

INFOSYS 220

GROUP ASSIGNMENT

System proposal and Prototypes
Semester 1 2018

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SUBMISSION DEADLINES

All deadlines for this assignment are strictly governed by Canvas. No late submissions will be accepted. Canvas will stop accepting submissions one second after the stated deadlines. Ignore this warning and great sadness may befall you.

Submit all files to Canvas before the stated deadline. No printed submission is required. Detailed submission requirements are given below in the “Tasks” section.

GROUP ASSIGNMENT PROPOSAL

Weighting: **1% of your total mark**

Submit your proposal any time before Week 10 Monday, 14 May 12pm (noon)

Approved proposals received **before Week 7 Friday, 27 April 12 noon** receive a **2.0%** bonus.

Approved proposals received **before Week 8 Friday, 4 May 12 noon** receive a **1.0%** bonus.

Approved proposals received **before Week 9 Friday, 11 May 12 noon** receive a **0.5%** bonus.

If a group's proposal is not approved by **Week 10 Monday, 14 May 12 noon**, all members of the group become ineligible to submit the final deliverable. In other words, **the group forfeits the entire 15%** allocated to this assignment.

GROUP ASSIGNMENT FINAL DELIVERABLE

Weighting: **14% of your total mark**

Due before Week 12 Monday, 28 May 12 noon

ASSIGNMENT GUIDELINES

ACADEMIC HONESTY AND INTEGRITY

The group assignment must be produced by members of your own group only. **Do not work in a way which could result in different groups submitting the same or very similar work.**

In attempting this assignment you agree to adhere to all the principles and practices of academic honesty and integrity for the University of Auckland outlined here: <https://www.auckland.ac.nz/en/about/learning-and-teaching/policies-guidelines-and-procedures/academic-integrity-info-for-students.html>. Any form of cheating, plagiarism, assistance in cheating, unfair collaboration, or other behaviour deemed to be academic misconduct will not be tolerated. Academic misconduct will be dealt with according to University's [Student Academic Conduct Statute](#).

TEAMWORK FOR GROUP ASSIGNMENT

For this assignment you will be working in groups of (about) five with students in your lab stream. All members are expected to participate and contribute. A weekly progress report must be submitted with the final assignment. You will also be required to complete a team review at the end of the assignment. However, if at any time a member is not contributing, please inform the teaching team as soon as possible. Action such as reducing marks may be taken for students who do not fairly contribute.

You must be proactive in managing your group; last-minute complaints are generally not considered.

WEEKLY PROGRESS REPORTING AND TEAM REVIEW

This activity carries no marks and is used for auditing purposes only.

Your group is expected to meet and work on this assignment regularly. You are required to document all meeting minutes and update your weekly progress using the provided template on Canvas. You are also required to complete a team review at the end of the assignment. Instructions for this review will be sent closer to the time of review.

Please include your weekly progress reports with your submission. These reports provide evidence used to resolve team contribution disputes. **If a group has not documented their progress or submitted a team review, disputes will not be considered.**

BACKGROUND

This assignment follows Assignment 1. In this assignment, you will, as a group, develop and document interactive visual prototypes for one or more modules of the desired system. You will experience parts of the SDLC for the system you work on.

Your system for this assignment need not be related to any group member's Assignment 1 ideas.

TASKS

This assignment is divided into two deliverables. The first is a proposal outlining the system you intend to develop for Happy Ducklings ECE. The second is to develop and document prototypes of the proposed system. For each deliverable, note its respective submission due date given under the “Submission deadlines” section.

GROUP ASSIGNMENT PROPOSAL

0. Scope selection

You do not need to submit anything for this task.

As a group, select one or more of Happy Duckling ECE’s proposed system modules to focus on for the remainder of this assignment. Your chosen module(s) must be satisfied by a single information system with:

- The same number of use cases as there are group members.
 - E.g. if your group has five members then your system must have five substantial use cases.
 - Each use case offers at least one substantial function.
 - Use cases for logging in or generating reports are not considered substantial.
 - Each use case must involve human interaction, i.e. help a human user to achieve a value-adding goal by using the system. Use cases without human interaction are deemed out of scope.
- Two different ways users will interact with the system through an interactive graphical user interface (GUI). Examples of GUIs: an application on a portable device (including smart watches); an application on a desktop or laptop PC; a self-service machine / kiosk that allows access to the system; and a control panel (such as in an aeroplane cockpit, or [this thing](#)) that allows access to the system. Note different GUIs have different methods of interaction, e.g. sight, sound, keyboard and mouse, touch, etc.

You will explain your system’s scope in Task 1.

You will create interactive visual prototypes and accompanying documentation for your system’s two GUIs in the Final Deliverable (Tasks 2, 3, and 4).

1. Written proposal

Use the template given on Canvas to write approximately 600 words (may be slightly more if you have a group of 6 members) to:

- Briefly explain the module(s) you have selected (solution scope). Do this by:
 - Describing, for the selected modules, the general business requirement(s) your system aims to fulfil, and the general business need(s) your system aims to address.
 - Listing specific problems you are solving with your system. Use the numbered-list format in the template; each problem is labelled with a P# number.
- Describe your proposed system. Do this by:
 - Drawing a use case model of your system.
 - Number and name each use case.
 - Your model is expected to be consistent with the rest of your proposal and free from any technical errors.
 - Describing specific functions your system will perform. List functions in the tabular format given in the template, and group your functions by use case.
 - You need to have at least 3 functions per use case (one of these must be substantial).

- Each function must correspond to a use case in some way.
- Each function must correspond to a specific problem (it exists to solve the problem in part or in whole).
- Each function must involve (at least) one human user interacting with (at least) one of your system's GUIs.
- Provide a visual preview your proposed system. Do this by:
 - Stating, for each GUI: the type of GUI and its users.
 - Using diagrams, where appropriate, to give the reader / marker an idea of what your system will look like.
 - You can draw GUI mock-ups, building floor plans, pictures of machines (e.g. kiosks, mobile devices, large interactive screens), etc.
 - You can draw these by hand or use a [software drawing tool](#) like Visio, [Paint](#), [Draw.io](#), or [Google Drawings](#).
 - Help the reader understand and get excited about your system.
- Write an acknowledgement that your entire group has read and understood this assignment's Submission deadlines.

All sections of your proposal are expected to be consistent with all other sections.

Submit the following files for Task 1:

1. Proposal document

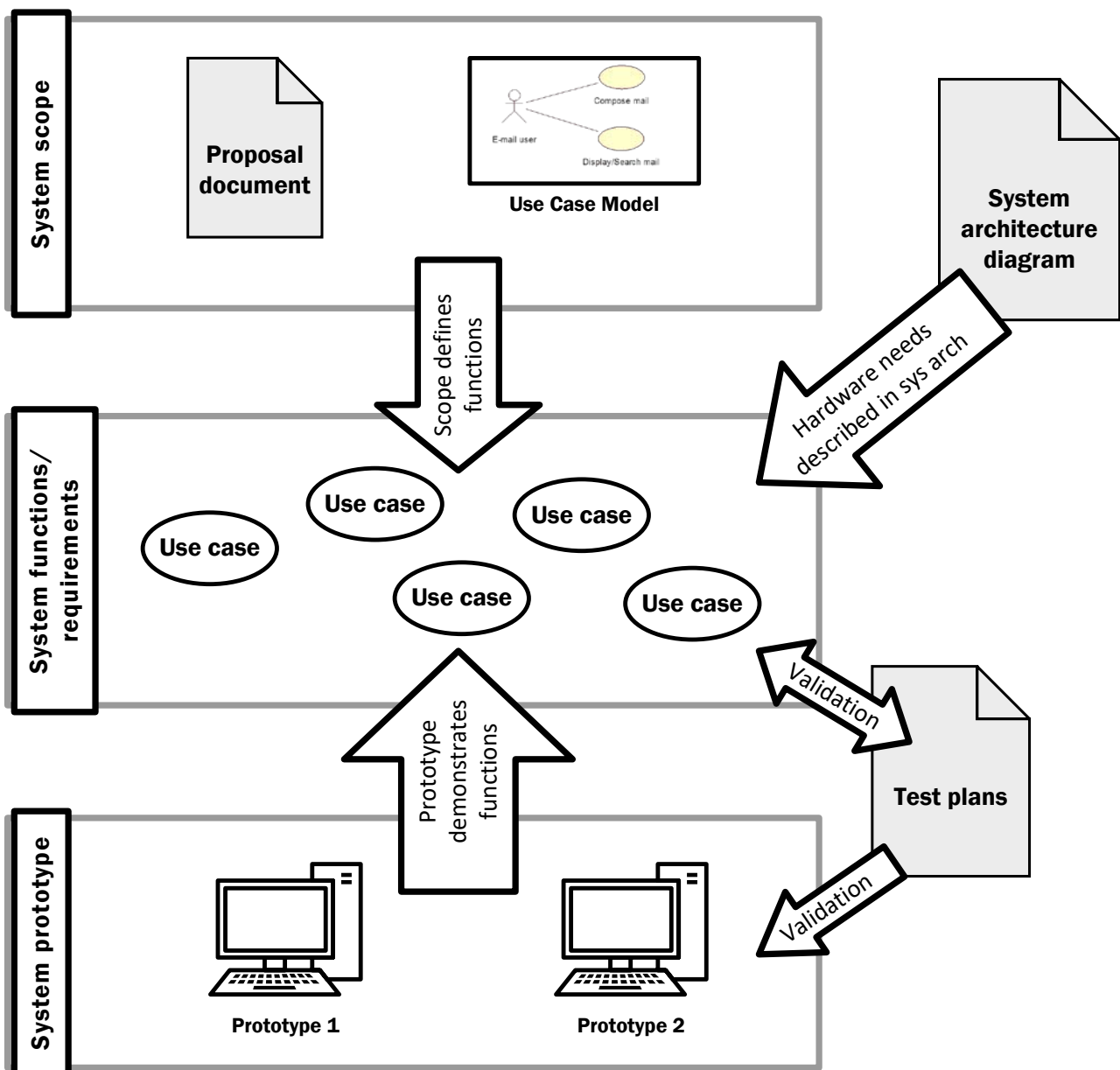
A PDF file—please use the template file given on Canvas. You may change its visual style, but not the structure, headings, or sequence.

Your proposal will be treated like a bid. The marker will approve or reject your proposal when marking. Your proposal must be approved before continuing with the group assignment final deliverable. If your proposal is rejected you must revise it according to the feedback given and re-submit it for approval.

Re-submission process:

- A marker will notify all members of your group (via Canvas) as to whether your proposal is approved or rejected.
 - If approved, you may begin work on the final deliverable tasks.
 - If rejected, revise your proposal based on the feedback provided and submit your updated files on Canvas.
 - Canvas will automatically notify a marker there is a re-submission to be re-checked.
 - You are encouraged to see your marker in person to discuss the reasons for rejection.
- You may re-submit as many times as is necessary to get your proposal approved.
- Allow at least 24 hours for your submission to be checked.

VISUALISATION OF RELATIONSHIPS BETWEEN ASSIGNMENT TASKS



GROUP ASSIGNMENT FINAL DELIVERABLE

In this deliverable you will create and document two prototypes to demonstrate the system approved in your proposal. Produce the artefacts described in Tasks 2, 3, and 4 below.

2. System architecture proposal

Draw a system architecture diagram to propose how various *hardware* components involved in your system will interact with each other. Show three tiers in your diagram; do not show networking components.

Expectations for this task will be discussed in lectures.

3. Interactive visual prototypes

Design GUIs for **each** of the two ways users will interact with your system (i.e. for GUI 1 and GUI 2 from your proposal). Base your design on relevant models and documentation done to date. Between the two GUIs, all the use cases of your proposed system must be demonstrated. You do not need to submit your design files, only the final prototypes, as described below.

Create an interactive visual prototype for each GUI designed, i.e. create a prototype of GUI 1 and a prototype for GUI 2. You may use any tool to achieve this so long as you can submit the original prototype files (as proof you are the originators of the prototypes), and your prototype can be viewed and marked on an OGGB Lab PC. Some prototyping tools will be explored during labs.

Prototype expectations—you will be marked against these criteria:

- Aesthetically appealing; modern visual design used.
- Screen-to-screen navigation must be functional; no other functionality is required.
- Demonstrate or simulate interaction for a major function of each use case.
 - See the “Demonstration/simulation” section below. Focus on the functions you are going to document (each use case needs only one; be wise with your choices).
 - You will need to use animations (or a similar mechanism) to achieve this.

4. Prototype documentation

Document the functions and design of your prototypes by completing the headings given in the template file on Canvas. You may change the visual style, but not the structure, headings, or sequence. Your documentation must be consistent with your approved proposal.

Document the following **for each use case**:

Functionality

- Show, using screenshots only, where each function appears on your prototype.
- Follow the example given in the template: clearly link function numbers (F#) to screenshots of your prototype. You may show multiple functions on one screenshot (use arrows and annotations).
- Use cases and functions must be named and numbered exactly the same as in your approved proposal.

Data

- List the key entities and their attributes for the use case.
- Show, using annotated screenshots, where the entities and attributes appear on your prototype.

Demonstration/simulation

- Choose one major function and explain how the prototype demonstrates/simulates this function. Clearly indicate your chosen function. Your explanation can be communicated using any method. Example methods:
 - Provide simple step-by-step instructions for the marker to use your prototype (to play the correct animations etc.).
 - Use a series of annotated screenshots to guide the marker.
 - Record a video of someone using the prototype to visually demonstrate and orally explain the function.

Test plan

The purpose of testing is to validate a design. Write a high-level test plan to validate one function of the use case.

Expectations for this task will be discussed in lectures. Use the headings in the template table to guide you.

Document the following **for both prototypes**:

User-centred design principles

- Show how each of the 7 user-centred design principles taught in lectures is applied in the visual design of your prototypes. Be brief in your explanations. The principle should be immediately evident from your screenshot and explanation.
- Follow the headings given in the template.

Submit the following files for Group Assignment Final Deliverable:

Submission notes for each task:

- For large files provide links to cloud storage or [Web DropOff Box](#). You have [unlimited Google Drive](#) storage using your @aucklanduni.ac.nz account.
 - Please keep file sizes reasonable—remove unnecessary files; submit compressed videos; use compressed formats for images; etc.
- Remember to document all meeting minutes and include your progress reports in your submission.

2. System architecture proposal

A single PDF file with your system architecture diagram (with annotations and explanations, if necessary).

3. Prototypes for GUI 1 and GUI 2 (and original files if applicable)

- i. Files or [URLs](#) needed for a marker to run and interact with your prototypes using an OGGB Lab PC.
- ii. Provide instructions, if necessary.
- iii. Original files for the prototypes (or equivalent) to prove you are the original creators. If your prototype consists of multiple files, submit a single zip file containing all the files.

4. Prototype documentation

A single PDF file—please use the template file given on Canvas. You may change the style, but not the structure, headings, or sequence. Include any progress reports as an appendix.

Your marker will refer to the latest approved version of your proposal document and use case model. You do not need to re-submit the proposal.

THE BIGGER PICTURE

Assignment 1 is the first of several assignments which are based on the Happy Duckling ECE scenario. The overall task is to understand Happy Duckling ECE strategy and present a Business Case in favour of your project being accepted and initiated. This is a simulation of part of the planning phase. This assignment will allow you to experience the key activities required to achieve preliminary investigations required. To simplify the task (by limiting the scope), we have asked each student to prioritise, justify and choose from the systems modules and come up with a system that satisfies the needs of that area. Your project scope and Happy Duckling ECE' suggested modules will together provide the information necessary to plan, analyse, and design a full-featured system. This occurs in the Group Assignment.

Assignment 2: This is a simulation of part of the analysis phase. You will explore an area of the project by modelling relevant users' requirements and relevant processes. The use of modelling tools will help you better understand what type of solution is needed to satisfy the business problem.

Group Assignment Proposal: You will form groups of 4 or 5 with people from the same lab to work on a proposal for a solution (system) for the targeted scope from the Happy Duckling ECE Scenario. You can combine your Assignment 1 and 2 ideas and decide which of the group members' ideas would be most interesting to continue working on. You will submit your system's proposal and plans for approval before continuing.

Group Assignment Final Deliverable: You will design and produce a prototype for the proposed solution. You will be required to complete reports, models, and diagrams in order to develop, validate, and document your solution's prototype.

Presentation: You will present your solution as a group to your classmates and several staff members. Presentations take place in week 11 in your lab during your lab time.

MARK ALLOCATION GUIDE

Group Assignment Proposal	Criterion	Marks
Task 1 Proposal document	<p>Approved or rejected.</p> <p>Common reasons for rejection:</p> <ul style="list-style-type: none"> • Submission deadlines not acknowledged • Instructions not followed • Insufficient information provided • Information requested is unclear, inconsistent, or incorrect • Trivial or simplistic system proposed • Use case model is illegible • Use case model contains errors • Inadequate use cases exist: too many; too few; insufficient; non-substantial • Inappropriate GUI; insufficient GUI examples • Unprofessionalism: grammar or spelling errors; inconsistent terminology used; inconsistent format used; ugly formatting • Word limit exceeded • Track changes / comments / mark-up not removed 	<p>1 mark for approval before the deadline</p> <p>Bonus marks available for early approval</p>
<p>Your proposal will be treated like a bid. The marker will approve or reject your proposal when marking. Your proposal must be approved before continuing with the group assignment final deliverable. If your proposal is rejected you must revise it according to the feedback given and re-submit it for approval.</p>		
(1% of final mark) Total marks		1

Group Assignment Final Deliverable	Criterion	Marks
Task 2. System architecture	Understanding of tiers: components are allocated to appropriate tiers	6
	Understanding of links: components are sensibly connected	2
	Understanding of hardware: every component shown is hardware	8
	Architecture subtotal	16
Task 3. Prototypes for GUI 1 and GUI 2	Visual design and aesthetics (10 marks per prototype)	20
	Navigation functional	10
	Interaction / simulation present (20 marks per prototype)	40
	Prototypes subtotal	70
Task 4. Prototype documentation	Marks for documentation for all use cases will total 40; marks for each use case will be split evenly using the criteria and weightings below.	40
	<p>Functionality 20%</p> <ul style="list-style-type: none"> • consistent with proposal and prototype 	
	Data 20%	

	<ul style="list-style-type: none"> Entities and attributes are valid and consistent with proposal and prototype No obvious data is missing No superfluous data is listed 	
	Demonstration/simulation 40% <ul style="list-style-type: none"> The demonstrated/simulated function is consistent with the documentation Documentation method is sensible and comprehensive 	
	Test plan 20% <ul style="list-style-type: none"> Consistency with system proposal Plan is meaningful for the function of the use case and system 	
	Design principles (2 marks each) <ul style="list-style-type: none"> Understanding of principle Principle adequately applied 	14
	Documentation subtotal	54
(14% of final mark) Total marks		140

VERSION HISTORY

2018-03-17: v1 initial draft

2018-04-06: v2 minor formatting changes and finalise