INFOSYS 220 ASSIGNMENT 2

REQUIREMENT MODELLING
Semester 1 2018 Individual Assignment

Due date: **Monday 16 April 12 noon**
Weighting: **7 % of the final grade**

ASSIGNMENT GUIDELINES

OBJECTIVE

To demonstrate understanding of UML modelling and functional requirements as part of a System Proposal.

SUBMISSION

Submit a single .doc, .docx, or .pdf file for all tasks and the original use case diagram file (e.g., .mdl file) to Canvas before the assignment due date and time. No printed submission is required.

ACADEMIC HONESTY AND INTEGRITY

This is an individual assessment. **Do not work in a way which could result in parties 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 the University's Student Academic Conduct Statute.

ASSIGNMENT TASKS

BACKGROUND

Project Happy Kid has now been initiated and you have been assigned a dedicated scope to elicit as a business analyst in the project team. The scope is specified by the project's board of committee (parents volunteer and staff member) and the project sponsor. Happy Duckling ECE has been keeping the Ministry of Education abreast with the progress on the initiation of Happy Kid. The business needs are established towards a goal to go paperless and adopt a state of the art management system that focuses on ease of use, excellent care and education with the use of innovative and ubiquitous technology.

During this period, the Ministry of Health has also shown an interest in riding along this pilot project to combine their new goal of creating a seamless and well-connected transition for pre-schoolers starting primary school. The Ministry of Health launched a very systemic service and process called B4 School Check few years ago. B4 School Check is a free health and development check for all 4 year-olds living in New Zealand. It is the last Well Child Tamariki Ora check and helps give each child in New Zealand the best start at school. A child can start school or kura in New Zealand between age 5 and 6. All children must be enrolled at school by their sixth birthday. The Ministry of Health would now like to incorporate B4 School Check into project Happy Kid as part of Happy Kid system called **Happy Kid-ReadyforSchool**.

After a series of elicitation of requirements, below are the points gathered during the planning phase and at the start of the analysis phase. The key focus of this list is ensuring that all pre-schoolers have a portfolio, and have completed all the required checks, questions and enrolled into a primary school or home school before their 6th birthday. Each child attending Happy Ducking will have a child portfolio that includes all the personal details and information of the child.

Happy Duckling ECE have a secondment from a senior officer from Ministry of Education, Aroha Ngata to lead this project as she has vast experience as a transition specialist and speech and language therapist. The requirements collected are:

a. Every parent/guardian and a child attending Happy Duckling will have a 45 minute appointment with a nurse organised by Ministry of Health. The nurse will explain what happens at the check and will ask for a consent form to be signed to proceed with the check. This step will be done via the online systems with notifications sent via email or text messages. If a hardcopy form is submitted, it will be scanned into the system. Teachers can also confirm an appointment for the child by request from a parent/guardian.

b. Each child reaching their 4th birthday can start to make an appointment. They must be scheduled an appointment within the 3 months after their 4th birthday. This is to allow sufficient time for any early intervention if needed before they start school. A list of availability slots will be available for parents to choose from.

c. An appointment is made with two reminders sent to the parent/guardian; a week before and the day before.

d. At (or sometimes before) the check, the parent/guardian will be asked to fill out questionnaires about the child's development and wellbeing. For a child attending Happy Duckling, they will also be asked about their child's learning and development during their time in the centre by

the assigned teacher. This step will now be improved and made quicker as the nurse will obtain the portfolio of each child through the new Happy Kid System.

e. As part of the checks, the nurse will measure the child's height, weight and update on the child's immunisation chart. The nurse will also check on the child's teeth.

f. Each session will be carried out by a qualified B4 School Check nurse and an officer/specialist from Ministry of Education will also be present to ask and observe the child's learning and development and strengths and difficulties. These are then recorded during the session and filed into the child's portfolio as reports of outcome reports.

g. There will be two outcome reports created after each appointment. Both nurse and specialist will need to sign to complete the outcome reports. This is to ensure integrity and accountability. The nurse will be responsible for completing the medical outcome while the specialist provides the wellbeing and development outcome reports.

h. Vision and hearing tests are performed by the nurse with the help of the officer to ensure the child can see and hear well. If the child did not meet the satisfactory check list, a referral will be issued to obtain another round of checks through the associated district health board. Officer/Specialist will spend some time interacting with the child to assess on the wellbeing and development of the child. Questions are also asked of the parents on the plans for schooling and any other behavioural or social issues.

i. More questions about the child's health and wellbeing will be asked to ensure the child does not require any early intervention to get them school-ready. This is done after the session with follow up emails or a hardcopy questionnaire.

j. Parents/guardians will have been sent the full list of activities to be done in the session prior to the appointment day. They can go through a quick checklist online/via an app and post questions on the types of test required for their child.

k. After each appointment, parents can view the report of their child as well as information on how to enrol the child to a school zoned to their address. The school will also be informed of the list of possible children targeting to enrol in their school ahead of time.

l. Happy Kid–ReadyforSchool aims to have an online chat available for all parents/guardians that have any pre or post questions with an officer from Ministry of Education. This will allow parents to get quick advice and information before their child starts school.

m. If a child has received a diagnosis of any special needs or medical requirement, the Ministry of Health will issue a letter to the parents/guardian for follow up appointments to make sure the child's needs are provided for. This is done externally outside the ReadyforSchool system.

n. Teachers from Happy Duckling will regularly use Happy Kid–ReadyforSchool to add or update any information on the child's learning and development. Each update will be synchronised and available to view after 5 hours.

o. Teachers can view, update and manage their children's information and portfolio page anytime.
Teachers will sometimes update the record on the days the child attends the centre (known as child schedule) under the child's portfolio with ReadyforSchool to match the appointment(s) for B4 School Check.

p. Ministry of Education will request monthly reports from Happy Duckling ECE staff to link them with the school's registry to ensure availability of relevant parties with the reports generated. Further analytics are then done by reviewing these reports.

q. When a child is due to start school, the child's portfolio is then compiled and sent to the Ministry of Education as well as the designated school once enrolment is completed. A monthly report can be generated adhoc when it is requested by Ministry of Health or Ministry of Education. Portfolio of a child who left the centre will be archived and set to view only mode.

r. Each parent/guardian will have a view only access of their child's portfolio in details with specific reports, test results, follow-up appointments and the wellbeing and development of the child. Selective fields are editable while the rest are view-only.

s. Happy Duckling ECE would like to roll out ReadyforSchool in the mobile front and pilot it on iOS and Android only as a start and will explore further in future.

t. ReadyforSchool will be automatically backed up every 12 hours and any old portfolio that is 12months or older will be archived in the records database.

You **should use the assignment template provided** for this assignment. You can download the template from **Canvas**.

1. **Requirements Definition Report (10 marks)**

    You are required to prepare a requirements definition report by:

    a. Re-writing the system requirements (above) to meet the requirements definition format.
    b. Re-organise the re-written system requirements into functional and non-functional requirements.

2. **User Story (10 marks)**

    Using the format of a user story, pick 2 out of 4 to prepare a set of user stories for the roles of Parent, Staff/Teacher, Nurse and/or Officer/Specialist.

"As a *<role>,* I want/need to*<goal/desire>* so that /in order to*<benefit>*"

3. **Use Case Model (30 marks)**

    a. Draw a Use Case Model **from your Requirements Definition Report.**
        • Model functional requirements only.
        • Only model use cases with actors.
    b. Insert your use case model into the correct section in the template. Your model must be clearly legible.

4. **Use Case Documentation (10 marks)**

    a. Write the use case documentation for **one main use case** from your model from Task 2. **3** Your documentation is expected to be detailed and well thought-out.

5. **Activity Diagrams (10 marks)**

    a. Draw an activity diagram to demonstrate the process for **the use case** documented in Task 3 **4**.
        • If your use case includes many branching activities, focus on the main activity.
    b. Insert your activity diagram into the correct section in the template. Your diagram must be clearly legible.

Notes:
• Mark penalties will be incurred for failure to meet submission requirements.

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.

CHANGE HISTORY

2018-02-05: First draft
2018-03-06: Proofing
2018-03-19: Final draft
2018-03-21: Release
2018-03-28: Corrections on Task 4 and 5

MARK ALLOCATION AND GUIDE

Task	Marking criterion	Mark allocated
1. Requirements Definition Report	• Requirements definition report is well written and provided	**10**
2. User Stories	• User stories is prepared well and correctly	**10**
3. Use Case Model	**Consistency with the given scope.** • No extra UC(s) / actors / elements present For each main use case: • Actor(s) presented • Use case(s) presented • Correct relationships used	**15**
	Technical correctness, e.g. • System boundary present • System well named • Correct UML 2.0 notation used • Generalisation used correctly • Legible Model presented	**15**
4. Use Case Documentation	**Overall quality** considering if a decent, thoughtful attempt has been made. • Header section (no errors or inconsistencies) • Detail/thoughtfulness of steps • Flow and logic	**10**
5. Activity Diagram	**Overall technical correctness** • Consistent with use case documentation • Modelling rules followed, e.g. correct use of notation • Legible Diagram presented	**10**

Mark penalties will be incurred for failure to meet submission requirements.

REFERENCES:

1. Well Child Tamariki Ora: Retrieved from https://www.health.govt.nz/your-health/pregnancy-and-kids/services-and-support-you-and-your-child/well-child-tamariki-ora-visits/about-b4-school-check
2. Practical information about education for parents and carers – Retrieved from https://parents.education.govt.nz/primary-school/your-child-at-school/enrolling-and-starting-your-child-at-school/