

HCI

Group Project (sem. 1)

This document describes the Group Project to be completed by the students who are taking the module on HCI design in the academic year 2015/2016.

Time scale

This group project will be conducted over 8 weeks of semester 1 starting on Monday 26th October 2015 and ending on December 19th. Final deliverable is due by January 9th 2016 (before midnight) to cristina.core@unitn.it and andrea.conci.1@unitn.it.

Learning outcomes

The course-work is designed to give students first-hand experience of an interaction design project.

The students will perform a prototyping project on Tangible User Interfaces (requirements, alternative design and evaluation) up to the development of a medium-fidelity prototype, applying techniques and methodologies introduced in the course. Prototyping will be used to support the communication of design ideas between the designers' team and to support user testing. The project includes both individual and group activities. Students are exposed to typical group work dynamics, and will learn how to share information and co-ordinate activities in a typical interaction design project.

Background and rationale

The coursework is designed around Tangible Interaction (TI), a new interaction direction and an area of study that seeks to explore a Human-Computer Interaction (HCI) paradigm less bounded to the screen. The focus of TI is shifted from displays to "tangible" objects. Tangible User Interfaces (TUIs) are very good learning tools because of their combination of physical and digital information. In particular they rejoin the richness of the physical world in HCI, they bridge the digital and the real world and they reconsider physicality as a mean that could provide a richer and simpler interaction.

Objectives and Procedures

Project objectives and procedure

The project is aimed at delivering prototypes of novel Tangible User Interfaces with special focus on "learn and play", following a user centred design. The level of fidelity of the prototypes is a decision of the students (at least low-fidelity prototype evaluation and a clear idea of a medium-fidelity prototype), but it should be good enough to convey a clear idea of user, social and technological requirements.

The project will be organised around the following activities:

1. Benchmarking, design library, inspiration: the students will analyse the existing products (if any) aimed to fulfil them, and collect interaction ideas from similar services in different contexts (each group is meant to

- deliver a design library of interesting interaction methods for specific services);
2. Conceptual design and design space definitions;
 3. PACT ANALYSIS . Following a PACT analysis for the play and learning environment, each group will identify a specific stakeholder, context of use, and a set of activities they wish to support with their project, and broadly defining the interaction technology required. Once the stakeholder is identified, each user member will conduct at least 3 contextual interviews following a methodology defined by the group to elicit user requirements and identify needs. It is recommended that the interviews be recorded. Transcripts of the interviews, one per group member will be prepared by each student and shared with the group. The analysis of the context and activities will also be supported by observation (supported by videos, pictures whenever possible).
 4. Design phase. Each group will implement different low-fidelity prototypes of the idea, including scenarios, personas, story board etc.;
 5. Design critique: presentation of low fidelity prototypes, discussion with other groups and feedback gathering;
 6. Evaluation phase. Each student will evaluate their proposed design in a user testing with at least 3 participants. Data will be analysed by the group.

Report writing

The group will produce a 20 pages (max) report of the project and a prototype of the Tangible User Interfaces. Report writing is both an individual and a group activity. All members are expected to contribute to it but the report will be marked as a group deliverable, not as a collection of chapters authored by different people. The report will be composed of:

- Executive summary (1 page detailing and justifying your prototype);
- Benchmarking and design libraries;
- Conceptual design explanation and justification;
- PACT analysis (rich description of requirements with implications for design and requirements);
- Design description (presentation and justification of main design choices and prototypes);
- Evaluation Results (final user study);
- Conclusion (recommendations, suggestion for further design).

Deliverables: a pdf copy of the report. All other materials (observational data, interview transcripts, video prototypes etc.) stored on a shared UniTn Google Drive folder.

A.1 Help and contact information

The work will be carried out independently by the students. It is of utmost

importance to the success of the project that each member of the group contributes to the work. In case of problems and conflicts which students are unable to deal with independently, they are invited to e-mail Cristina Core (cristina.core@unitn.it) and Andrea Conci (andrea.conci.1@unitn.it), copying each group member in the e-mail. People who do NOT contribute to the group work will receive a lower mark (up to 0 in case of no contribution at all). Furthermore, each group member will be asked to fill a questionnaire evaluating his/her and his/her group members work effort.

Marking will be based on the assessment of

- application and understanding of design methodologies (30%);
- reflections on the design process and suggestions for further design (10%);
- quality of design artifacts (creativity, interest) (20%);
- analysis of user research results (interviews) (30%);
- presentation (10%).

Coursework Objectives:

go through the conceptual design and the evaluation process of a Tangible User Interface for “play and learning”.

<p>Week1 (26 oct- 31oct): inspiration, design library, benchmarking</p> <p>Due material by oct. 27th: benchmarking</p> <p>In class activity: conceptual design</p> <p>Meeting with tutors: 27 – 28 – 29</p>	<p>Week2 (2 nov- 7nov): conceptual design and design space</p> <p>Due material by nov 4th: 250 words scenario</p> <p>1st delivery feedback by nov 9th</p>
<p>Week3 (9 nov- 14nov): P A C T</p> <p>Define methodologies to find information about PACT, Interview with people, context observation, activities definition</p> <p>Meeting with tutors: 10 – 11 – 12</p>	<p>Week4 (16 nov- 21nov): P A C T</p> <p>Data collection and formalisation</p>

<p>Week5 (23nov- 28nov): low-fidelity prototyping</p> <p>PACT results due by nov 23rd: 3 slides</p> <p>Meeting with tutors: 24 – 25 - 26</p>	<p>Week6 (30nov- 5dec): low-fidelity prototyping</p> <p>Refinement of low fidelity prototypes</p>
<p>Week7 (7dec- 12dec): design critique</p> <p>Presentation of your video in the class and feedback</p> <p>Due material by dec 7th: lo-fi video prototype</p>	<p>Week8 (14dec- 19dec): user evaluation</p> <p>Definition of methodology</p> <p>Meeting with tutors: 15 - 16 - 17</p>

Final deliverable: 20 pages report and low-fidelity prototypes are due by january 9th