

GAMEUP PROJECT DOCUMENT



Results of the first GameUp User Forum

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DOCUMENT CHANGES REGISTRY

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1 Preface

The first User Forum took place in Valens in May of 2013. This first Forum included the participation of end user organizations internal to the consortium.

During the forum the results of the pilot test performed in Kliniken Valens, Tromsøysund and O+berri between February and April 2013 were presented and discussed by the group. Proposals to improve and requirements for the new prototypes were agreed.

2 Topics

2.1 User requirements and desing guidelines

The deliverable D2.1 User requirements and design guidelines will be updated to include a sub-section about the GameUp wristband activity tracker, as described in the DoW. The section will weight the pros and cons of this approach, compared with the other alternatives. Conclusions (not to use the wristband) will be added to sub-section and section conclusion

2.2 Deviation from the description of work

D2.1 will also include a dedicated section about deviation from the DoW, that will sum up, in what ways the consortium has decided to deviate from the DoW and why.

Other deviations from or clarifications of the DoW, for instance we need to expland how we meet the at least 10 exercises (walking app, 8 exercise minigames in four levels and an apple picking game) and “change of exercises” belong in WP3, since there are in light of our experience with the developed prototypes.

2.3 Testing of prototype I

Suitable exercises have been defined by experts in the project, and these have been implemented in a first prototype using Kinect. The system also has a menu to help users start the exercises. The system including both the menu and the exercises has been tested by users in Switzerland, Spain and Norway. As a result of the first test, exercises have been removed and the menu and interface with the system will be changed. The exercises work fine as mini exergames given that we add rewards and feedback typical for games.

2.4 Summary of tests performed

2.4.1.1 VALENS

One physiotherapist tested initially all exercises twice with a special focus on technical issues as well as on the exercises from the professional perspective.

Following this, usability tests were performed with 14 elderly users: 4 Frail (age median 71)/ 2 Transition (age median 70)/ 4 Active (age median 77)/ 4 Very active (age median 73).

All tests were performed in the Physiotherapy Department of the Clinic Valens. None of the users had previous experience with Kinect.

2.4.1.2 O+berri

The prototype was tested with 17 users (Fragile 5 users/ Transition 4 users/ Active 4 users/ Very active 4 users). Users of Fragile and Transition group are people that are in a rehabilitation centre after suffering falls or surgery. Users of Active and Very active groups are in the network of integrated social services.

All tests were conducted at the same location, in the rehabilitation center's living room. Only 3 of the participants have experience in the use of these kind of technologies.

2.4.1.3 TROMSØYSUND

The tests in Norway are organized in a different manner than in Switzerland and Spain since the recruitment is very different. The user partner is a congregation that has regular arrangements for seniors. They all enjoy the gatherings, because it both is a social event and it gives an opportunity to exercise. There are no health care personnel present, and the seniors are considered to be users/ visitors and not patients. In Norway 10 people participated in the test, but they were not recruited by levels.

The total number of participants in the test of the prototype 1 was 41 elderly

2.5 Summary of results

- GameUp idea and Exercises are appreciated. Users enjoy the exercises and think that the program can be beneficial for them.
- Considerable navigation and calibration problems. The Kinect is appropriate to implement the exercises, but there are some problems already (required distance from the sensor, interferences, program locked down).
- Instructions on screen are difficult to read and difficult to understand. They are useful, but not enough for most users.
- Difficult to select menu and to swipe. The swipe movement to start exercises was very difficult and participants spent a lot of time trying to swipe.
- Frequent problems with use of chair during standing exercises.
- Sitting/Standing exercises more strength then balance demands.
- Holding times during strength exercises are too long.
- Spawn interval is too long.

2.6 Proposal to improvement

2.6.1.1 The main menu

- Letters on the screen should be larger.
- Maybe you could design each section of the menu as if it were a kind of button you could select with the gesture of "press". Thus perhaps be more intuitive and does not require the use of both hands.

2.6.1.2 Swipe

- Have to find something to replace the swipe, that is what they spent most time doing.
- Unnecessary with two swipes.

2.6.1.3 Instructions

- The instructions should have a complete demo on how to perform the exercise, the position the subject to be placed should appear, as well as the stimuli and how to catch them.
- It would be great if in addition the instructions were adapted to each level. For example, one demo when you have to take a stimuli with the hand, and one demo when you have to take one stimuli with the hand and other with the foot.

2.6.1.4 Exercises

- Would be nice with info about where to stand on the floor. Some of the commercial games have this. If there is plenty of room in the room, it is easy to end up too far away or to the side.
- The exercises should not be too accurate – it gets too difficult and frustrating.
- If you do not succeed in an exercise it would be nice with a feedback about how it should be done.
- The name on the exercises should be included.
- Not using balance exercise C2 sitting/ standing as these exercise provided primarily strength exercises.
- Elderly users with balance problems (Berg Balance score < 45) should for safety reasons all commence with balance exercises C1 in sitting thereby reducing GameUp from 4 to 3 exercise programs.

Program	Patient classification	Exercise types	Comments (supervision, walking aid)
I	Frail - Transition (BBS 0 – 44)	A, B, C1, D	Supervision partially required (only seated balance exercises are allowed to be played unsupervised). Walking aid allowed
II	Active (BBS 45 - 55)	A, B, C1 + C3, D	Supervision not required
III	Very active (BBS > 56)	A, B, C1, C3, C4, D	Supervision not required

- Exercise adaptations: It is further discussed whether the exercises “Standing leg raises, Hip extension, and standing leg abduction” should be contained as these create technical problems due to the use of a chair. No decision has been taken. The further development of the games will clarify this matter.

2.7 Testing of prototype II

Testing of prototype II will commence in Spain and Switzerland in July 2013. Tromsøysund Menighet will test prototype II in mid of September as during the summer months no meetings will be held.

It will include 3 apple picking games performed in sitting, standing and standing/walking with 3 levels each, ROM and strength exercises and fitbit. Results of the experiments of prototype II shall be presented at the AAL forum in Norrköping.

Jonas will provide the questionnaire previously used in the fitbit test in Tromsøysund Menighet and fitbit training devices. Jonas also provides fitbits to the Clinic Valens enabling them to test this device in a rehabilitation setting.

2.8 Field trials Valens

The proposed field trial method needs to be adapted according to the results of the initial experiments as well as to the following areas of concern:

- Safety issues regarding the independent use of GameUp at home.
- Costs resulting from the provision of the hardware to the individual users.
- A common protocol for testing will be developed based on the outline of the protocol for the step counter.