

School of Computing
ST0506 Software Engineering Practice
2023/2024 Semester 1
Diploma in Information Technology
CA1 Assignment (30%)

Objectives

Assignment Objectives

Students to demonstrate:

- Understanding of IT project life cycle
- Understanding of Use Case diagram
- Understanding of SCRUM process and artefacts

Note: This assignment requires you to interview the product owner and create a solution to solve the client's problem. You are to interview the product owner, analyse the user requirements, document them, design the solution and document the solution but you are not required to code the computerised functions as coding is not the learning objective of this module.

Assignment Requirements

This is a group assignment (max. 3 students in a group). It will commence on 15 May 2023. The submission date for this assignment is 19 Jun 2023, 1200 hrs. This assignment simulates the real life project life cycle from user requirement gathering to user requirement documentation. This assignment brief consists of 10 pages inclusive of the appendices.

You are required to form a Scrum team of not more than 3 to work on this assignment. The product owner of IslandFurniture has requested your team to develop extend the functionalities of the IslandFurniture customer web portal. Refer to the change request form in appendix A for the new functions your team is required to design.

Note: The user requirements were briefly described on purpose to simulate real-life change request form and scenario.

Assignment Tasks Breakdown

1. Choose one member to be the scrum master.
2. Follow the scrum framework. Assuming your team has decided that the length of one sprint is one week and there are two scrum meetings in each sprint.
3. Perform daily scrum meeting for scrum meetings in all sprints. (Note: you are required to use at least 2 sprints to complete the whole assignment.)
4. Minute daily scrum meetings in each sprint. Refer to appendix B for a template of minute of meeting.
5. Interview the product owner (your module tutor) for details of the user requirements.
 - This has to be conducted on the first sprint (second lesson of week 5).
 - Make appointment with product owner for the interview.

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- Note: The product owner will meet each team **Once** only and duration is 15 minutes max. per team.

Refer to appendix D for examples of what questions to ask in the interview. You are required to think of more specific questions to interview the Product Owner.

6. Conduct a sprint review with the product owner (to demonstrate understanding of sprint review) for sprint 2. Duration is 15 mins max. per team.

Note:

The agenda for this meeting will not be to review the product/task completed in sprint 2 as this meeting is not conducted at the end of the sprint (depending on your timetable). We will customize this meeting for product owner to review the progress of the work done for sprint 2 so far and give comments. Note: this sprint review is graded.

7. Minutes of meetings to document what was discussed:

- Product owner interview meeting
- Sprint review meeting with product owner

8. Analyse the user requirements gathered and document them using the following tools:

- User story cards and confirmations.
- Use Case diagram for the functionalities of the IslandFurniture customer web portal (inclusive of the new functions).
- Use Case specifications for the use cases of the three new functions (refer to Appendix E for the template).
- Product backlog (you may use any software e.g. Word, Excel, Trello). Refer to appendix C for the template for product backlog.

Your product backlog should consists of the following tasks:

- all user requirements from the change request form (described using user story card format e.g. As a ... I want to ... so that ...)
- user story cards and confirmations
- use case diagram
- use case specifications
- effort estimation

9. Estimate the effort required to implement/perform the tasks in the product backlog using the template given in appendix F.

10. Monitor your progress using scrum board and burndown chart (you may use any software e.g. Word, Excel).

Assignment Deliverables

1. Minutes of meeting for the following meetings:
 - Product owner interview
 - Sprint review meeting
 - All daily scrum meetings from all sprints.
2. 3 sets of user story cards and confirmations
3. 1 product backlog
4. 1 effort estimation chart
5. 1 scrum board for the entire project (ignore implementation of the computerized functions i.e. there is no coding required in this assignment)
6. 1 burndown chart for the entire project (ignore implementation of the computerized functions i.e. there is no coding required in this assignment)
7. 1 use case diagram for the IslandFurniture customer web portal (inclusive of the new functions).
8. Use case specifications for the three new use cases.

Note:

1. *For use case specifications: You may ignore all special requirements.*

Plagiarism Warning

Warning: Plagiarism means passing off as one's own the ideas, works, writings, etc., which belong to another person. In accordance with this definition, you are committing plagiarism if you copy the work of another person and turning it in as your own, even if you would have the permission of that person.

Plagiarism is a serious offence, and if you are found to have committed, aided, and/or abetted the offence of plagiarism, disciplinary action will be taken against you. If you are guilty of plagiarism, you may fail all modules in the semester, or even be liable for expulsion.

Late Submission

50% of the marks will be deducted for assignments that are received within **ONE (1)** calendar day after the submission deadline. **No** marks will be given thereafter. Exceptions to this policy will be given to students with valid LOA on medical or compassionate grounds. Students in such cases will need to inform the lecturer as soon as reasonably possible.

Submission Mode

- Fill out the [Declaration of Academic Integrity form](#) (one form per student i.e. three forms for a group of three students) and submit them together with your project deliverables. Naming convention for declaration form as follows:
 - Declaration form_p1111111_full name of student where p1111111 refers to the admission number of the student making the declaration.
- Submit your deliverables and declaration forms into the dropbox on BrightSpace. Compress all your work into 1 zip file with the following naming convention:
- CA1_p111111_p2222222_p3333333 where p111111_p2222222_p3333333 refers to the admission number of every member in the team.

How Your Work is Assessed

Assignment Components	Weightage
SCRUM <ul style="list-style-type: none"> - Minutes of meetings <ul style="list-style-type: none"> ○ Daily scrum meetings for all scrum meetings for all sprints ○ 1 minute of meeting for user interview meeting ○ 1 minute of meeting for sprint review with product owner - 3 sets of user story cards and confirmations - 1 product backlog - 1 effort estimation chart - 1 scrum board - 1 burndown chart 	45
Use Case Diagram <ul style="list-style-type: none"> - Actors - Use cases - Relationships Use Case Specifications (for the 3 new use cases)	30
User Interview <ul style="list-style-type: none"> - Conducted the meeting - Prepared for the user interview - Appropriate questions asked - Managed to gather all the details required to draw the use case diagram. - Minuted the meeting 	15
Sprint Review with Product Owner <ul style="list-style-type: none"> - Task committed to sprint 2 is reviewed with product owner - Progress of sprint 2 is satisfactory - Minuted the meeting 	10

Appendix A – Change Request Form

CHANGE-REQUEST FORM			
Project Name:	IslandFurniture System	Project Sponsor:	CFO
		Urgency:	High
Change Request #:	Originator:	Change requested by:	Date requested:
1002	Vernon Tan	Magdalene Lim	15 May 2023
Description of Change Request #:			
Extend the functionalities of the IslandFurniture customer web portal with the following new functions: <ol style="list-style-type: none"> 1. Add to Favourite 2. View Favourite 3. Delivery tab 			
Reason for Change:			
No such functions currently.			
Proposed Approach to Resolve:			
N.A.			

Appendix B - Template for Minute of Meeting

Official (Closed), Non-Sensitive

Minutes of the 1st Sprint Review Meeting held on <date & time>, at <venue>

Present:	Mr xxx	Product Owner
	Ms xxx	SCRUM master
	Ms xxx	Team member
	Mr xxx	Team member
Minuting Secretary:	Ms xxx	Team member

1. Welcome Note	Action
.....	
2. Topic 1	
2.1	
.....	
3. Topic 2	
3.1	
4. Topic 3	
4.1	
5. Topic 4	
5.1	
6. Topic 5	
6.1	
7. Topic 6	
7.1	
8. Any Other Business	
8.1	

Prepared by: Ms xxx (<date>)

Approved by: Mr xxx (<date>)

Appendix C - Template for Product Backlog

Priority	Items	Effort

Appendix D – Guideline for Interview Questions

The following guideline is just a suggestion on what type of questions to ask. You should think of your own questions to ask the product owner to gather as much details of the user requirements as possible.

Note that the following questions are just a guideline on what type of questions to ask during product owner interview and not all the question types may apply to your scenario. You will need to customise the questions to your assignment scenario.

4 W and 1 H

- **Who** the product is for – target audience?
- **What** is the purpose of the product?
 - E.g.
 - what is the purpose of the Islandfurniture mobile app
 - what information do you want to store (or display)
- **Where** would the product be used?
- **When** would the product need to be ready for use / when is the user acceptance test?
- **How** is the product being used?
 - E.g. Do you have any guideline on the user interface design or we are allowed to suggest our own design?

Appendix E – Use Case Specification

Name of Use Case	
Brief Description	
Actor	
Expected Flow	
Alternate Flow	
Error Flow	

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Appendix F - Template for Estimation of Effort

Priority	Items	Estimated Efforts (man hours)									
		Round #1			Round #2			Round #3			Ave
		Member 1	Member 2	Member 3	Member 1	Member 2	Member 3	Member 1	Member 2	Member 3	
		Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	
		Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	
		Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	
		Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	
		Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	
		Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	
		Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	Effort: Reason:	
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