

INVOLEN

Intergenerational Learning for Nature Conservation Volunteers

A Toolkit for Learners



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The aim of the *INVOLEN Learning Toolkit* is to offer practical knowledge for the implementation of the INVOLEN methodology, and is accompanied by the *INVOLEN Learning Guide*, which is describing this methodology in detail. The Toolkit is a manual that helps the reader to understand what a location-based game created in the context of INVOLEN is, what are its components, what steps must be taken to create a new game, how to collect the material for the story of the game, and what are the online platforms available to host it. Examples of games created during the piloting phase of the INVOLEN methodology are also included, as well as stories that provided the background for the pilot games' content.

The examples included in this Toolkit have been provided by the INVLOLEN partners, as follows:

- The Hellenic Ornithological Society and PRISMA-Centre for Development studies provided examples from the pilot implementation of INVOLEN in the 3rd Secondary School of Geraka, Attika, Greece, focusing on the protected area of Vravrona, a Natura 2000 protected wetland near Athens, Greece.
- The Institute of Biometeorology provided examples from the pilot implementation of INVOLEN in the I.C. Micali secondary school in Livorno, Italy, focusing on the protected area of the Provincial Park of Monti Livornesi, located on the coast of the Tuscany region, very close to the city of Livorno.
- La Ligue de l'Enseignement provided examples from the pilot implementation of INVOLEN in the Belz Youth House, Belz, France, focusing on the protected area Gâvres Quiberon located near the sea in the south of Morbihan, Brittany. This area is classified as a Natura 2000 site for its flora and fauna.
- The Notransky Ecological Centre provided examples from the pilot implementation of INVOLEN near lake Cernjika, Slovenia, focusing on the protected area of the Notranjska Regional Park in the Municipality of Cerknica, Slovenia.
- The West Hungarian Institute, Centre of Regional and Economic Studies of the Hungarian Academy of Sciences, provided examples from the pilot implementation of INVOLEN bringing together participants belonging to several secondary schools in the broader Győr area, Hungary, focusing on the Natura 2000 site of the Dead Rába located close to the city of Győr, Hungary.

The Learning Toolkit is structured in two parts: the first Part is addressed to all the participants of INVOLEN activities, i.e. youth, senior citizens and teachers or other experts who act as learning facilitators; the second Part is addressing learning facilitators only, providing some additional information and guidance that would-be useful to them in leading and facilitating their groups of volunteers.

The First Part includes 4 sections:

- The introduction provides an overview of the INVOLEN project, its target groups and its main products – the location-based games created by volunteers in protected areas.

- Some useful definitions are offered in the second section, regarding volunteering, intergenerational learning and nature conservation
- Examples and experiences from the pilot implementation of the INVOLEN methodology are offered in the third section, including examples of nature conservation activities practiced by the intergenerational teams in the 5 locations of the pilot implementation of the project, examples of stories narrated by seniors, and examples of the games created by the young volunteers inspired by the stories of the senior participants.

The key-points for the design of INVOLEN games are presented in the fourth section, together with some ICT tools that are available for constructing Location Based Games

The Second Part includes also 4 sections;

- A section on volunteer management techniques, with examples of useful tools;
- A section on how to encourage and organise the narrations of the older volunteers;
- Information about the online webinars for training learning facilitators on the INVOLEN methodology; and
- A brief section on the work units that the learning facilitators can use to organize the group work of the intergenerational teams.



1.1 Introduction

1.1.1 What is INVOLEN?

INVOLEN is a project promoting intergenerational learning through game-based learning, targeting nature conservation volunteers. INVOLEN brings together two different age groups, adolescents and senior citizens and encourages their participation in voluntary activities for the protection and preservation of the European ecological heritage.

Seniors and youth are challenged to work together in groups and create their own mobile-games, based in local protected areas and designed to encourage nature conservation activities and to promote the culture of active citizenship. The final product of the joint work is a number of "*nature conservationists' games*".

More information on the INVOLEN project and its results can be found in www.involen.eu

1.1.2 Who can be involved in the INVOLEN project?

The activities of the INVOLEN project address three specific target groups:

- Young people of secondary school age
- Senior citizens
- Learning facilitators

These groups may work together in a secondary school, a youth centre, a local community centre, a volunteer organisation or an environmental NGO. A contribution by environmental and ICT experts can be very helpful for the INVOLEN participants in their mission to create a "*nature conservationists' game*".

1.1.3 What makes a game an INVOLEN game?

An INVOLEN game is:

- *played in an open air territory using a handheld device (smartphone or tablet)*
- *inspired by or using stories about the area narrated by the senior participants*
- *promoting the protection and conservation of a protected area*
- *created as a result of intergenerational teamwork.*

1.1.4 How to make an INVOLEN game?

To create an INVOLEN game one should be aware of a sequence of steps involved in game development. The Toolkit offers the opportunity to future users to become familiar with some key issues of game design and offers practical advice for the development of an INVOLEN game:

- useful tips on how to organise intergenerational nature conservation activities
- examples of stories that can provide the inspiration of a game scenario
- examples of games created during the piloting of the INVOLEN methodology
- a step-by-step guide for the creation of a location-based game
- an introduction to the use of online LBG design platforms
- an ICT toolkit useful throughout the entire game development process.



1.2 Background information

In the first section of the Toolkit you will be introduced to the core concepts behind the INVOLEN methodology. Whether you are planning to participate as a volunteer or as a facilitator in an INVOLEN competition or you are interested to apply the INVOLEN learning methodology with a group of young and senior volunteers, within or outside a school curriculum, it is quite helpful to understand the basic concepts that would guide you through this process:

- Volunteering
- Intergenerational Learning
- Nature Conservation

1.2.1 What does volunteering mean?

Volunteering is a non-remunerated and freely chosen activity exercised in general within non-profit institutions (NPIs), association, non-governmental organizations, trade unions or the public sector. People engaged in volunteering are called "volunteers". Volunteering is an instinctive commitment to helping people or protecting something based on a communal value. Volunteering can be associated with a broad field of activities¹ such as social services, health, education, culture, environmental protection or food security. Beyond the practical actions of problem solving, volunteering implies also a commitment to preventing crises by warning and alerting the civil society and prompting policy makers to take proactive decisions. Volunteering could be summarised in one sentence as:

*"Action taken by a person or group on their own initiative, in what they perceive to be the public interest, without direct financial reward."*²

1.2.2 What does Intergenerational Learning mean?

Intergenerational Learning describes the way that people of all ages can learn together and from each other. Intergenerational Learning is an important part of Lifelong Learning, where the generations work together to gain skills, values and knowledge. Beyond the transfer of knowledge, Intergenerational Learning fosters reciprocal learning relationships between different generations and is a way of enhancing intergenerational solidarity. By bringing together people from different generations in purposeful, mutually beneficial activities, greater understanding and respect between generations is achieved and the positive resources that both the younger and older generations have to offer each other are developed and consolidated³.

1 The Values of Volunteering. Cross-Cultural Perspectives. Series: Nonprofit and Civil Society Studies. Dekker, Paul, Halman, Loek (Eds.) 2003, XIV, pp.75

2 Michael Dower, *Euracademy Thematic Guide Twelve, 13th Summer Academy, July 2014*

3 Source: www.enilnet.eu

1.2.3 What does Nature Conservation mean?

Nature conservation has many meanings. In the context of INVOLEN nature conservation includes *activities* of a voluntary character that help to protect or enhance a valuable area of nature. Conservation activities may focus on the *preservation of a natural habitat* or the *improvement of its current state* through *restoration* or maintenance.

Regarding nature conservation volunteering, it is strongly recommended to involve schools and the younger generation more generally in voluntary activities; and conduct campaigns aimed at raising awareness on environmental issues among the general public as well as promoting citizens' involvement in the protection of nature.

Before describing some of the activities that can be easily undertaken jointly by both youth and adults, one can reflect upon one's personal perception of volunteering. A simple test suggested by Diego Guerri, president of the Livorno WWF section, was presented during the INVOLEN National Workshop that took place in Italy:

*"Unfortunately, it is quite common to come across neglected natural sites even if they are under protection.
-What do you usually do when you see that?"*

- Shake your head and go ahead (1)
- Complain to others passing by (2)
- Write a letter to the municipality or to the local press (3)
- Wear gloves and clean up the garbage (4)
- Organise a group of people willing to perform regular cleaning up activities (5)
- Suggest to the municipality a participatory project with neighbours (6)

Do the test for yourself and find out how keen you are to be a nature conservation volunteer!

Selecting options 1 and 2 means that you belong to the most common group: you look at the garbage and complain. You don't like to see such neglect but you are confident that someone else will clean up the area.

Selecting options 3 and 4 means that you are willing to take some action against neglect. It's a great sign!

Selecting categories 5 and 6 means that you are aware of the need to start a more complex project, together with others. Then you start making plans for such collaborative action, leading to a project with other people who also care about the land they live in.



1.2.4 Protected areas and NATURA 2000 sites

The term protected area, according to the International Union for the Conservation of Nature and Natural Resources (IUCN) refers to:

"An area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means".

There are several types of protected areas across Europe most of which are included in NATURA 2000 lists, forming a European Network of Protected Areas, nominated by the Member States of the European Union. The main objective of the NATURA 2000 Network is to preserve biodiversity, vulnerable habitats and species across Europe, for future generations.

The INVOLEN project aims to contribute to the preservation of protected areas, with a focus on NATURA 2000 sites, by promoting voluntary activity and by exploiting the knowledge of past generations.

At a local level, such protected sites carry, in general, a significant role for the communities that live inside or near them. The INVOLEN project aims to enhance these communities' awareness of the environmental value of their surroundings by encouraging schools and the civil society to become more involved in their protection.

In the next part of the Learning Toolkit you can find information about:

- How to locate a nearby protected area
- How to get information at European level
- How to choose an area for applying the INVOLEN methodology.



1.3 Examples and experiences from the pilot implementation of the INVOLEN methodology

In this section of the Toolkit a selection of examples derived during the pilot implementation of the INVOLEN methodology will guide you through the main phases of the INVOLEN methodology. Here you will be able to find useful examples of

- conservation activities
- stories from the past offered by seniors associated with the protected areas
- volunteer conservationists' games

1.3.1 Examples of conservation activities

The INVOLEN project team, in its effort to promote nature conservation volunteering among young and older people, made contact with schools, voluntary associations, youth centres, environmental NGOs and other local associations, with the help of which a variety of nature conservation activities were conducted in the five locations where the pilot implementation of the INVOLEN project took place. In the examples that follow, some typical conservation activities are presented and useful information about their organisation and preparation.

The examples include:

- Clean-up activities
- Sign crafting of nature trails
- Waymarking in protected areas
- Raising awareness for conservation volunteering: Guided tours and photography workshops
- Reviving traditional crafts: basket weaving
- Taking care of birds and injured animals



Clean-up activities	
Purpose of the activity	The purpose of this activity is to clean up trails and green spaces from garbage, and teach how to alert the appropriate authorities regarding garbage concentrations in protected sites.
Composition of the group	There are no age limitations In this type of activity or any other limitations about participants.
Equipment	Plastic bags, gloves, etc.
Estimated / Suggested Duration	Half day/one day depending on the length of the trail or size of the area to clean up.
Skills needed	No particular skills are needed.
Type of areas (mountain/forest/wetland etc.)	This activity may be applied in all kinds of areas that need to be cleaned up.
Organising body and contacts (if applicable)	<p>This activity can be carried out independently of an official body, or it can be planned together with organisations that are committed to the conservation and promotion of the area, provided that they have the necessary equipment.</p> <p>Additionally, the visitors of a protected area should inform the management or protection bodies of the area (e.g. management bodies, local authorities, police, forestry service, fire service etc.) about concentrations of garbage or reduced accessibility to parts of the area due to landslide or any other obstacles. Contact information can be usually found in the visitors' centre of the area, or in nearby public amenities or voluntary associations' offices, or online.</p>



	Crafting information panels along nature trails
Purpose of the activity	The purpose of this activity is to remedy the lack of information panels along the trails in a protected area. If the management body of the area is unable to provide information panels, the volunteers can be entrusted with the production and installation of simple but attractive signs and information panels along the trails.
Composition of the group	In this type of activity there are no age limitations. A group of people that includes different ages may have the advantage of allocating different roles to its members according to their skills: young people would be keen to draw nice pictures on the panels; while older people would have the wisdom and experience to provide the text. Experts on the area would be required to provide information and to check the final content of the panels. Photographs may be also taken by either young or old, for additional illustrations. The task of installing the signs could be a joint activity.
Equipment	Paper and pencils; materials for the panels; materials for waterproofing of panels; tools for the installation of the panels.
Estimated / Suggested Duration	Drawings and preparation of the texts may take one day while the installation of signs on location may take another day, depending on the number of panels to be installed as well as the trail length.
Skills needed	Good knowledge of the area and the trail is needed; crafting the panels requires good drawing skills. Fixing the panels may need some carpentry or metalwork skills, for more permanent solutions. Waterproofing the paper drawings should be done externally, in shops with appropriate machinery.
Type of areas (mountain/forest/wetland etc.)	This activity may be applied in all kinds of areas that need information panels on biodiversity, history of the area or environmental conservation issues, including the management of garbage.
Organising body and contacts (if applicable)	This activity can be only carried out in cooperation with the management body of the protected area or other organisations that are committed to the conservation and improvement of the area, provided that they can provide the necessary equipment and guidance. Contact information can be usually found in the visitors' centre of the area, or in nearby public amenities or voluntary associations' offices, or online.



Waymarking in protected areas	
Purpose of the activity	The purpose of this activity is to mark the route of a footpath in the protected area using a signpost. Signing of trails is needed when the existent signs are missing or unclear or to mark new trails or paths.
Composition of the group	In this kind of activity there are no age limitations, though it may require walking in nature for a long time.
Equipment	Varnish, masks and stencils for signs.
Estimated / Suggested Duration	Half day/one day depending on the length of the trail.
Skills needed	No particular skills are needed.
Type of areas (mountain/forest/wetland etc.)	This activity may be applied in all kinds of areas that require the restoration of signs along paths.
Organising body and contacts (if applicable)	Usually this activity is carried out by national or local voluntary organisations which care for nature conservation and area willing to improve the accessibility of protected sites to hikers and walkers. Some examples in Italy are provided in: www.cai.it



	Raising awareness for conservation volunteering: guided tours
Purpose of the activity	In a specially planned guided tour, aiming to attract volunteers to help in a protected area, the participants get information about the area and the issues that can be addressed through voluntary activities. Guided tours are led by expert staff and can be useful for a voluntary organisation for the recruitment of new members.
Composition of the group	In this type of activity, the role of an expert tour leader is essential. No age limitations apply for participating in this activity, although participants should take into account that the activity may include long distance walking.
Equipment	No special equipment is needed besides outdoor wear; voice recorders and/or cameras may come in handy.
Estimated / Suggested Duration	The optimal duration is 3-4 hours, but it depends on the size of the area (it can also be a full-day trip).
Skills needed	No particular skills are needed from the participants. However the guided tour that would involve 3-4 hours of walking is a physical activity and participants must be in a good physical condition. Regarding the tour leader, he/she must have a very good knowledge of the area and able to show to the participants its conservation needs.
Type of areas (mountain/forest/wetland etc.)	It can be applied in all types of areas, where an expert tour leader is available and willing to lead the tour.
Organising body contacts (if applicable)	National Park Authorities are responsible for supervising protected areas usually, and for organising guided tours in the area. If such an authority does not exist, environmental NGOs that are active in the area organise guided tours and offer information either locally, through panels or leaflets; or online.



Reviving traditional crafts: basket weaving	
Purpose of the activity	Local traditional techniques and crafts often provide a rich body of knowledge about the environment, natural resource management and local biodiversity. Basket weaving is an example taken from the Slovenian pilot implementation of the INVOLEN project that may be used as a reference in reviving local crafts. In this example, the participants get information about biodiversity and the local flora as well as the purpose of using raw material from their local natural environment. The participants are introduced to a hands-on experience of traditional craftsmanship and are encouraged to contribute to an intergenerational exchange of skills and knowledge.
Composition of the group	It is recommended that the group of participants in this activity counts up to 15 members. There are no age limitations. A skilled craftsman should lead this activity, who is able to transfer the traditional knowledge about the selected traditional craft.
Equipment	Special equipment and raw materials are required according to the activity to be demonstrated. In the case of basket weaving the following materials and equipment is needed: <ul style="list-style-type: none"> • Plant fibres (roots/ cane/ twigs/ grasses/ reeds/ raffia/ basket or hazel willows) • Wood is used for some designs (particularly when the type of basket needs a solid bottom) • Tools, such as saws, awls, knives and beaters for hammering or bending pieces of willow.
Estimated / Suggested Duration	Each session can be of variable duration depending on the preparation and implementation of the activity. An estimation for the duration of a basket weaving workshop is: <ul style="list-style-type: none"> • 4 hours, if the material is collected in advance (hazel or willow tree) • 12 hours, If participants are involved in all the procedures (material collection from natural environment, bottom and handles making).
Skills needed	No particular skills are needed by the participants. Experts' skills are needed by the activity leader-craftsman.
Type of areas (mountain/forest/wetland etc.)	It can be adjusted according to the type of area.
Organising body and contacts (if applicable)	Handicraft centres, heritage interpretation centres, local craftsmen and artisans with traditional knowledge, local development associations, voluntary associations devoted to traditional culture.



Photography workshop. Comparison through time	
Purpose of the activity	Linked to a guided tour, the photography workshop allows for a comparison to be made between the condition of an area before and after the conservation interventions. Before the guided tour, seniors and experts are invited to bring some old pictures of the area (personal pictures or books). They have to choose the most symbolic and/or representative ones for the area. After that, during the visit in the protected area, young people and seniors are invited to take the same pictures of the area at present, in order to see the difference and the evolution of the area. In this way, by comparing and discussing the pictures, the evolution of the area and its positive and negative aspects can be highlighted and explained by the workshop leader.
Composition of the group	In this type of activity there are no age limitations though it may include a long walk in the area under examination. A expert with a very good knowledge of the area should lead the workshop.
Equipment	Cameras, smartphones, tablets, board to display pictures, will be needed.
Estimated / Suggested Duration	For the first session of the workshop: 2 hours (presentation and discussion of the old pictures/books). For the field trip: the optimal duration is 3-4 hours, but it also depends on the size of the area (it can also be a full-day trip). For the second session of the workshop: 2 hours, to discuss and compare the pictures, and bring out the important points.
Skills needed	No particular skills are needed on the participants' side; however the guided tour of 3-4 hours may require good physical condition. The workshop and tour leader should possess expert knowledge of the area and its conservation problems.
Type of areas (mountain/forest/wetland etc.)	It can be applied in all types of protected areas.
Organising body and contacts (if applicable)	National Park Authorities are responsible for supervising protected areas usually, and for organising guided tours and conservation workshops in the area. If such an authority does not exist, environmental NGOs that are active in the area organise guided tours and conservation workshops and offer information either locally, through panels or leaflets; or online.



	Taking care of the wildlife: injured animal rescue
Purpose of the activity	The purpose of this activity is firstly, to teach participants to take care of injured wild animals and offer first aid; and secondly to rescue wild animals as volunteers. This activity is usually carried out under the supervision of a specialist organisation, devoted to the salvage of injured animals; but it can be also implemented by individuals, who may offer transportation of injured small wild animals to a Recovery Centre.
Composition of the group	There are some age requirements for participants, who should be adults (older than 18 years).
Equipment	To transport an injured animal to a Recovery Centre, a carton box and a car are needed.
Estimated / Suggested Duration	Transporting a wild animal to a Recovery Centre may take a few hours. Learning the first aid techniques is usually organised in summer schools and may take at least 7 days.
Skills needed	First aid skills are needed, which are acquired by special training.
Type of areas (mountain/forest/wetland etc.)	It can be applied in all types of areas.
Organising body and contacts (if applicable)	There are organisations devoted to the salvage of injured wildlife, which also run Recovery Centres. Rescue activities that concern wildlife should be always carried out under the supervision of these organizations. Examples are given in the links below, for the CRUMA (Centro recupero per gli uccelli marini e acquatici) in Italy: http://iltirreno.gelocal.it/piombino/cronaca/2012/04/27/news/un-centro-wwf-di-prima-assistenza-1.4432297 http://www.cruma.org/it/attivita/campi-estivi-2013



Clean up the beach to save the nesting birds	
Purpose of the activity	The purpose of this activity is to raise awareness on the problems that many birds' species face every year when nesting on a beach, due to environmental pollution (e.g. the bird <i>Charadrius Alexandrinus</i> , a very rare species protected by the European Birds Directive). This activity is carried out in groups and includes, firstly information about the types of human waste which are dangerous for birds; and secondly the clean-up of the beach from garbage.
Composition of the group	In this kind of activity there are no age limitations.
Equipment	Hard gloves, bags.
Estimated / Suggested Duration	The optimal duration is at least 6-7 hours plus the time to reach the site.
Skills needed	No particular skills are needed from participants. The group leader should be an expert on birds
Type of areas (mountain/forest/wetland etc.)	It can be applied in all coastal areas.
Organising body and contacts (if applicable)	There are organizations specialising in birdlife protection, which also initiate voluntary activities of this kind. Examples are given in the links below, including Important areas for seabirds in Greece: http://www.wwf.it/?5581 http://www.lipuvenezia.it/index.php/oasi-ca-roman/74-la-protezione-del-fratino-sul-litorale-veneziano http://www.ornithologiki.gr/page_cn.php?tID=79278&aID=1528



1.3.2 Examples of seniors' stories associated with protected areas

The stories narrated by the senior volunteers have been recorded and transcribed by the younger volunteers.

These stories have provided inspiration for many of the INVOLEN games: characters from the stories are often the heroes of the games, information about the protected areas have been embedded in the plot and locations of importance have been included in the games' action. All the INVOLEN stories narrated by the senior volunteers during the pilot implementation of the project can be found in an online searchable database.

The database is accessible through the INVOLEN website at the following link:

<http://www.involen.eu/en/learning-tools-resources/stories-from-elders>

Below we provide some examples.



Title	Lake Cerknica
Story	<p>“Once upon the time there was no lake near Cerknica, but there were many beautiful villages and their inhabitants were believed to be the richest and the happiest. But fortune and happiness can seduce a human to his doom. Also the inhabitants of that place became haughty and didn’t go to church anymore.</p> <p>It was Saturday before Easter and Christians celebrated the Resurrection in piece and silence, but these citizens didn’t celebrate it in this way. They had a big party in a great house. It was almost midnight, but they were still having fun. Then the door opened and there was a small old man with a long grey beard. He raised the hands up to the sky and angrily said: <i>"Don't you have any faith in your hearts? Think over – It is Advent, so stop with your party before it is too late, otherwise a big disaster will happen!"</i></p> <p>Everybody laughed at these words and continued with the celebration. Midnight was approaching and the same man came into the house a second and later also a third time with a barrel in his arms. He said: <i>"This is my last warning! Listen to me, friends! The abyss of your doom is opening: There is just a little bit of time to think over and stop with what you are doing. If I open this barrel, fear and doom will come out of it and destroy you!"</i></p> <p>But people just laughed. They thought there was just wine in the barrel. The old man said: <i>"This is your doom. You will all die!"</i> He opened the barrel and then disappeared.</p> <p>When midnight struck, a big storm broke. Water was flowing out of the barrel and down all the hills and everybody drowned. But the water didn’t stop until the church was also immersed. Even after the storm, the water remained there to be called Lake Cerknica.”</p> <p>Lake Cerknica is an important area, it is protected by the Ramsar convention. The lake, its surroundings, as well as the the karst phenomena are world famous natural attractions. One can find many rare and endangered species, especially birds in the area. The lake is in great connection with agriculture since the fields are flooded and form a lake in autumn time, while in summer these fields are dry, covered by grass. The bond between the lake and the people living in its surroundings is strong: people go fishing when the lake is full of water or mow the grass on the lake meadows when the water drains away.</p>
Location	Cerknica (Inner Carniola–Karst), Slovenia
Name of the narrator	Majda
Genre	Myth - Local Legend
Associated game	Dolenja vas in touch with ancestors

Title	Monti Livornesi at the time when hunting was allowed
Story	<p>“You look 10 years younger” my doctor once said, and I know for sure that the “medicine” is walking almost every morning for 5-6 km in the countryside of Monti Livornesi, starting from Bocca di Cerro, then Curvone, Gabbro, Valle Benedetta to arrive in Castiglioncello.</p> <p>I began hunting when I was 20, which was the first time I accompanied my uncle hunting migratory animals such as teals, coots, mallards, thrushes. At that time, it is said, Livorno claimed the best gunpowder; and it was permissible to hunt a little bit of "everything" while nowadays there are limits: i.e. 3 hares, 5 thrushes and hunting is only allowed in a hunting reserve. Inside the park, the forest rangers define the number of animals that hunters can kill, especially referring to the wild boar hunting.</p> <p>The wild boar is a prolific species and the most dangerous for the forest and farmers because of its big teeth. It disrupts the ground like a bulldozer, and it is not afraid to get close to the houses and gardens. Nowadays boars are very prolific, having up to 8 or 10 puppies – while our boar, typical of the Maremma area, had usually one or two. Also, during the selective hunt, we can shoot males so as not to interfere with the number of births, while keeping under control the total number of animals.</p> <p>Other wild species living in the area are fallow deer, hares, rabbits, foxes, martens and presumably once in the past, wolves would have been here – in fact there is a locality called “Wolf Hill”. There are not so many birds. Most of them are migratory birds such as thrushes and wood pigeons, and among the protected birds there are some predators like buzzards and hawks.</p> <p>Regarding plants, the Monti Livornesi are rich in holm oaks, other kinds of oaks, rowan, strawberry trees whose fruits were used for jams, pines and cork oaks in the direction of Gabbro. The bark of this species (the cork) was usually removed to be ground and transformed into caps and floats for fishing.</p> <p>We can also find really tasty mushrooms such as the penny bun (<i>Boletus edulis</i>) and the Leccino (<i>Leccinum lepidum</i>) whose edible part is the hat. In here, the mushrooms are much tastier than in other parts of Tuscany, because of the drier climate and soil.</p> <p>It is fair to say that hunters have contributed to the protection of nature: for years they have controlled fires and have kept clean the trails and paths – because unlike present times, in the past fires were extinguished from the land, without using helicopters.</p>

Part One



Chronology	From 1950 up to now
Location	Parco Provinciale dei Monti Livornesi and localities: Bocca di Cerro, then Curvone, Gabbro, Valle Benedetta to arrive in Castiglioncello, Italy
Name of the narrator	Floriano
Genre	Environment
Associated game	Boar Marley adventures



Title	The grey dune
Story	<p>This story is about how the grey dune, this natural environment of Erdeven, has been maltreated during World War II. It is very important to protect the grey dune because of its rare fauna and flora. Ms Bernadette tells us that during WW II the sand from the dunes was used by the Germans to build their submarine base in Lorient. Then, after the War, Lorient itself was rebuilt with the sand from the dunes; and for years, there was an incessant buzz of activity from the trucks transporting the sand. The removal of sand from the dunes resulted in big holes which disrupted the local fauna and flora and destroyed the existing habitats. The ecosystem was transformed, there were changes in the landscape, and new plants started to grow that were not there before. It's as if it were reconstructed in some way. After the war the place was rebuilt little by little, and efforts were made to protect it. It still remains very fragile, containing thousands of different flowers and rare birds. It is not necessarily better or worse, but it's different. So the ecosystem adapted to the changes. Grey dunes are a priority habitat type of the European Union's Habitat's Directive and demand special attention for conservation and management. The local authorities made some effort to protect the area: they took away the car park to let the fauna and flora in the dune develop, some wood fencing was placed there to protect fragile flowers, signs were put up "how to recognize and protect birds" with pictures, to alert people to the need to protect birds, and the bunkers of WW II were used as a shelter for bats. All schools of the area are visiting regularly the dune and the beach, accompanied by environmental guides to explain how fragile the grey dune is.</p>
Chronology	From 1939 to now
Location	Erdeven France
Name of the narrator	Bernadette
Genre	Environment
Associated game	In ArIs and Enigmap: the Involen Quest, the adventure of Theomaque

Title	The life-giving Erasinos River and the pesticides
Story	<p>100 years ago, the wetland of the Erasinos river was surrounded by farms. During the summer the wetland was temporarily inhabited by farmers who used to live in huts. Two remarkable events changed the history of the area.</p> <p>Firstly, the government of Venizelos in the 1920s expropriated the area from the Petrakis monastery and distributed sizeable plots of land to locals. Each one of the local residents was entitled to 3,5 acres of land. This action changed the lives of local people, raising at the same time the living standards of the region.</p> <p>Secondly, during the archaeological excavations that took place in the area in the 1950's and 1960's, the Temple of Artemis, built in the 5th century BC, was revealed. Several inhabitants of the wider area of Vravrona participated in the excavations as full time or part time workers. Mr Zacharias proudly states: "...I had personally been working for two years in the restoration of the temple..." He also mentions in his narrations a quite interesting ancient custom that allegedly took place in this location. He said: <i>"An archaeologist told me a story about the Temple, back then when I used to work at the excavation site. He said to me that the Temple of Artemis had been used in the past as a holy place where families used to bring their young sons and daughters to arrange their marriages..."</i></p> <p>The Museum of Vravrona, is the third richest museum nationwide in terms of findings, something that is not widely known. The museum keeps in storage a large number of findings that are not possible to be exhibited due to lack of space. Many of the original findings of the excavation are exhibited in the Archaeological Museum of Athens and in the Acropolis Museum. Also, the Temple of Artemis was in antiquity full of offerings from residents of Attica, which unfortunately were not found, probably because they were smuggled away especially during the WW2.</p>
Chronology	1930
Location	The Vravrona wetland, Attica, Greece
Name of the narrator	Yannis, Giorgos, Lefteris Stavrakas (environmental expert)
Genre	Recent and ancient history, environment
Associated game	Brauron, An Adventurous Journey in Vravrona

Part One



Title	Bird-song
Story	It happened about 20 or 30 years ago: the leader of the Water Directorate called me on the phone. He told me, that the directorate has just started to cut out the willows along a 60 meter-long area near one of the bridges in the floodplain. I told him, that these trees are very important, and you cannot just cut them down. The director listened to me, and immediately stopped the cutting. However, he asked this from me: "Please, tell me, why these trees are so important?" I told him: "Come along and I will show you." It was May time, and we went out to the woods of the floodplain. We stopped in front of the old trees. The director was waiting for an explanation. But I only told him this: "Listen carefully!" We could hear the songs of the birds crystal clear. "Well, this is why it is important". Those trees are the habitat of many birds. They give life to those birds. The director admitted, that while he was at school, nobody taught this to him.
Chronology	Around 1980-1990
Location	Nagybajcs, Hungary.
Name of the narrator	Zoltán
Genre	Environment, Life events
Associated game	Discovery of the Dead Rába



1.3.3 The INVOLEN Games

The INVOLEN games have been created using the ARIS platform <http://arisgames.org/> an open source platform for developing location based games. ARIS has been used as a reference tool during the INVOLEN Training Workshops and Webinars. The French pilot group additionally used the Enigmapp <http://www.enigmapp.fr/> platform, as it offers a design interface in the participants native language.

The games are available online using the ARIS application for iOS (see user requirements <https://itunes.apple.com/us/app/aris/id371788434>) and Enigmapp for iOS <https://itunes.apple.com/ca/app/enigmapp/id536567950> and Android <https://play.google.com/store/apps/details?id=com.enigmapp.android> .

The games have been developed by the volunteers and facilitators during the pilot implementation of the INVOLEN project with the assistance of experts. The scenario of the games connects seniors' stories with conservation issues in the protected areas selected by the piloting teams in the 5 participating countries. The games feature videos, pictures, geopoints, virtual characters, sound, text and any type of information collected either on site, while volunteers were carrying out the data collection and game playtesting activities; or through desk research and interviews with seniors.

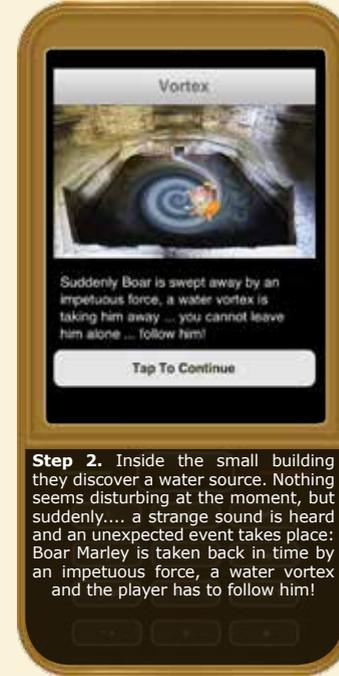
You may access the English versions of all partners' games through your mobile devices as uploaded on the ARIS platform by searching their names or by scanning the QR code on the "Quest of INVOLEN" game poster for Enigmapp in the "Quick access" field.

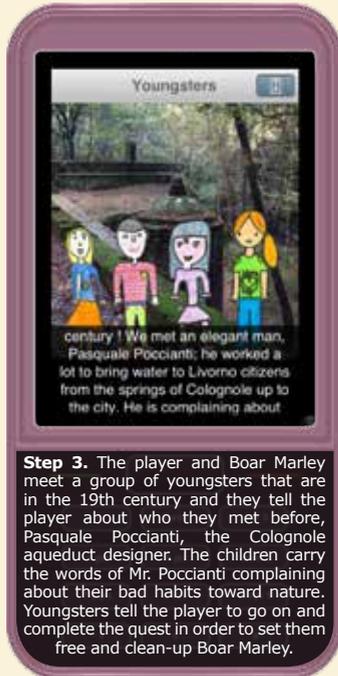


Game 1: "Boar Marley's adventure", Livorno, Italy

Boar Marley is a little boar who lives in the wood of Cognole. Boar Marley is small, curious and observes the behaviour of the Man visiting the woodland surrounding an aqueduct, built at the beginning of the 19th century, the Cognole aqueduct. From him, Boar Marley learnt strange habits. Now he wears a coloured hat, has some tattoos, drinks beer and smokes! Let's understand what happened to Boar Marley and why he behaves so badly.

The player goes to the map, looks for Cognole and starts the adventure.







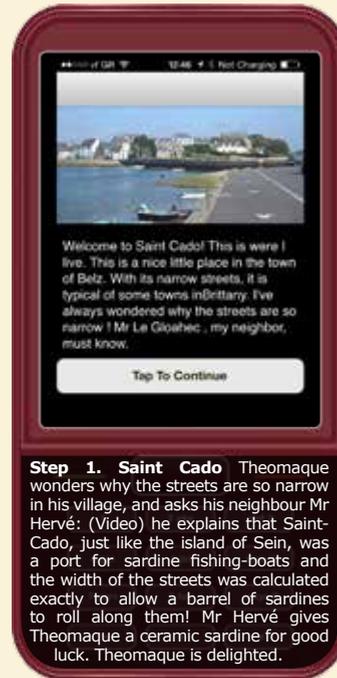


Game 2. "The INVOLEN quest, the adventure of Theomaque", Brittany, France

The French pilot group who developed this game, worked with an additional platform as well as ARIS in order to address the issue of language (English at school has been a problem so the Enigmapp platform in French was preferred). The mobile application can be downloaded in both iOS and Android devices.

A young sailor Théomaque the Guviflo, after some time aboard, returns home to Saint-Cado in Brittany, close to the protected area Gâvres-Quiberon. He discovers that his house is devastated by storms, and that objects that are dear to him have disappeared. He heard they were dispersed along the beach. He must therefore find them.

Theomaque Le Guviflo starts his quest trying to find the lost items and asks the player to help him in his adventure. During his investigation, he will make encounters and discoveries in the landscape that surrounds his town.



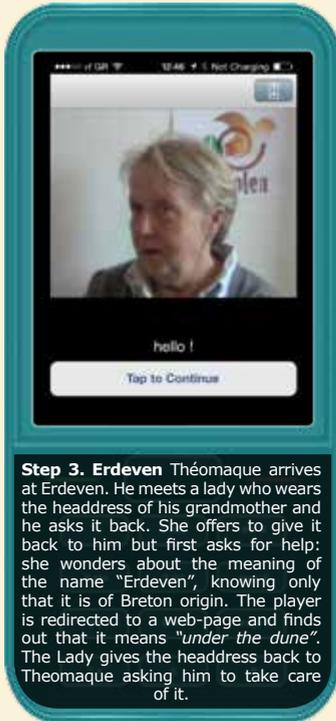
Step 1. Saint Cado Theomaque wonders why the streets are so narrow in his village, and asks his neighbour Mr Hervé: (Video) he explains that Saint-Cado, just like the island of Sein, was a port for sardine fishing-boats and the width of the streets was calculated exactly to allow a barrel of sardines to roll along them! Mr Hervé gives Theomaque a ceramic sardine for good luck. Theomaque is delighted.



Step 2. Belz Theomaque continues his way up to Belz. He provides information on the origin of the name "Belz" and says that he is very attached to the town. Theomaque explains that he has hung the town's coat of arms on the wall of his house. He finds his blazon near the Town Hall.

Step 1. Enigmapp version:
The player is called to answer the question: "Why are the streets of Saint-Cado so narrow?"
There are three possible answers:
- For a barrel of sardines to fit and roll
-Because the people were small
-To allow talking from one house to another
By answering correctly the player is rewarded with the first lost item. The player can watch the video of Mr Hervé for further explanations.

Step 2. Enigmapp version:
Theomaque finds his blazon in pieces hanging from the Town Hall. He must restore it to get it back.



Step 3. Erdeven Théomaque arrives at Erdeven. He meets a lady who wears the headdress of his grandmother and he asks it back. She offers to give it back to him but first asks for help: she wonders about the meaning of the name "Erdeven", knowing only that it is of Breton origin. The player is redirected to a web-page and finds out that it means "under the dune". The Lady gives the headdress back to Théomaque asking him to take care of it.



Step 4. the green hand Théomaque continues his way to the coast and arrives near the Green hand, a sculpture which was placed there in protest of a nuclear power factory project in the now protected area. This is incredible! The milk jug from his parents' house, which he used as a decoration, is located there. He picks it up.



Step 5a: the grey dune Théomaque arrives on the grey dune that looks like a lunar landscape and asks Mrs Thévenin about its history, as she has written books on the grey dune. She tells him (video) that during WWII, the Germans had extracted much sand from here to build the Lorient base of submarines and later, the city itself was rebuilt with this sand, which explains the many holes in the dune. The ecosystem readjusted through many new plants.

Step 3. Enigmapp version:
 Théomaque meets Ms. Bernadette a friend who tells him the story of Erdeven. She tells him that she has found the headdress and she wants to return it if he answers the riddle:
 "What is the meaning of the Bretonese word Erdeven?"
 -Under the dune
 -Village of farmers
 -The blue waves
 By giving the correct answer the player is rewarded with the headdress of Théomaques' grandmother.

Step 4. Enigmapp version:
 Théomaque is trying to remember the reason for the protest which the green hand sculpture was constructed for, choosing among the following options:
 - Building an electric power plant
 - Building an airstrip for the army
 - Constructing a nuclear plant
 Once the correct answer is given, Théomaque recovers his jug.

Step 5. Enigmapp version:
 In the dune, Théomaque remembers that he had an immortal flower in his house. He can only find it if he answers correctly the following question:
 "Why should one not tread on the dune?"
 - Because plant roots keep the sand in place.
 - Because the ground lifts up.
 - Because it gets in one's shoes.
 The flower is the reward for the correct answer.

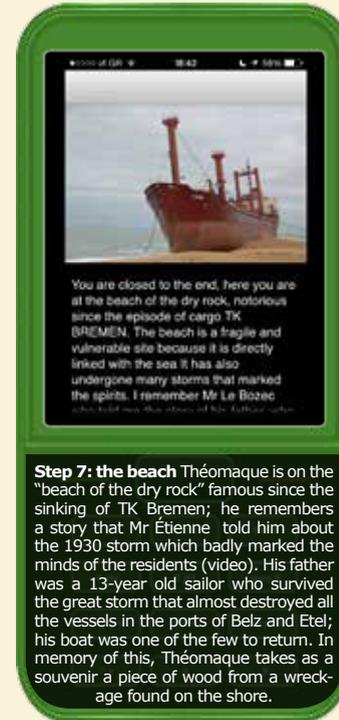
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Step 5b: the flower Ms Bernadette tells him that if he is looking for his souvenirs, he should go near a bunker in the beach, where she knows a medal was found. She offers to accompany him and continues telling him stories. To remember the first story, she offered him a flower, an *immortal* that grows on this dune and has a smell of curry. Théomaque will keep it preciously.



Step 6: the bunker Théomaque and Ms. Bernadette arrive at the bunker. Ms. Bernadette explains the presence of the bunker (video): these bunkers were built during the Second World War. The Atlantic Wall extended from Holland to Spain to protect the Axis Germans from the Allies' possible invasion from the sea. The Medal of Théomaque's grandfather can be found near the bunker.



Step 7: the beach Théomaque is on the "beach of the dry rock" famous since the sinking of TK Bremen; he remembers a story that Mr Étienne told him about the 1930 storm which badly marked the minds of the residents (video). His father was a 13-year old sailor who survived the great storm that almost destroyed all the vessels in the ports of Belz and Etel; his boat was one of the few to return. In memory of this, Théomaque takes as a souvenir a piece of wood from a wreckage found on the shore.

Good bye. Théomaque thanks the player and says goodbye. He has retrieved all his objects and even had the chance to have more! He is happy that he met people on his journey that shared so many stories with him about his area.

Step 6. Enigmapp version:
In order for Théomaque to get his medal, he has to listen attentively to Ms. Bernadette who speaks to him about the Atlantic wall and then give the correct answer to the following question:
"The Atlantic wall extended:"
-From Paris to Belz
-From Holland to Spain
-From Marseille to China
Thanks to a correct answer, Théomaque regains the Medal of his grandfather.

Step 7. Enigmapp version:
After listening to the story of Mr Étienne, Théomaque must click on the bow of the freighter TK Bremen. If he finds the bow, he will recover a piece of wreckage of the boat of his father.

Game 3. "Vravrona", Attica, Greece

In this game the player plays the character of an "official explorer" of the wetland and is called to help solve several environmental issues that come up in the course of the game. An endemic species of fish, called the "Marathon Minnow", an old resident of the Erasinos River, which now faces the danger of extinction, lives in the Vravrona wetland. The player is asked to save not only the little fish but the wetland as a whole. In order to do so, the player becomes an "official" explorer of the Vravrona wetland. The player tries to locate the problems of the area and attempts to give solutions. During his walk in the wetland, the player discovers the significance of the area and learns more about the natural environment. The explorer is accompanied throughout the game by the virtual character of goddess Artemis, who provides hints and proposes quests for the player to complete.





Step 3. The first pieces of evidence encountered by the player are a receipt of illegal pesticides' purchase and a plastic pesticide bottle. An "ECOTip" information node explains what pesticides do. The explorer has by now discovered the origin of the pollution of Erasinos River and the threat to the Marathon Minnow and suggests *the use of organic farming methods instead of pesticides*. The player is prompted to share ideas with other players about stopping the illegal use of pesticides on the ARIS Notebook.



Step 4. The player receives an additional second map which leads to the next clues. The player discovers that garbage coming from the broader region of the wetland and household waste contaminate the wetland and the Erasinos River. The player is informed on the dangers of water pollution and its association with the endangering of the Marathon Minnow species through the second "ECOTip" information node.



Step 5. The player is encouraged to write ideas that will help addressing the problem of domestic waste on the ARIS Notebook. More information is provided through the third "ECOTip" node on the danger of uncontrolled garbage and waste disposal, the importance of recycling, and the significance of biodiversity and is encouraged to post a photograph of any garbage found in the area using the ARIS Notebook. The player is introduced to the animal and plant species of the Vravra wetland and is redirected to the website of HOS.



Game 4. "Dolenja vas in touch with ancestors", Slovenia

The pilot group from Slovenia has created an game in an old village called Dolenja vas http://en.wikipedia.org/wiki/Dolenja_Vas,_Cerknica on the karst area that belongs to the Inner Carniola Regional Park. The visitor of the village starts to play the game in the centre of the village, where he can learn about villagers' knowledge on how to use water resources in sustainable way.



Step 1. Introduction There is an introduction explaining that the player is standing on karst area, which is characterised by water, which shaped the surrounding landscape, culture and life of locals. Looking at the map it is possible to find the first location where the player receives some tips about how to play the game.



Step 2. After visiting the first location and reviewing the games' introduction, a character shows up in another location, where the player should follow a dialogue and talk with the character Lili. She gives some tips how to find interesting features in the village and assigns a task to the player to find a nearby water tower.



Game 5. "The discovery of the Dead Rába", Pannonhalma, Hungary

The natural area connected to the game is Dead Rába. For more information go to : <http://fhnp.nemzetipark.gov.hu/pannonhalma-lpa>

In this game, the player can discover the natural treasures of the Dead Rába by collecting important and interesting information about them. The player comes across interesting animals during his wandering, and there are a lot to learn from them. The player can start a dialogue with the animals, and he needs to collect four presents in order to complete the quest.

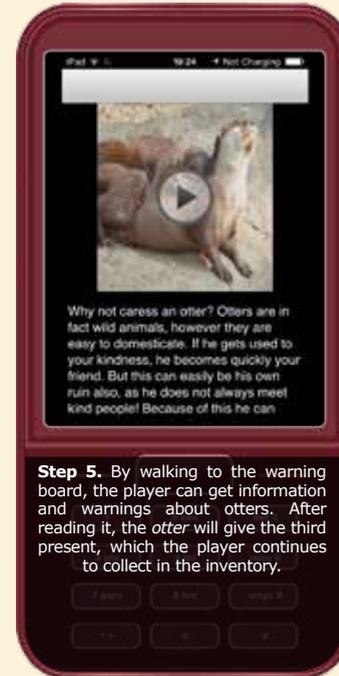




Step 3. After finishing the conversation with the *gopher*, another animal will appear on the map: the *unka-frog*. By walking to him, the player can start another dialogue. The frog will give information about the problem that affects his life and give some tips for the solution and how the player can help him and the other frogs living in this area.



Step 4. After this, he will give the player the second present. The next animal appearing on the map is the *otter*. The player can start a conversation, and the otter will ask him to look for a warning-board. This item will be shown on the map, and it is located close to the *otter*.



Step 5. By walking to the warning board, the player can get information and warnings about otters. After reading it, the *otter* will give the third present, which the player continues to collect in the inventory.



Step 6. The last character that appears in the game is the *merops*, and will be shown in the map after collecting the third present. The bird will ask the player to look for a little plant guide.



Step 7. The player needs to find the little plant guide, which will give information about the protected plants of the area. After watching it, the *merops* will give the last present which needs to be collected.



Step 8. The inventory stores now four presents, which needed to be collected during the game. Before finishing the game, another item appears on the map. By walking to this, the player can get an idea about the process, how this game was created.

1.4 Step-by step guide: How to construct a conservation-aimed game within an intergenerational learning framework

Before starting designing a game one should think about the following questions:

- What is the goal of your game?
- Is there a learning objective? How will you accomplish it?
- How many users and age groups will be involved?
- How long will the game last?
- What game mechanics will you use (points, scoreboards, escalation, narrative goals)
- Will your game require wi-fi /3G coverage? Will you use QR codes instead?

In order to create an INVOLEN game there are several parameters that one should keep in mind: INVOLEN's nature conservation objective should be combined with volunteering and open air location-based games played on mobile phones or tablets. To understand better the process of game design, a set of issues that are integral to the design process are presented in the following pages. These refer to both theoretical and practical features of the design process and focus on INVOLEN's key-elements such as: stories collected during the intergenerational learning process, a focus on conservation activities in a protected area, intergenerational teamwork, game genres and game mechanics that can be adopted during the design phase, technology requirements, technology failure issues and a problem-solving approach.



1.4.1 Key-points for the design of INVOLEN games

field trips

Throughout the completion of your game design project you will have the opportunity to visit the protected areas several times.

- Take advantage of a number of walking tours in the protected area in focus.
- People like telling stories while wandering around.

stories

Older people enjoy telling stories, referring either to real events or legends

- Ask older peoples about their memories, habits and likes
- Ask older peoples about stories and experiences from past times, myths and legends
- The best practice is to discuss and listen to the stories in the location they refer to.

game genres and narrative

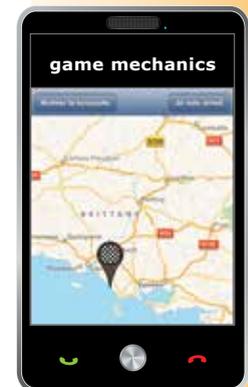
People sometimes feel demotivated to play alone or get easily bored when playing by themselves. A cooperative or competitive game between teams can provide a solution to this problem. For several locations it might be practical to create games for solo players that enjoy strolling around at their own pace and discover the game. Learn about game types, ways to motivate the player and storytelling by examining video, street, traditional games and interactive storytelling experiences.

- Think about the players
- Choose solo games or team games
- Game mechanics can motivate players

game mechanics

Think of all the simple but truly beautiful games you have experienced and you will understand that the fun in the game does not lie in its complexity. Think as a player when you design the game and avoid long texts and excessive information. Concentrate on the story and the message you want to get through and try to use as few game mechanics as possible. Get inspired by the story itself and games that you love and create a new experience for your users.

- Simple is beautiful!
- Don't use many mechanics or too much text.
- Try to design an interactive and emotionally moving system/game/story.
- An intriguing story by itself requires less game mechanics.



storyboarding

Plan First, Play Later! Paper prototypes are an easy way to get feedback on multiple ideas. A script is always useful when trying to get a story through. Share your idea with friends and classmates and check if it makes sense and keeps them interested before implementing your game.

- Prepare your plot by writing a scenario
- Use paper prototypes before digitally designing your game
- An easy way to get feedback on multiple ideas

implementation

Use the tutorials, forums and contact details of the game-design platforms. Don't be afraid to ask your team-mates and make mistakes. Remember that the platform is free and might contain bugs. Don't lose heart! Creating a piece of software and debugging it, even in such a simple and user-friendly way, requires patience.

- Read the manuals and tutorials available.
- Use the INVOLEN helpdesk of the project and participate in the communities

playtesting

Playtesting is the most important phase of game design. This is where a game shows its potential and ideas are tested in action. Do not be afraid to fail. Fail fast and try to fix the problematic points or redesign. Run the game within its actual context on site if possible. Test out core mechanics before emulating the final game.

- Test the game in the actual environment
- Emulate the final game
- Test out core mechanics

environment

The game you have to design has a significant feature that you cannot ignore: it is set in pure nature and moreover within a protected area. This will give you several extra parameters to take into consideration during the design process.

- Respect nature and landscape
- Follow rules and guidance of the conservation area
- Take safety issues into consideration
- Remember to integrate rules in your game design





technology

Technology failure crops up, especially when you are in territories far away from city centres. You should keep in mind technology inefficiency and breakdowns. Be prepared for low-tech alternatives or game mechanics interventions to favour the game flow.

- Mind potential 3G coverage issues and GPS inaccuracy
- Be prepared for low-tech alternatives or game mechanics
- Software and hardware may break down- have a plan B and do not panic!

enjoy your game design process

The most important part of the game process is to remember that it is supposed to be fun! Enjoy it!



1.4.2 ICT tools for Location Based Game (LBG) design

In order to create a location-based (LBG) mobile game you can make use of many free platforms available online. Most platforms include a mobile application, a web editor, and they also provide a server to store the data.

- The mobile **application** is used by the player in order to **play** the game. In most cases the player needs to download the application from the website of the platform or a digital distribution platform for mobile devices such as iTunes, the App Store for iOS or Google Play Store for Android operating system (OS).
- An **editor** is usually a web based interface that is used by the game-designer in order to **create** the game.
- A server is where all the information of the game is being **stored** and accessed.

Each platform has a different structure for their editors' interface, however, there are many common characteristics among them.

- One of the core features in location-based games platforms is a dynamic **map** field. This is where a designer sets the action of the game by "pinning" the **locations** of the game components. When players of a location-based game approach the specified locations in the physical world, actions are triggered in the game, in the digital world.
- Games often incorporate different **roles** for the player. These roles can be either assigned or chosen by the player when such option exists in the game scenario.

An LBG player can interact with **virtual characters** – i.e. non-player characters (NPCs). The player can interact with them by having a conversation, by exchanging items or even gaining attributes such as fame, experience etc.

- Virtual **items** can be collected during a game in the player's inventory. The items can be used as score indicators, they can often be "dropped" for another player to collect, and they can be traded with other items among players or even be taken out from the player's inventory.
- Components that provide **information** are often incorporated in the game scenario. Information nodes can include text, audio, video or even online content.
- A game scenario may have plot twists and may depend on the player's choices. The course of action can be set by adjusting the game components' parameters of appearance on the game interface. A game designer can be compared to a director staging a play; the turn of appearance of each game component can be defined by a set of rules, decided by the designer in order for the narrative of the game to advance.

Players should have a clear idea of what their objective is during the game. The players' mission and progress can be

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clarified using various mechanics such as updating the players' status, history or quests tabs. Moreover, the designer should provide the player with an experience of closure, a reward or a word of encouragement to try again - depending on the game's genre - so that the game benefits from a clear ending. In some cases it is not necessary to set an ending, for example in time-limited games, travel guides and more open playful experiences.

This is a basic outline of some of the core features included in the design and development process of location based games across platforms. As platforms have their own requirements in terms of structure, use, terms and scope, it is suggested to game-designers to refer to manuals, tutorials and documentation available by each provider before they start developing their games. In the Inventory section below you can find several ICT tools useful for gathering, editing, mapping, geotagging and developing an INVOLEN game.



1.4.3 ICT tools inventory

Sharing spaces for team work

You can use a sharing space for collecting the groups' digital material online. Google Drive and Dropbox could prove quite useful for putting all material together and sharing.

<https://www.dropbox.com>



<https://drive.google.com>

Working with digital media

You can find many on-line resources for digital media processing. Video editing and photo editing tools can prove helpful for visualising the game contents.

<https://popcorn.webmaker.org>



<http://pixlr.com/editor/>

Working with mobile devices

Mobile applications can be very useful during the game design process. Taking pictures via a mobile appliance can provide useful geolocation data and this can help you associate the photographs with specific locations. Route tracking is also important for setting a location-based game site. These processes are made very easy through mobile phone/tablet applications such as the following:

- maps and navigation
- digital media association with geospatial data (geotagging)
- route mapping



(Click on the icons when using a handheld device)

Game design platforms

There are many ways to create a location based game. In the pilot implementation the pilot groups used mainly the ARIS platform for iOS and Enigmapp as an alternative for Android devices. In order to create a location based game you can either use DIY techniques or experiment with the game design platforms suggested:

<http://arisgames.org/editor>

<http://www.enigmapp.fr/>

<http://taleblazer.org/>

<http://www.notours.org/>

<http://www.huntzz.com/>



Below you can find useful links for the help, training and documentation sections of each suggested platform:

ARIS

- Training and Links: <http://arisgames.org/make/training/>
- Manual: <http://manual.arisgames.org/>
- Forum: <https://groups.google.com/forum/#!forum/arisgames>

TaleBlazer

- Documentation: <http://taleblazer.org/Support/documentation>

Enigmapp

- Create: <http://www.enigmapp.fr/index/maptrois>
- Contact: <http://www.enigmapp.fr/index/contact>

NoTours

- Our Platform: <http://www.notours.org/audioguides>

Huntzz

- Step by step guide: http://www.huntzz.com/how_to_create_a_hunt.pdf



1.4.4 Some tips for a safer Internet⁴

- Protect your online reputation: use the tools provided by online services to protect your reputation and “think before you post”. Content posted online can last forever and could be shared publicly by anyone.
- Know where to find help: understand how to report to service providers and use blocking and deleting tools. If something happens that upsets you online, it’s never too late to tell someone.
- Respect the law: use reliable services and know how to legally access the music, film and TV you want.
- Acknowledge your sources: use trustworthy content and remember to give credit when using other people’s work/ ideas.
- Respect others: you are responsible for what you post online, then moderate your words on blogs, forums ... Do not do to others what you would not like them do to you.
- Create multiple e -mail addresses: you can use a mail box for your friends and another mail-box for games and social networks.
- Think before you post!

⁴ Source CNIL and UK safer internet centre : <http://www.saferinternet.org.uk/>



This part of the Learning toolkit is addressed to facilitators. It includes volunteer management techniques that aim to keep the group engaged and active during the intergenerational activities; some guidance on the encouragement of senior volunteers to narrate stories associated with a protected area, and guidelines on how to organise the documentation of the material; links to the INVOLEN training webinars; and a brief overview of the work units that the learning facilitators can use to organise the group work of the intergenerational teams.

2.1 Volunteer management techniques

This section includes three “tools” that can be used by the learning facilitator to encourage intergenerational interaction and learning.



2.1.1 The Identity Card

Objective	Get to know the participants of a group and make a "skills map"
Implementation	Duration: 50 min
	WHEN?
	At the beginning of the meeting
	ORGANISATION
	<ul style="list-style-type: none"> • In a large classroom • Have an identity card for everyone (see below)
	<p>INSTRUCTIONS:</p> <p>Complete the identity card anonymously Half of the group put their ID on a table. The other half chooses one ID randomly. The second group tries to find to whom it belongs by asking questions. Once the people are identified, a mutual exchange happens between both people on what The ID says. Repeat the process with the other half. Once the interviews are over, everyone introduces the person they have met to the rest of the group.</p>
Benefits	<p>Trying to discover who owns each piece of ID is a good icebreaker. Moreover it encourages people to be more attentive to everyone else, more observant.</p> <ul style="list-style-type: none"> • If carried out in the beginning of the competition phase, this technique requires everyone to speak for the first time in front of the large group without being too exposed because it is only "broadcast" information • Provides an approach to the interview, note taking, listening, speaking to a group <p>AIM:</p> <ul style="list-style-type: none"> -To engage each participant to "introduce him or herself differently" to the group than in the traditional form. -To show everyone what gives it its originality, its specificity and value. Focus could be placed on ICT and knowledge of the Natura 2000 area. -To allow the facilitator to retrieve information to organise groups for the following phases and "map" the different skills of the group.



2.1.2 The "2, 4, 8" technique

To define the common aim of the learning game

Objective	The technique of the "2.4.8" is a system of building group communication. It is a problem-solving technique more than just being an animation tool, based on the consensus of generating ideas individually and collectively, looking at each stage for unanimity in the choices made by the group.
Implementation	Duration: 1h -2h
	WHEN?
	During the one day planning meeting, to define the common aim of the learning game
	ORGANISATION
	<ul style="list-style-type: none"> • for groups larger than 15 people the group is split in half • post-it papers
	<p>INSTRUCTIONS:</p> <p>Each participant writes down 5 answers or priorities to the question "<i>Why make a learning game on the area?</i>" or "<i>Objectives of the learning game</i>". Then the participants are grouped into 2 and seek consensus so as to select 5 proposals with something in common in their initial suggestions. Then, pairs are regrouped into 4s selecting 5 successful proposals once more; then the groups of 4 gather in groups of 8, etc. At each of these stages, the group decides unanimously on the proposals. By the end, the first objectives of the project will have been identified.</p>
Benefits	This technique allows progressive and consensual selection (unanimity in decisions) of the ideas that will be retained by the group. We are in a bottom-up approach where all participants have been active during the selection process. The organisation used allows discussion on all selected ideas.



2.1.3 Photography workshop

Objective	Set up during the one day planning meeting. This workshop has several aims:- Organise common activities between participants- Create materials useful for the game (collect senior stories / help in scenario creation).
Implementation	Duration: 1h -2h
	WHEN?
	During the first meeting, or at the beginning of the creation.
	ORGANISATION
	<ul style="list-style-type: none"> • small groups of seniors, young people and facilitators • camera, smartphone, tablets
	<p>INSTRUCTIONS:</p> <p>Each group should take different pictures on different themes (according to the area): Nature, people in nature, animals, flowers, problems, something beautiful, pollution. If possible, volunteers should end up with a group of photos without a particular theme.</p> <p>In the next step the volunteers should classify the photos. These pictures can be used throughout the creation of the game to collect senior's stories.</p> <p>Display all pictures on a wall, ask seniors to choose a photo that represents the site well and one that doesn't represent the site and explain the reasons for their choice. In the next step they have to narrate stories evoked by the selected photos.</p> <ul style="list-style-type: none"> • To define the game scenario – • To illustrate the learning game
Benefits	The first group task work with a concrete result. These pictures belong to the INVOLEN group and thus can be used at will.
Notes	To avoid too much sorting later, groups can delete unnecessary pictures immediately and not be tempted to photograph everything. Make sure the definition of the photos is correct.



2.1.4 How to Collect Seniors' Stories

Objective	Encourage seniors' narrations
Options	<p>There are two options that a learning facilitator may come across:</p> <p>Option 1: when seniors who actually do know the area and its history well and are also aware of traditional conservation techniques are included in the volunteers' group. It is important to determine what these stories are about, in order to focus on issues that can be fully integrated in the game. It is equally important to let seniors talk freely, though a framework for their narration will be proved very useful. Using a simple questionnaire or using pictures from the area can provide this framework.</p> <p>There are many ways to collect seniors' stories. One of them is to conduct interviews: Interviews of the seniors can be carried out during a field trip in the protected area /a particular place that reminds them of their stories. The interviews should be filmed. Three young participants are needed for this activity; one to do the filming, one to do the interview and a third to take notes of the answers.</p> <p>Option 2: when seniors have no knowledge of stories about the area, or not enough knowledge of traditional conservation techniques.</p> <p>With the help of an expert, a questionnaire may be developed on the major issues and/or history of the protected site.</p> <p>This questionnaire will be the starting point of an "information hunt" within the natural area or surrounding towns, mixing young people and seniors. The information quest may include interviews with other local people over the age of 50, preferably videoed; or informal talks with groups of people in the streets or a gathering place in the nearby town. Examples of statements that can trigger discussion and narrations are: <i>"It seems that there was a natural disaster in this area 30 years ago (spills, fire, pollution, etc.) can you tell us more?"</i> <i>"We heard that the area attracted fishermen / hunters 30 years ago. What do you think about that? Was it good or bad for the protected area?"</i></p>

Part Two



Techniques	<p>Example of a simple questionnaire that can be used for interviewing local people. "Area" refers to the protected area in focus.</p> <ul style="list-style-type: none">• Where do you live?• How long have you known the area?• Do you have a personal attachment to the area?• Do you know any historical events associated with this area?• Are you aware of any conservation problems in the protected area?• When you are thinking about this area, what is the first image that comes into your mind?• What would you like to show and tell about the area to your friends?• Do you know any stories or legends about the area?• Do you know why this area is protected?• How did the area look like when you were a child (if applicable)?
Be careful!	<p>It is very important to ask permission from persons filmed or photographed during information gathering regarding the right to make their pictures public.</p>

2.2 The recorded training webinars for facilitators

The INVOLEN ICT experts delivered three webinars for the facilitators who participated in the pilot implementation of the project, as part of their training. The aim of the webinars was to prepare the facilitators for the training of the volunteers' groups on location-based game-design using the ARIS platform; and to answer questions and provide support on technology issues. This material is available online and may be helpful for prospective INVOLEN facilitators as an introduction to game design using the ARIS platform as a reference tool. Several practical issues are addressed such as game debugging, and answers to common questions concerning the routines of design along with technical, organisational and technological tips that may be useful for the preparation of the game's content.

2.2.1 1st Facilitators' Webinar / 17-09-2013

The first webinar for facilitators is about:

- "Practical guidance on how to construct a conservation-aimed game"
- "Game design process"
- Q&A about game design
- Demo game designed by facilitators (GR) presentation
- Demo game explanation on ARIS editor
- Demo game problem solving
- Quests
- Objects active/inactive

2.2.2 2nd Facilitators' Webinar / 07-10-2013

The second webinar for facilitators focuses on:

- Q&A about game-design progress
- QR-code short tutorial wi-fi non wi-fi solutions
- Demo game designed by facilitators (SI) presentation
- Demo game designed by facilitators (IT) presentation
- Demo game designed by facilitators (GR) update
- ARIS community games as examples



2.2.3 3rd Facilitators' Webinar / 20-02-2014

The second webinar for facilitators explains more about:

- Q&A on the game design progress
- Material collection and playtesting process
- Technical, organizational and technological tips
- ARIS platform Q&A
- QR-codes in game design (extension)
- QR-codes in ARIS and how to link your games using a QR-code





2.3 The organisation of group work: the INVOLEN Work Units

It is recommended to start the intergenerational activity from the identification of skill needs of the participants. Sample questionnaires for this task are included in the Learning Guide, the document which accompanies the Toolkit and is a necessary compliment for the facilitators. The facilitators are responsible for the overall scheduling and monitoring of the intergenerational group, co-ordinating the meetings and adjusting the pace of the activities to the needs of the participants. Here we provide some guidance for the planning of the meetings, which are organised in "Units". The Units are not necessarily defined according to a sequence in time, but offer some indications about possible scheduling of the activities of the work programme. The units briefly describe the activities to be performed during the meetings, as well as the desirable outcome of each unit.

Unit 1.

Group meeting of facilitators, volunteers, and a nature conservation expert: one indoors meeting. The facilitators discuss with the volunteers the schedule of meetings and the learning content, and consolidate the results of the planning meeting; an introduction by the environmental conservation expert provides information on the protected area selected to focus on, including conservation techniques and challenges to volunteers about enhancing the protection of the site.

Unit 2.

Field visits and conservation activities: 1-3 Field visits. A series of field visits of the group to the protected area can take place in the early meetings of the group. This can help the participants to bond and draw inspiration from the environment where the game will be located. Visits can be combined with volunteer conservation activities and audio-video material collection (photos, videos, sounds, background information) that will be used as content for the INVOLEN game. It is highly recommended for the group to have an on-site playtesting of the game at a later stage. This Unit spread across other Units, especially Units 5 and 6.

Unit 3.

ICT-training: 1-2 indoors meetings: This is an introduction workshop on how to use the selected open source game design platform for the production of the INVOLEN game. The workshop may be led by facilitators or experts. The group should have access to computers and a handheld device for practical work and exercises.

Unit 4.

Intergenerational learning and seniors' stories documentation: 1-2 indoors meetings. At least one meeting for facilitating the narration of stories/experiences from the older participants is necessary. The stories should be linked to conservation issues in the protection area selected for the game. A database of stories compiled during the pilot implementation of the INVOLEN project is available at the INVOLEN website:
<http://involen.eu/en/learning-tools-resources/stories-from-elders>

Unit 5.

Scenario building: 1-3 indoors meetings. The group assess the stories/information documented in the previous meetings and selects 3-4 stories that can be combined with field-based practical conservation activities, leading to the design of the game. The group selects the stories or part of stories that find most inspiring and create a draft storyboard for the game. The storyboard is enriched with practical conservation input, based on the experience of the group during one or more of the field visits of Unit 2.

Unit 6.

Game development: 2-5 meetings. This unit involves access to computers and handheld devices connected to the internet. The game development process can be facilitated by the ICT expert of the group and can be finalised through homework by the students while being monitored by the facilitators online. It is suggested that the group plays the game in the field before finalising it and discusses with the facilitators and experts the results and experience of the learning process.

