# SenApp - Seniors Learning with Apps

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# Change log

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# 1. Introduction

The technical concept in SenApp is one of the deliverables of “WP3: Technical development and implementation”.

D3.2, the technical development, is a prominent work package in the SenApp project. In the scope of the work package core aspects of the project are analysed, developed and implemented, always taking into consideration the target group of the project (seniors), the economical restrictions (budget and necessity to use open source solutions), and the sustainability of the developed products.

The technical concept is being developed by taking into account the very specific situation of the project aims, products to be developed, authoring approach and target groups that have to interact with the system. The basic software for the training and mobile learning platform was chosen and will be adapted. Also, the content development software has been chosen and the authoring process (work flow) will be settled from a technical perspective. Additionally, the interfaces between training and learning platform (an adaptation of an OpenSource e-Learning management system) and the training App were designed and implemented.

# 2. Requirements

From a technology point of view the consortium had to take decisions regarding three central aspects. For this reason a set of requirements on the technology were collected and are listed here:

## The Authoring Software:

The authoring software is crucial for the development of high quality contents. The central requirements here are

- support the development of learning units in a distributed partnership
- support the localisation process
- responsive design
- interactive exercises
- export to different platforms
- adaptation to user needs with high localisation demands
- support video delivery

## The Learning Management System:

As stated in the SenApp proposal the project integrates a standard Learning Management System (LMS) approach with an app approach. Therefore, the choice of the LMS is crucial. It requires

- good functionalities,
- good usability aspects,
- responsive design to cope with the different mobile devices that can be used in the scope of the project
- integration of learning materials and multimedia elements
- flexibility, easy maneuverability,
- user tracking,
- communication facilities,
- availability in all project languages.

## The App–approach:

The requirements on the App-approch are multiple

- friendly interfaces, with a high degree of intuition
- flexibility, easy manoeuvrability,
- for Android,
- for IOS
- integrating functionalities from the LMS,
- combining online and offline modes
- easy to get on the of the learners desktop

# 3. Solutions

In the follow the foreseen solutions are presented. Possibly some of the presented solutions may be changed in the course of the project. Testing outcomes as well as technical developments have an influence on the technical solutions.

## Authoring Software

Different types of authoring software were analyzed and tested in a hands-on approach performed informally by ILI and GIE.

As a first step, the partners decided to use the Adobe-Captivate software version 8 since:

- It includes responsive design and supports mobile learning solutions.
- It allows for the development of interactive exercises.
- Outputs can be exported to different systems.
- It can also generate stand-alone learning units as learning apps.
- It is affordable (but unfortunately not for free).
- It has a SCORM interface that allows for integration into an LMS.

After pretesting phases some technical disadvantage was indicated due to the use of Adobe-Captivate in the context of SenApp. So the consortium decided to rethink the authoring software choice and finally came up with a common solution. The modules already existing were rebuilt as ILIAS-learning modules directly on the platform. As it worked very well further modules were created with this tool as well. A big benefit from this change was that with this

- communication between displayed context of the modules and the platform was even a bit faster than with Adobe Captivate.
- the authoring tool was now online and embedded into the platform (or at least easy adaptable to common author tools)
- the authoring process was done with open source, so every partner could participate without any additional costs.

## Learning and Management System

The partners decided to use here an ultra-calibrated e-Learning platform, already validated by the practice of an as large as possible number of users.

Additionally, due to the high level of technical adaptations the partners had to rely on known platforms.

For this reason the partners decided to use the open source platform ILIAS version 5 (www.ilias.de), since

- In the latest version it is based on responsive design, thus it is well designed for mobile learning
- The user interface can be easily adapted to user needs and requirements
- The user interface design is simple, flat and intuitive
- It included the necessary communication functionalities
- It has a SCORM interface
- It included tracking functionalities
- It allows for the set-up of a variety of user roles and respective user interfaces
- It includes testing and assessment facilities
- Multimedia elements with high data volumes can be easily embedded
- It is available in all project languages
- It includes an eLearning development kit that was used for authoring, creating, and developing
- It has import as well as export functionality of the learning modules into html

# App Concept

The project developed a Web-App approach, based on the Learning and Management System. The testing was based on this development. This is especially important to respond easily to the requirements of IOS and Android systems and avoid long and complicated app releases for the IOS system. The Web-App approach also allows for constant updates and changes along with the new requirements and feedback that arise as the platform is used. In the second phase the project developed a hybrid-App, which combines online and offline elements, thus it can easily be easily used on mobile devices with low web-data traffic.

# 4. Summary and follow-up

This very technical concept of SenApp describes the technology foundations. Much of the development took place in an interactive process while pedagogical and didactical concepts evolved, and feedback as well as evaluation results came from the field. Thus this document constantly evolved during the project lifetime. This is the secound, but last version of D3.1. The main technical concept is also decribed in the scope of the implementation guidelines as eBook (see D8.2).