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 (between 4-5 people – no more than 6). These teams will be formed through a gallery walk session in week 5 to help form teams around ideas. You don't need to form a team prior to this. However, you should start thinking of ideas and submit them via the following Google form:

https://goo.gl/forms/LK3VlMUbrxpsFfa12

You can submit as many ideas as you like and can think of. You are not committed to any of them, and (at this stage) they don't need to be very clear. For example:

"I want to look at how we might help people monitor their stress with a squeeze ball" "I want to develop a way to help blind people navigate the environment"

"Can use everyday objects (e.g. cushions) to help stroke victims carry out their daily exercises"

These will form the initial ideas for the Gallery walk. If you don't know what a Gallery Walk is, the basic idea is that all the ideas will be placed on the wall (similar ones will be grouped together). You can take time to look at the different ideas and then stand next to 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.

Once the team is formed, then you have to refine your idea. You have a few weeks to do this before the pitching session on February 14th . There you need a fairly solid idea. i.e. you should have given the problem a lot more thought (and it might have changed). Shortly after this session we will want a 2 page report from each team, outlining your idea and plan to complete it. This 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.

To help you, we will supply each team with an Arduino starter kit, and a nominal budget of 25 Euro (*please read the rules on this below carefully*). Anything else to supply is either up to you, or you could try to convince us. Remember there is both the Design Factory and the Aalto FabLab (http://fablab.aalto.fi/site/) that you can go and use. We want you to use your initiative in getting this done. We therefore strongly suggest that you work with some form of tangible user interface.

Each team will be assigned one of the course team to act as tutor. Each team will be expected to meet their course tutor at least once every two weeks. The time will be decided in discussion with your tutor. However, it will probably be during the lab slot. We will decide who your tutor is once we have the 2 page proposals. The only sessions remaining in the lecture theatre will be the show and tell midterms and the final demo.

Key Dates

See MyCourses for the expanded view of the timetable.

30th January

Use the Google form https://goo.gl/forms/LK3VlMUbrxpsFfa12 to submit ideas for projects. These can be vague and unclear, and you aren't committed to them. So if you think something is interesting submit it.

31st January

We will carry out a Gallery Walk in TU5. 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.

14th February

Each team should have thought in detail and developed their idea. You should present a concept idea to the rest of the class. 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 asking questions related to these points, and intend to push you to think more about it. This will be a valuable opportunity to get initial feedback on your ideas and approach, and make them better.

4th March

Each team must submit (at most) a 2 page report to the tutor with the subject line "CS-E4200 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 person (see Budget below). 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 pitching session. 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 looking at about 20 hours work per person times the number of people in your team.

4th March

We will have assigned you a contact member of the research team. You should meet them 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.

4th April

In the 2 hour lecture slot we will have compulsory mid-term demos in TU5. 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.

2nd May

We will have the final product demonstration in AS3. Each team should setup a stand to demo their project to others. At least one (or more if needed) team members should attend their stand at all times. Others can walk around and try other teams' demos. You should consider that the stand 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.

20th May

Final Project Report (see Assessment). One report per team. Maximum 5 pages. You should also submit a short (<60 second) video demo of your system. Please email it to us (tta@cs.hut.fi), using the Subject header EVOUI Team Project Report. I will acknowledge the report by email. Please also treat this as the return deadline for returning the Arduino starter kit.

Assessment

Assessment will be by both demo and report. Each contributes 50% to your grade. Each member of the team will have the same mark.

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 (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 problems, just keep your eyes open and look at things around that would benefit from.

If you are struggling for good ideas, come and talk to us.

Budget Rules

Each team has a 25 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 25 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 25 Euro, then email a list with the cost of each item to me (tta@cs.hut.fi). I will send an "ok" or "no" response to it.

3. 25 Euro is the budget. 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 reembursment

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