CS-E4200 - Project Assignment

The purpose of this assignment is to get you to consider how emerging interaction techniques might be used to support individuals in some way. We have introduced a number of these areas in the lectures, and how you might use different modalities of interaction to support them. You will have free range over what problem to tackle where this choice is largely yours. This might be some wearable device, or a tangible interaction, or some form of everyday object instrumented with technology. However, what is important is that you can justify that there is value in your system and it would likely benefit a particular group of end-users in some manner. Something with a clear story and clear need to support a particular group of users, is much better than something that is very vague and undefined. It is also worth noting the short time line in this course, and as such the project should be realistic to complete.

You will complete this work in teams (4 or 5 people). These teams will be formed in matchmaking session at lecture time on 2nd Feb through brainstorming around ideas. These will form the initial ideas for the matchmaking session. In the session all the ideas will be placed on the board (similar ones will be grouped together). You can take time to look at the different ideas and then tag the one that most interests you. Hopefully others will also find it interesting and you can discuss developing it with them. At the end of the session we hopefully have a good number of groups, each with a good idea that all the members like.

In forming groups you should consider that the group members have experience or competence in different roles (programming, building physical construction, designing user interaction, technical writing, etc.).

Once the team is formed, then you have to refine your idea. You have a few weeks to do this before submitting a project proposal by March 6th . There you need a fairly solid idea. i.e. you should have given the problem a lot more thought (and it might have changed). In the proposal we will want a 2 page report from each team, outlining your idea and plan to complete it. This plan is not directly marked, but it means we know who is doing what. You then need to research your problem, understand what is important from the user perspective and what is the need the interface must fulfil? You then need to design, build and demo that interface.

Each team will be expected to meet with the course teacher in tutoring sessions at least once every two weeks. The time will be decided in discussion with your tutor. Available times will be made visible by Doodle. The only sessions remaining in the lecture times will be the show and tell midterms and the final demo.

Key Dates

2nd February

You can browse all of the ideas that were submitted and form teams. We will cover what you do in practice at the session. If you miss this session, then you will not be in a team and should make this known to the course tutor as soon as possible.

Each team should then think in detail and develop their idea. This should cover at least the motivation for your idea. I.e. what problem are you trying to solve? How will it benefit the end-user? Who are the users that will use it and benefit? As well as an outline of what the final product will look like. We will focus on questions related to these points while giving feedback in the later tutoring sessions.

6th March

Each team must submit (at most) a 2 page report to the tutor with the subject line "CSE4200 Project Proposal". This should contain the title of your project, the names, student id numbers and email addresses of all team members. It should also provide the name of the responsible contact person. It should provide a brief outline of the problem you want to tackle and the approach (interaction paradigm) you want to take, based on any revisions from the tutoring sessions. This report is not marked, but we will give you feedback on your idea and if we think the project is challenging enough, too simple, or if you need to go and think again about it. Your project should have a substantial technical content. Remember for 5 credits we are at this stage looking at about 20 hours work per person times the number of people in your team.

March-April

You should meet the course tutor regularly (no less than every 2 weeks) and discuss problems, issues or other related issues with the project with them. In the first meeting you will be given some feedback on the proposal.

30th March

In the 2 hour lecture slot we will have compulsory mid-term demos. All teams are expected to demo what they currently have to the rest of the class. This gives everyone a chance to get and give feedback, and have a chance to act on it. You should clearly show what you have done, what is missing, and a plan on how to get there. You can also raise open questions that you want the rest of the class to comment on. You do not have to present a PowerPoint presentation here, unless you like, but instead demonstrate the above.

4th May

Each team should prepare their setup for demonstrating their project to others. This can be a live demo but you'd better have a video recording also as a backup in case of problems. You should consider that the setup is similar to that at a trade show, where you may be trying to sell your solution to companies or retailers or at a conference where you are showing your product to other researchers.

15th May

Final Project Report (see Assessment). One report per team. Maximum 6 pages. You should also submit a short (<2 min) video demo of your system. Please email it to us (mikko.kyto@aalto.fi), using the Subject header EUI Team Project Report. I will acknowledge the report by email. Please also treat this as the deadline for returning the Arduino starter kit.

Assessment

Assessment will be by both demo and report. Each contributes 50% to your grade. The grading is based on the following attributes:

- Validity: To what extent the interactive system solves the problem that you have described?
- Novelty: How novel the interactive system is compared with existing work?
- Usability: How the interaction is designed and how users are considered in the design?
- Technical quality: How the system is implemented?
- Clarity: How clear and understandable is the documentation?

Note that aesthetics does not play a huge role here, as the systems are prototypes. Each member of the team will have the same mark (unless the group jointly agrees that the contributions have been substantially different).

The report should cover the problem, how you researched it (did you read journals or papers?, talk to potential end users?, carry out observations? What did you find out?), your design work with justifications (how did you get from the problems to the final design?) and implementation (how did your implement the design? What technologies did you use? What problems did you encounter?). You should also include a short section outlining what each team member contributed to the work.

The Demo mark will be based on the demonstration and presentation of your work in the final demo session on 4th May.

Advice

Try to get an interdisciplinary team, rather than just your friends. Work out the kinds of problems you find interesting, then find other people that can help you solve them. The projects that have done well in the past are those where everyone has complementary skills. So figure out what you are good at, and seek out people that are good at the things you are not.

There are lots of places you can look for ideas and problems to be solved, just keep your eyes open and look at things around that would benefit from. Here are some inspirational web sites:

https://tangible.media.mit.edu/projects/ https://lab.rekimoto.org/projects/
http://www.flong.com/archive/index.html

If you are struggling for good ideas, contact us and tell.

Material Costs and Budget Rules

Each team has a 30 Euro budget to spend on materials for the project. If you need something specific that costs more than this, you must talk to your project tutor and we will see what we can do.

Any amount of the 30 Euro you spend will be based on reimbursement. I.e. you will need to submit the receipts for those things that you buy and the cost will be paid back

to you. Sometimes your project tutor may also have the parts you need so before purchasing it is worth enquiring there first! The following key things apply.

1. Each team must have a responsible person. This is the person who will collect and submit the receipts. This is also the person who will be reimbursed the money. This person should be named on your project proposal form. It is better (due to administrative paperwork) if the responsible person is an EU student.

2. When the team knows what they need to buy with the 30 Euro, then email a list with the cost of each item to me (mikko.kyto@aalto.fi). I will send an “ok” or “no” response to it.

3. The budget is 30 Euro. If you spend more, then that is your cost.

4. If you loose the receipts, that is your problem and you will not get the money back. No receipts = No reimbursement

5. We will contact the responsible person later in the project with more details on how to do the paperwork.