Detailed Specification

Design brief

You have been commissioned to write **a report** and create **a prototype** for a new interactive product **for snorkelers and amateur scuba divers**, of which **some features will be used under water**. The basic brief you have been given for the product is that, **1)** it should enable users to **take photos and videos** of their **underwater** experiences and **view** them **later** when **back on land or boat**, and **2) track** and **view details of their diving activity** (e.g. monitoring their (current) depth, ascent time, air left in tank, duration of the dive etc.). The user should be able to **browse and view their photos, videos and details** for each dive or snorkel activity taken (dive log with additional photos and videos) on their mobile app.

The scope of the interactive prototype should be limited to the above mentioned **two main areas**, for **interactions underwater AND on land**. You are asked to create a proof of concept for the interactions of this system to see if users find it usable and desirable. The basic brief is open for interpretation, and you can and should design desirable interactions as you see fit based on your background readings and your research activities.

Interactive prototype

You need to create a mid-fidelity prototype of the **mobile application** that enables people to experience **at least** the **core user journeys that are available in your mobile application** in an interactive manner. This prototype should be **developed in Axure RP10**, unless agreed otherwise with the module leader.

You are required to **describe the *physical* prototype** but **not required** to do any material or technical studies or **create a physical prototype** of the product. A **description and visualisation** of t**he physical product (e.g. a waterproof case)** and **its buttons and interactions**, as part of the conceptual design in the report is sufficient. You need to **submit** an interactive digital **prototype demonstrating** the **interface** and **interactions** of your application and **explain how one interacts with its components**.

Your **design and research activities** need to be in alignment with your **target group** and justifications for all your **assumptions** and **design decisions** need to be **provided**.

Report

In the coursework report, you document your research and design activities, and the required future research study and other future work for the product. This includes a **review of relevant literature** that informed your design, a discussion of the **conceptual design** for the product, and a discussion of **how design principles will be applied**. The report will also discuss your (**design) process** of developing the interactive mid-fidelity prototype and **how relevant HCI theory** has been **implemented**. A plan for an **empirical research study** should be **proposed to test** an **assumption** made in the design of the study, and the **conclusion** should also detail other aspects of future work required. More details can be found in the assessment criteria below. You may also want to consult the annotated table of contents available on the COMP1649 Moodle page to help you structure your report.

Your report needs to be professionally and academically written and structured, based on your own research and reading, and written by yourself using appropriate in-text citations and referencing. This includes the demonstration of English language proficiency, appropriate level of detail, professional formatting of the report, and the writing should be supported by at least **12 relevant academic references** (journal papers, conference papers, academic books - not blogs or online tutorials etc.). References and in-text citations should be formatted in Harvard style. The report word limit is 3000 words. If the submitted work exceeds the limit by more than 10%, marks will be reduced.

Deliverables

- **Report of 2000-3000 words uploaded as a pdf file.**
- **Mid-fidelity prototype uploaded as .rp.**

The prototype should be submitted as an Axure RP file unless agreed with the module leader otherwise.

Annotated Table of Contents Coursework COMP-1649 Human Computer Interaction and Design (2023-2024)

Below is an example of how a table of contents for your coursework report COULD look like. You can use a different structure to what is shown here as long as the relevant content is covered.

Your report should demonstrate sufficient English proficiency, (critical and concise) writing, structuring and report formatting skills. In-text citations and references need to be correctly formatted in Harvard style. The word count for the report should be about 2000-3000 words long. You need to include at least 12 academic in-text citations/references (e.g. academic conference papers, journal papers, chapters from academic books) to support your writing.

The format of prototypes must be Axure files (.rp) unless agreed with the lecturer otherwise. Prototypes submitted as mobile Apps, database driven web applications or any other proprietary formats that requires installation is not permissible and no points can be awarded for such prototypes.

1. Introduction

Brief introduction to the coursework and the structure of your report.

2. Background literature - 20%

Aim to cover the following two areas to help to understand the context of and relevant theory, to inform your design.

1. HCI Research

Provide an overview of your literature research on the topic of the project brief (e.g. HCI research and studies with similar products or contexts) to develop your conceptual design and your requirements. The chosen literature should be relevant for eliciting requirement for your prototype. Describe your main findings and indicate what **requirements** or inspiration were drawn from your findings.

2. HCI Theory

Brief discussion of relevant concepts and theory from the HCI field and how they will be applied in the coursework. This could include relevant background literature (e.g. in relation to cognitive psychology,

interaction design theory), and different modes of interaction (e.g. voice, touch), types of interaction, design principles and design patterns. Discuss how this literature will inform your product, such as your **requirements** or **design**.

3. Design Process (3+ 4 - 15%)

1. Conceptual Design

Present the conceptual design of your proposed design solution. This description should go beyond the digital interface alone. You are only asked to describe the product and interactions, and not the technical attributes of the product. You can include visualisations to give the reader a rough idea what the product and overall solution will look like. However, this does not have to be very detailed. Show how your work has been informed by the outcomes from your literature research on HCI Research and HCI Theory in the previous section. Demonstrate in your proposed solution how the requirements from the literature have been met.

2. Design principles

Include a discussion of how design principles will be integrated in your (interface) design and how it can be evidenced by the interactions in your prototype. It is expected that the principles of visibility, feedback, constraints, consistency, and affordance (as coined by **Don Norman)** are discussed as a minimum.

4. Prototype

Briefly introduce and discuss your final mid-level prototype and describe how the design is informed by the research that has been carried out, as well as the concepts and the principles discussed in the previous sections. Include screenshots of the final prototype (focusing on the digital user interfaces) and provide explanations on your design process, such as the iterations made, and the problems solved. Demonstrate how the design progressed over time and discuss the purpose of your prototype.

Note: A series of static images is not a mid-fidelity prototype, your submitted Axure RP prototype needs to include interactivity that can be experienced and that demonstrates the design of the interfaces and interactions close to how the real product would look like.

There need to be clear links between coursework report and the your prototype. There needs to be evidence for the effective and successful application of Interaction Design principles to create a prototype that can be used to test core concepts of your design and that is suitable as a learning tool for researchers and designers.

5. Research Study - 20%

A proposal for a detailed (empirical) research study that uses your prototype to test at least one assumption that you have made when designing your prototype. In this step, you need to present the design of a research study including the research question(s) or hypothesis that your research study attempts to answer, and the material required to run the study (e.g. questionnaires, interview questions, consent form templates etc.). What hypothesis or research question are you investigating? Who are the participants of your study and how will you find participants? How will the study be run and how will you analyse the data? **You are not asked to run the study but only to design the necessary research instruments so that someone else, such as a usability researcher could run the study using your plan, materials and your prototype.** You need to create all necessary instruments and documentation (e.g. a questionnaire, interview questions, consent form templates etc.) that is required to run the study. This documentation should be **included in an jjjjjj.**

6. Conclusion - 10%

Provide critical reflections on the work that has been completed. What are some of the limitations and constraints of your research, report, process and prototype? What could have been improved? What would be potential next steps for this project? Go beyond just repeating what has already been said elsewhere in the report.

References

Make sure all your references and in-text citation are correctly formatted using Harvard format. If you are unsure about the Harvard format, use suitable tutorials and guidelines provided by the UoG library and the guidance given for your final year project.

Appendices

Include here the material from section 5 and other appendices.