

CST3180 UX Design Challenge

Digital Product (Website/Mobile App/+ Smart Product)

This is a group coursework in which you will research, design and evaluate a system using an iterative 'user-centred design' approach. The system can be based on an idea of your choosing, although we offer some suggestions below. You don't have to do an implementation (i.e. programming) but you do need to research user-needs, produce an interactive prototype and do an evaluation for potential users. If there is anything in this sheet you don't understand then refer to the lecture slides or ask your tutor.

The system should have a desktop or Web interface and a mobile interface. Before you start you will need to decide on the kind of activity that the system will support. Choose something that people like you (e.g. students, family members, young people) might find interesting, fun or helpful - use fellow students as potential users. Here are some ideas (you can do one of these or something else):

- **SmartHome:** Kids/pets can stay safely and be monitored by parents.
- **SafeSpace:** Finding a safe place to go during COVID-19.
- **SmartEdu:** Making post Covid-19 way of studying the new normal.
- **ContactTrace:** Helping healthcare services to effectively track potential Covid-19 carriers. Monitor people who had previously travelled to known hotspots.
- **SmartDel:** Delivery service for any product type depending on geographical location.
- **SafeOffice:** How can organizations / government ensure safety of their people as they return to work.
 - **SmartVis:** Visiting museums remotely – e.g. Augmented Reality (AR), VR etc. application.
 - **SmartAtt:** How can attendance be solved in blended learning. Reporting service provided – to teaching staff, student office and students.

It could be anything, but make sure it has scope for a reasonable level of complexity. You should go through the following phases of an iterative 'user-centred design' lifecycle:

Phase 1 - User Research (40% of module mark)

User-research – The system should be based on what other students would find helpful or enjoyable, not just what you think - design for them, not for you. To do this you will have to do some user-research to find out what issues and difficulties people have with the activity your system will be designed to support. You should discover their 'stories' relating to the activity you are intending to support and use these to inspire your design. Don't simply give people a list of features to approve and don't simply give them a questionnaire to complete. Both will get low marks. Before doing any research, create an informed consent form, complete an ethics form and have these approved by your tutor. You can find a template for these on the module area of myLearning on myunihub. Once you have gathered the data take a systematic approach to the analysis and use this to get clear requirements.

Group Report – 70% of phase 1 mark

The phase 1 report should be no more than 2000 words (max 5-6 pages) (not including appendixes). Each group member will receive an individual mark. The report should be structured as follows (maximum marks awarded are shown in brackets as a percentage of marks awarded for the report):

- Problem definition(5%)
- Expert Evaluation of an existing similar system (20%)
- Data gathering methods used (e.g. Interview, focus group, observation etc.) (do not forget to mention **Triangulation**) (20%)
- Analysis of gathered data – Requirements Specification, Functional, Non-functional requirements, Behavioral Variables Mapping, User Stories, Personas, User Journeys, UXI Matrix etc. (40%)
- Discussion on what went well and how you would improve the method (10%)
- Appendices (5%)
 - o Declaration Form and Ethical Approval Request - form D
 - o Copies of signed consent forms - form C,
 - o Interview transcripts, questionnaires etc.
 - o Screenshots of personas, user journeys etc.

Note 1: Triangulation requires using two or more different data collection method to verify your data reliability

Note 2: this assignment only involves the User Research phase – you are not required to go on to the design of the system. In this phase, you should aim to understand the user population and their needs and the forms of use that a new system might support. You should not come up with prototypes or design solutions, just clearly understand the problem.

Phase 2 - Creating a prototype (30 % of module mark)

Using the requirements gathered in phase 1, create a prototype of the system. Develop a 'conceptual model' of your system which will include the major concepts that the application's user interface exposes to users (e.g. major objects and/or operations). Then create mock-ups of the interface(s). Use sketching to create low-fidelity wireframes and Justinmind to create higher-fidelity interactive, mock-ups. You could make a physical prototype if your system concept suggests it.

Group Report – 70% of phase 2 mark

The phase 2 report should be no more than 2000 words (not including appendixes). Each group member will receive an individual mark. The report should be structured as follows (maximum marks awarded are shown in brackets as a percentage of marks awarded for the report):

- Problem definition (10%)
- Your methods (e.g. sketching, iterative review meetings) (20%)
- Conceptual design (15%)
- Detailed mock-ups (screen shots and with description) (25%)
- Discussion on what went well and how you would improve the method (20%)

An additional maximum 10% will be given for theoretical justifications for your decisions.

Phase 3 Conduct an evaluation/specify product refinements (30 % of module mark)

Conduct a formative evaluation using your prototype. This involves two exercises. The first is an inspection-based evaluation without users. The second is a user-based evaluation.

The inspection-based evaluation is carried out by members of your group. This involves using an inspection-based method based on UX principles and using guidelines on making your design accessible for users who have difficulties with vision, memory and manual dexterity.

The user-based evaluation involves asking volunteers to do some tasks with your system. Remember

that the purpose of this kind of evaluation is to learn about ways that your design can be improved. Therefore, an evaluation that concludes only that the design is good is likely to score zero marks. You need to find out how the system can be improved and to say how you know this.

N.B. You do not need to make actual alterations to your prototype. You need to describe the changes you would consider making if it was an ongoing design project. This includes a rationale for the recommended changes based on evidence and insights emerging from the evaluation exercises.

Group Report – 70% of Phase 3 mark

The final report should be no more than 2000 words (not including references and appendixes). Each group member will receive an individual mark. The report should be structured as follows (maximum marks awarded are shown in brackets as a percentage of marks awarded for the report):

- How you carried out inspection-based evaluation of the prototype (15%)
- Summary of findings from the inspection-based evaluation (15%)
- Your method for user-based evaluation (participants, materials, procedure, analysis) (15%)
- Your analysis of the evaluation findings (15%)
- Detailed description of specified alterations to the prototype after the evaluation exercises (15%)
- Discussion on method use (15%)
- Transcripts and forms (10%)

IMPORTANT NOTE

You will need to write and submit a separate report about each stage. These will be submitted to mylearning/turnitin throughout the year at set deadlines.