| **COMP1649 (2023/24)** | **Human Computer Interaction and Design** | **Partner-ships** | **Contribution: 100% of course** |
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| **Module Leader: Dr. Annemarie Zijlema** | **Coursework** |  | **Deadline Date: 24 November 2023** |
| This coursework should take an average student who is up-to-date with tutorial work approximately 50 hours  Feedback and grades are normally made available within 15 working days of the coursework deadline | | | |
| **Learning Outcomes:**  1 Deploy theory, design principles, tools and methodologies to implement and evaluate human- computer interactions;  2 Carry out design research to inform development of systems and applications;  3 Construct and create prototypes of human-computer interactions;  4 Demonstrate the origins of ideas by correctly citing and referencing sources used in the work. | | | |



# Coursework Submission Requirements

* An electronic copy of your work for this coursework must be fully uploaded on the Deadline Date using the link on the coursework Moodle page for COMP1649.
* For this coursework you must submit a single PDF document. In general, any text in the document must not be an image (i.e. must not be scanned) and would normally be generated from other documents (e.g. MS Office using "Save As .. PDF"). An exception to this is hand written mathematical notation, but when scanning do ensure the file size is not excessive.
* For this coursework you must also upload your prototype file.
* There are limits on the file size (see the relevant Moodle page).
* Make sure that any files you upload are virus-free and not protected by a password or corrupted otherwise they will be treated as null submissions.
* You must NOT submit a paper copy of this coursework.
* All courseworks must be submitted as above. Under no circumstances can they be accepted by academic staff.
* All mid-fidelity prototypes for this module must be submitted as Axure RP file unless agreed with the module leader otherwise. Submissions of prototypes submitted in other formats or as proprietary file types from other prototyping tools will not be accepted and marks for the prototype will be reduced to 0.

The University website has details of the current Coursework Regulations, including details of penalties for late submission, procedures for Extenuating Circumstances, and penalties for Assessment Offences. See <https://www.gre.ac.uk/student-services/exams/regs> and the [Academic Regulations for Taught Awards](https://docs.gre.ac.uk/rep/sas/academic-regs).



# 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.*

# Assessment Criteria

## Report

Professional writing style, English language proficiency, writing with appropriate level of detail, professional report formatting, sufficient and appropriate referencing in **Harvard style of academic sources** (journal papers, conference papers, or academic books) throughout the report. **A minimum of 12 sources is expected.   
5%**

A review of relevant and appropriate HCI background **literature** **written in your own word**s and appropriately referenced, to inform the design of the product and to generate requirements. **Relevant** background should support the requirements of **the proposed solution** (**e.g. related work, HCI literature in relation to the product’s context, interaction design theory, cognitive psychology etc**.).

**20%**

A discussion of the product idea (conceptual design) **explaining the components** of the product and how the user will interact with the product, and how requirements will be met.

Also **design principles (by Don Norman)** and their application to the coursework product are discussed. A brief discussion for **each principle/concept and suitable visual representations** should be included.

**15%**

**A detailed proposal for an empirical HCI research study that uses your interactive prototype to test at least one assumption that you have made when designing your prototype. In this proposal, you need to provide the details for a research study including the question(s) or hypothesis that your research study attempts to investigate, who the participants of your study will be, how the study will be run, the data collection, and how you will analyse the data. You do not need to run the study but you need to create all necessary instruments and documentation that are required for a usability expert to run the study.**

**20%**

A conclusion drawing together **the key facts**, **critical reflections** on the limitations of the work that has been carried out and a **discussion of potential future work** if the project would be developed further. The conclusion **needs to go beyond repeating** what has been said elsewhere and show **a clear vision of what the next steps** for such a project would be.  
**10%**

## Mid-fidelity prototype of an interactive product

Clear links between the coursework report and the prototype with design decisions explicitly documented and justified in the report. Evidence of the effective and successful application of HCI theory and design principles to create a prototype that can be used to test core assumptions of your design and that is suitable for researchers and designers to test and evaluate the product. The implementation of design research and theory is evident in both the report and the prototype.

**30%**

| *Rubric COMP1649* | **0-29% Fail** | **30-39% Fail** | **40-49% Satisfactory** | **50-59% Good** | **60-69% Very Good** | **70-79% Excellent** | **80-100% Exceptional** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **D1 Knowledge  Demonstrating the design process and implementation of design principles** | Little to no discussion of the product idea (conceptual design) explaining the components of the product and how the user will interact with the product, and how requirements will be met. Also little to no design principles (by Don Norman) and their application to the coursework product are discussed. The report lacks a discussion for each principle/concept and little to no suitable visual representations. | A poor discussion of the product idea (conceptual design) explaining the components of the product and how the user will interact with the product, and how requirements will be met. Also a poor discussion of the design principles (by Don Norman) and their application to the coursework product. The report has a poor discussion for each principle/concept and poor suitable visual representations. | A satisfactory discussion of the product idea (conceptual design) explaining the components of the product and how the user will interact with the product, and how requirements will be met. Also a satisfactory discussion of the design principles (by Don Norman) and their application to the coursework product. The report has a satisfactory discussion for each principle/concept and satisfactory suitable visual representations. | A good discussion of the product idea (conceptual design) explaining the components of the product and how the user will interact with the product, and how requirements will be met. Also a good discussion of the design principles (by Don Norman) and their application to the coursework product. The report has a good discussion for each principle/concept and good suitable visual representations. | A very good discussion of the product idea (conceptual design) explaining the components of the product and how the user will interact with the product, and how requirements will be met. Also a very good discussion of the design principles (by Don Norman) and their application to the coursework product. The report has a very good discussion for each principle/concept and very good suitable visual representations. | An excellent discussion of the product idea (conceptual design) explaining the components of the product and how the user will interact with the product, and how requirements will be met. Also an excellent discussion of the design principles (by Don Norman) and their application to the coursework product. The report has an excellent discussion for each principle/concept and excellent suitable visual representations. | An exceptional discussion of the product idea (conceptual design) explaining the components of the product and how the user will interact with the product, and how requirements will be met. Also an exceptional discussion of the design principles (by Don Norman) and their application to the coursework product. The report has an exceptional discussion for each principle/concept and exceptional suitable visual representations. |
| **D1 Knowledge  Mid-fidelity Prototype** | Little to no links between the coursework report and the prototype with design decisions explicitly documented and justified in the report. Little to no evidence of the effective and successful application of HCI theory and design principles to create a prototype that can be used to test core assumptions of your design and that is suitable for researchers and designers to test and evaluate the product. Little to no demonstration of implementation of design research and theory in both the report and the prototype. | Poor links between the coursework report and the prototype with design decisions explicitly documented and justified in the report. Poor evidence of the effective and successful application of HCI theory and design principles to create a prototype that can be used to test core assumptions of your design and that is suitable for researchers and designers to test and evaluate the product. Poor demonstration of the implementation of design research and theory in both the report and the prototype. | Satisfactory links between the coursework report and the prototype with design decisions explicitly documented and justified in the report. Satisfactory evidence of the effective and successful application of HCI theory and design principles to create a prototype that can be used to test core assumptions of your design and that is suitable for researchers and designers to test and evaluate the product. Satisfactory demonstration of the implementation of design research and theory in both the report and the prototype. | Good links between the coursework report and the prototype with design decisions explicitly documented and justified in the report. Good evidence of the effective and successful application of HCI theory and design principles to create a prototype that can be used to test core assumptions of your design and that is suitable for researchers and designers to test and evaluate the product. Good demonstration of the implementation of design research and theory in both the report and the prototype. | Very good links between the coursework report and the prototype with design decisions explicitly documented and justified in the report. Very good evidence of the effective and successful application of HCI theory and design principles to create a prototype that can be used to test core assumptions of your design and that is suitable for researchers and designers to test and evaluate the product. Very good demonstration of the implementation of design research and theory in both the report and the prototype. | Excellent links between the coursework report and the prototype with design decisions explicitly documented and justified in the report. Excellent evidence of the effective and successful application of HCI theory and design principles to create a prototype that can be used to test core assumptions of your design and that is suitable for researchers and designers to test and evaluate the product. Excellent demonstration of the implementation of design research and theory in both the report and the prototype. | Exceptional links between the coursework report and the prototype with design decisions explicitly documented and justified in the report. Exceptional evidence of the effective and successful application of HCI theory and design principles to create a prototype that can be used to test core assumptions of your design and that is suitable for researchers and designers to test and evaluate the product. Exceptional demonstration of the implementation of design research and theory in both the report and the prototype. |
| **D1 Research  Review of relevant HCI literature** | Little to no review of relevant and appropriate HCI background literature to inform the design of the product and to generate requirements. The background literature lacks relevance and does not or very little support the requirements of a proposed solution (e.g. related work, HCI literature in relation to the product’s context, interaction design theory, cognitive psychology etc.). | Poor review of relevant and appropriate HCI background literature to inform the design of the product and to generate requirements. The background literature has poor relevance and supports the requirements of a proposed solution to a poor standard (e.g. related work, HCI li-terature in relation to the product’s context, interaction design theory, cognitive psychology etc.). | A satisfactory review of relevant and appropriate HCI background literature to inform the design of the product and to generate requirements. The background literature has relevance and supports the requirements of a proposed solution to a satisfactory standard (e.g. related work, HCI literature in relation to the product’s context, interaction design theory, cognitive psychology etc.). | A good review of relevant and appropriate HCI background literature to inform the design of the product and to generate requirements. The background literature has relevance and supports the requirements of a proposed solution to a good standard (e.g. related work, HCI literature in relation to the product’s context, interaction design theory, cognitive psychology etc.). | A very good review of relevant and appropriate HCI background literature to inform the design of the product and to generate requirements. The background literature is very relevant and supports the requirements of a proposed solution to a very good standard (e.g. related work, HCI literature in relation to the product’s context, interaction design theory, cognitive psychology etc.). | An excellent review of relevant and appropriate HCI background literature to inform the design of the product and to generate requirements. The relevance of the background literature is to an excellent level and supports the requirements of a proposed solution to an excellent standard (e.g. related work, HCI literature in relation to the product’s context, interaction design theory, cognitive psychology etc.). | An exceptional review of relevant and appropriate HCI background literature to inform the design of the product and to generate requirements. The relevance of the background literature is to an exceptional level and supports the requirements of a proposed solution to an exceptional standard (e.g. related work, HCI literature in relation to the product’s context, interaction design theory, cognitive psychology etc.). |
| **D2 Research   Proposal for an empirical HCI research study** | A detailed proposal for an empirical HCI research study that uses your interactive prototype to test at least one assumption that you have made when designing your prototype is absent or nearly absent. Nearly no details for a research study were presented, including the question(s) or hypothesis that your research study attempts to investigate, who the participants of your study will be, how the study will be run, the data collection, and how you will analyse the data. Little to no necessary instruments and documentation that are required for a usability expert to run the study were created. | A poor proposal for an empirical HCI research study that uses your interactive prototype to test at least one assumption that you have made when designing your prototype. A poor standard and few details for a research study were presented, including the question(s) or hypothesis that your research study attempts to investigate, who the participants of your study will be, how the study will be run, the data collection, and how you will analyse the data. The instruments and documentation that are required for a usability expert to run the study were created to a poor standard. | A satisfactory proposal for an empirical HCI research study that uses your interactive prototype to test at least one assumption that you have made when designing your prototype. A satisfactory standard and some details for a research study were presented, including the question(s) or hypothesis that your research study attempts to investigate, who the participants of your study will be, how the study will be run, the data collection, and how you will analyse the data. The instruments and documentation that are required for a usability expert to run the study were created to a satisfactory standard. | A good proposal for an empirical HCI research study that uses your interactive prototype to test at least one assumption that you have made when designing your prototype. A good standard and some good details for a research study were presented, including the question(s) or hypothesis that your research study attempts to investigate, who the participants of your study will be, how the study will be run, the data collection, and how you will analyse the data. The instruments and documentation that are required for a usability expert to run the study were created to a good standard. | A very good proposal for an empirical HCI research study that uses your interactive prototype to test at least one assumption that you have made when designing your prototype. A very good standard and some very good details for a research study were presented, including the question(s) or hypothesis that your research study attempts to investigate, who the participants of your study will be, how the study will be run, the data collection, and how you will analyse the data. The instruments and documentation that are required for a usability expert to run the study were created to a very good standard. | An excellent proposal for an empirical HCI research study that uses your interactive prototype to test at least one assumption that you have made when designing your prototype. An excellent standard and excellent details for a research study were presented, including the question(s) or hypothesis that your research study attempts to investigate, who the participants of your study will be, how the study will be run, the data collection, and how you will analyse the data. The instruments and documentation that are required for a usability expert to run the study were created to an excellent standard. | An exceptional proposal for an empirical HCI research study that uses your interactive prototype to test at least one assumption that you have made when designing your prototype. An exceptional standard and exceptional details for a research study were presented, including the question(s) or hypothesis that your research study attempts to investigate, who the participants of your study will be, how the study will be run, the data collection, and how you will analyse the data. The instruments and documentation that are required for a usability expert to run the study were created to an exceptional standard. |
| **D3 Evaluation / D6 Employability   Conclusion** | Little to no conclusion drawing together the key facts, little to no critical reflections on the limitations of the work that has been carried out and little to no discussion of potential future work if the project would be developed further. | A poor conclusion drawing together the key facts, poor critical reflections on the limitations of the work that has been carried out and a poor discussion of potential future work if the project would be developed further. | A satisfactory conclusion drawing together the key facts, satisfactory critical reflections on the limitations of the work that has been carried out and a satisfactory discussion of potential future work if the project would be developed further. | A good conclusion drawing together the key facts, good critical reflections on the limitations of the work that has been carried out and a good discussion of potential future work if the project would be developed further. | A very good conclusion drawing together the key facts, very good critical reflections on the limitations of the work that has been carried out and a very good discussion of potential future work if the project would be developed further. | An excellent conclusion drawing together the key facts, excellent critical reflections on the limitations of the work that has been carried out and an excellent discussion of potential future work if the project would be developed further. | An exceptional conclusion drawing together the key facts, exceptional critical reflections on the limitations of the work that has been carried out and an exceptional discussion of potential future work if the project would be developed further. |
| **D4 Communication / D5 Referencing   Professional writing and referencing** | A lack of demonstrating a professional writing style, little to no English language proficiency, the report lacks professional formatting, largely incorrect or no referencing in Harvard style of academic sources (e.g. journal papers, conference papers, academic books) throughout the report. | Poor demonstration of a professional writing style, poor English language proficiency, poor report formatting, poor referencing in Harvard style of academic sources (e.g. journal papers, conference papers, academic books) throughout the report. | a satisfactory professional writing style, satisfactory English language proficiency, satisfactory report formatting, satisfactory referencing in Harvard style of academic sources (e.g. journal papers, conference papers, academic books) throughout the report. | a good professional writing style, good English language proficiency, good report formatting, good referencing in Harvard style of academic sources (e.g. journal papers, conference papers, academic books) throughout the report. | a very good professional writing style, very good English language proficiency, very good report formatting, very good referencing in Harvard style of academic sources (e.g. journal papers, conference papers, academic books) throughout the report. | excellent professional writing style, excellent English language proficiency, excellent report formatting, excellent referencing in Harvard style of academic sources (e.g. journal papers, conference papers, academic books) throughout the report. | exceptional professional writing style, exceptional English language proficiency, exceptional report formatting, exceptional referencing in Harvard style of academic sources (e.g. journal papers, conference papers, academic books) throughout the report. |