

Software Engineering 300: Iteration 3 Report

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Software Development Process

For Iteration 3, we followed a software development process modelling the incremental and iterative software development processes. As this iteration 3 allows us to be flexible in what processes we follow, we believe that the last few requirements that we require can be accomplished using this software design process.

The incremental and iterative process design differs from agile development as the processes mainly rely on producing deliverables according to requirements specifications. We follow incremental processes by slowly adding more functionality to our user classes as the next use cases require new functionalities, and iterative processes are utilized when we revise and revisit systems to optimize and revise the methods so they would better suit new functionalities.

As the majority of the user subsystem was not yet implemented, we believed that by using incremental and iterative processes, we can separate the user subsystem classes into their respective phases of inception, elaboration, construction, and transition.

In doing so, we re-evaluate the scope and requirements for the user subsystem, we can evaluate new risks and requirements from the requirements specification, and can construct system components that would sufficiently implement required features which would be part of the software deliverables.

Thus, the new software development process adapted for the final iteration could be justified in its usage as we had sufficient requirements and class isolation to incrementally add new features, while we maintain the ability to iteratively change existing modules.

List of initial user stories

ID	Story	Estimation	Priority
1	As a user, I wish to be able to register for an account with a username and password		-----
2	As a user, I wish to be able to login to an existing account with a username and password		-----
3	As an authorized user, I wish to be able to view the list of available scholarships in the system		-----
4	As an authorized user, I want to be able to view the general profile of a specified scholarship		-----
5	As an authorized student, I want to be able to submit a scholarship application		1
6	As an authorized student, I want to be able to view all personal scholarship application submissions		-----
7	As an authorized student, I want to be able to set a priority for scholarship applications		6

8	As an authorized student, I want to be able to resume an in-progress application form if not complete		7
9	As an administrator, I wish to be able to add (new) scholarships to the list of scholarships		-----
10	As an administrator, I wish to be able to remove existing scholarships		-----
11	As an administrator, I wish to be able to see all of the applicants for each respective scholarship		2
12	As an administrator, I wish to be able to add or edit a scholarships eligible requirements		-----
13	As an administrator, I wish to be able to filter student applications based on application eligibility		4
14	As an administrator, I wish to be able to process a scholarship application and grant or reject an application		3
15	As an administrator, I wish to be able to filter the list of students based on specified criterias		5
16	As an authorized user, I wish to be able to view my user profile that contains all of my personal information		-----
17	As an authorized user, I wish to be able to receive notifications when there is an update to an application	2	8
18	As an authorized user, I wish to be able to filter scholarships based on criteria		-----
19	As an administrator, I wish to be able to create a scholarship with requirements		-----
20	As an authorized user, I wish to be able to view a tab that displays all unseen notifications for the user	2	9

Iteration 1 user stories

	Iteration 1		
ID	Story	Estimation	Priority
1	As a user, I wish to be able to register for an account with a username and password	2	1
2	As a user, I wish to be able to login to an existing account with a username and password	2	2

6	As an authorized student, I want to be able to view all personal scholarship application submissions	3	3
9	As an administrator, I wish to be able to add (new) scholarships to the list of scholarships	4	4
10	As an administrator, I wish to be able to remove existing scholarships	6	5
12	As an administrator, I wish to be able to add or edit a scholarships eligible requirements	6	6

Iteration 2 user stories

	Iteration 2		
ID	Story	Estimation	Priority
9	As an administrator, I wish to be able to add (new) scholarships to the list of scholarships	1	1
10	As an administrator, I wish to be able to remove existing scholarships	1	2
4	As an authorized user, I want to be able to view the general profile of a specified scholarship	3	3
18	As an authorized user, I wish to be able to filter scholarships based on criteria	6	4
17	As an authorized user, I wish to be able to receive notifications when there is an update to an application	2	5
12	As an administrator, I wish to be able to add or edit a scholarships eligible requirements	2	6
16	As an authorized user, I wish to be able to view my user profile that contains all of my personal information	2	7

Iteration 3 user stories

	Iteration 3		
ID	Story	Estimation	Priority
5	As an authorized student, I want to be able to submit a scholarship application	2	1
11	As an administrator, I wish to be able to see all of the applicants for each respective scholarship	1	2

14	As an administrator, I wish to be able to process a scholarship application and grant or reject an application	1	3
13	As an administrator, I wish to be able to filter student applications based on application eligibility	4	4
15	As an administrator, I wish to be able to filter the list of students based on specified criterias	4	5
7	As an authorized student, I want to be able to set a priority for scholarship applications	2	6

(Final Submission)

	Final Iteration		
ID	Story	Estimation	Priority
8	As an authorized student, I want to be able to resume an in-progress application form if not complete	2	7
17	As an authorized user, I wish to be able to receive notifications when there is an update to an application	2	8
20	As an authorized user, I wish to be able to view a tab that displays all unseen notifications for the user	2	9

Future User Stories

Currently, most user stories are implemented, however some user stories are implemented in a limited manner due to lack of technical knowledge and tools.

We can make improvements to the current user cases by implementing new Database technologies such as MySQL, MariaDB, PostgreSQL or SQLite.

The implementation of such database software would help in the organization of saved data and querying of data the login and list services.

Further improvements could be made to the functionality of the software, such as allowing enter to submit forms. As of now, there are only button handlers. As such, we can include user stories that allow for using enter to login, add new scholarships, edit scholarships, and so on rather than forcing the usage of a mouse for interactions.

Software Testing

As our software has many subsystem integrated together, there are several points where we can begin testing for software validity.

We plan on using JUnit to do our automation testing, and for the user interface we develop user caes which encapsulate all potential use cases of the interface. There are currently no test cases implemented, however the planned test cases will be modelled over the following table. These are the tests we implement IF AND ONLY IF we have time time to do them:

Test cases

Type	Class	Test Case	Test Case Author
Automated	Admin	Test valid admin login	Brandon L.
Automated	Login	Test if login works for existing account	Brandon L.
Automated		Test if login works for account not in database	Brandon L.
Automated		Test if invalid strings accepted as inputs	Brandon L.
Automated	Notification	Test if a new notification can be created	Brandon L.
Automated		Test if students can receive new notification	Brandon L.
Automated		Test if read notifications are removed	Brandon L.
Automated	Scholarship	Test if new valid scholarship can be made	Brandon L.
Automated		Test if scholarship can be made using improper types in fields	Brandon L.
Automated		Test if scholarship can be added to the list of scholarships	Brandon L.

Automated		Test if a scholarship can be edited	Brandon L.
Automated		Test if edited scholarships retain their new data	Brandon L.
Automated		Test if edited scholarship will be detected as being in the database already	Brandon L.
Automated		Test if filter does indeed filter for scholarships based on proper criteria	Brandon L.
Automated		Test if search finds scholarship based on criteria	Brandon L.
Automated		Test if searching for an existing student will return the correct student	Brandon L.
Automated		Test if searching based on criteria is returning students that match the criteria specified	Brandon L.
Automated		Test failing to delete a scholarship that has students applied to it.	Jessie C.
Manual	MainPanelAdmin	If scholarships list is browsable	Jessie C.
Manual		If scholarship list displays current scholarships from database	Jessie C.
Manual		If scholarship can be selected from list and viewed	Jessie C.

Manual		If fields from scholarship can all be edited and saved	Jessie C.
Manual		If edited fields are correct format	Jessie C.
Manual		If scholarship can be deleted and automatically removed from visual list	Jessie C.
Manual		If scholarship can be added and be automatically added to visual list	Jessie C.
Manual		If list of students who applied can be seen from scholarship	Jessie C.
Manual		If correct info for student's application shows up	Jessie C.
Manual		If application can be rejected	Jessie C.
Manual		If application can be accepted and added to student's acceptance	Jessie C.
Manual		Send proper notifications for acceptance and rejection of scholarships	Jessie C.
Manual		View student profile, show correct info	Jessie C.
Manual		View all applications from student and priority	Jessie C.
Manual	MainPanelStudent	Test if the list shows	Shaina R.

		all the scholarships that the student applied to	
Manual		Test creation of an application	Shaina R.
Manual		Test deletion of an application	Shaina R.
Manual		Test if application can be edited	Shaina R.
Manual		Test if applications can be saved without submitting	Shaina R.
Manual		Test if applications can be submitted	Shaina R.
Manual		Test if application info can be seen and is corred for each scholarship application in a student's list	Shaina R.
Manual		Test if application is not submitted when there are empty fields	Shaina R.
Manual		Test if confirmation message shows up and works when you hit the submit or delete button once	Shaina R.
Manual		Test whether text fields and error messages clear out in appropriate times (after switch to a window)	Shaina R.
Automated		Test whether applications will be updated and viewable by the	Brandon L.

		Scholarship manager	
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