AMBIENT ASSISTED LIVING, AAL

JOINT PROGRAMME

ICT-BASED SOLUTIONS FOR ADVANCEMENT OF OLDER PERSONS' INDEPENDENCE AND PARTICIPATION IN THE "SELF-SERVE SOCIETY"

Entrance WP5

Delivery 5.1 Gameplay & scenario document

Project acronym:	**ENTRANCE**
Project full title:	**ENabling elderly people TRAvel and iNternet acCEss**
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1 PRESENTATION

Why a serious Game?

A Serious Game has several advantages; it can:

- place the learner into a simulation of his professional environment ;
- act as a person involved in his training and lead him to take decisions ;
- enable a training course based on a personalized pace and provide him with advice if needed
- challenge him regularly and let him discover the right answer on his own before helping him ;
- easily update contents (text, image, video) and adapt and expand the virtual environment accordingly;
- support remote access via the Internet and a local computer ;
- Keep track of the learner's progress through the serious game (strong and weak points, skills to consolidate, risks to manage) and send results to a LMS platform.

2 GAME PLAY & INTERFACE SPECIFICATIONS

2.1 Game play

2.1.1 Home platform update: touch screen impact

then:

- *no mouse right click*
- *no mouse double click*
- *no finger moves*

no zoom with 2 fingers … (e.g., as older adults might be overchallenged with zooming)

2.1.2 Point of View: Avatar 3D or first person view?

There is 2 sort of view use for SG : first person view (example : fps game) or third person view by using Avatar (example : TombRaider).

Avatar 3D	First person view
	

Conclusion:To improve the immersion into the SG world, it was chosen to use the ***First person view.***

Note: It will not possible to user to move his point of view (moving his head, looking up or down) because it will be too difficult and disturbing for non accurate users.

2.1.3 Moving into SG

There are 2 possibilities for the user to move (walk) into the SG: moving by choosing the location or moving dynamically.

- *Moving step by step, by choosing the location.*
  - *The user clicks where he wants to go. After clicking on a place on the screen, the point of view is updated and recalculated to display the view from the chosen place. For Example: GoogleMap, Myst,etc.*
  - *Then there are 2 types of animations that can be displayed when the player is moving to the next point of view: "with walking animation" or "with fade screen". Fade screen animation. Like and PowerPoint animation to fade in/out first picture and last picture.*
  - *Moving interaction : this kind of moving need step by step actions (click => action 01, clicks => action 02,…)*
- *Moving dynamically like walking animation:*
  - *the displayed point of view is updated at each frame when moving to the next location. Example: Tomb Raider, Doom, Zelda…*
  - *moving interaction : this kind of moving need* dynamic-movements from mouse or keyboard

Location	Moving dynamically
	

Feedback from WP2 requirement :

- Walking animation will be used because it's more understandable by our target older adults.
- Feedback: Using dynamic-movements could introduce some difficulties and stress for older adults because it needs game play learning and good reflexes It can also be quite tiring, especially if the user makes mistakes and needs to go back, etc.. Example: fps, Zelda, GTA, etc.

Conclusion: "Moving with location" was chosen. We add functionality to display an destiantion arrow to show to user where he has clicks and where he will go. Example see fig 1.

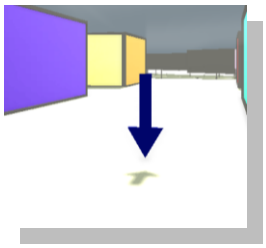


Fig 1. Arrow destination into Serious game

2.1.4 Device used for navigation:

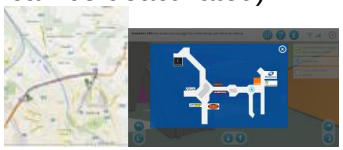
It will be possible to move by using:

- mouse : by clicking to arrow
- tactile screen: it offered possibility to click where user wants to go direct on the screen

To conclude user will have 2 methods to navigate into the Serious Game

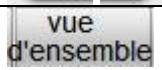
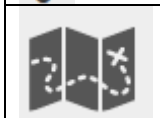
2.2 Interface

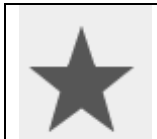
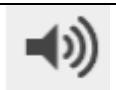
2.2.1 Dashboard

Interface Area	Description	Always display or Open/ close panel by clicking	Icons into interface
Scenario description	• scenario's name • Scenario's description • List of tasks	Always displayed	
Map (localisation, route, checkpoints)	• Map used during the scenario. (It can be deactivated) 	Open/close panel	
Connection with the device	• Display panel with ○ Connection with the mobile device  /   ○ Change font size ○ Contract for navigation buttons	Open/close panel	 => 
User's progress	• List of Checkpoints • Checkpoints state (ok or not) • Replay scenario from the beginning	Always displayed	

			3 states:  = done  = in progress  = to do
Help	• Indication to next location or checkpoint in the 3D model • Display location on map • List of pictograms used for SG and mobileApp with description • Display tutorial	Open/close panel	
@	• Display mail contact for an Entrance-person • Display phone number contact for an Entrance-person	Open/close panel	
Home	• Back to menu (selection scenario)	Open/close panel	
Replay scenario	• Replay the actual scenario from the begining	Always displayed	
Close	• Close the SG • Back to Windows8	Always displayed (with waring box: “do you realy quit the game”)	

2.2.2 List of pictograms/ Glossary and access to tutorial

Pictogram	Title	Pictogram	Title
	Wifi connection		
	G3 connection		
	Battery		Zoom in Zoom out
	Time		main view
	Home		Details
	Zoom		direction
	Help		Choose a location
	Visites		Look at the map
	Position		Start
	Car		Go inside

	Favorite		Go shopping
	friends		Close
	configuration		Radio
	Tv		Favorite

Note: the mobile device is never displayed in the SG

2.2.3 Interface description

Arrows are add to allow user moving font or back and turning 30° or 180°. Each left and Right arrows turn the point of views up to 30°.See fig.2

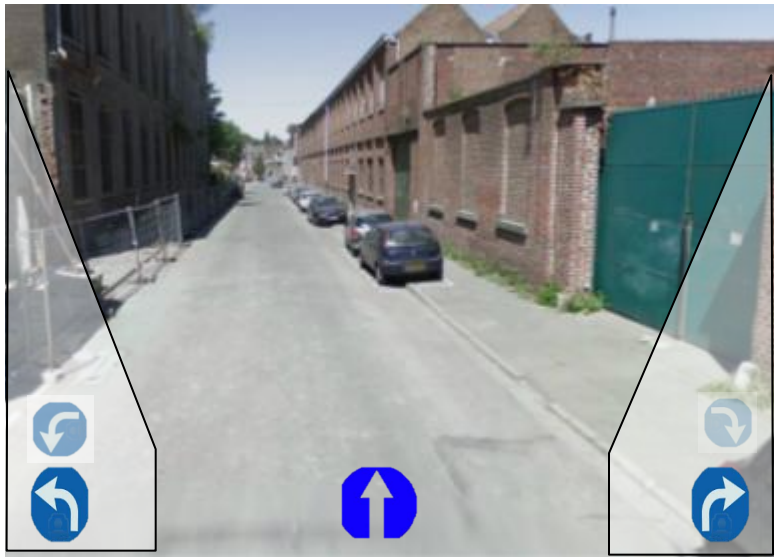
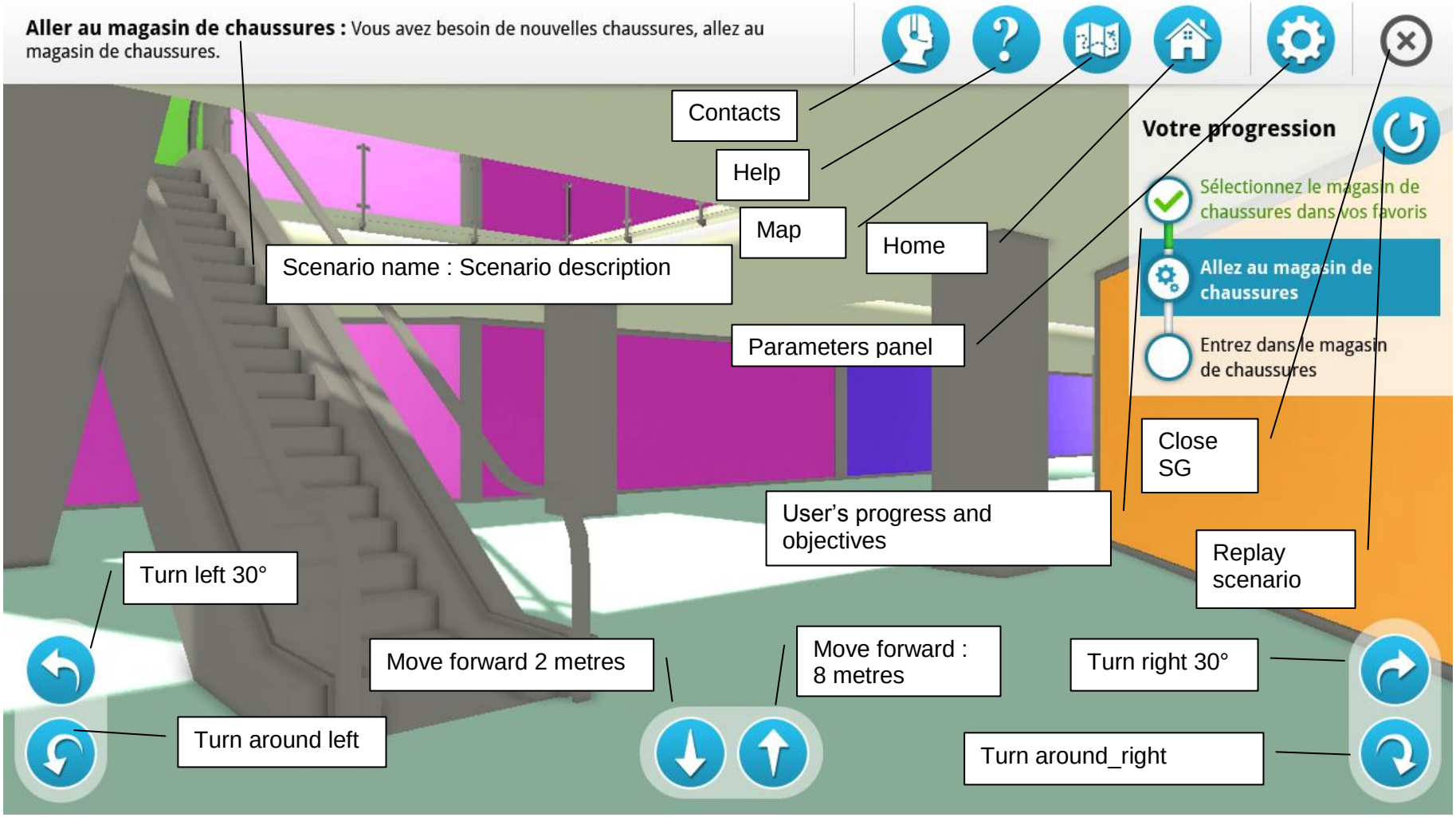


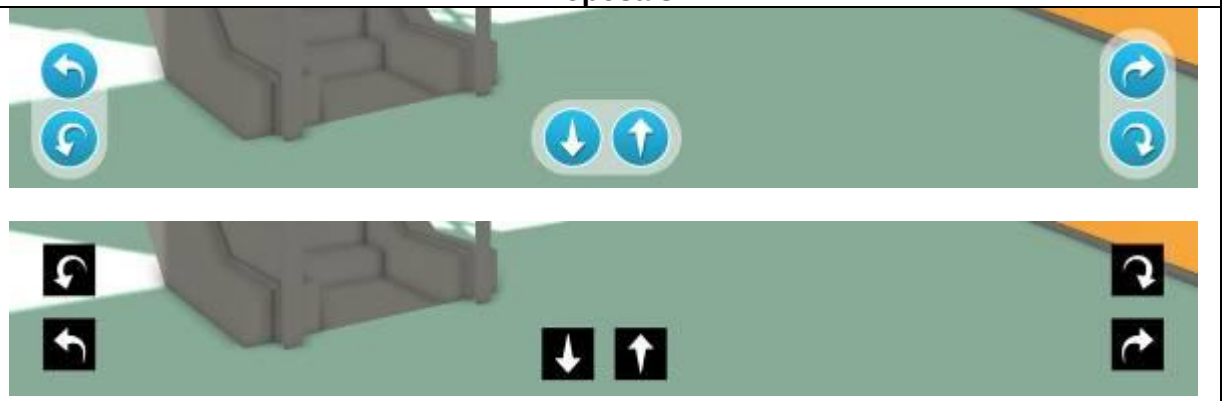
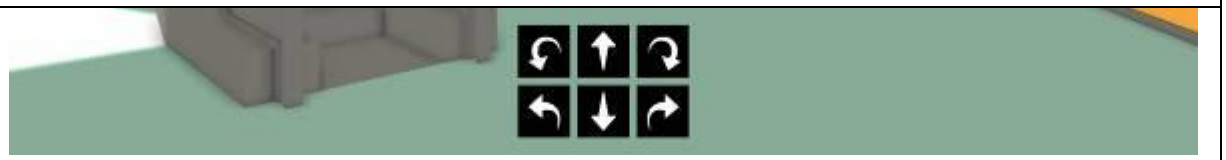
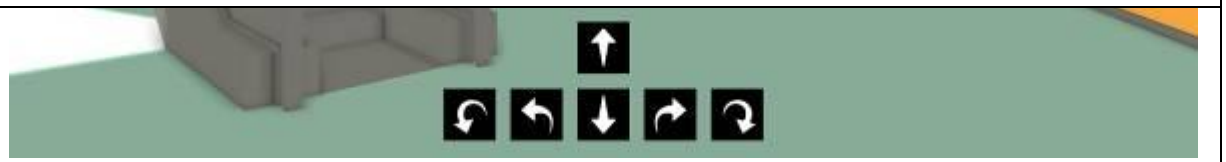
fig 2 interface buton conception

Ergonomic must keep in mind that this kind of move is forbidden

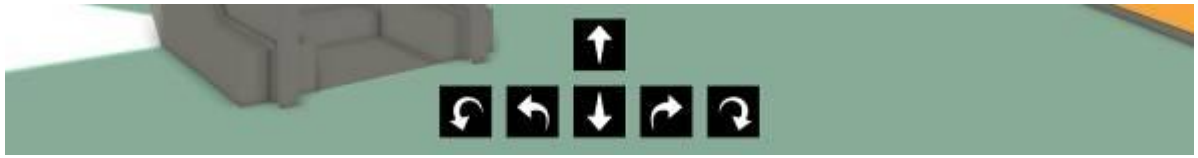
.


Aller au magasin de chaussures : Vous avez besoin de nouvelles chaussures, allez au magasin de chaussures.
Contacts
Help
Map
Home
Scenario name : Scenario description
Parameters panel
Votre progression
Sélectionnez le magasin de chaussures dans vos favoris
Allez au magasin de chaussures
Entrez dans le magasin de chaussures
Close SG
User's progress and objectives
Replay scenario
Turn left 30°
Move forward 2 metres
Move forward : 8 metres
Turn right 30°
Turn around left
Turn around_right

2.2.4 Moving icons: graphic and display proposal

N°	Proposals
1	
2	
3	

Conclusion: Regarding WP2 worshop this interface (see fig 3) is the most adaptated

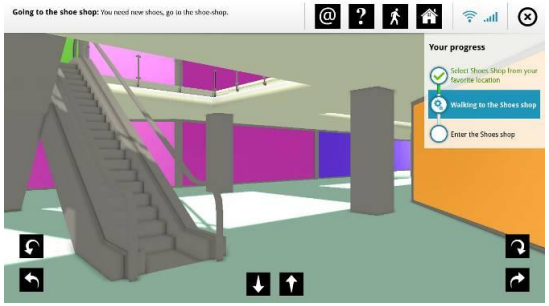


Fing. 3 : navigation buton interface proposal

2.2.5 Graphical charts propositions

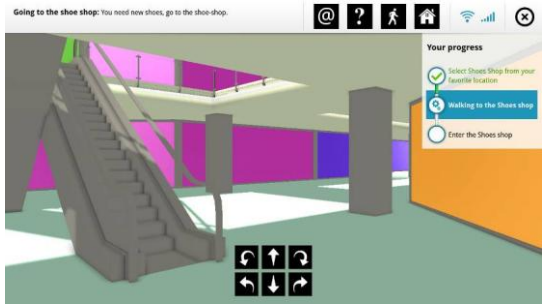
Graphical charts 01 – Blue with bouton from MobileDevice

Graphical charts 02 – Blue with black bouton – positioning 01

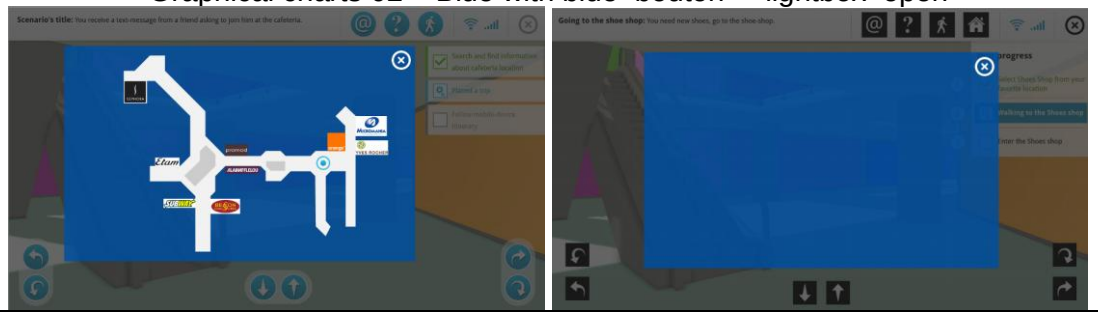


Graphical charts 02 – Blue with black bouton – positioning 02

Graphical charts 02 – Blue with black bouton – positioning 03



Graphical charts 02 – Blue with blue bouton – lightbox open



2.3 Serious Game location

2.3.1 Indoor location: Commercial center

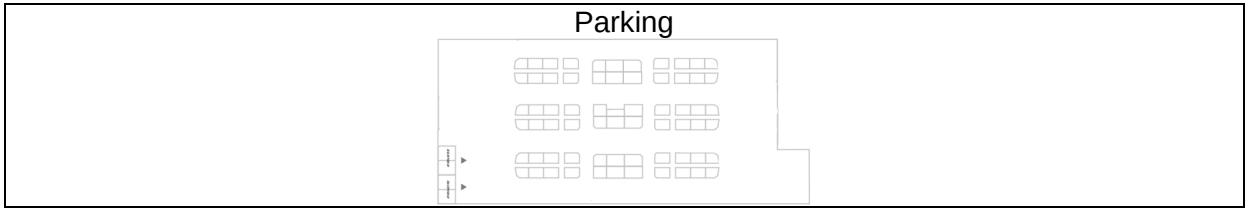
Entrance commercial center: According to the survey WP2: A commercial center is chosen as the Entrance SG environment.

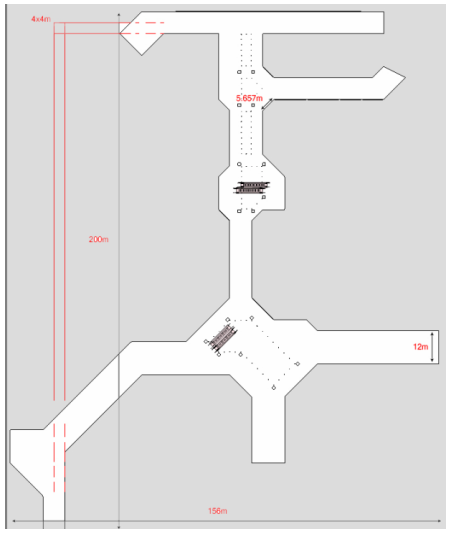
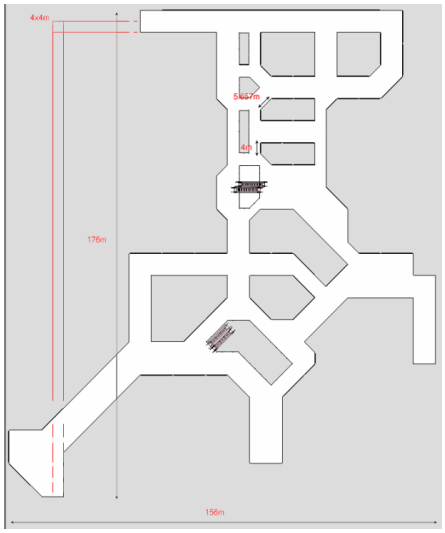
Existing commercial center like Europark (fig 4) or an artificial commercial center like (fig 5)?
Conclusion: An artificial commercial center will be used. It will named “Entrance commercial center”


fig 4 Map Europark


fig 5 artificial map

Indoor map :



Level 0	Level 1
	

<u>Shops:</u>

Regarding WP2 user requirement “Implement scenario plots, which are taken from real life”, shops often used by user will be modelize for the commercial center.

Example :

- Library
- Shoes shop
- Cafeteria
- …

<u>Entrance Commercial center inhabitant:</u>

Many differents inhabitants (Mens, womens, kids, family and old people..) will be modelize to insert more real life in this commercial center.
User will have to take car during his navigation.

Furniture: Idees3com will provide habitual furniture from commercial center.
Example:

2.3.2 Outdoor location

An Entrance-city of 2 km² will be modelize.

All city elements will be modelize and parcticulary elements regarding all SG outdoor scenariis :

- Entrance - Commercial center exterior view
- Entrance – Garage
- Entrance city inhabitant
- Shop
- Cars & bus

3 GAME SCENARIIS

3.1 Specification from WP2 (user requirements)

- First, the users have to be confronted with their expectations and predictions (i.e. negative feelings and opportunities that may occur through using computers).
- Secondly, the content of IT learning has to be focused (i.e. users should only be exposed to those individually defined tasks that are of genuine use to them).
- Thirdly, the learning environment has to be tailored to the users individually (with regards to involvement, enjoyment and support).

It is important to consider that the information (e.g., instructions) should not only be presented before the user starts to play the serious game for the first time, but should constantly appear at the requested moment.

- Meet the user's cognitive needs of effectiveness and efficiency as well as her/his personal needs. (from: Input WP5)
    - Inform the users about the usage of the system
    - Inform the users about which technological features are provided for task fulfillment and how they are interplaying with each other
    - Inform the users that the system trains technological skills and may have positive effects on their cognitive abilities
    - Inform the users that the system provides opportunities to increase expertise knowledge and thus may generate further social contact
    - Inform the users that the system provides opportunities to increase their personal autonomy
- Meet the user's positive emotional needs like familiarity and closeness
    - Use known symbols, interface navigation and metaphors.
    - Allow personalization through uploading a picture of one's self
    - Allow personalization through providing the possibility to name locations or virtual per-sons (avatars)
- Implement scenario plots, which are taken from real life: Pay attention to already existing negative dispositional feelings
    - Inform the users in an oral or written introduction
    - Inform the user that system is made for them and that they cannot damage anything, etc.
    - Allow the system to adapt to the individual user needs
    - Implement various levels of difficulty (easy, medium, hard) and intermediate goals in order to enable errors/ repetitions
- Meet the user's learning needs in habits and impairments:
    - Explain how learning will proceed
    - Show usage and target objectives for each learning task (i.e. levels) in order to enable judgment of the users' internal success.
    - Provide overall feedback
    - Pay attention to the cognitive impairments of older people

3.2 Pedagogical description

3.2.1 General concept

The global pedagogical concept is cognitive pedagogical concept. Users must resolve real tasks into the most realistic possible environments. Global contents must be split. Objectives must be announced. Positive feedback must be provided throughout the game.

These 3 pedagogical concepts are proposed to the end-user during their SG experience: step-by-step, increase difficulty and training:

Step by step means that all pedagogical objectives must not be given to the user at the beginning, but all along the SG. Therefore, the SG Scenario must be split into different chapters (steps) and for each chapter pedagogical objectives will be added progressively. It's very important to be careful about progression, because if there are too many pedagogical objectives required from the same time, it could result in a stressful experience.

Increase difficulty: During the SG, tasks toffered to the users need to complete will be increasingly difficult. For example: the route to find is more and more long and winding.

Some clues (Map, signage,etc.) present at the beginning will disappear. Thus, the users must develop their own cognitive process to find solutions. Of course all clues disappear progressively to avoid a lack of motivation from the users.

Training: It will be possible to repeat each chapter, thus users will learn by memorizing and induce automatism mechanism to resolve each task or find how to access information. This concept is particularly important for old people given their decreasing learning ability is likely to decreasing.

It's possible to propose 2 or 3 similar tasks for each level of difficulty.

3.2.2 Clues for scenario

- Elements to increase the difficulty:
- Signalization and checkpoint: Arrows or signboards will be displayed along the user's way. A way could be split and arrows/signboards could be use as checkpoints, so user has positives feedbacks.


or

Navigation pictograms: Use pictograms that are mainly used in most commercial centers. (example : Figure 6: ENTRANCE logo)

Figure 6: Commercial center logo

Route complexity: To increase the difficulty, it's possible to make more complex routes. For example: there could be many turns, some areas or doors can be closed, user needs to find another elevator to access the different levels,etc.
Map (un)available: the map will help the user to understand that the SG map and the mobile device map is the same. The map will available into SG Interface for first scenario. Therefore, the user can compare these 2 maps and realize that they are.

Clues direction arrows are displayed on the map: like the map, this information could help the user to understand the link between Entrance mobile application and SG localization.

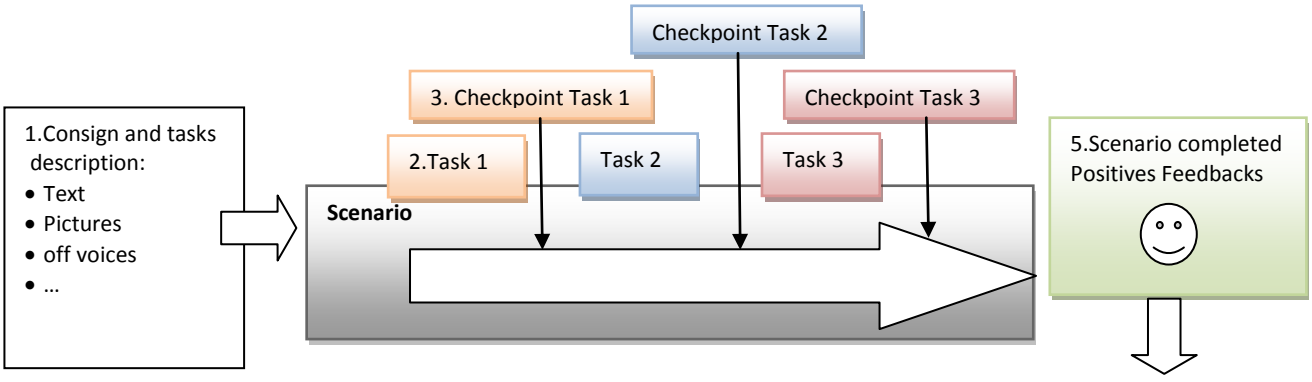
3.2.3 Scenario process

For each scenario the process will be the same:

1. Pedagogical objectives presentation (Text and oral): what the user will learn with this scenario (Example : "This scenario will teach you how to move in the game")
2. (if need : replay pedagogical objective presentation or next)
3. Scenario presentation (Text and oral): scenario's name and goal
4. (if need : replay pedagogical presentation or next)
5. Start playing the scenario

3.2.4 Scenario process description:

Each scenario is composed of tasks. Next task is available only if the previous task is completed by user.

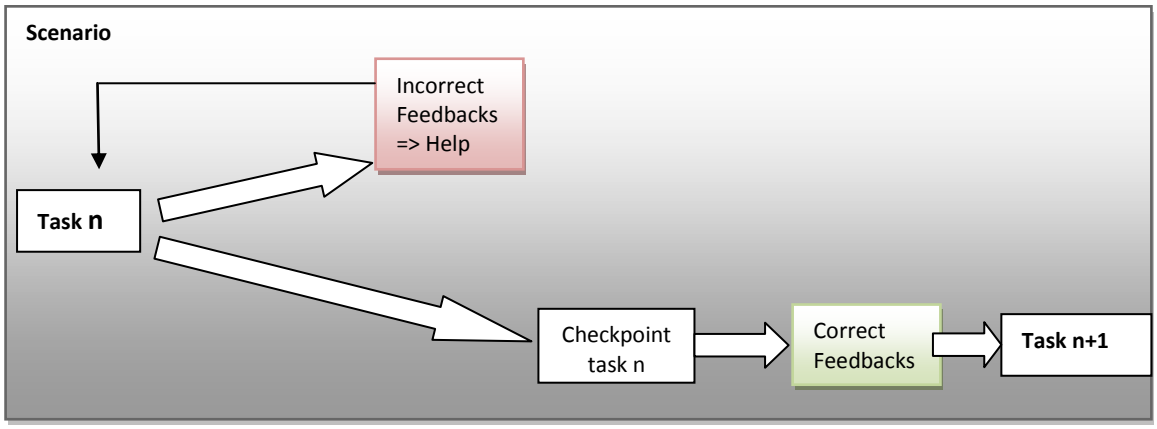


Next scenario
Or
Repeated scenario

1. Scenario and tasks description
2. User start the task
3. User success each task by completed the “Checkpoint task”
4. Next tasks and checkpoints are completed
5. Scenario is completed
6. User can play again the scenario or play next scenario

Feedbacks: According to WP2reco: “Provide overall feedback”.

There will be positive and negative feedback during the SG game.



If the users repeat the same error, it will display help from the system. Feedback will include: Texts + pictogram + sound (if possible).

Example: If user goes the wrong way, then text and offvoice help information are display into help-panel and the correct way will be displayed on the ground.  . When user goes the right way and goes through checkpoints is displayed text and played offvoice for positive feedback.

Positive feedback	Negative feedback
The User goes the right way and goes through checkpoints	The User goes the wrong way
The User uses correct button for the task asked (mobile device or interface)	The User uses wrong button for the task asked (mobile device or interface)
…	…

3.3 Pedagogical objectives for users

SG interface and gameplay:

- SG presentation/Introduction (from: Input WP5)
- Learn how to use the avatar's navigation (moving left/right/ forward/backward into SG)
- Learn how to use the interface Elements (button, menu, etc.)
- Repeat

Entrance Mobile-Device application:

- Check if mobile device is plug
- Checking his localization in the mobile application interface
- Checking information from the mobile application interface
- Checking route (itinerary) from the mobile application interface (indoor outdoor)
- Checking route to different levels
- Checking for updated route and updated information from the mobile application interface
- Find a destination: search for a specific shop, entering shop name or using categories (food, sports, electronic, …)
- Plan route to indoor & outdoor-destination (shop, parking place,…)
- Use, add, delete favorite location
- Access to destination with QRcode with scanning Map
- Find car position

Entrance Mobile-Haptique application:

- lean why an tactile bracelet
- learn how using tactile bracelet

Entrance Mobile application and SG:

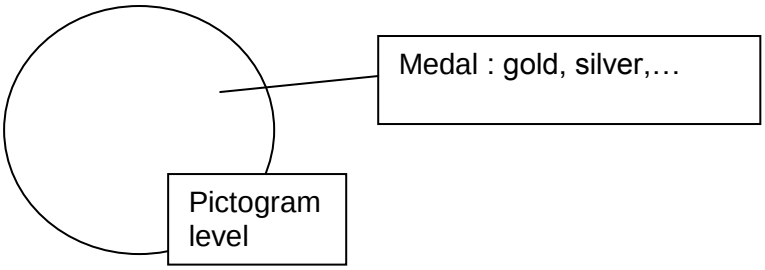
- Learn the implication between the information provided by the mobile device and the SG (Show actual position on indoor map, moving in the SG involved modification of the localization in the mobile application, etc.)
- Follow the mobile application route (itinerary) and move to the location
- Access the tutorial

3.4 Motivation

The scenarii in themselves are already fun enough. Indeed, in each scenario the users have to find a way to reach the location given at the beginning of the mission. They can freely walk in the 3D environment or seek for some help in the browsing interface. Moreover, the difficulty keeps increasing from the first scenario to the last one as the visual indications are less and less present on the screen.

But to add some more fun in this SG, we will add a reward for each scenario. In fact, if we add an object to find during the mission, it can distract the user's attention from its main objective which is to learn how to turn and move in an unknown place.
Therefore, awarding the users a kind of medal for each scenario could be a better idea.
This medal can depend on the time spent to accomplish each mission. Therefore, each user will be given a medal, but it can be made of bronze, silver or gold.

Example :



If this idea is too risky to fit a public of aged people, we can replace the medal's metal by honorary titles such as: "King of rapidity", "God of directions" (for people that did not use help), etc

3.5 User indicators

As asked during the Salzburg meeting, it will be interesting to extract "user-information" from the SG experience. This information could be used for:

- WP2 publication about older adults Serious game practice
- WP5 feedback to improve/adjust some details from the SG
- …

Indicators can be "time" (for example: time spent for each Scenario), "behavior" or "clicks" (for example: how many times the user clicks on "help" or "play again").

Reminder: It's important to check all these indicators at the beginning of the development, because it will need 10x development-times if it's added at the end of the development.

Some proposal:

- Time spent on each scenario
- Times spent on all the scenarios
- How many times each scenario was replayed
- how many times the user clicks on the help button during each scenario
- …

4 TUTORIAL

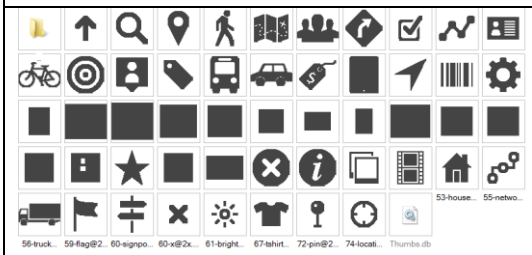
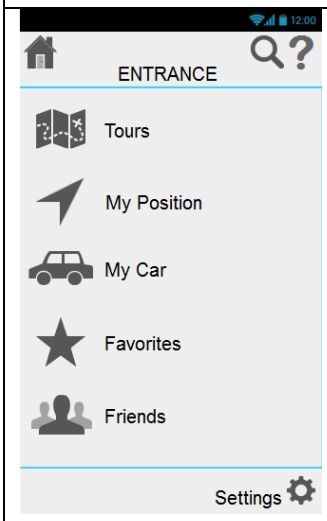
Regarding WP 3 there must be a tutorial to learn how using mobile device.

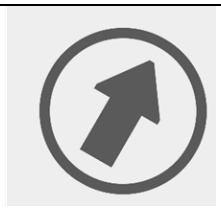
The tutorial is made to help user to understand: each screen and how use

It consist as:

- screen description : description for each button and panel
- an screen recording during manipulation (For example : order to clicking button for planed a trip)

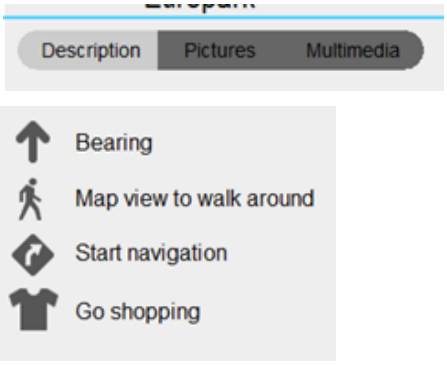
4.1 Pedagogical needs for interface:

Interface	Interface details
	**All icons description**
	**Welcome page** • Tour • My Position • My Car • Favorites • Friends
	**Indoor and outdoor localization screen** Icon  Arrows 



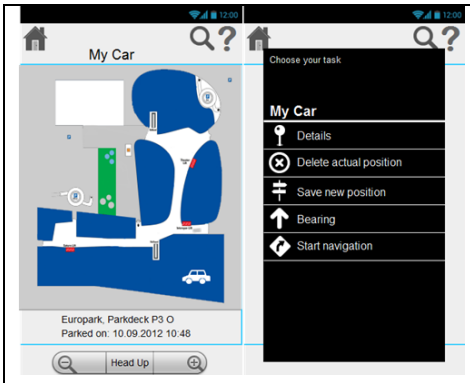
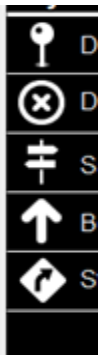
Button 

Place description and bearing to a selected place

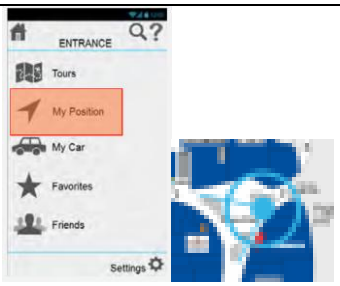


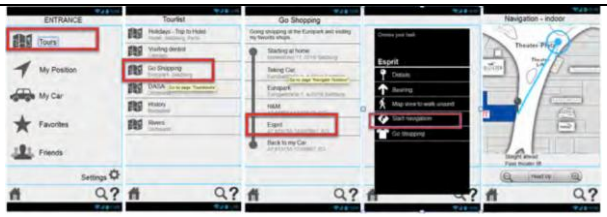
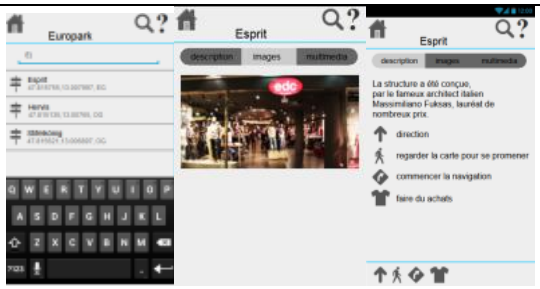
Favorites & tour

Tour details

	**My car screen** 
	**Friends screen**

4.2 Pedagogical needs for manipulation

Manipulation	Illustration
Plug the Smartphone with home platform/ serious game	
Scanning QR code	
How switch to different interface	
How access to his localization into mobile application interface (indoor & outdoor)	
How access, select and to a favorite location (indoor & outdoor) How register and delete favourite location (indoor & outdoor)	

How planed a route to indoor-destination How follow indoor itinerary	
How planed a route to outdoor-destination How follow outdoor itinerary	
How search and find an location (a shop) How access to details information for an selected location	
How selected the car location and destination How update car location	

4.3 Tutorial tool: Homemade, Freeware or commercial product ?

Homemade:

Positive aspect	Negatives aspect
• Contents are exactly what we need • No tool dependence • More flexibility and adaptative with system • Html 5	• Need developer to update contents

Freeware:

Positive aspect	Negatives aspect
• Price free • Easy to allow anyone to create and	• Supports, faq and forum might be old • Community might have few activity

update contents	• product might stopped to develop

Commercial product:

Positive aspect	Negatives aspect
• supports, faq and forum with a active developer community • easy to update a project • easy to export • no need developer • stable • easy to make exercise and simulation	• Price & licence • Need learning for using tool • Need an licence for each user which need to update contents

Some tutorial tools products:

Company Name tool	Web link	Cost	Trial
Adobe Captivate6	http://www.adobe.com/fr/products/captivate.html	36€ per month 1000€ completed version	Free trial 1 month
Articulate Storyline	http://www.articulate.com/products/storyline-overview.php	1400€	Free trial 1 month
Wink	http://www.debugmode.com/wink/	Freeware	all
Camstasia	http://www.techsmith.fr/camtasia.asp	280€	Free trial 1 month

Conclusion: Regarding the project and Idees3com expertise, the tutorial will be develop with homemade solution

5 SERIOUS GAME SCENARRIIS

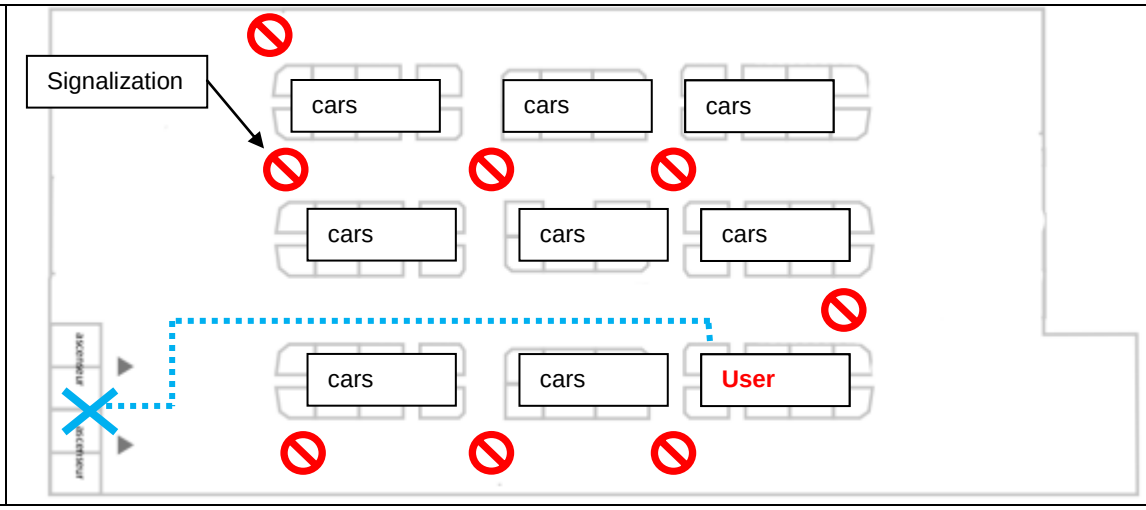
- Details sceanrio sequence (without scenario 0:
  - Presentation pedagogical objective
  - Tutorial (video & practice)
  - Task1 => Checkpoint1 => Task2 => Checkpoint2 => …
  - End + reward : next scenario or repeat scenario

5.1 Scenarri0 N°0: Introduction

<table>
<tr><td colspan="2">Task N°: 0 introduction</td></tr>
<tr><td colspan="2">Name: Interface presentation and familiarization</td></tr>
<tr><td colspan="2">Pedagogical Objectives:
• SG description: why a SG (See WP2 recommendation)
o Meet the user's cognitive needs of effectiveness and efficiency as well as her/his personal needs
o Meet the user's learning needs in habits and impairments
• Understand how learning will proceed
o Task description
o Target Objectives description
• Understand the link with mobile-device information's and SG
• Acquire knowledge of each elements about SG-Interface + Interface description
o SG interface description (buttons, areas, text consign, help,etc.)
o Moving into SG
o Mobile device buttons descriptions
• Access the tutorial
• lean why an tactile bracelet</td></tr>
<tr><td colspan="2">WP2 requirements inputs:
• Meet the user's positive emotional needs like familiarity and closeness
o Allow personalization through uploading a picture of one's self
• Meet the user's cognitive needs of effectiveness and efficiency as well as her/his personal needs. (from: Input WP5)
o Inform the users about the usage of the system
o Inform the users about which technological features are provided for task fulfillment and how they are interplaying with each other
o Inform the users that the system trains technological skills and may have positive effects on their cognitive abilities
o Inform the users that the system provides opportunities to increase expertise knowledge and thus may generate further social contact
o Inform the users that the system provides opportunities to increase their personal autonomy
• Meet the user's positive emotional needs like familiarity and closeness
o Use known symbols, interface navigation and metaphors
• Meet the user's learning needs in habits and impairments:
o Explain how learning will proceed
o Show usage and target objectives for each learning task (i.e. levels) in order to enable judgment of the users' internal success
o Provide overall feedback
o Pay attention to cognitive impairments of older people
• Implement scenario plots, which are taken from real life. Pay attention to already existing negative dispositional feelings
o Inform the users in an oral or written introduction
o Inform the user that system is made for them and that they cannot damage anything, etc</td></tr>
<tr><td colspan="2">User Task description:
• Read, listen, and Insert phone numbers (for text-message –scenario4)
• Click to next button or on picture after each descriptions</td></tr>
<tr><td>Pictures</td><td>o Home device and mobile device communication
o SG + highlight areas
o Mobile device</td></tr>
</table>

5.2 Scenario N°1

<table>
<tr><td colspan="5">Scenario N°: 1</td></tr>
<tr><td colspan="5">Name: Get out of the car park</td></tr>
<tr><td colspan="5">Pedagogical Objectives:
Step 1
• Moving into the SG (left/right/ forward/backward)
Step 2
• Following the mobile-application localization moving while walking
• Following mobile-application route (itinerary)
• Checking his localization into mobile application interface
Entrance Mobile application and SG:
• Learning the implication between mobile-device information’s and SG (Show actual position on indoor map, moving in the SG involved modification of the localization into mobile application,..)
• Following mobile-application route (itinerary) and moving to the location
• learn how using tactile bracelet</td></tr>
<tr><td colspan="5">WP2 requirements inputs:
• Meet the user’s positive emotional needs like familiarity and closeness
o Use known symbols, interface navigation and metaphors.
• Implement scenario plots, which are taken from real life and pay attention to already existing negative dispositional feelings
o Inform the users in an oral or written introduction</td></tr>
<tr><td colspan="5">Tutorial contents:
• How switch to different localization view :
• How check his localization
• How access to his localization into mobile application interface</td></tr>
<tr><td colspan="3">Description: Find the elevator to access level 0 + Elevator picture
• Using interface navigation to move into SG
 
 
• Find the elevator to access level 0</td><td colspan="2">Repeat description: go back to your car, you have forgotten your glove, find again elevator + (car picture + Gloves +Elevator picture)
• Using interface navigation to move into SG
• Go back to the cars
• Find the elevator to access to level 0</td></tr>
<tr><td colspan="5">Elements for difficulty</td></tr>
<tr><td>Signalization/ Checkpoints:</td><td>Way complexity (easy, medium, hard)</td><td>Map available</td><td>Clue arrow direction</td><td>Location:</td></tr>
<tr><td>yes</td><td>easy</td><td>yes</td><td>yes</td><td>car park</td></tr>
<tr><td colspan="5"></td></tr>
<tr><td>MAP and way:</td><td colspan="4">car park</td></tr>
</table>


Signalization
cars
cars
cars
cars
cars
cars
cars
cars
User

5.3 Scenario N°2

Scenario N°: 2

Name: Going to the shoe shop
Description: “You need new shoes, go to the shoe-shop”

Pedagogical Objectives:

SG interface and gameplay:

- Learn how to use navigation with SG
- Learn how to use interface-elements (button, menu, etc.)

Entrance Mobile application:

- Checking his localization on mobile application interface
- Checking routing (itinerary) on mobile application interface
- Use Favorite location

Entrance Mobile application and SG:

- Learn the implication between mobile-device information’s and SG (Show actual position on indoor map, moving in the SG involved modification of the localization into mobile application, etc.)
- Follow mobile-application route (itinerary) and moving to the location into SG

Tutorial contents:

- How acces and select to an favorite location
- How access to destination with QRcode with scanning Map
- Itinerary step description

Description:

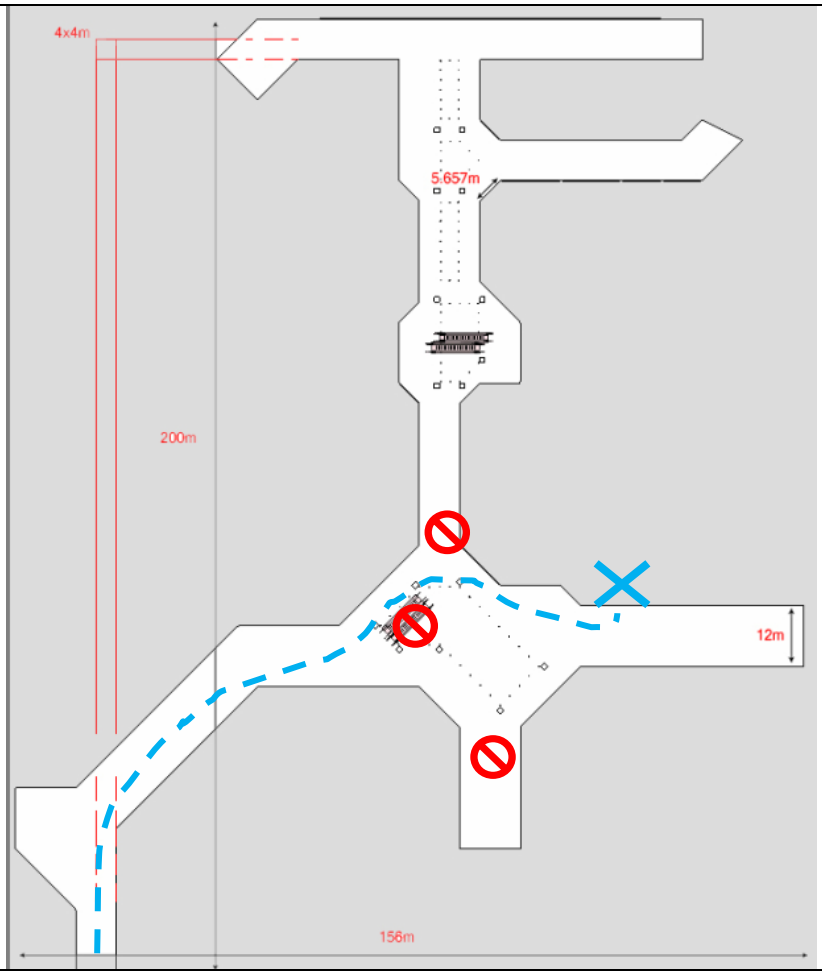
- Go to the shoes shop
- Scan QRcode scanning to find shoes shop
- Use tour details from favorite location

Repeat description :

- Go to the library
- Go to the WC

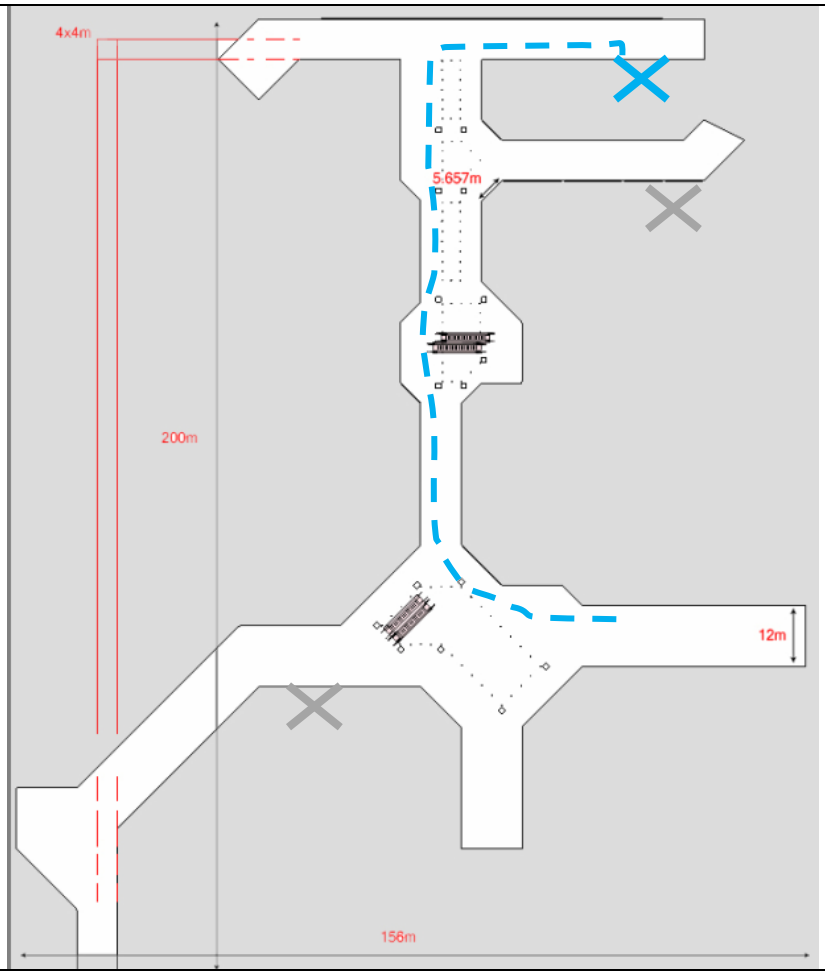
Elements for increase difficulty

Signalization/ Checkpoints:	Way complexity (light, medium, hard)	Map available	Clue arrow direction	Location:
yes	easy	yes	yes	Level 0

MAP and way:		

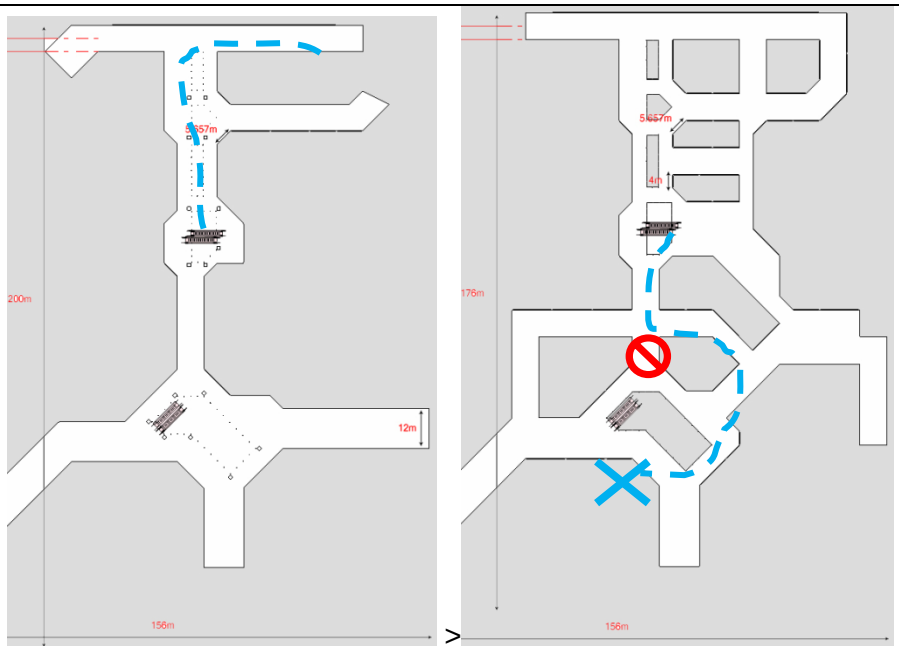
5.4 Scenario N°3

<table>
<tr><td colspan="5">Scenario N°: 3</td></tr>
<tr><td colspan="5">Name: Joining someone at the cafeteria
Description: The user receives a text-message from a friend (use picture uploaded) asking to join him at the cafeteria.</td></tr>
<tr><td colspan="5">Pedagogical Objectives:
SG interface and gameplay:
• Learn how to use navigation within SG
• Learn how to use interface-Elements (button, menu,..)
Entrance Mobile application:
• Finding a destination
• Planning a route to indoor-destination (shop, parking place,…)
• Checking her/his localization on mobile application interface
• Searching information on mobile application interface
• Checking routing (itinerary) on mobile application interface</td></tr>
<tr><td colspan="5"><u>Tutorial contents:</u>
• How planed a route to indoor-destination
• How find an location (a shop)</td></tr>
<tr><td colspan="3">Description:
Step1
• Search and find information about cafeteria location
 
• Planed a trip
Step 2
• Follow mobile-device itinerary</td><td colspan="2">Repeat description: join daughter at the information point.</td></tr>
<tr><td colspan="5">Elements for increase difficulty</td></tr>
<tr><td>Signalization/ Checkpoints:</td><td>Way complexity (easy, medium, hard)</td><td>Map available</td><td>Clue arrow direction</td><td>Location:</td></tr>
<tr><td>Only on feedbacks</td><td>medium</td><td>yes</td><td>Only if negative feedbacks</td><td>yes</td></tr>
<tr><td colspan="5"></td></tr>
</table>

MAP and way:		

5.5 Scenario N°4

<table>
<tr><td colspan="6">Scenario N°: 4</td></tr>
<tr><td colspan="6">Name: find your book
Description: the user receives Text-Message from friend who asks him to buy a book at the library, but there are 2 of them into the commercial center, and the book is available only in one. The user must use location description to find the correct library. (the correct library is at the second floor)</td></tr>
<tr><td colspan="6">Entrance Mobile application:
Finding and reading a destination information and location
Planning a route to indoor-destination through different level
Checking his localization into mobile application interface
Checking information into mobile application interface for different levels
Checking routing (itinerary) into mobile application interface to different levels
Save an location as favorite</td></tr>
<tr><td colspan="6">Tutorial contents:
How details informations for an location
How save an location as favorite</td></tr>
<tr><td colspan="3">Description:
Search and Read location (library) description to check where the book is available 
</td><td colspan="3">Repeat:
Friend asks to buy shoes: Read shoes description to check where the shoe-shop is available (location must ever be to an another level)</td></tr>
<tr><td colspan="6">Elements for increase difficulty</td></tr>
<tr><td>Signalization/ Checkpoints:</td><td>Way complexity (easy, medium, hard)</td><td>Map available</td><td>Clue arrow direction :</td><td colspan="2">Location:</td></tr>
<tr><td>Only on feedbacks</td><td>hard</td><td>Only if request</td><td>Only if negative feedbacks</td><td colspan="2">Level 0 using stairs or elevator , then level 1, then shop</td></tr>
<tr><td colspan="6"></td></tr>
<tr><td>MAP and way:</td><td colspan="5">Level 0Level 1</td></tr>
</table>

5.6 Scenario N°5

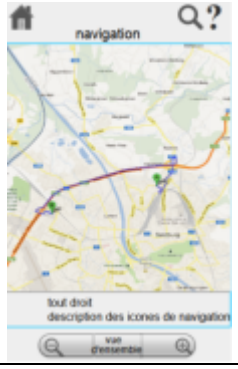
<table>
<tr><td colspan="5">Scenario N°: 5</td></tr>
<tr><td colspan="5">Name: It’s time to go back to the car
Description: The user must go back to his car. The elevator location is closed, so she/he has to plan another trip on a different level (1,0,-1)

Bonus: a friend has parked his car, if you go back to your car in 2 min, you could meet him.</td></tr>
<tr><td colspan="5">Pedagogical Objectives:
Entrance Mobile application:
• Finding and reading a destination information and location
• Planning a route to indoor-destination through different level
• Checking his localization on mobile application interface
• Checking information on mobile application interface for different levels
• Checking routing (itinerary) on mobile application interface to different levels
• Checking for updated route
• Finding car position</td></tr>
<tr><td colspan="5">Tutorial contents:
• How use car location and destination</td></tr>
<tr><td colspan="5">Description:
o Planning a trip (find way and parking elevator)
o updating a new trip
o using car location
o (going back to car-location in short time)</td></tr>
<tr><td colspan="5">Elements for increase difficulty</td></tr>
<tr><td>Signalization/ Checkpoints:</td><td>Way complexity (easy, medium, hard)</td><td>Map available</td><td>way displayed on the map or not:</td><td>Location:</td></tr>
<tr><td>Only on feedbacks</td><td>hard</td><td>No</td><td>Only on feedbacks</td><td>Level 1, level 0, parking</td></tr>
<tr><td colspan="5"></td></tr>
<tr><td>MAP and way:</td><td colspan="4">Level 0 > Level 1 >Parking</td></tr>
</table>

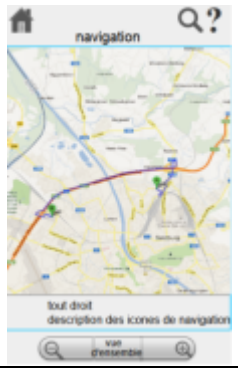
5.7 Scenario N°6

<table>
<tr><td colspan="5">Scenario N°: 6</td></tr>
<tr><td colspan="5">Name: Find a garage
Description: The car is “broken down”. The user has to find the best garage in the city the Entrance-garage (is into favorite). Luckily the garage is just near the commercial center.</td></tr>
<tr><td colspan="5">Pedagogical Objectives:
Entrance Mobile application:
• Using favorite to find and read a destination information and location
• Seeing a route to outdoor-destination
• Checking her/his localization on mobile application interface
• updating car position</td></tr>
<tr><td colspan="5">Tutorial contents:
• How is displayed outdoor location
• How select an outdoor favorite</td></tr>
<tr><td colspan="2">Description:
• Use favorite
• Go to destination</td><td colspan="3">Repeat:
• The Entrance garage is closed because José the mechanic is on holidays, user has to go to another garage (just near)</td></tr>
<tr><td colspan="5">Elements for increase difficulty</td></tr>
<tr><td>Signalization/ Checkpoints:</td><td>Way complexity (easy, medium, hard)</td><td>Map available</td><td>way displayed on the map or not:</td><td>Location:</td></tr>
<tr><td>Only on feedbacks</td><td>Easy</td><td>Only if request</td><td>Only if negative feedbacks</td><td>city</td></tr>
<tr><td colspan="5">Example : 
</td></tr>
</table>

5.8 Scenario N°7

<table>
<tr><td colspan="5">Scenario N°: 7</td></tr>
<tr><td colspan="5">Name: Waiting for the car to be repaired
Description: The reparation is taking longer than expected; you decide to go to the Entrance-cinema.</td></tr>
<tr><td colspan="5">Pedagogical Objectives:
Entrance Mobile application:
• Searching, finding and reading a destination information and location
• Planning a route to outdoor-destination through the city
• Checking her/his localization into mobile application interface
• updating car position</td></tr>
<tr><td colspan="5"><u>Tutorial contents:</u>
• How update car position
• How register an outdoor location as favorite
• How planed an outdoor trip</td></tr>
<tr><td colspan="3">Description:
• Use search location
• Go to destination
  </td><td colspan="2">Repeat:
• Now you decide to go to the swimming pool</td></tr>
<tr><td colspan="5">Elements for increase difficulty</td></tr>
<tr><td>Signalization/ Checkpoints:</td><td>Way complexity (easy, medium, hard)</td><td>Map available</td><td>way displayed on the map or not:</td><td>Location:</td></tr>
<tr><td>Only on feedbacks</td><td>Medium</td><td>Only if request</td><td>Only if negative feedbacks</td><td>City far away</td></tr>
<tr><td colspan="5"></td></tr>
</table>

5.9 Scenario N°8

<table>
<tr><td colspan="5">Scenario N°: 8</td></tr>
<tr><td colspan="5">Name: back to the car
Description: It’s time to go back to commercial center to take the car repaired</td></tr>
<tr><td colspan="5">Pedagogical Objectives:
Entrance Mobile application:
• Using car localization
• Planning a route to outdoor-destination through the city
• Checking his localization into mobile application interface</td></tr>
<tr><td colspan="5">Tutorial contents:
• How use outdoor favourite destination</td></tr>
<tr><td colspan="3">Description:
• Use search location
• Go to destination
  </td><td colspan="2">Repeat:
• The car is not yet repaired you choose to go to the cinema</td></tr>
<tr><td colspan="5">Elements for increase difficulty</td></tr>
<tr><td>Signalization/ Checkpoints:</td><td>Way complexity (easy, medium, hard)</td><td>Map available</td><td>way displayed on the map or not:</td><td>Location:</td></tr>
<tr><td>Only on feedbacks</td><td>Hard</td><td>No</td><td>Only if negative feedbacks</td><td>City far away</td></tr>
<tr><td colspan="5"></td></tr>
</table>

5.10 Scenario N°9: conclusion

<table>
<tr><td colspan="2">Scenario N°: Conclusion</td></tr>
<tr><td colspan="2">Name: General feedback
Description: The user gets a general feedback for each previous scenario</td></tr>
<tr><td colspan="2">Pedagogical Objectives:
Knowing that it’s possible to play as many times as the user wishes to
Reading feedbacks about SG (time played, how ofter repeated,…)
Knowing explanation that now user is ready to use Entrance in real life
Knowing complementary explanation about Entrance device and app</td></tr>
<tr><td>Description:
Read, listen
Replay SG
Complete feedbacks survey</td><td></td></tr>
<tr><td colspan="2"></td></tr>
</table>

6 TECHNICAL SPECIFICATION

6.1 SeriousGame technology

The 3D game Technology usie by Idees3com team development for Entrance-SG is Unity.

http://unity3d.com/

“Unity is a feature rich, fully integrated development engine for the creation of interactive 3D content. It provides complete, out-of-the-box functionality to assemble high-quality, high-performing content and publish to multiple platforms.”

Unity is one of technology most used into the Game development. Games using Unity (Nintendo, Microsoft, 3D webgames,..).

Spécification:

- Home platform OS: Windows
- Processor and Video card: as the SG is using 3D modelization environnements, the video card must be able to support 3D computations.
- Plugins: To display Unity contents a plugin needs to be installed.

6.2 Home platform and SG

Regarding WP3the SG will be included into the home platform.

The SG has to take in account the home plateform has an tacticle-screen and an keyboard/mouse.

Figure 8:Home platform

6.3 Mobile Device and Serious Game

For the serious game there must be a communication with the mobile platform, precisely the GPS location update.