



SESSION 2020/2021, SEMESTER 2

SECJ 2203: SOFTWARE ENGINEERING

ALTERNATIVE ASSESSMENT:

FINAL ASSIGNMENT INDIVIDUAL REPORT

PROJECT TITLE: ONE STOP e-EDU ACTIVITIES APPLICATION

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Section C: Software Verification, Validation and Testing

C1 Interface Testing

Two classes chosen from Question B3 are Host and OnlineActivities. Objectives of interface testing are to detect faults due to interface errors or invalid assumptions about interfaces. The interface testing types that will be conducted is parameter interface. In this interface testing, the data passed will be passed from one method to another.

To conduct the parameter interface on the chosen two classes, the parameters must be called in the right order. For example, if the method chooseShareType() from Host class will be called, it must be correlated with method shareScreen() from OnlineActivities class.

Other than preventing interface misuse, the timing for the component calling must be accessed at the right speed and up-to-date information.

C2 UC001: Use Case ViewRequiredRecords

One Stop e-Edu Activities application must allow hosts and participants to view their records of authorized access to register the online activities or events. The system will send records of the stored details of participants and hosts that has access to be automatically registered.

The participants will first identify their types which are host, student, staff or guest. Then, they will need to enter their participants ID to check their authorization access from the system to be automatically registered or not. They also can check using their registered name for the application. After entering the data, they can view the required data which is stored in the system. If they cannot view, it means they are not yet registered to have an authorized access.

C2.1 TR001: Test Requirement 1

- Validate that the user can choose the participants type: student, staff, guest or host.

C2.2 TR002: Test Requirement 2

- Validate that user can access the register page and choose to enter their participants ID or full name.

C2.3 TR003: Test Requirement 3

- Validate that user enter their participants ID in 5 digits.

C2.4 TR004: Test Requirement 4

- Validate that user view a message of their registered details is found or their data could not be found in the system.

C2.5 TR005: Test Requirement 5

- Validate that user can enter their full name between 6 to 50 characters in a text field.

C2.6 TR006: Test Requirement 6

- Validate that user view a message of their registered details is found or their data could not be found in the system.

C3 Test Cases

TR001, TR003, TR005

C3.1 TR001: Test Requirement 1

Case No.	Data Entered	Expected Result
TC001_01	Student	Access to the register page
TC001_02	Host	Access to the register page
TC001_03	Technican	Error Display

C3.2 TR003: Test Requirement 3

Case No.	Data Entered	Expected Result
TC001_01	00124	Credentials can be entered
TC001_02	00238	Credentials can be entered
TC001_03	0021	Error Display

C3.3 TR005: Test Requirement 5

Case No.	Data Entered	Expected Result
TC001_01	Nur Aisyah bt Amin	Credentials can be entered
TC001_02	Muhammad Ali bin Ahmad	Credentials can be entered
TC001_03	Nurul	Error display

C4 Equivalence Partitioning and Boundary Value Analysis

TR003: Test Requirement 3

Case No.	Equivalence Class	Status	Representative (BVA)	Expected Result
TC001_01	ID < 4 digits	invalid	1500	Invalid data
TC001_02_1	ID = 5 digits	valid	15001	Data valid
TC001_02_2	ID = 5 digits	valid	15005	Data valid
TC001_03	ID > 6 digits	invalid	150012	Invalid data

C5 User Acceptance Testing

The steps our team will follow to conduct a UAT for the proposed application are: [3]

1. Analysis of application requirements and define key deliverables

From this step, we will figure what aspect will be tested and who is the user to be tested. As for our application, we will ensure all the functions are working perfectly during the online session for any institutions' online activities or events. The functions here include share screen, send chat, create form and importantly to first access to the application and join the online session of their activities or events.

2. Creation of UAT test plan for end-user

Our team will create a UAT test plan based on our project management methodology which is agile model. This methodology is flexible for our team to do changes until reach the required quality and functionality. Our team's UAT will be conducted within the agile model.

3. Recruit users and form UAT team

The users that we will be approaching are the staffs from any educational institutions and host from any sector or company of the online activities or events that may be using our application later. These users are in concern of conducting online activities or events for their institutions during this COVID-19 pandemic period.

4. Implement end-user testing tools and onboard testers

5. Create user acceptance environment and conduct training

The users; staff and host will be going through a training process. In this training, they will be introduced to the testing process, its objectives, the guidelines and the manual to use the application. So that, the users and our team understands and get the required result. Usually, this step can be done online so it will not burden the users in this current pandemic.

6. Run the test

Once all the planning including test scenarios and test cases is done, then our team will be ready to perform the UAT on our potential users. During the testing, the users

should be able to access required functionality at each stage of testing and record any errors or difficulties they are facing. The host should be able to perform all functions they need to do during an actual session perfectly such as create form to get feedback from all the participants for the quiz session.

7. Collect output information to be analyzed

After the final step, our team will get a lot of data from the users. The data will be analyzed and evaluated to achieve the test result which are passed, failed or fixed.

Here is a good example of UAT test case template that our team can refer when performing the test. [4]

USER ACCEPTANCE TESTING TEST CASE TEMPLATE

PROJECT NAME						
TESTING START DATE		TESTING START TIME				
TESTING END DATE		TESTING END TIME				
NAME OF TESTER(S)						

TEST NO.	DESCRIPTION OF TASKS	STEPS TO EXECUTE	EXPECTED RESULTS	PASS	FAIL	DEFECT / COMMENTS / ADDITIONS
APPLICATION 1:						
1						
2						
3						
4						
5						
APPLICATION 2:						
1						
2						
3						
4						
5						
APPLICATION 3:						
1						
2						
3						
4						
5						
APPLICATION 4:						
1						
2						
3						
4						
5						
APPLICATION 5:						
1						
2						
3						
4						
5						
APPLICATION 6:						
1						
2						
3						
4						
5						
GENERAL QUESTIONS / COMMENTS						

References

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- [2] JavaTpoint. (n.d.). *Coupling and Cohesion*. [online] viewed 25 June 2021. Retrieved by <https://www.javatpoint.com/software-engineering-coupling-and-cohesion>

- [3] AltexSoft. (2019). *How to Conduct User Acceptance Testing: Process Stages, Deliverables and End-User Testing Place in Quality Assurance*. [online] viewed 27 June 2021. Retrieved by <https://www.altexsoft.com/blog/engineering/how-to-conduct-user-acceptance-testing-process-stages-deliverables-and-end-user-testing-place-in-quality-assurance/>

- [4] Smartsheet. (n.d.) *Free Test Case Templates*. [online] viewed 27 June 2021. Retrieved by <https://www.smartsheet.com/test-case-templates-examples>