



## **SenApp - Seniors Learning with Apps**

Final Report

Public Part

## Project information

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## Executive Summary

This report is addressing the public interest in the approach, results and achievements of the SenApp project.

The project SenApp – Seniors Learning with Apps - developed a training app for older people who are interested in and able to acquire or further develop their competences in Information and Communication Technologies (ICT) using Tablet-Computers. The App is a Web-App that is available for free in the GooglePlay Store, <https://play.google.com/store/apps/details?id=com.smartrade.senapp>.

SenApp aims at optimally supporting seniors in the process of accessing and becoming involved in the information and knowledge society, by applying the well-proven formula of using ICT as a learning medium as well as a learning content.

The main target group are people with no or unsystematic and very fragmented ICT-knowledge who would like to participate fully in the knowledge and information society as well as in the social web.

During the project phase of SenApp, a flexible and accessible Training App as qualification course was developed, tested and evaluated that is coherent, tailored, and pedagogically adapted to the needs of older learners. The Training App is adapting learning materials provided on an online learning platform that works as the basis of the SenApp course organisation. Materials stored at the online platform are downloadable by the App and thereby also available offline.

In order to cope with the diverse impairments and disabilities of seniors, special focus is given to multimedia elements such as videos, demonstrations, audio-visual elements and interactive exercises. Many of the learning units are video enriched.

The very complementary partnership is one of the main strengths of the SenApp project. E-Learning specialists worked together with seniors' organisations actively engaged in the field of ICT-training for seniors and developed a flexible and accessible online learning approach for senior citizens. The training concept and materials are in the follow adapted to the variety of learning cultures and settings reflecting the manifoldness of the European educational and cultural tradition.

The pedagogical concept for SenApp is based on a learner-centred approach and reflects key andragogy principles. The model is focused on the smooth and meaningful integration of the key aspects of: Learning goals, contents, e-didactics, technology, support and evaluation. Moreover, from a didactical point of view the main focus of the approach lies on experiential, active learning integrating pre-knowledge, interests and need of individual learners.

**Awakening interest:** by showing the potentials of an effective use of a tablet, the Internet and Social Media, as well as the high potentials.

**Reducing apprehension:** there are still significant concerns among seniors about using ICT. These tend to be based on worries about being able to cope with these new tools and environment, and fears for safety. SenApp is dealing carefully with these issues by showing the possibilities, supporting effectively and trying to give answers to raised questions and fears.

**Focusing on the needs:** A training app based on a learning management system is being developed respecting the needs of computer and internet beginners and older learners. The web classroom obeys to the rules and principles of accessibility.

In total 25 learning units are being produced in four different languages and are created according to the needs and interests of the mature learners. The segmentation of the content is adapted to the seniors' learning pace and attention span. The modular course concept

makes it possible to choose and aggregate a variable number of learning modules into one course, to respect prior knowledge, demands and preferences.

During the project lifetime, the SenApp App was developed and piloted. Before that, a first version of the basic course was tested. After the testing was finished the testing evaluation reports were used for improvements on the course structure and for technical problem solving. A piloting phase was done in all four partner countries. In Germany and Spain, the SenApp course for iPad was piloted using the online platform. In France and Romania, the SenApp App was used for the pilots.

In the last phase of the project, in parallel to the development and piloting activities, the SenApp consortium strengthened all activities towards a long-term running training offer. The main aim of the project was to develop and establish a training App that is sustainable, and can be integrated in the work of partner organisations and additional ones. Besides this the partners developed different scenarios for the use of the SenApp training approach and learning materials, e.g. SenApp as a support to in-classroom training activities or to support family relatives to help Tablet and Internet newcomers to develop skills and competences. For iPad users the SenApp course is established as an online course, based on responsive design of the materials to provide the best fitting environment to the learners. For Android the app concept works similar, but with the advantage of additional offline use.

If you are interested to know more about SenApp, please visit the project website [www.senapp.eu](http://www.senapp.eu). In the category "Courses" you will find information about SenApp offers available in your preferred language. For further information contact: [info@senapp.eu](mailto:info@senapp.eu).



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# 1. Project Objectives

The project SenApp - Seniors Learning with Apps - aims at developing an App to train seniors in the handling of tablet-computers in a competent and self-directed way. With the aid of SenApp, seniors will be able of taking advantage of the Internet and its communication and social facilities in a self-directed and competent way.

The project focuses on the need for e-inclusion of senior citizens in Europe. Seniors are still very much under-represented when it comes to competent and self-directed use of ICT. The digital divide still concerns, to a major extent, the older population.

In the scope of this project an open educational environment for a highly heterogeneous target group is being developed and implemented, which allows senior citizens independently from their previous knowledge, learning experience, socio-economic situation and age-related impairments to learn how **to access the Internet for information, knowledge and social exchange**. In this way the project stands for an open and liberal education. The project supports a non-formal training approach, which is grounded in motivation and support of each of the course participants. The highly personalised learning environment makes it possible for nearly everyone to qualify for accessing the Internet and use the Internet in a competent manner. Additionally, SenApp supports learners to share their knowledge and experiences. The project promotes the participation of senior citizens in learning activities and in the information and knowledge society.

The primary output of the project is a mobile learning App – the Sen-App - in four European countries. The training App has the goal to match the very specific needs of the highly heterogeneous target group of senior citizens. It motivates seniors to engage in the digital society by accessing the digital world with the very popular, less expensive and easy to handle tablet-computers (IOS and Android system). Tablet-computers can cope best with age-related impairments such as visual, hearing, sensory, and motor impairments. Tablets are a great opportunity to support seniors to access the Internet in a fast and personalised way. For technical sustainability reason the Web-App was developed for Android devices, not for iPads. The learning materials are prepared in a responsive design approach so that these can be used with iPads as well as with Android devices. The advantage using the Android-App is the ability of offline learning. Since most of the exercises of the learning units are related to other apps, needing an internet connection anyway, this fact does not influence the performance of the course at any stage. It even enriches the community aspect of SenApp as the users are online while working through the SenApp course materials and can start online conversation somehow by the way, e.g. by using the SenApp forum or writing an e-mail to the tutor. By this, fear from the unknown (=internet in this context) is getting reduced, which was one of the overall goals of the SenApp project idea.

The project brings together organisations, experts and researchers from different European countries that use their “collective” knowledge and expertise to develop a unique and most innovative qualification programme for senior citizens. The outcomes – a Tablet-PC based training programme, a training app, a training content, supporting didactical materials, a tutors’ training and implementation guidelines - are of high quality and an example for the potentials of ICT for the training domain and the target group.

The project aims at providing innovative content and delivery for adult education. It tests and pilots a unique qualification approach for learning in later life using innovative concepts and methodologies. The project is showcasing how innovative and engaging training in the scope of life long learning can be.



SenApp is being developed as a non-formal training course, i.e. it has a pre-defined curriculum with respective multimedia didactical elements but it is used in a self-direct way. Self-assessment is used for supporting the learners assessing their skills and competence development.

The training concept and environment make it possible to integrate previous knowledge and expertise of the senior citizens, it guarantees for a flexible and personalised training integrated in a social learning context. The project applies the well-proven formula of using ICT as a learning medium as well as a learning content.

## 2. Project Approach

The methodology used in SenApp project is based on a **research and development driven user centric approach**. The ideas for development emerge from the community and aim at designing and developing concepts and products that satisfy concrete user needs. The intensive involvement of the researchers, stakeholders and users in the process is the key for success. In the first phase of the project, a methodological concept was elaborated for the design and development of the pedagogical framework for the training App and its learning contents as well as for the innovative technical environment (the training App based on a mobile learning and management system).

The pedagogical concept followed the basic principles of andragogy (Knowles, 1970, 1984, 2005), in-line with those open learning environment that obey to the principles of adult learning. Andragogy has been defined as the art and science of helping adults learn and the study of adult education theory, processes, and technology to that end. Knowles' theory is focused on the development of a set of assumptions and principles that reflect specific aspects of adult learning. Knowles defines adult learners as independent and self-directing, i.e. learners that have accumulated a great amount of experience, which is a rich resource for learning.

**Andragogy** provides a set of **principles** to encourage adult learning. These are summarized, as follows:

- Learning situations are seen as directly relevant to the real world.
- Learners need to know what they need to learn and why.
- Training experiences have to be aligned with the learner's own goals.
- Learning supports the learner's own sense of self-respecting individual differences.
- Learning situations provide intrinsic motivation.
- The learners are self-directing: they set their own agenda and learning path; assess their learning experience.

The foundation of Knowles' principles is the perception of learners who recognize the relevance of learning, and take the initiative as well as the responsibility for their own decisions in the learning process. The learner is able to diagnose his/her learning needs, formulate learning goals, identify resources for learning, select and implement learning strategies, and evaluate learning outcomes. Andragogy underlines the importance of supporting the learner to become a competent and self-directed learner, which implies the development of learning environments that guide and support the learner in his/her learning process without taking away learner control. This creates two **key issues** for the design of learning environments for adult learners: (a) *learner context* linking learners' experiences and contexts of action with the learning process; and (b) support in terms of *scaffolding*, which assists learners in reaching levels beyond their current abilities.

The **Connectivism** theory (Siemens, 2005) further inspires the realisation of the training environment for supporting socialisation and sharing of knowledge and experiences within the peer groups and outside the training environment.

The technical development followed an agile engineering development approach that made it possible to develop the training environment inline with the learner pedagogical and technical requirements.

SenApp has a clear and detailed work plan that guaranteed the achievement of its challenging aims. The project was divided in four development phases (project life cycle) with respective milestones:

**M1-M6: Preparation & conceptualisation of the training environment and training App**

Results of this stage are the pedagogical and technical concept including user engagement, training curriculum, apps design and evaluation strategy.

**Milestone 1: Pedagogical and technical concept**

**M4-M16 Development.** This is the core phase of the project. The e-learning environment and training Apps (with all didactical elements) will be developed and localised to the respective countries and organisations. This phase requests a high level of iteration between consortium, senior organisations and potential senior trainers as well as seniors.

**Milestone 2: Ready to use training (app)**

**M12-M21 Testing, Piloting & Evaluation.** This is the exiting phase of the project. The training will be piloted in the four participating countries.

**Milestone3: Evaluation of the training and contents**

**M21-M24: Reflexion, conclusions and follow-ups.** Lessons learnt, results achieved, fine-tuning of the training Apps and mobile learning environment and - as primary aim - ensuring sustainability for the project outcomes.

**Milestone4: Ready to adopt Sustainability concept**

A peer review strategy is applied from the conception to the implementation phase. Consistent quality management is of considerable importance and a major focus of the project.

### 3. Project Outcomes & Results

At the end of the SenApp project lifetime, the following results can be reported:

1. **User needs analysis:** Identification of the learners' needs in terms of interests, ICT-skills, technical infrastructures, time availability. The results of the user needs analysis have been reported in the document "User needs analysis".
2. **Training App concept:** A modular e-learning training concept to cope with the needs of the large and heterogeneous group of seniors has been developed.
3. **Didactic concept:** delivering the content using different media (text, audio, video, demonstration and interactive exercises) to support seniors with different disabilities and impairments to participate in training in an optimal way.
4. **Learning units:** In total, 26 topics for a total of 125 learning units have been developed in four different European languages (see the SenApp curriculum, <http://senapp.eu/index.php/en/courses>). The learning units are enriched with a variety of multimedia elements. The units are available through the Android-App in four languages (German, French, Spanish and Romanian; English was used as exchange and dissemination language). However, this can be just a start, since the underlying didactical concepts can be used to develop further units in the field of ICT as well as in other fields.
5. **Basic Course:** The Basic course aims at providing relevant knowledge and skills for the proficient use of a tablet. Seniors get an introduction to the use of a tablet (iPad and Android device). With hands-on support, they learn the basics of the tablet and how to use it to browse the web, use email, download apps, watch video, take pictures, connect online and more. The basic course is appropriate for absolute beginners.
6. **Advanced Course:** The advanced course aims at providing all relevant knowledge and skills for the competent and self-directed use of a tablet and taking advantage of a variety of apps. Seniors build on the knowledge acquired in the scope of the basic course and develop the necessary competences to use tablets and access all media in a competent way. They are able to cope with new versions of the devices and new technology developments in the future. The advanced course is appropriate for persons with basic knowledge, who have attended the basic course or already acquired some basic competences.
7. **Training App:** SenApp aims at combining the app approach with a standard Learning and Management System. The Android-App has a simple user interface with a consistent and flat navigation and on the other side it accommodates common functionalities of a learning and management platform. It is available for Android devices at GooglePlay Store for free, <https://play.google.com/store/apps/details?id=com.smartrade.senapp>.
8. **Evaluation concept and instruments:** An evaluation plan and instruments are developed to define the evaluation aims and instruments for assessing the training and didactic concept, the training materials and the app learning environment and the added value for the participants.
9. **Exploitation plan:** The Sen-App exploitation plan consists of measures for transferring successful intermediate and final results and outcomes of the project to appropriate decision-makers on local, regional, national and European level and to motivate individual end users to get involved in the Sen-App project. A very important aspect in the exploitation plan is to involve further educational and senior

organisations. Additionally, an IPR agreement and licensing approach has been done.

**10. Website and further dissemination materials** have been produced in order to provide sufficient information about the project to potential learners, other interested individuals and organisations as well as to decision-makers.

All reports and documents are available online at the [senapp.eu](http://senapp.eu) website.

## 4. Partnership

The SenApp Consortium includes four partners from Germany, France, Spain and Romania.



**Institut für  
Lern-Innovation**

[www.ili.fau.de](http://www.ili.fau.de)

**The Innovation in Learning Institute (ILI)** at the University of Erlangen-Nuremberg is the coordinating institution of the project SenApp. In its research and development, ILI focuses on innovation processes in lifelong and lifewide learning and teaching in a systemic perspective. ILI contributes, with its research, to improved insights into learning processes, their framework conditions and impact, particularly with the influence of rapidly and pervasively changing societal and technological processes (e.g. demographic change, globalisation and mobility, individualisation and value change, technological innovation, ways into knowledge society).

ILI designs and develops methods, tools and subsystems that can initiate and support the implementation of learning systems for change. ILI transposes these results into innovative offers for learning and skills development that are sufficiently large and visible to allow the transfer of their successful elements to a broad societal application.



[www.e-seniors.asso.fr](http://www.e-seniors.asso.fr)

**E-Seniors** is a non-profit non-governmental organization, founded in 2005 by Monique EPSTEIN, its present general manager who holds a degree in computer science. E-Seniors aim at fighting e-exclusion by providing access to and training in ICT to seniors and/or disabled people. Its main objectives

are:

- Shrinking, and where possible, bridging the digital gap between generations,
- Caring for elders by fighting seniors' isolation,
- Opening new horizons for efficient use of free time.

Since its creation E-Seniors have provided courses on ICT usage for seniors in various public locations and is constantly opening new locations all over the region in order to provide a "proximity" service which takes into account the rhythm, interests and needs of its potential audience.



**UNIVERSITAT  
JAUME·I**

[www.mayores.uji.es](http://www.mayores.uji.es)

**Universitat Jaume I (UJI)**, founded in 1991, is a public funded centre for higher education and research. Its aim is to promote the social, economic and cultural development of its community through the creation and transmission of knowledge. It has three faculties – Law and Economics, Humanities and Social Sciences, Health Sciences – and a School of Technology and Experimental Sciences. As well as its other Institutes and services, the UJI also has the Senior Citizens' University (SCU) a specific programme for senior citizens (over 55 years old).



[www.gie.ro](http://www.gie.ro)

**Grupul pentru Integrare Europeană (GIE)** was created in 2002.

Its mission is to contribute to EU integration process through educational activities, professional training and cultural activities.

GIE has 28 full-time and part-time employees and implements a large spectrum of activities, namely: LLL and VET theoretical & field

research, analysis, data processing, comparative studies, development of LLL and VET strategies & methodologies. GIE's activities also focus on curriculum design, educational materials development, didactic evaluation, process assessment, elaboration of dissemination materials. GIE accredited, through National Authority for Qualifications, a series of professional courses and became a training provider known within the Argeş region.

Key Characteristics of the Partnership:

**Research and knowledge** in the field: The academic partners (ILI and JAUME I) have both a very good record on research dedicated to learning in later life, and also with learning in later life supported by ICT.

**Experience:** All partners involved have an excellent record on the topics "learning"; "learning in later life"; "ICT for seniors"; „technology supported learning". Two partners (eSeniors and ILI) have already experience with Tablet-PCs for seniors. All partners are very experienced with the development, implementation and management of European projects. This is absolutely crucial in order to work effectively and produce high-value outcomes.

**Expertise:** All partners involved have proven expertise in the fields covered by the project

**The national need** of the countries they represent: In the four represented countries, the need for a better e-Inclusion of seniors is still an urgent topic in the political agenda. The need is a very concrete one. Countries such as Germany and France have already undertaken some efforts to develop initiatives to support a better e-inclusion, but still the statistics of seniors and competent ICT use are unsatisfactory. More has to be done. In countries like Romanian and Spain the numbers for ICT use and seniors are very worrying.

**Complementarity** of the consortium: the project requests a partnership with profound expertise working with the target group, training and teaching expertise, ICT development know-how and good project management skills. All this characteristics can be found in the project consortium.

In addition, the **good cooperation experiences** the partners share with each other. All partners collaborated already either in projects or in project proposals.

## 5. Plans for the Future

The use of ICT demands a high number of performance skills, which can only be acquired and further developed if older people are supported in an effective and individualised way. In this sense, the SenApp project has very high potentials to become a sustainable project after the project is finished.

In addition, this was the key aspect for work along with the further development and completion of the project outputs.

The long-term aim of all activities was to establish a self-running, self-sustaining training app approached used by seniors all over Europe in order to support them in the acquisition of ICT-competences for experience the opportunities the information and knowledge society can provide, thus enhance their quality of life.

Besides all testing, piloting and evaluation activities that were in the focus of the second year of the SenApp project, the project partners will continue intensively to work on the promotion of the SenApp project and ensure its sustainability. Therefore, a certain degree of visibility and popularity of the service among the addressed target group is necessary. This shall be reached by intensifying the following activities in particular:

- Cross-linking information about SenApp to as many web-presentations of institutions working with seniors (e.g. adult learning centres, ICT courses for seniors, regional, national and European senior associations, libraries).
- Presentations of the project, the service and the results at regional, national and European conferences and workshops.
- Newspapers and magazines, TV and radio channels, some of them very interested in the demographical change and the matter of an ageing society, will be contacted and animated to report about the project.

All technical developments are open source and open content (licence type: CC-by-sa 4.0) and therefore available for all organisations planning to develop similar educational environments.

Methodology and evaluation reports will be published in order to contribute to the further development of eLearning-based educational programs for senior citizens.

In addition, the partnership is committed to continuing the offer of the training app and training materials for the older people and, if not all outputs developed in the project can be implemented by all partners, at least the developed pedagogy and the course will be used in the long run, and so will the training app and the materials.

As part of the SenApp strategy, further modalities are examined, under which the consortium partners can continue to offer the learning opportunities as a continuous service, for instances:

- The learning materials can also be used to complement face-to-face training activities focusing on the same topics.
- The concept is primarily been developed for group learning, but it can also be used to assist individuals in self-learning activities.
- Additional learning units either also focusing on ICT or on every other topic, can be developed based on the same pedagogical and didactical concept.
- The materials can be used in different learning environments online or offline.

All partners will feed their networks with the project outcomes. Most of the project partners are looking for additional partners in their respective networks. The new and innovative results of the SenApp project will lead to higher attractiveness of their already existing networks and can, in this way, contribute to a wider exploitation of the project outcomes and its long-term sustainability.

## 6. Contribution to EU policies

How the SenApp outcomes are going to be further used after the project lifetime will depend on the one hand, on organisation development matters of the participating institutions, and on the other hand, given the fact that e-inclusion is one central topic of European education policies, it depends on the further active engagement of the European Union in this topic. It has been recognised for some time that the future of Europe will in part be determined by the role played by new technologies in achieving goals like – economic competitiveness; social justice; an inclusive society - set by the Europe 2020 digital society goals and similar policy initiatives. E-inclusion is crucial for Europe's future for a number of reasons. In economic terms, the EU's competitiveness will be affected by things like the market penetration of ICTs and the creation of new markets for e-services. In turn, social cohesion and a vibrant, multi-cultural and inclusive society will be supported by active citizenship and a strong participation culture. The policy initiatives designed to promote active citizenship and participation – based on e-government and e-democracy – assume a high level of ICT use by citizens.

E-inclusion is a problem for a significant number of European citizens and especially for the older generations. This is reflected by the targeting strategies adopted by e-inclusion policies and actions, which focus particularly on young people; older people; women; people with disabilities.

The project SenApp addresses the topics e-inclusion and digital competence. It promotes the development of ICT-literacy and competence of older Europeans in order to advance their integration into the knowledge and information society. The application of a modern, easy-to-handle training app supports the digital inclusion of seniors and prevents social isolation and dependent living. Self-confidence and self-assurance are advanced, and the digital gap between the generations will be diminished.

In addition, SenApp addresses the Lisbon Education and Training Indicator, "Making Learning more attractive", because the need of life long learning opportunities for seniors is a relevant and current topic in all European countries. Numerous psycho-gerontologist studies have proven the positive effects of learning in later life for the maintenance of physical and mental health; for instance, the WHO model of healthy life identifies activity and education as core factors of prevention from age related handicaps. Despite these findings, customised learning offers for seniors addressing also relevant and motivating topics are very rare. By developing a customised e-learning environment for the topic of personally experienced people the project definitely contributes to increase the participation rate of seniors in education and prevents e-exclusion.

Moreover, the LLP Horizontal Policies "promoting an awareness of the importance of cultural and linguistic diversity within Europe" are addressed by the project.

The project SenApp addresses female and male persons, persons from different countries and of all racial and ethnic origins, religions or beliefs, sexual orientations or disabilities in the same way. In all materials and communication to target groups, a neutral symbolic and language has been used. Every person with its personal experience and background will get the same attention and respect.

SenApp is tackling a topic that concerns all European countries, and if it is only viewed from a national perspective, the point of view stays limited. In the SenApp project, we try to overcome national and one-sided perspectives.