, tourism, free time, daily life, employment, citizen participation, environmental protection, etc. In the case of smartphones, numerous apps focused in georeferenciation are developed because of their mobile nature.

We present now several examples (websites and smartphones apps), classified in three categories: 1) Heritage, culture and tourism; 2) Citizen participation and 3) Daily life.

2.1. Heritage, culture and tourism

In the field of cultural heritage, we find diverse and interesting initiatives related to geolocation. For example, in the case of public institutions, we can quote the Cartographic Locator of the Andalusian Cultural Heritage (<http://www.iaph.es/localizador-cartografico-patrimonio-cultural-andalucia/>), created by the Andalusian Historical Heritage Institute (Figure 5).

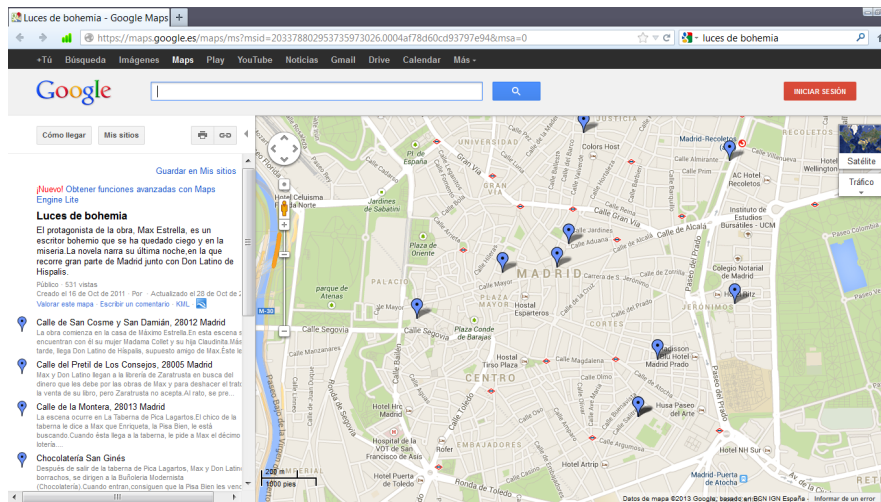


Figure 7: *Luces de bohemia* (Ramón del Valle-Inclán, Spain)

When it comes time to go sightseeing, geolocation webs and apps are a valuable element for their scheduling and development. To quote just a few cases, we have:

Panoramic view of 360°:

Google Maps y Google Street View (Figures 8 and 9)

Unesco World Heritage (<http://maps.google.es/intl/es/help/maps/streetview/gallery/unesco-world-heritage/>)



Figure 8: *Unesco World Heritage. Google Maps y Street View*

Amazon (http://maps.google.es/intl/ALL_es/help/maps/streetview/gallery/amazon/)

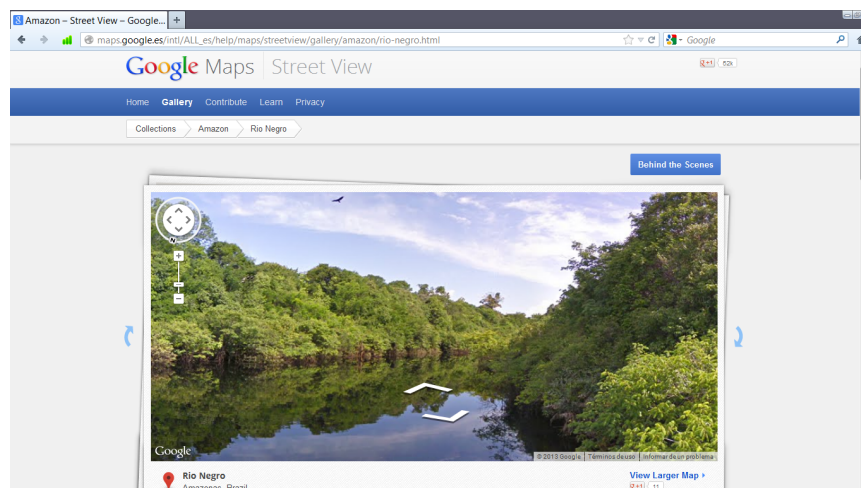


Figure 9: Amazon. Google Maps y Street View

City guides apps (Figures 10 and 11):

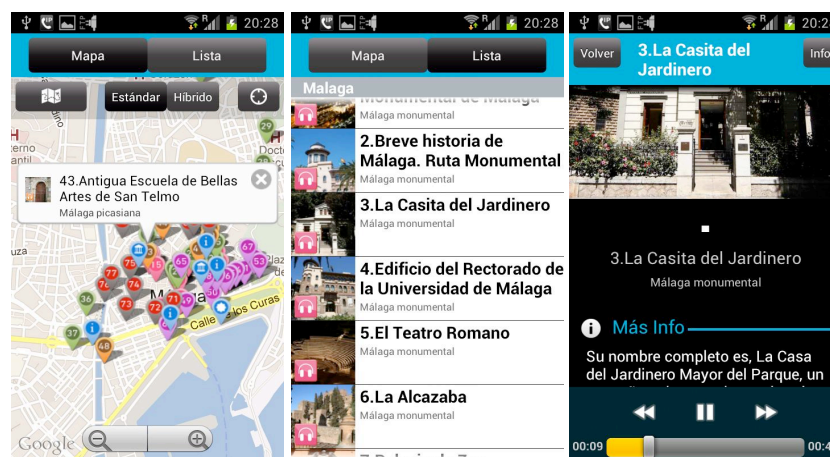


Figure 10: Audio Tour Official Malaga. Source: Google Play

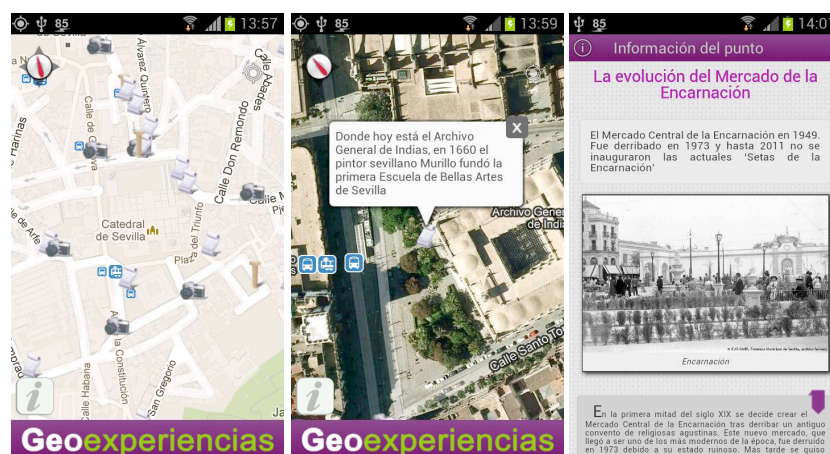


Figure 11: Geoexperiencias (Sevilla). Source: Google Play

Tourism guides: Guides with information about places of touristic interest, hotels, restaurants..., and guides of business that even announce offers and provide discounts. Some of them include augmented reality -other of the outstanding resources when we are tackling about geolocation and smartphones- (Figures 12 and 13).



Figure 12: *Cañas y tapas Madrid*. Source: Google Play



Figure 13: *Augmented reality with Wikitude*. Source: Google Play

Route maps:

For example, Maps 3D –GPS Tracks for Bike, Hike, Ski & Outdoor (3,59 € / Free Maps 3D Lite with OpenStreetMap) (Figure 14)

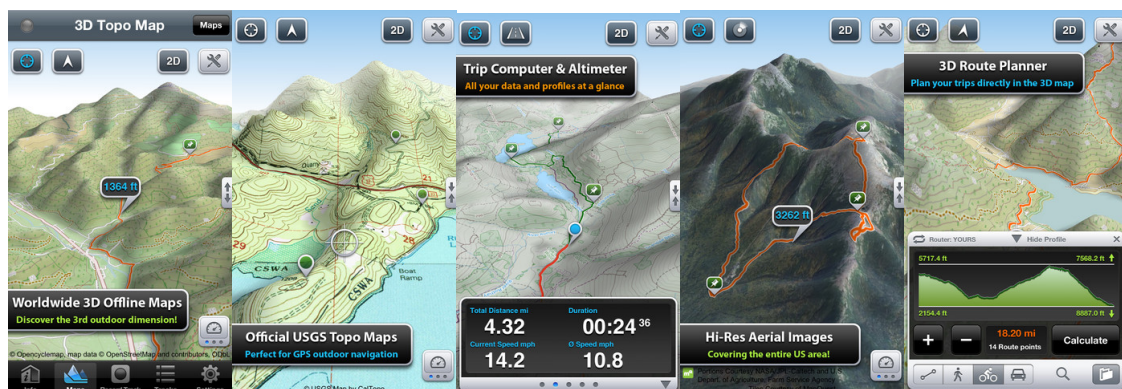


Figure 14: *Maps 3D - GPS Tracks for Bike, Hike, Ski & Outdoor*. Source: iTunes

Other well-known case is Wikiloc, available as website and as smartphone app (for iPhone & Android) too. Users explore, create and share their own tracks (Figure 15):

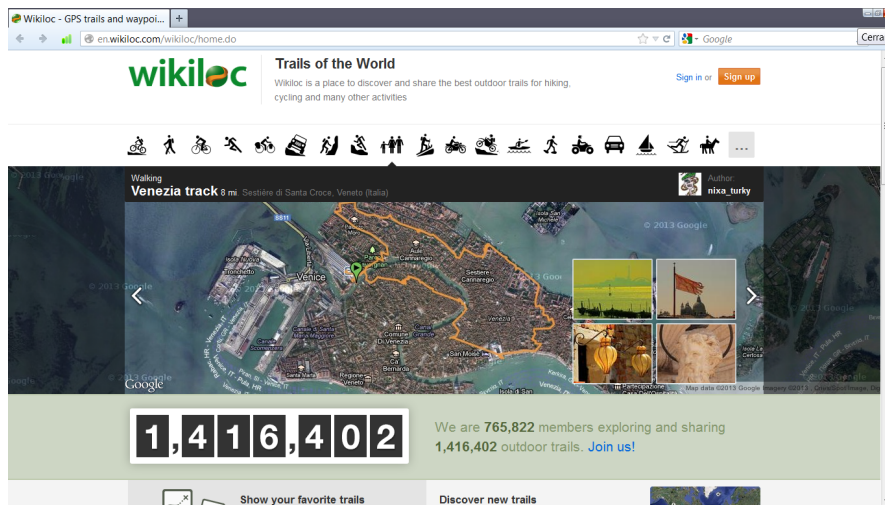


Figure 15: Wikiloc (<http://www.wikiloc.com>)

Other types of applications are offline maps apps (connection not needed for use after download), nautical charts (for underwater divers, fishers, sailors...), geocaching apps, photograph guides apps (<http://www.stuckonearthapp.com/>) or altimeters (Figure 16):

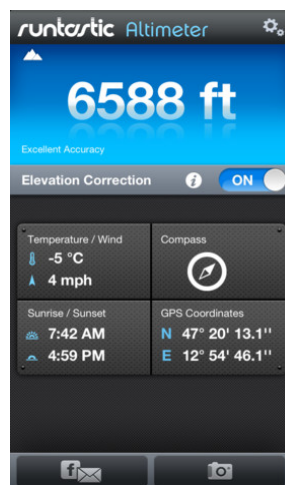


Figure 16: Runtastic Altimeter PRO (1,99 €). Source: iTunes

2.2. Citizen participation

Nowadays, web 2.0 mapping applications become democratic tools, accessible to all, for citizen participation. Users can appropriate their own space and map it, according to their own vital experiences and interests. As an example, we can mention Meipi (<http://www.meipi.org>), “a collaborative space where users can upload information and content around a map”.

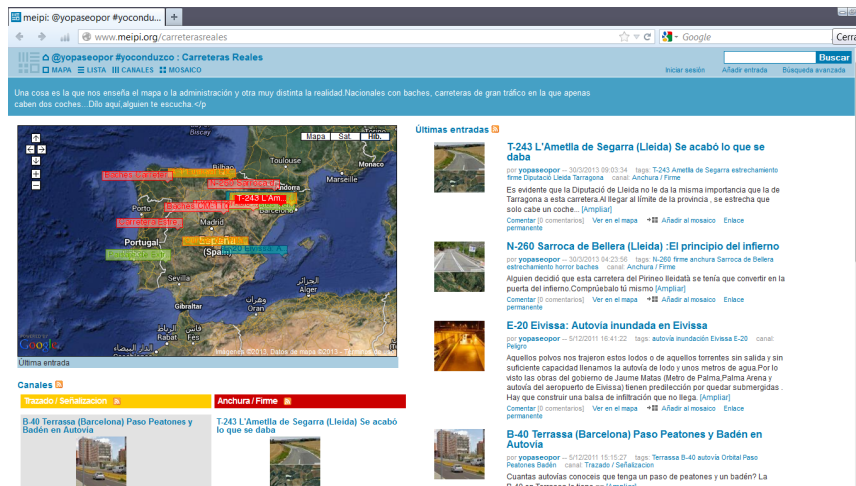


Figure 17: *Meipi about roads in bad state* (<http://www.meipi.org/carreterasreales>)

As seen for the web, there are apps designed exclusively for the map creation, too. Two samples are Citymaps and Maps Data Collection (Figure 18). In the last case, users can geolocate their own multimedia contents (video, audio, photograph) and share them on Google Earth or with other members.

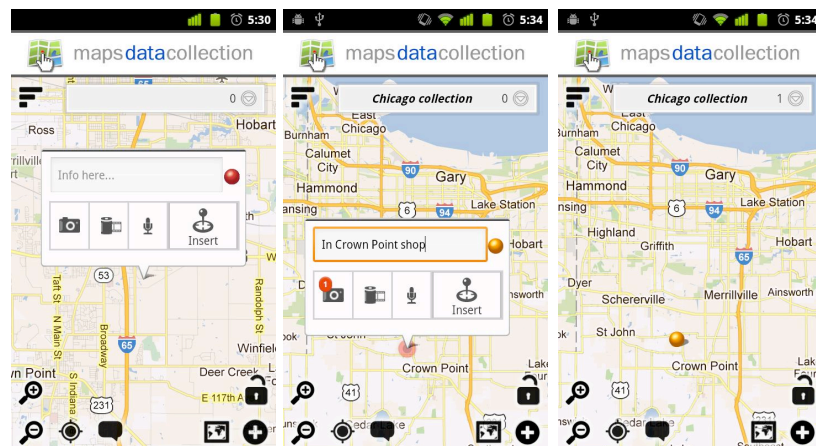


Figure 18: *Maps Data Collection*. Source: Google Play

Other prominent example is the existence of councils that offers to their citizens an app to notify about incidences in the locality (Figure 19):

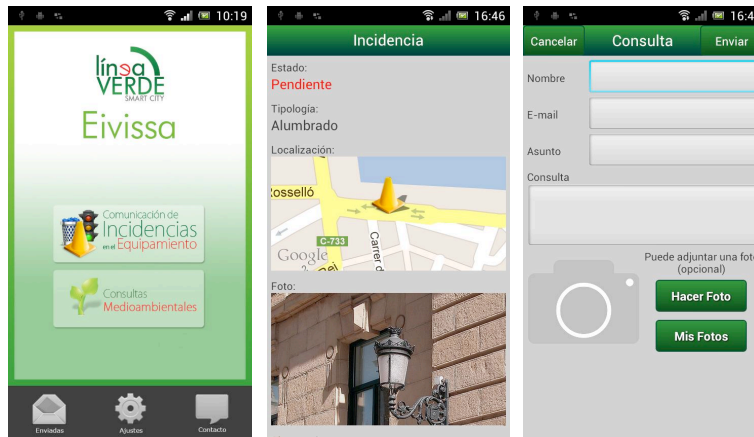


Figure 19: Línea verde. Source: Google Play

In a similar way, projects for environmental protection are carried out. For example, Project Noah (<http://www.projectnoah.org>), “an award-winning mobile application that helps nature lovers discover local wildlife and aspiring citizen scientists contribute to current research projects.” (Google Play, 2013: web). With the mobile phone every person interested on nature can catalogue, georeference and share the location of living beings (Figure 20).



Figure 20: Project Hoah. Source: Google Play

On the other hand, NoiseWatch (Figure 21), is a project of the European Environment Agency, that combine website and app, and try to measure noise pollution: “The Noise Meter uses a built in microphone on your hand held device to determine the level of sounds it detects, and displays this in decibels (dB)” (Google Play, 2003: web)

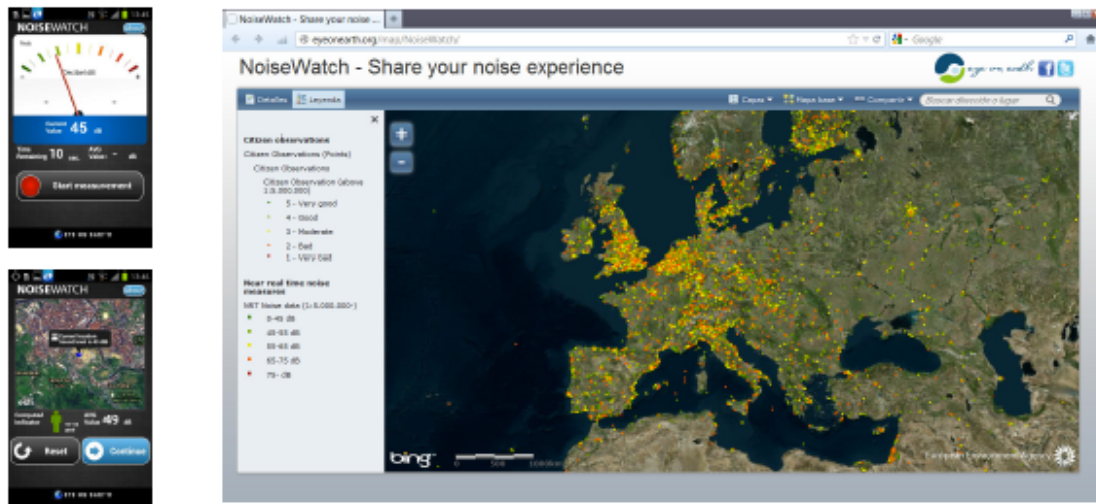


Figure 21: *NoiseWatch*. Source: Google Play and <http://eyeonearth.org/map/NoiseWatch/>

2.3. Daily life

Smartphone geolocation apps offer a lot of possibilities for daily life:

- Personal geolocation (interesting for children and elderly people). For example: Life360 (<http://www.life360.com>)
- Parking geolocation, where I park my car?
- Petrol stations geolocation (prices and the nearest stations)
- Duty chemist's geolocation
- Organic product shops geolocation
- Public transport: metro, bus, taxi service... Route planner, like Moovit
- Places accesibles and inaccesibles, like Libre de barreras, Universal Accessibility Map, with web and app (Figure 22)



Figure 22: *Libre de barreras*. Source: Google Play and <http://www.libredebarreras.es/>

- Traffic. For example, DGT (Spain) (Figure 23):

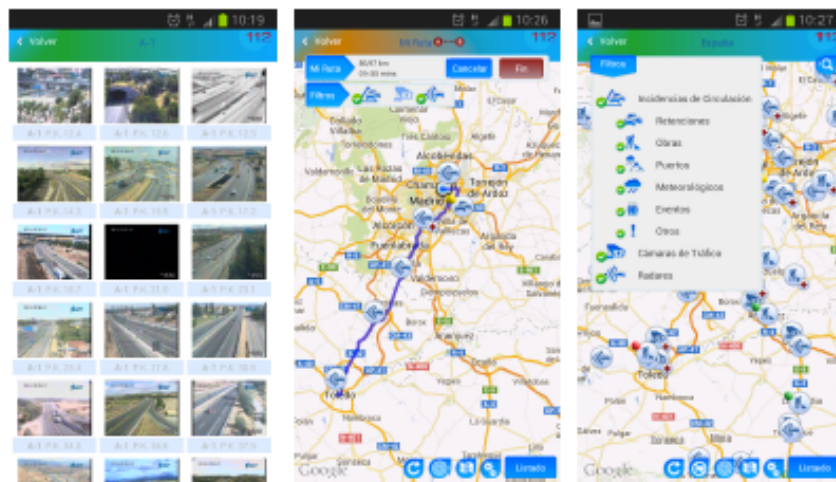


Figure 23: DGT (Spain). <http://www.dgt.es/>

-Job and clients search: <http://www.geoprofesionales.com/>

To sum up, all these tools contribute to a better quality of life for adults and seniors, and help them to develop digital competences.

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Google Play: App Audio Tour Official Malaga: https://play.google.com/store/apps/details?id=eu.malaga.audioguias.malaga_en

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Google Play: App Geoexperiencias: https://play.google.com/store/apps/details?id=es.isoluciona.android.geoexperiencias&hl=en_GB

Google Play: App Libre de barreras: <https://play.google.com/store/apps/details?id=org.fidesol.libredebarreras.views&hl=es>

Google Play: App Línea Verde: <https://play.google.com/store/apps/details?id=lineaVerde.App&hl=es>

Google Play: App Maps Data Collection: <https://play.google.com/store/apps/details?id=com.aiscad.datacollectionmaps&hl=es>

Google Play: App NoiseWatch: <https://play.google.com/store/apps/details?id=com.tsystems.humanSensor&hl=es>

Google Play: App Project Noah: <https://play.google.com/store/apps/details?id=org.projectnoah.noah&hl=es>

Google Play: App Wikitude: <https://play.google.com/store/apps/details?id=com.wikitude>

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iTunes (App Store): <https://itunes.apple.com/es/genre/ios/id36?mt=8>

iTunes: App Art Institute of Chicago Tours: <https://itunes.apple.com/us/app/art-institute-chicago-tours/id598666649>

iTunes: App Maps 3D –GPS Tracks for Bike, Hike, Ski & Outdoor: <https://itunes.apple.com/es/app/maps-3d-rutas-con-gps-para/id391304000?mt=8>

iTunes: Runtastic Altimeter PRO: App <https://itunes.apple.com/en/app/runtastic-altimeter-pro/id518999473?mt=8>

Libre de barreras: <http://www.libredebarreras.es/>

Línea verde: <http://www.lineaverdemunicipal.com/>

Life360: <http://www.life360.com>

Meipi: <http://www.meipi.org>

Meipi Carreteras reales: <http://www.meipi.org/carreterasreales>

Moovit: <http://m.moovitapp.com/>

NoiseWatch: <http://eyeonearth.org/map/NoiseWatch>

Panoramio: <http://www.panoramio.com/>

Project Noah: <http://www.projectnoah.org>

Stuck on Earth: <http://www.stuckonearthapp.com/>

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UNECE, 2012: Percentage of population using computer by age and country.[On line] Available in: http://w3.unece.org/pxweb/igraph/MakeGraph.asp?gr_type=0&gr_width=600&gr_height=400&gr_fontsize=12&menu=y&PLanguage=1&pxfile=01_GEICT_ComputerUse_r201381555746p1.px&wonload=600&honload=400&rotate=

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