

School of Computing
ST0506 Software Engineering Practice
2020/2021 Semester 2
Diploma in Information Technology
CA2 Assignment (30%)

Objectives

Assignment Objectives

Students to demonstrate:

- Understanding of test case
- Understanding of change-request process
- Understanding of collaboration tools GitHub
- Understanding of SCRUM process
- Understanding of Sequence diagram.

Assignment Requirements

This is a group assignment (max. 3 students in a group). It will commence on 4 Jan 2021. The submission date for this assignment is 1st Feb 2021, 2359 hrs. This assignment brief consists of 7 pages inclusive of the appendices.

You are required to form a Scrum team of 3 and choose one member to be the Scrum master. The product owner has raised a change request form (refer to Appendix A) to request for support from the IT support team to resolve some issues with the IslandFurniture ecommerce web portal sub-system. Divide the CA2 assignment period (4 Jan to 29 Jan) into sprints of 5 working days each. Your Scrum team is required to do the following for CA2:

1. Create a product backlog (use the template in appendix B) for CA2 to record all the tasks required to be done (except product backlog task). Use the template for estimation of effort in appendix D for estimating man effort for the product backlog items.
2. Monitor your progress using a burndown chart.
3. Create 3 test cases (use the template in appendix C) and test the following functions of the IslandFurniture ecommerce web portal sub-system:
 - View “Retail Products” category (this is the last option of “ALL DEPARTMENTS”) (1 test case)
 - View Retail Product Details (for “Retail Products” option only) (1 test case)
 - View “Sales History” option (1 test case)
4. For each test case that has a Fail status you are required to fix the bug found in the IslandFurniture ecommerce web portal sub-system.
5. Using sequence diagram, document the exchanges of messages by the objects in each of the above functions:
 - i. View “Retail Products” category (this is the last option of “ALL DEPARTMENTS”)
 - ii. View Retail Product Details (for “Retail Products” option only)

- iii. View “Sales History” option
6. Follow proper change-request process to check out source code for the bug fix and commit the tested working code back to Github.

The following are the deliverables from each Scrum team at the end of this CA2:

1. 1 product backlog (use the template in appendix D for the estimation of effort).
2. 1 burndown chart for the whole CA2 (you may use any software e.g. Word, Excel, Trello for the scrum board). Provide 3 screenshots for your scrum board (1 for the starting state, 1 for showing status of progress at midway point, and 1 for the ending state of your scrum board).
3. 3 test cases.
4. 2 screen shots of Github (1 screen shot at the start before committing any changes, 1 screen shot to show all the commits at the end of the project).
5. 3 sequence diagrams.
6. Bug fixes (if any). Submit only those program files that are amended.

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 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**. Our submission system would **automatically check for plagiarism** in your submitted documents.

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

- Submit your deliverables into the dropbox on Blackboard. Compress all your work into 1 zip file with the following naming convention:
- CA2_p111111_p2222222_p3333333 where p111111_p2222222_p3333333 refers to the adm no of every member in the team.

How Your Work is Assessed

Assignment Components	Weightage
SCRUM <ul style="list-style-type: none"> - Product Backlog using User Story card to describe each item. - Man effort estimation (using the Fibonacci cards provide estimation of efforts for all items in your product backlog. Fill out the table in Appendix D to provide details of each member's estimates.) - Scrum board - Burndown chart 	10
Change-Request Process <ul style="list-style-type: none"> - SCRUM team members clone IslandFurniture from SCRUM master. - Latest working code pushed back to Github. - SCRUM master merge all working code for IslandFurniture 	15
Test Cases <ul style="list-style-type: none"> - Reporting information (e.g. Test Case ID, Test Priority etc) - Steps - Test data - Expected results - Actual results - Status 	30
Sequence Diagrams <ul style="list-style-type: none"> - Actor - Objects - Messages - Correct order of message exchange 	30
Bug Fix <ul style="list-style-type: none"> - Found and fixed bug correctly - Minimal help from others 	15

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	Roger Wong	Magdalene Lim	4 Jan 2021
Description of Change Request #:			
<p>On the IslandFurniture ecommerce web portal sub-system, the following 3 functions are not working according to our requirements:</p> <ul style="list-style-type: none"> • View “Retail Products” category (this is the last option of “ALL DEPARTMENTS”) • View Retail Product Details (for “Retail Products” option only) • View “Sales History” option <p>Key Functional Requirements:</p> <ol style="list-style-type: none"> 1. Customer is able to browse a list of items under the “Retail Products” category upon selecting the category from the “ALL DEPARTMENTS” menu option. 2. Customer is able to see detailed information of a product upon selecting the product from “Retail Products” view. 3. Customer is also able to check the quantity of the product on the Product Details page. 4. A list of all orders placed by the customer should be listed when he/she selects the “Sales History” menu option. 			
Reason for Change:			
Functions not working according to expectation.			
Proposed Approach to Resolve:			
N.A.			

Appendix B - Template for Product Backlog

Priority	Items	Effort

Appendix C – Test Case Template**Project Name:****Test Case**

Test Case ID:
Test Priority (Low/Medium/High):
Module Name:
Test Title:
Description:

Test Designed by:
Test Designed date:
Test Executed by:
Test Execution date:

Pre-Conditions:
Dependencies:

Step	Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)	Notes
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

Post-conditions:

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Appendix D - 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:	
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