

Digital Course File

Team Name: Vigilante **Class:** CSE – B



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Abstract

Aim:

Designing and developing a user interface which allows Faculties to enter and manage the course file for various subjects he is handling and manage them online.

Functionalities:

1) Users can login with the credentials given, A first-time user will be asked to change his password. Admin User is allowed to create new user with privileges.

2) After logging in he should be able to options:

- a) Home
- b) Time Table
- c) Personal space
- d) Reports Uploads

3) If user selected Home, he should be able to see list of semesters and courses. The completed courses are in red and current courses are in green.

3.1) If he choose current semester he must be able to see course dashboard which contains:

- a) **Course remainders:** He can set remainders that required
- b) **Progress Tracker:** He can insert a topic and start updating, Remarks can be given. He can delete if it is no longer useful.
- c) **Digital Repository:** He should be able to upload and view list of PPT's, videos for the course specified.
- d) **Todo list:** He can set list of activities to be performed within specific time.
- e) **Question Bank:** He should be able to upload and view list of question papers per year per semester per type (Semester/Periodical).
- f) **Report uploads:** He should be able to upload and view student grade sheets and give comments.

4) In Personal space, user can add reminder notes.

1 Preview

Need and motivation:

In this fast running world, it is difficult for all the course mentors to keep track on the progress of all the course handling faculties.

Keeping track of all the records in files is difficult and tedious. As time passes by, we may lose them. Further, a safe space is needed for keeping these files.

In order to bridge the gap between them, to provide a clear visibility for the mentors and for easy maintenance of all course related files, Digital Course File was introduced.

Introduction:

Digital Course File makes it easy for the mentors to have a clear idea in the progress of each faculty. It not only updates the progress, but also has many special features like, uploading study materials, FAQs list and videos, personal To-do list and display of all the history of courses handled by the particular faculty. It plays a major role in maintaining all the resources digitally. Accessing of files can be made easy when they are stored digitally. Loss in data can be avoided. This Digital Course File makes the data storage less redundant and more efficient to access.

Tools used:

- **Framework:** ReactJS, NodeJS
- **Database:** MySQL via AWS-RDS , DynamoDB
- **AWS Services:** Lambda, API Gateway, Cognito, S3, Amplify
- **Hosting:** Netlify and Heroku
- **Github** – Version Control System
- **Editor** - Sublime Text & VS Code
- **Selenium** – Automation & UI Testing (Python)
- **SonarQube** – For potential bugs and code smells

2 Product Backlog

2.1 Report of Product backlog:

	A	B	C	D
1	Summary	Priority	Assignee	Custom field (Story Points)
2	Write test cases using Selenium	Medium	CB.EN.U4CSE17164	2
3	Write test cases using Selenium	Medium	CB.EN.U4CSE17132	2
4	Write test cases using Selenium	Medium	CB.EN.U4CSE17132	2
5	Write test cases using Selenium	Medium	CB.EN.U4CSE17132	2
6	Write test cases using Selenium	Medium	CB.EN.U4CSE17164	2
7	Perform Continuous Integration	Medium	CB.EN.U4CSE17164	2
8	Perform Continuous Integration	Medium	CB.EN.U4CSE17132	2
9	Perform Continuous Integration	Medium	CB.EN.U4CSE17132	2
10	Perform Continuous Integration	Medium	CB.EN.U4CSE17132	2
11	Perform Continuous Integration	Medium	CB.EN.U4CSE17164	2
12	Write test cases using Selenium	Medium	CB.EN.U4CSE17164	2
13	Perform Continuous Integration	Medium	CB.EN.U4CSE17164	2
14	As a user,I should be able to add personal notes/messages	Lowest	CB.EN.U4CSE17114	3
15	Button for adding more notes	Medium	CB.EN.U4CSE17114	
16	Tester - Bug Reporting	Medium	CB.EN.U4CSE17132	2
17	Tester - Review Test Cases	Medium	CB.EN.U4CSE17132	2
18	Tester - Re-Testing and Regression Testing	Medium	CB.EN.U4CSE17132	2
19	Tester - Create automation test cases using selenium	Medium	CB.EN.U4CSE17132	2
20	Dev - Vulnerability assessment using SonarQube	Medium	CB.EN.U4CSE17122	
21	Dev - Code quality review and analysis using SonarQube	Medium	CB.EN.U4CSE17114	
22	Button to delete material	Medium	CB.EN.U4CSE17122	
23	Button to commit changes	Medium	CB.EN.U4CSE17122	
24	Button for uploading documents and add link for videos	Medium	CB.EN.U4CSE17122	
25	Fetch previously uploaded materials from database	Medium	CB.EN.U4CSE17122	
26	Drop down menu of courses	Medium	CB.EN.U4CSE17122	
27	Dropdown menu of semesters	Medium	CB.EN.U4CSE17122	
28	As a faculty, I can upload grade sheets and assignments	Medium	CB.EN.U4CSE17122	4
29	As a faculty, I should be able to update my progress per week as per lecture plan	High	CB.EN.U4CSE17119	
30	As a user, I should be able to Login before viewing my dashboard	Medium	CB.EN.U4CSE17165	3.5

205	Fetch Previous notes from database	Medium	CB.EN.U4CSE17114	3
206	Tester - Re-Testing and Regression Testing	Medium	CB.EN.U4CSE17132	2
207	Commit Button to update changes	Medium	CB.EN.U4CSE17114	3
208	Tester - Review Test Cases	Medium	CB.EN.U4CSE17132	2
209	Dev - Code quality analysis and vulnerability assessment using SonarQube	Medium	CB.EN.U4CSE17114	3
210	Add a Input text box for number of checks	Medium	CB.EN.U4CSE17119	3
211	Dev - Calculate Code coverage using jest	Medium	CB.EN.U4CSE17165	3
212	Button for adding more notes	Medium	CB.EN.U4CSE17114	3
213	Option to create personal checklist	Medium	CB.EN.U4CSE17114	3
214	Tester - Bug Reporting	Medium	CB.EN.U4CSE17132	2
215	Styling Icons	Medium	CB.EN.U4CSE17114	3
216	As a faculty, I should be able to create a custom checklist for my course	High	CB.EN.U4CSE17119	3
217	Dev - Vulnerability assessment using SonarQube and code quality review and analysis using SonarQube	Medium	CB.EN.U4CSE17122	3
218	Dev - Creating mocks,spies,stubs mimicking actual functionalities	Medium	CB.EN.U4CSE17165	3
219	Add a Input text box for description of checklist	Medium	CB.EN.U4CSE17119	3
220	Progress bar to display percentage of checks completed	Low	CB.EN.U4CSE17119	3
221	Button to commit changes to database and save progress	Medium	CB.EN.U4CSE17119	3
222	Add a checklist button to mark finished tasks	Medium	CB.EN.U4CSE17119	3
223	Render dynamic UI based on checklist options	Medium	CB.EN.U4CSE17119	3
224	Dev - Calculate Code coverage using jest	Medium	CB.EN.U4CSE17165	3
225	Dev - Creating mocks,spies,stubs mimicking actual functionalities	Medium	CB.EN.U4CSE17165	3
226	Dev - Code quality review and analysis using SonarQube	Medium	CB.EN.U4CSE17122	3
227	Dev - Creating assertion test cases using Jest	Medium	CB.EN.U4CSE17165	3
228	Dev - Vulnerability assessment using SonarQube	Medium	CB.EN.U4CSE17122	3
229	Dev - Calculate Code coverage using jest	Medium	CB.EN.U4CSE17165	3
230	Dev - Creating assertion test cases using Jest	Medium	CB.EN.U4CSE17165	3
231	Dev - Creating assertion test cases using Jest	Medium	CB.EN.U4CSE17165	3
232	Tester - Re-Testing and Regression Testing	Medium	CB.EN.U4CSE17132	2
233	Tester - Review Test Cases	Medium	CB.EN.U4CSE17132	2
234	Dev - Creating mocks,spies,stubs mimicking actual functionalities	Medium	CB.EN.U4CSE17165	3

Epics:

2.2 Login & Faculty Dashboard

a. As a User, I can

- 2.2.1 Login
- 2.2.2 View my Profile {history of courses handled}
- 2.2.3 View my Personal Space

b. As a mentor, I can

- 2.2.4 See Courses I'm enrolled as faculty and mentor
- 2.2.5 View Timetable of course I'm mentoring

c. As a faculty, I can

- 2.2.6 See Courses I'm enrolled
- 2.2.7 View my Timetable

2.3 Course Committee Corner

a. As a time table committee member, I can

- 2.3.1 View list of courses offered and handling faculties
- 2.3.2 Assign faculty for each course

b. As a mentor, I can

- 2.2.1 Revise Course Syllabus
- 2.2.2 Update Lecture Plan and CO-PO per course
- 2.2.3 Staff appraisal documentation portal

2.4 Course Corner -{One Stop for all Materials}

a. As a faculty, I can upload

- 2.4.1 Assignments / Project Report
- 2.4.2 Digital Repository (Videos,PPT)
- 2.4.3 Question Bank (Tutorials + Assignments + Semester + Quiz)
- 2.4.4 Grade Sheets

b. As a HOD, I can

- 2.4.5 View all resources
- 2.4.6 View Course Handling Staff Feedbacks for last year

2.5 QuickCheck Tool

a. As a faculty, I can

- 2.5.1 Update progress per week as per Lecture Plan
- 2.5.2 Create a custom checklist
- 2.5.3 View Suggestions to help reduce lag in syllabus
- 2.5.4 Maintain todo lists per course

b. As a HOD, I can

- 2.5.5 Generate Faculty based Course Reports

2.6 Course Feedback

a. As a mentor, I can

- 2.6.1 Get Complaints periodically
- 2.6.2 Create a feedback form
- 2.6.3 Updating the form
- 2.6.4 Schedule Feedback

b. As a HOD, I can

- 2.6.5 View stats of course feedback

2.7 Utilities

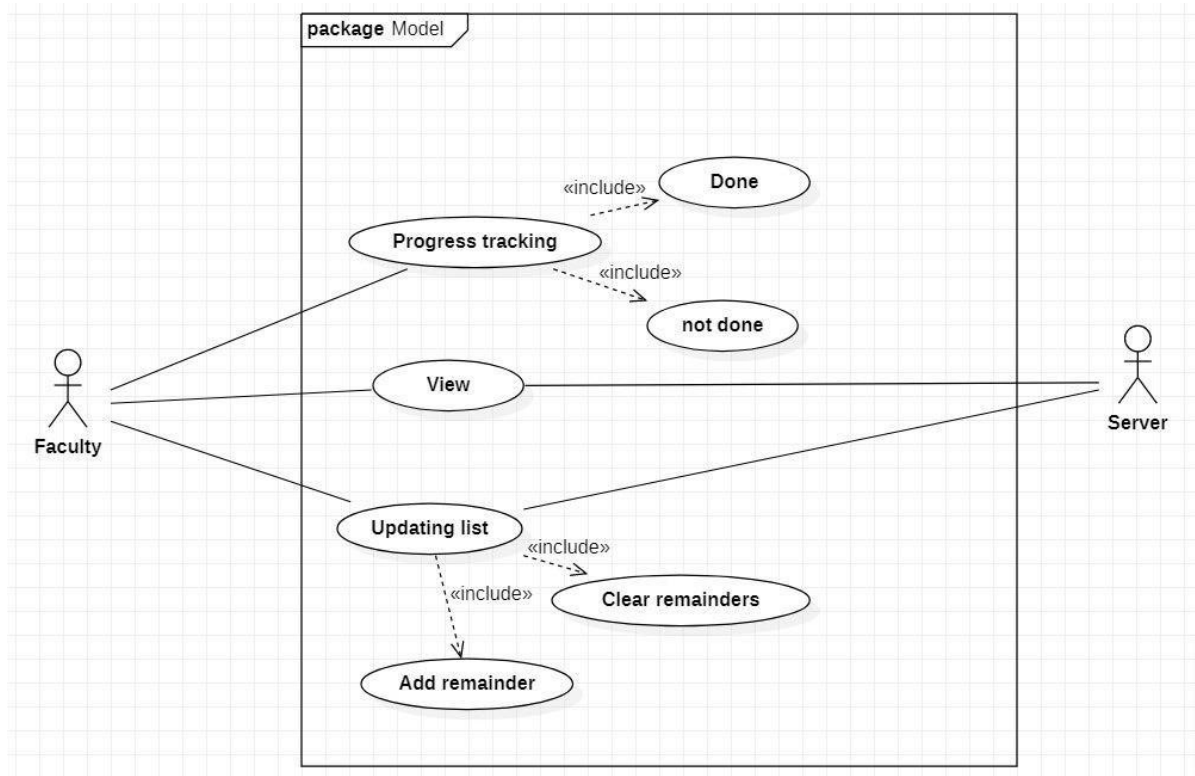
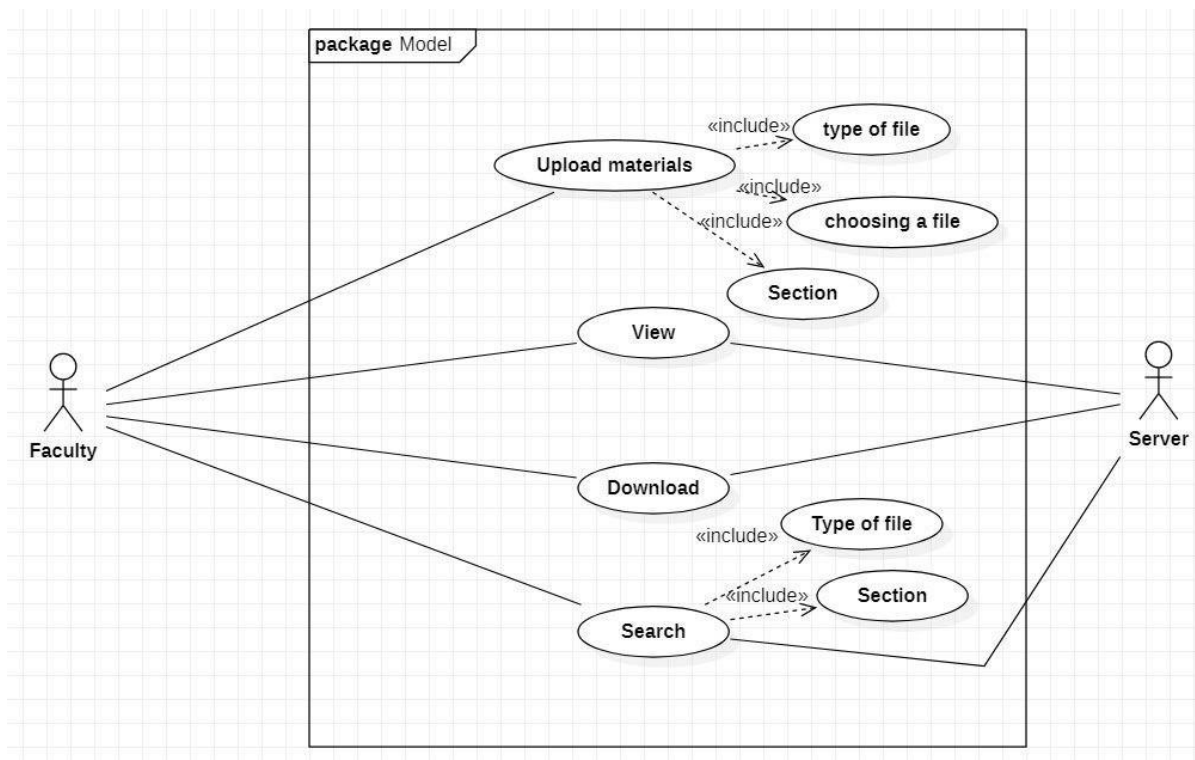
a. As a mentor, I can

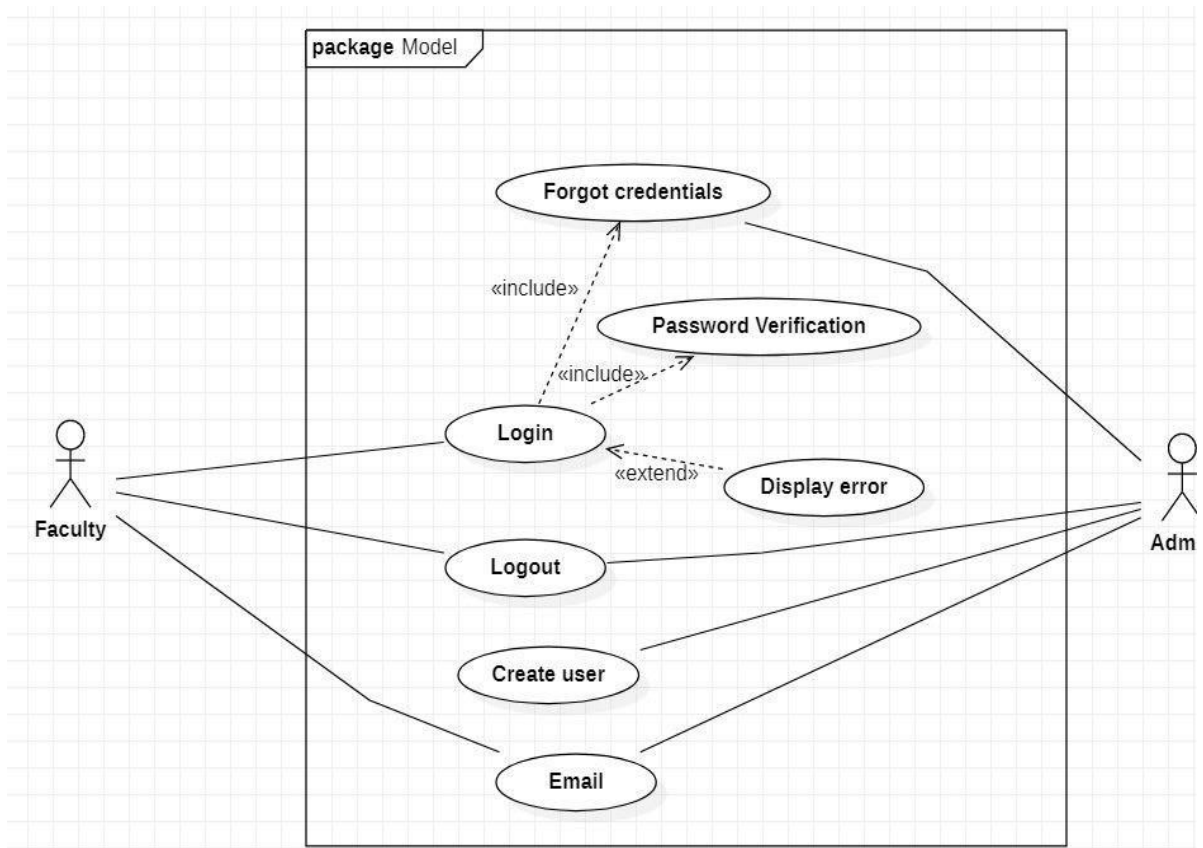
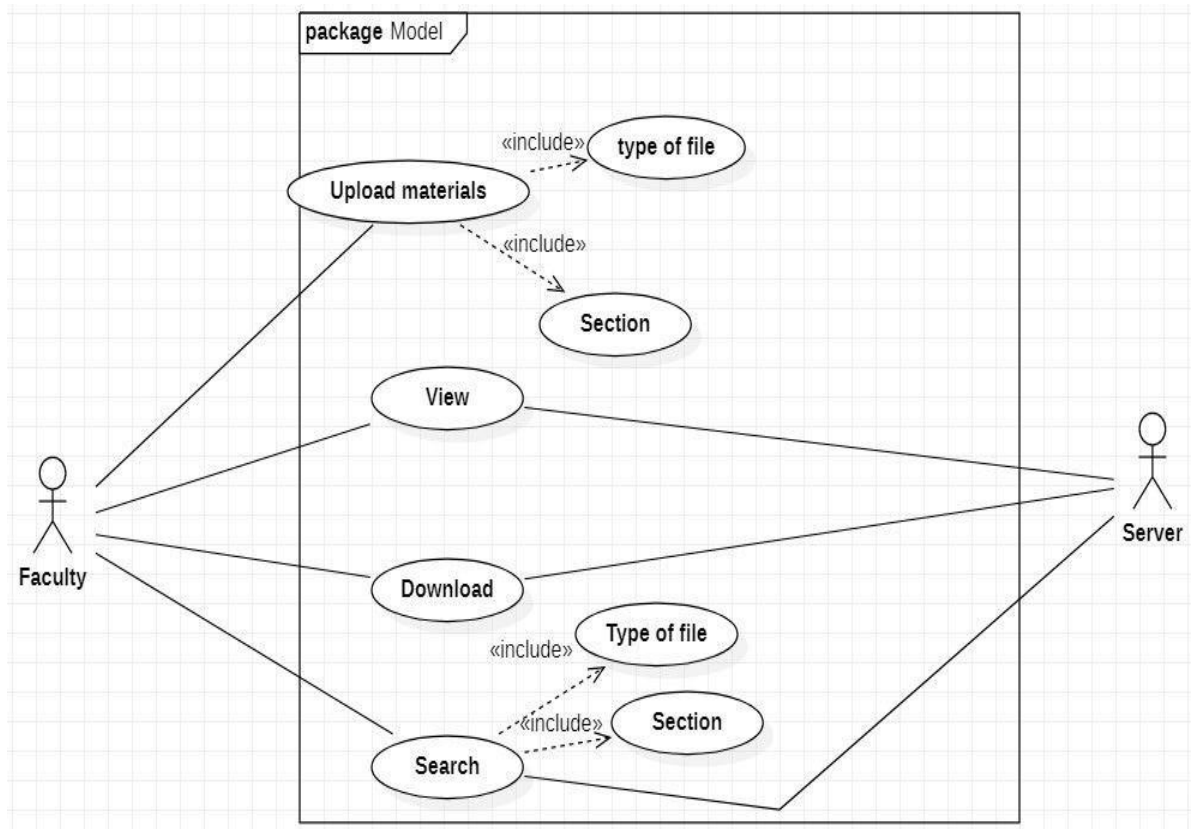
- 2.7.1 Make Announcements
- 2.7.2 Maintain Course FAQs / View FAQs list
- 2.7.3 Create a poll

b. As a faculty:

- 2.7.4 Schedule Tutorials/Quizzes/Assignments
- 2.7.5 Upload Assessment marks
- 2.7.6 View FAQs list

3 Use Case Diagram





4 Scrum Activities

4.1 Sprint 1 backlog

[BDCF-341] As a faculty, I can upload grade sheets and assignments Created: 20/Feb/20 Updated: 20/Feb/20 Resolved: 20/Feb/20		
Status:	Done	
Project:	CSE-B Digital course file	
Component/s:	None	
Affects Version/s:	None	
Fix Version/s:	None	

Type:	Story	Priority:	Medium
Reporter:	VEJAY KARTHY S	Assignee:	INJAM NAVEYAH
Resolution:	Done	Votes:	0
Labels:	None		
Σ Remaining Estimate:	0 minutes	Remaining Estimate:	0 minutes
Σ Time Spent:	Not Specified	Time Spent:	Not Specified
Σ Original Estimate:	4 minutes	Original Estimate:	4 minutes

Sub-Tasks:	Key	Summary	Type	Status	Assignee
	BDCF-342	Dropdown menu of semesters	Sub-task	Done	INJAM NAVEYAH
	BDCF-343	Drop down menu of courses	Sub-task	Done	INJAM NAVEYAH
	BDCF-344	Fetch previously uploaded materials f...	Sub-task	Done	INJAM NAVEYAH
	BDCF-345	Button for uploading	Sub-task	Done	INJAM NAVEYAH

	documents and ad...			
BDCF-346	Button to commit changes	Sub-task	Done	INJAM NAVEYAH
BDCF-347	Button to delete material	Sub-task	Done	INJAM NAVEYAH
BDCF-348	Dev - Code quality review and analysi...	Sub-task	Done	GALI MARY SANJANA
BDCF-349	Dev - Vulnerability assessment using ...	Sub-task	Done	INJAM NAVEYAH
BDCF-350	Tester - Create automation test cases...	Sub-task	Done	MALAVIKA M
BDCF-351	Tester - Re-Testing and Regression Te...	Sub-task	Done	MALAVIKA M
BDCF-352	Tester - Review Test Cases	Sub-task	Done	MALAVIKA M
BDCF-353	Tester - Bug Reporting	Sub-task	Done	MALAVIKA M
Epic Link:	Course Committee Corner			
Sprint:	BDCF Sprint 1			

[BDCF-222] As a mentor, I should be able to create a Todo list for my course

Created: 19/Dec/19 Updated: 20/Feb/20 Resolved: 16/Feb/20

Status:	Done
Project:	CSE-B Digital course file
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	Priority:	High
Reporter:	VEJAY KARTHY S	Assignee:	HARE SANKARAN R V
Resolution:	Done	Votes:	0
Labels:	None		
Σ Remaining Estimate:	6 hours, 13 minutes	Remaining Estimate:	Not Specified
Σ Time Spent:	Not Specified	Time Spent:	Not Specified
Σ Original Estimate:	6 hours, 13 minutes	Original Estimate:	Not Specified

Issue Links:	Cloners				
	clones	BDCF-46	As a faculty, I should be able to cre...		Done
Sub-Tasks:	Key	Summary	Type	Status	Assignee
	BDCF-223	Add a Input text box for number of ch...	Sub-task	Done	HARE SANKARAN R V
	BDCF-225	Render dynamic UI with input text box...	Sub-task	Done	HARE SANKARAN R V
	BDCF-227	Button to commit changes to database ...	Sub-task	Done	HARE SANKARAN R V
	BDCF-229	Dev - Creating assertion test cases	Sub-task	Done	HARE SANKARAN R V

	f...			
BDCF-230	Dev - Creating mocks, spies, stubs mimi...	Sub-task	Done	HARE SANKARAN R V
BDCF-231	Dev - Calculate Code coverage using j...	Sub-task	Done	HARE SANKARAN R V
BDCF-232	Tester - Create automation test cases...	Sub-task	Done	VEJAY KARTHY S
BDCF-233	Tester - Review Test Cases	Sub-task	Done	VEJAY KARTHY S
BDCF-234	Tester - Re-testing and Regression Te...	Sub-task	Done	VEJAY KARTHY S
BDCF-235	Tester - Bug Reporting	Sub-task	Done	VEJAY KARTHY S
BDCF-236	Dev - Code quality analysis and vulne...	Sub-task	Done	GALI MARY SANJANA
Epic Link:	QuickHelp Tools			
Sprint:	BDCF Sprint 1			

Description

Mentors can create a todo list which includes tasks that must be completed by each faculties enrolled in that course

[BDCF-79] As a faculty, I should be able to see courses I'm assigned Created: 11/Dec/19 Updated: 20/Feb/20 Resolved: 20/Feb/20

Status:	Done
Project:	CSE-B Digital course file
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	Priority:	Medium
Reporter:	VEJAY KARTHY S	Assignee:	VISHAL VINOD K
Resolution:	Done	Votes:	0
Labels:	None		
Σ Remaining Estimate:	Not Specified	Remaining Estimate:	Not Specified
Σ Time Spent:	Not Specified	Time Spent:	Not Specified
Σ Original Estimate:	Not Specified	Original Estimate:	Not Specified

Sub-Tasks:	Key	Summary	Type	Status	Assignee
	BDCF-265	Dev - Code quality analysis and vulne...	Sub-task	Done	GALI MARY SANJANA
	BDCF-276	Button to fetch list of courses	Sub-task	Done	VISHAL VINOD K
	BDCF-279	Display list of courses in next page	Sub-task	Done	VISHAL VINOD K
	BDCF-288	Dev - Creating assertion test cases u...	Sub-task	Done	VISHAL VINOD K
	BDCF-289	Dev - Creating mocks,spies,stubs mimi...	Sub-task	Done	VISHAL VINOD K

	BDCF-291	Dev - Calculate Code coverage using j...	Sub-task	Done	VISHAL VINOD K
	BDCF-303	Tester - Create automation test cases...	Sub-task	Done	VEJAY KARTHY S
	BDCF-304	Tester - Re-Testing and Regression Te...	Sub-task	Done	VEJAY KARTHY S
	BDCF-305	Tester - Review Test Cases	Sub-task	Done	VEJAY KARTHY S
	BDCF-306	Tester - Bug Reporting	Sub-task	Done	VEJAY KARTHY S
Epic Link:	Login & Faculty Dashboard				
Sprint:	BDCF Sprint 1				

[BDCF-74] As a user, I should be able to Login before viewing my dashboard

Created: 11/Dec/19 Updated: 20/Feb/20 Resolved: 20/Feb/20

Status:	Done
Project:	CSE-B Digital course file
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	Priority:	Medium
Reporter:	VEJAY KARTHY S	Assignee:	VISHAL VINOD K
Resolution:	Done	Votes:	0
Labels:	None		
Σ Remaining Estimate:	7 hours	Remaining Estimate:	Not Specified
Σ Time Spent:	Not Specified	Time Spent:	Not Specified
Σ Original Estimate:	7 hours	Original Estimate:	Not Specified

Sub-Tasks:	Key	Summary	Type	Status	Assignee
	BDCF-124	Option to login as mentor, faculty or...	Sub-task	Done	VISHAL VINOD K
	BDCF-125	Creating a user friendly UI	Sub-task	Done	VISHAL VINOD K
	BDCF-126	Collect user details{name, password} ...	Sub-task	Done	VISHAL VINOD K
	BDCF-127	AWS Cognito implementation for Login	Sub-task	Done	VISHAL VINOD K
	BDCF-128	Forgot Password workflow	Sub-task	Done	VISHAL VINOD K
	BDCF-129	Register workflow	Sub-task	Done	VISHAL VINOD K

	BDCF-271	Dev - Creating mocks, spies, stubs mimi...	Sub-task	Done	VISHAL VINOD K
	BDCF-307	Tester - Create automation test cases...	Sub-task	Done	VEJAY KARTHY S
	BDCF-308	Tester - Re-Testing and Regression Te...	Sub-task	Done	VEJAY KARTHY S
	BDCF-309	Tester - Review Test Cases	Sub-task	Done	VEJAY KARTHY S
	BDCF-310	Tester - Bug Reporting	Sub-task	Done	VEJAY KARTHY S
Epic Link:	Login & Faculty Dashboard				
Sprint:	BDCF Sprint 1				

Description

Authentication should be there

[BDCF-46] As a faculty, I should be able to create a custom checklist for my course Created: 10/Dec/19 Updated: 26/Feb/20 Resolved: 20/Feb/20

Status:	Done
Project:	CSE-B Digital course file
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	Priority:	High
Reporter:	VEJAY KARTHY S	Assignee:	HARE SANKARAN R V
Resolution:	Done	Votes:	0
Labels:	None		
Σ Remaining Estimate:	2 hours, 58 minutes	Remaining Estimate:	Not Specified
Σ Time Spent:	Not Specified	Time Spent:	Not Specified
Σ Original Estimate:	2 hours, 58 minutes	Original Estimate:	Not Specified

Issue Links:	Cloners is cloned by BDCF-222 As a mentor, I should be able to crea... Done				
Sub-Tasks:	Key	Summary	Type	Status	Assignee
	BDCF-61	Add a Input text box for description ...	Sub-task	Done	HARE SANKARAN R V
	BDCF-62	Add a Input text box for number of ch...	Sub-task	Done	HARE SANKARAN R V
	BDCF-63	Render dynamic UI based on checklist...	Sub-task	Done	HARE SANKARAN R V
	BDCF-64	Add a checklist button to mark	Sub-task	Done	HARE SANKARAN R V

		finish...			
	BDCF-65	Button to commit changes to database...	Sub-task	Done	HARE SANKARAN R V
	BDCF-66	Progress bar to display percentage of...	Sub-task	Done	HARE SANKARAN R V
	BDCF-221	Dev - Code quality analysis and vulne...	Sub-task	Done	GALI MARY SANJANA
Epic Link:	QuickHelp Tools				
Sprint:	BDCF Sprint 1				

Description

Faculty can create a custom checklist for maintaining some personal goals to be completed for their course

[BDCF-10] As a faculty, I should be able to upload tutorial and periodical questions to question bank Created: 10/Dec/19 Updated: 20/Feb/20 Resolved: 20/Feb/20

Status:	Done
Project:	CSE-B Digital course file
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	Priority:	High
Reporter:	VEJAY KARTHY S	Assignee:	VISHAL VINOD K
Resolution:	Done	Votes:	0
Labels:	None		
Σ Remaining Estimate:	Not Specified	Remaining Estimate:	Not Specified
Σ Time Spent:	Not Specified	Time Spent:	Not Specified
Σ Original Estimate:	Not Specified	Original Estimate:	Not Specified

Sub-Tasks:	Key	Summary	Type	Status	Assignee
	BDCF-25	Dropdown to select semester and course	Sub-task	Done	VISHAL VINOD K
	BDCF-26	Option to view previously uploaded ma...	Sub-task	Done	VISHAL VINOD K
	BDCF-28	Option to upload new material	Sub-task	Done	VISHAL VINOD K
	BDCF-29	UI to select type(tutorial/quiz/perio...	Sub-task	Done	VISHAL VINOD K
	BDCF-30	Button to commit changes	Sub-task	Done	VISHAL VINOD K
	BDCF-261	Dev - Vulnerability assessment using ...	Sub-task	Done	INJAM NAVEYAH

	BDCF-285	Dev - Creating assertion test cases u...	Sub-task	Done	VISHAL VINOD K
	BDCF-286	Dev - Creating mocks,spies,stubs mimi...	Sub-task	Done	VISHAL VINOD K
	BDCF-287	Dev - Calculate Code coverage using j...	Sub-task	Done	VISHAL VINOD K
	BDCF-295	Tester - Create automation test cases...	Sub-task	Done	VEJAY KARTHY S
	BDCF-296	Tester - Review Test Cases	Sub-task	Done	VEJAY KARTHY S
	BDCF-297	Tester - Re-Testing and Regression Te...	Sub-task	Done	VEJAY KARTHY S
	BDCF-298	Tester - Bug Reporting	Sub-task	Done	VEJAY KARTHY S
Epic Link:	Course Corner				
Sprint:	BDCF Sprint 1				

Description

Question Bank (Tutorials + Assignments + Semester + Quiz)

[BDCF-9] As a faculty, I should be able to upload course materials (PPT's and Videos) Created: 10/Dec/19 Updated: 20/Feb/20 Resolved: 20/Feb/20

Status:	Done
Project:	CSE-B Digital course file
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	Priority:	High
Reporter:	VEJAY KARTHY S	Assignee:	GALI MARY SANJANA
Resolution:	Done	Votes:	0
Labels:	None		
Σ Remaining Estimate:	Not Specified	Remaining Estimate:	Not Specified
Σ Time Spent:	Not Specified	Time Spent:	Not Specified
Σ Original Estimate:	Not Specified	Original Estimate:	Not Specified

Sub-Tasks:	Key	Summary	Type	Status	Assignee
	BDCF-19	Dropdown menu of semesters	Sub-task	Done	GALI MARY SANJANA
	BDCF-20	Dropdown menu of courses	Sub-task	Done	GALI MARY SANJANA
	BDCF-21	Fetch previously uploaded materials f...	Sub-task	Done	GALI MARY SANJANA
	BDCF-22	Button for uploading documents and ad...	Sub-task	Done	GALI MARY SANJANA
	BDCF-23	Button to commit changes	Sub-task	Done	GALI MARY SANJANA

	BDCF-24	Button to delete the material	Sub-task	Done	GALI MARY SANJANA
	BDCF-259	Dev - Code quality review and analysi...	Sub-task	Done	GALI MARY SANJANA
	BDCF-260	Dev - Vulnerability assessment using ...	Sub-task	Done	GALI MARY SANJANA
	BDCF-290	Tester - Create automation test cases...	Sub-task	Done	MALAVIKA M
	BDCF-292	Tester - Review Test Cases	Sub-task	Done	MALAVIKA M
	BDCF-294	Tester - Re-Testing and Regression Te...	Sub-task	Done	MALAVIKA M
Epic Link:	Course Corner				
Sprint:	BDCF Sprint 1				

Description

Place to upload Digital Repository (Videos, PPT)

[BDCF-8] As a faculty, I should be able to upload Assignments / Project Report

Created: 10/Dec/19 Updated: 20/Feb/20 Resolved: 16/Feb/20

Status:	Done
Project:	CSE-B Digital course file
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	Priority:	Highest
Reporter:	VEJAY KARTHY S	Assignee:	HARE SANKARAN R V
Resolution:	Done	Votes:	0
Labels:	None		
Σ Remaining Estimate:	5 hours, 25 minutes	Remaining Estimate:	Not Specified
Σ Time Spent:	Not Specified	Time Spent:	Not Specified
Σ Original Estimate:	5 hours, 5 minutes	Original Estimate:	Not Specified

Sub-Tasks:	Key	Summary	Type	Status	Assignee
	BDCF-14	Drop down menu for semesters	Sub-task	Done	HARE SANKARAN R V
	BDCF-15	Drop-down menu for courses	Sub-task	Done	HARE SANKARAN R V
	BDCF-16	Option to add URL of document	Sub-task	Done	HARE SANKARAN R V
	BDCF-17	Option to add assignment descriptions	Sub-task	Done	HARE SANKARAN R V
	BDCF-18	Styling icons	Sub-task	Done	HARE SANKARAN R V
	BDCF-251	Dev - Creating assertion test cases	Sub-task	Done	VISHAL VINOD K

	BDCF-252	Dev - Creating mocks,spies,stubs mimi...	Sub-task	Done	VISHAL VINOD K
	BDCF-253	Dev - Calculate Code coverage using j...	Sub-task	Done	VISHAL VINOD K
	BDCF-254	Dev - Code quality review and analysi...	Sub-task	Done	INJAM NAVEYAH
	BDCF-255	Dev - Vulnerability assessment using ...	Sub-task	Done	INJAM NAVEYAH
	BDCF-256	Tester - Create automation test cases...	Sub-task	Done	MALAVIKA M
	BDCF-257	Tester - Review Test Cases	Sub-task	Done	MALAVIKA M
	BDCF-258	Tester - Bug Reporting	Sub-task	Done	MALAVIKA M
Epic Link:	Course Corner				
Sprint:	BDCF Sprint 1				

Description

Faculty members should be able to upload reports and materials of students, which is segregated based on courses

4.1 Sprint 1 standup notes

STANDUP NOTES 1 on 24-1-2020

Name	Question	Answer	Sign
HARE SANKARAN RV	What did you do yesterday?	1 - Modified AWS Cognito to create separate user pools for Admin and Faculty 2 - Added User upload functionality with support for saving files privately 3 - Configured AWS S3 to store files for each users in separate folders 4 - Added User todo list route which allows users to keep track of todo's with deadline	
	What will you do today?	1 - Start writing unit test cases for upload and todo components	
	Are there any impediments in your way?	Cognito integration was time consuming	
VISHAL VINOD K	What did you do yesterday?	1 - Created login form using react js and node js with a user friendly UI. 2 - Connected to the backend database using AWS Cognito.	
	What will you do today?	1 – Start “See the assigned courses” story	
	Are there any impediments in your way?	None	

G SANJANA MARY	What did you do yesterday?	1 - Setting up Sonar Cube 2 – Completed “Maintain Course FAQs / View FAQs View”	
	What will you do today?	1 - Going to start with "uploading course materials" story	
	Are there any impediments in your way?	None	
INJAM NAVEYAH	What did you do yesterday?	1 - Setting up Sonar Cube	
	What will you do today?	1 - Going to start working on "maintain TODO list"	
	Are there any impediments in your way?	None	
VEJAY KARTHY S	What did you do yesterday?	1 - Setup Selenium for Python 2 - Wrote test cases for valid and invalid login	
	What will you do today?	3 - Write test cases for valid and invalid registration	
	Are there any impediments in your way?	None	
MALAVIKA M	What did you do yesterday?	1 - Setup Selenium for Python	
	What will you do today?	1 - Write test cases for " Maintain Course FAQs / View FAQs View"	
	Are there any impediments in your way?	None	

Faculty Name and Signature:

STANDUP NOTES 2 on 07-02-2020

Name	Question	Answer	Sign
HARE SANKARAN RV	What did you do yesterday?	1. Configured Setup tools for Unit testing 2. Unit tested Todo Component	
	What will you do today?	1. Make React App to be compatible with React-Router	
	Are there any impediments in your way?	Learning React Router takes time.	
VISHAL VINOD K	What did you do yesterday?	1. Created list of courses for each faculty and display it on the faculty's dashboard	
	What will you do today?	1. Unit testing for the above	
	Are there any impediments in your way?	NIL	
G SANJANA MARY	What did you do yesterday?	1.Static code analysis	
	What will you do today?	1.Fix bug reports	
	Are there any impediments in your way?	NIL	

INJAM NAVEYAH	What did you do yesterday?	1.Developing front end for uploading assessment marks 2.Developing front end for uploading gradesheet	
	What will you do today?	1. Checking how SonarQube works	
	Are there any impediments in your way?	NIL	
VEJAY KARTHY S	What did you do yesterday?	1.Wrote test cases for Registraion	
	What will you do today?	1.Explore Selenium IDE - Plugin	
	Are there any impediments in your way?	NIL	
MALAVIKA M	What did you do yesterday?	1.Did testing for Viewing uploads and Downloading documents	
	What will you do today?	1.Testing for Uploading documents	
	Are there any impediments in your way?	NIL	

Faculty Name and Signature:

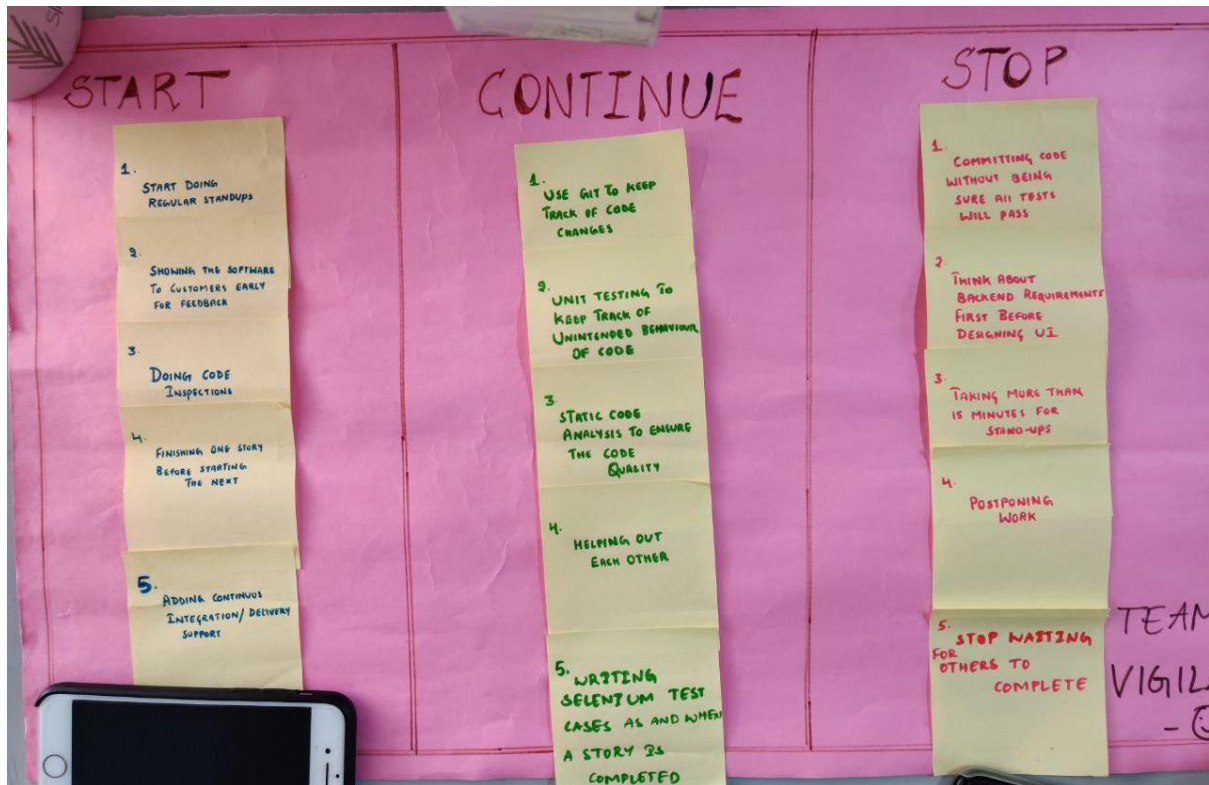
STANDUP NOTES 3 on 18-02-2020

Name	Question	Answer	Sign
HARE SANKARAN RV	What did you do yesterday?	1.Made React App compatible with React Components	
	What will you do today?	1.Restructure Uploads functionality in backend and restrict file access of each users	
	Are there any impediments in your way?	Previous code was not flexible. So restructuring will take time.	
VISHAL VINOD K	What did you do yesterday?	1.Unit testing done for the courses enrolled for a faculty	
	What will you do today?	1. Create uploading of tutorial papers in question bank	
	Are there any impediments in your way?	NIL	
G SANJANA MARY	What did you do yesterday?	1.Fixed bug reports	
	What will you do today?	1.Draw Use Case Diagrams	
	Are there any impediments in your way?	NIL	

INJAM NAVEYAH	What did you do yesterday?	1. Checked how SonarQube works 2.Connecting with database and implementation of front end codes	
	What will you do today?	1. Get better understanding of SonarQube and write test cases for unit testing	
	Are there any impediments in your way?	NIL	
VEJAY KARTHY S	What did you do yesterday?	1. Explored Selenium IDE - Plugin	
	What will you do today?	1. Write test cases for “To-do” List	
	Are there any impediments in your way?	NIL	
MALAVIKA M	What did you do yesterday?	1. Wrote test case for uploading documents. Except for two fields, tested all other fields.	
	What will you do today?	1. Testing for Dashboard, Explore Selenium IDE.	
	Are there any impediments in your way?	1. Found difficulty in testing two fields -dropdown menu, selecting file for uploading.	

Faculty Name and Signature:

4.2 Sprint 1 Retrospective notes



4.3 Sprint 2 backlog

  BDCF-12

As a HOD, I should be able to view all resources



...

  BDCF-75



As a user, I should be able to view my profile

...

Course Corner

4

Login & Faculty Dashboard

8

  BDCF-89

As a mentor, I should be able to maintain FAQs for my course



...

  BDCF-93



As a faculty, I should be able to view FAQs list for my course

...

Utilities

5

Utilities

5

  BDCF-5

As a mentor, I should be able to Upload Lecture Plan and CO's of a course



...

  BDCF-80



As a faculty, I should be able to view my Timetable

...

Course Committee Corner

4

Login & Faculty Dashboard

4

  BDCF-78



As a mentor, I should be able to view all timetable of my course

...

Login & Faculty Dashboard

3

  BDCF-92



As a mentor, I should be able to create a custom poll for faculties

...

Utilities

4

  BDCF-3

As a Time table committee member, I should be able to assign faculty for each course

...

Course Committee Corner

  BDCF-6



As a mentor, I should be able to keep track of staff appraisals

P
...

Course Committee Corner

2.5

  BDCF-47



As a faculty, I can view a suggestions tool for ideal weekly progress

...

QuickHelp Tools

  BDCF-45



As a faculty, I should be able to update my progress per week as per lecture plan

...

QuickHelp Tools

  BDCF-13

...

As a HOD, I should be able to view course handling staff feedbacks of previous year

Course Corner

  BDCF-48



As a HOD,I should be able to generate faculty based course reports

...

QuickHelp Tools 0.5



  BDCF-2

As a time table committee member, I should be able to view list of courses offered and handling faculties

...

Course Committee Corner

  BDCF-90

As a faculty, I should be able to add a new schedule for Tutorials/Quizzes/Assignments

...

Utilities

  BDCF-82

As a mentor, I should be able to get complaints periodically

...

Course Feedback

  BDCF-4

...

As a mentor, I should be able to revise course syllabus

Course Committee Corner

  BDCF-83

As a mentor, I should be able to create a custom feedback form ...

Course Feedback

  BDCF-84

As a mentor, I should be able to update feedback form ...

Course Feedback

  BDCF-85

As a mentor, I should be able to schedule feedback and circulate form...

Course Feedback

  BDCF-86

As a HOD, I should be able to view stats of course feedback

Course Feedback

  BDCF-88

As a mentor, I should be able to send notifications to faculties ...

Utilities

  BDCF-76

As a user,I should be able to add personal notes/messages ...

Login & Faculty Dashboard



3

4.4 Sprint 2 standup notes

STANDUP NOTES 4 on 28-2-2020

Name	Question	Answer	Sign
HARE SANKARAN RV	What did you do yesterday?	1. Restructured Uploads functionality in backend and restrict file access of each users 2. Deployed App on Netlify	
	What will you do today?	1. Start working on creating APIs for Time table viewing 2. Start working on Continuous Integration / Continuous Delivery	
	Are there any impediments in your way?	1. Need to go through documentation of CircleCI before starting	
VISHAL VINOD K	What did you do yesterday?	ABSENT	
	What will you do today?		
	Are there any impediments in your way?		
G SANJANA MARY	What did you do yesterday?	1. Drew Use Case Diagrams	
	What will you do today?	1. Start working on Maintain FAQs for a course 2. Start working on Continuous Integration / Continuous Delivery	
	Are there any impediments in your way?	NIL	

INJAM NAVEYAH	What did you do yesterday?	1. Got better understanding of SonarQube	
	What will you do today?	1. Start working on Upload Lecture Plan and CO's of a course 2. Start working on Continuous Integration / Continuous Delivery	
	Are there any impediments in your way?	NIL	
VEJAY KARTHY S	What did you do yesterday?	1. Wrote test cases for "To-do" List	
	What will you do today?	1. Start exploring Continuous Integration Tools like Jenkins, Circle CI. 2. Start working on Continuous Integration / Continuous Delivery	
	Are there any impediments in your way?	NIL	
MALAVIKA M	What did you do yesterday?	1. Tested for Dashboard, Explored Selenium IDE.	
	What will you do today?	1. Start exploring Continuous Integration Tools like Jenkins, Circle CI. 2. Start working on Continuous Integration / Continuous Delivery	
	Are there any impediments in your way?	NIL	

Faculty Name and Signature:

STANDUP NOTES 5 on 06-3-2020

Name	Question	Answer	Sign
HARE SANKARAN RV	What did you do yesterday?	1. Started working on CircleCI	
	What will you do today?	1. Improve performance of the website loading time 2. Automate Unit testing through CircleCI on new builds	
	Are there any impediments in your way?	1. I need to spend more time on learning to integrate new builds and automate testing with CircleCI.	
VISHAL VINOD K	What did you do yesterday?	1. Started working on issue- view all timetable of my course	
	What will you do today?	1. Testing and optimization to be done on view timetable of my course	
	Are there any impediments in your way?	NIL	
G SANJANA MARY	What did you do yesterday?	OD/ABSENT	
	What will you do today?		
	Are there any impediments in your way?		

INJAM NAVEYAH	What did you do yesterday?	1. Started working on Upload Lecture Plan and CO's of a course	
	What will you do today?	1. Continue working on Upload Lecture Plan and CO's of a course 2. Start working on Continuous Integration / Continuous Delivery	
	Are there any impediments in your way?	NIL	
VEJAY KARTHY S	What did you do yesterday?	1. Started exploring Continuous Integration Tools like Jenkins, CircleCI. 2. Started working on Continuous Integration / Continuous Delivery	
	What will you do today?	1. Integrate Selenium test cases with CircleCI	
	Are there any impediments in your way?	NIL	
MALAVIKA M	What did you do yesterday?	1. Start exploring Continuous Integration Tools like Jenkins, Circle CI.	
	What will you do today?	1. Write test cases for Maintain FAQs for a course 2. Start working on Continuous Integration / Continuous Delivery	
	Are there any impediments in your way?	NIL	

Faculty Name and Signature:

STANDUP NOTES 6 on 10-3-2020

Name	Question	Answer	Sign
HARE SANKARAN RV	What did you do yesterday?	1. Optimised Performance based on Lighthouse reports	
	What will you do today?	1. Start Dockerizing the entire application. 2. Integrate Selenium testing to CircleCI	
	Are there any impediments in your way?	1. More time needed to map all existing test cases to a single test suite portal.	
VISHAL VINOD K	What did you do yesterday?	1. Testing and optimization to be done on view timetable of my course	
	What will you do today?	1. Started working on creating custom poll issue	
	Are there any impediments in your way?	NIL	
G SANJANA MARY	What did you do yesterday?	1. Jira updation	
	What will you do today?	1. Complete FAQ uploads	
	Are there any impediments in your way?	NIL	

INJAM NAVEYAH	What did you do yesterday?	1. Completed working on frontend for Upload Lecture Plan and CO's of a course	
	What will you do today?	1. Start working on SonarQube for Upload Lecture Plan	
	Are there any impediments in your way?	NIL	
VEJAY KARTHY S	What did you do yesterday?	1. Started to Integrate Selenium test cases with CircleCI	
	What will you do today?	1. Continue to Integrate Selenium test cases with CircleCI	
	Are there any impediments in your way?	NIL	
MALAVIKA M	What did you do yesterday?	1. Started working on Continuous Integration / Continuous Delivery	
	What will you do today?	1. Write test cases for Maintain FAQs for a course	
	Are there any impediments in your way?	NIL	

Faculty Name and Signature:

5 Implementation

Framework: ReactJS, NodeJS

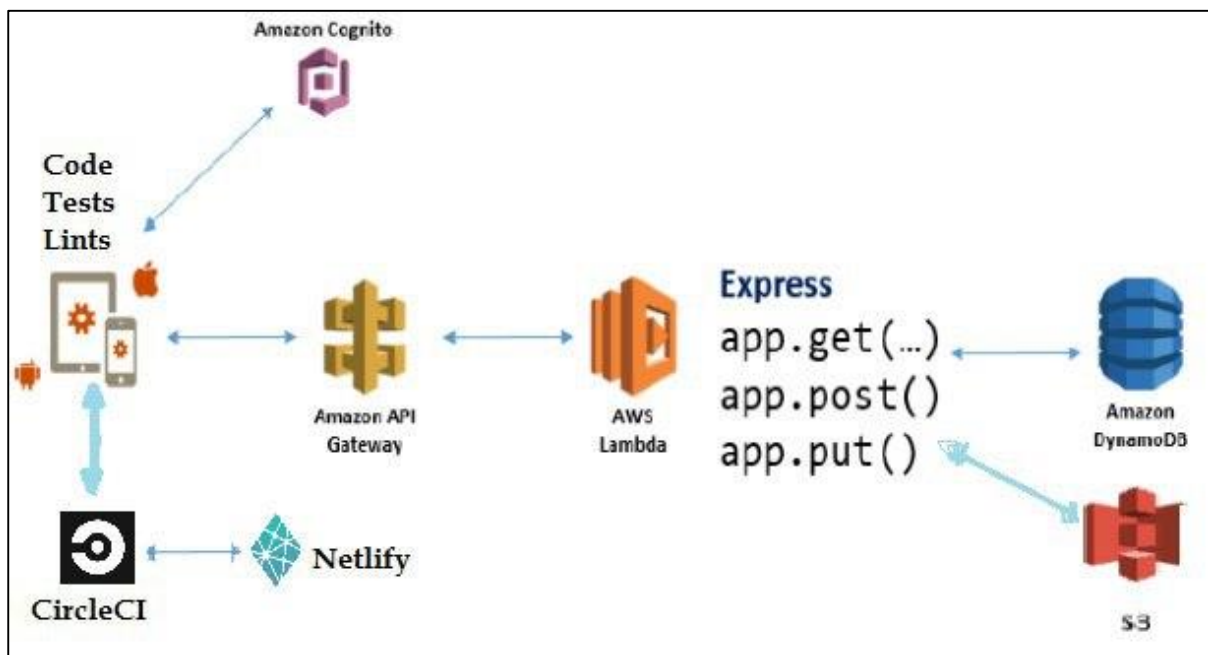
Database: MySQL via AWS-RDS, DynamoDB

AWS Services: Lambda, API Gateway, Cognito, S3, Amplify

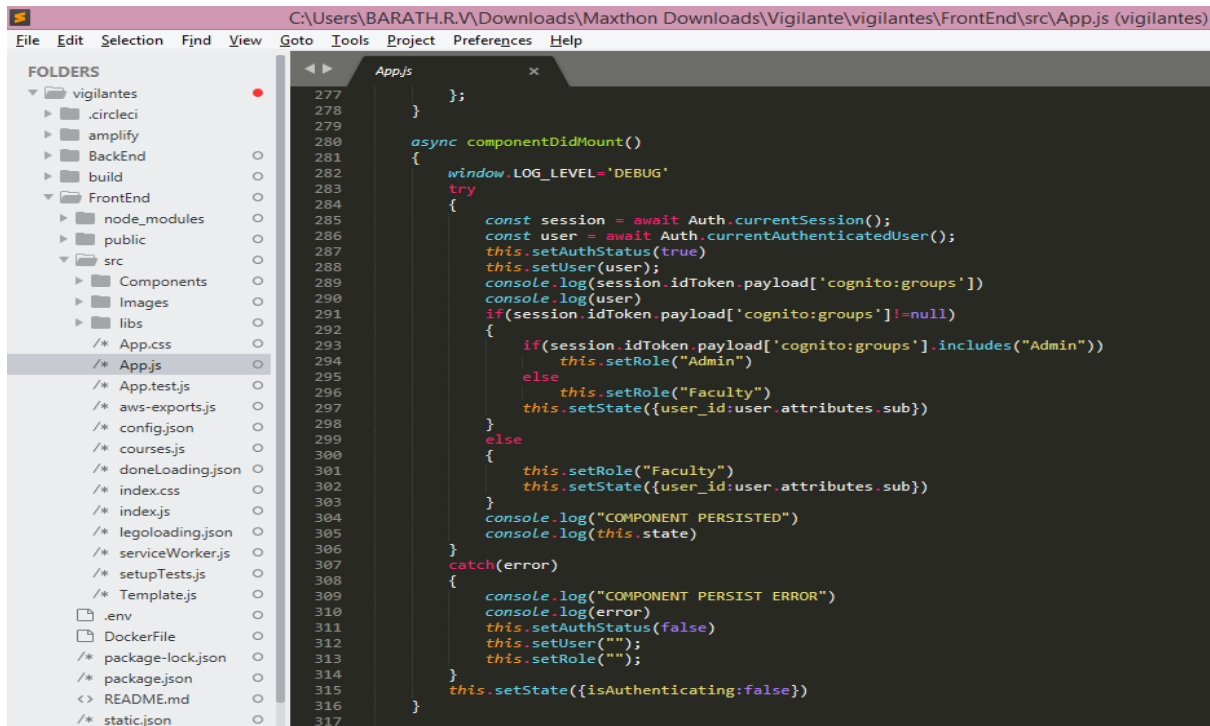
Hosting: Netlify and Heroku

Additional Implementation Details:

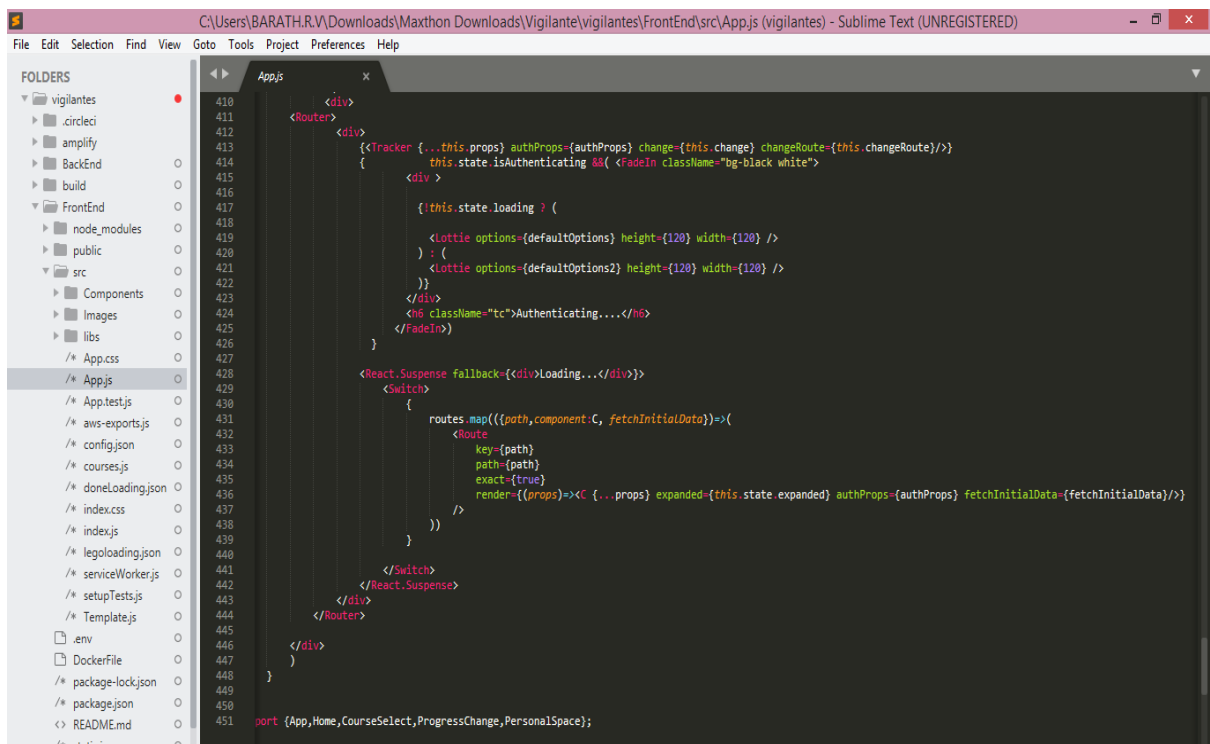
- Pre-commit hook: Before new commit even takes place, **Prettify** and **Husky** modules will beautify the code.
- We used Lambda triggers for API calls, thereby reducing server usage time.
- Cookies support is enabled. Logged-in users will be remembered.
- Code-splitting and Lazy Loading has been implemented to optimise performance.



6 Sample Code

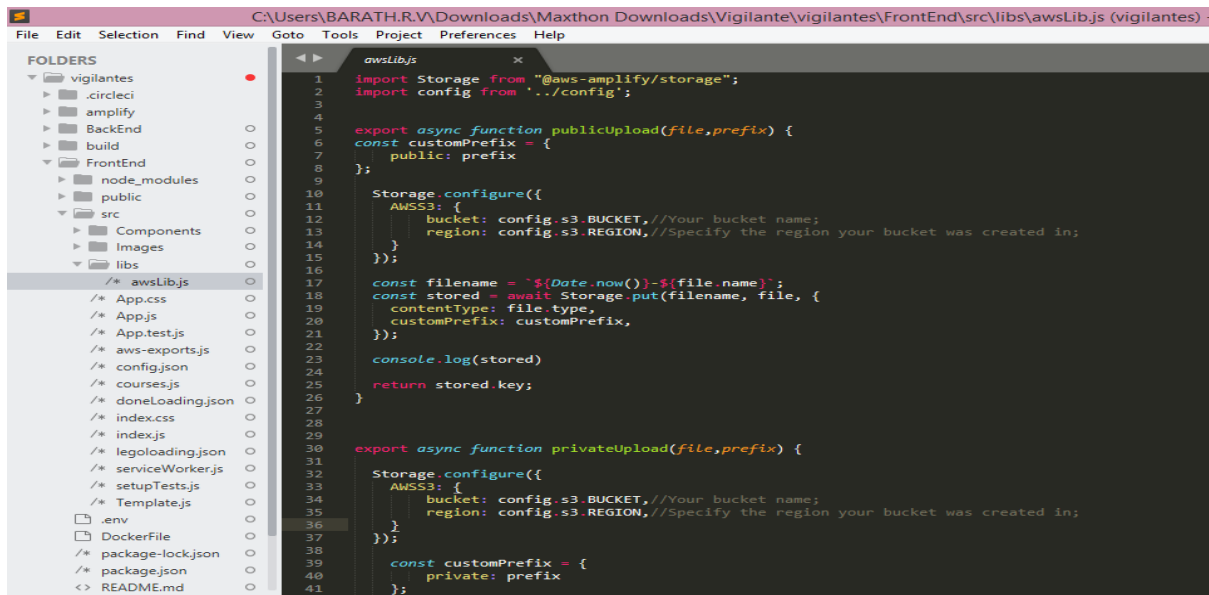


```
277 }
278
279
280 async componentDidMount()
281 {
282     window.LOG_LEVEL='DEBUG'
283     try
284     {
285         const session = await Auth.currentSession();
286         const user = await Auth.currentAuthenticatedUser();
287         this.setAuthStatus(true)
288         this.setUser(user);
289         console.log(session.idToken.payload['cognito:groups'])
290         console.log(user)
291         if(session.idToken.payload['cognito:groups']!=null)
292         {
293             if(session.idToken.payload['cognito:groups'].includes("Admin"))
294                 this.setRole("Admin")
295             else
296                 this.setRole("Faculty")
297             this.setState({user_id:user.attributes.sub})
298         }
299         else
300         {
301             this.setRole("Faculty")
302             this.setState({user_id:user.attributes.sub})
303         }
304         console.log("COMPONENT PERSISTED")
305         console.log(this.state)
306     }
307     catch(error)
308     {
309         console.log("COMPONENT PERSIST ERROR")
310         console.log(error)
311         this.setAuthStatus(false)
312         this.setUser("");
313         this.setRole("");
314     }
315     this.setState({isAuthenticating:false})
316 }
317
```



```
410 <div>
411 <Router>
412 <div>
413 <Tracker {...this.props} authProps={authProps} change={this.change} changeRoute={this.changeRoute}/>
414 {
415     this.state.isAuthenticating && <FadeIn className="bg-black white">
416     <div>
417     {!this.state.loading ? (
418     <Lottie options={defaultOptions} height={120} width={120} />
419     ) : (
420     <Lottie options={defaultOptions2} height={120} width={120} />
421     )}
422     </div>
423     <h6 className="tc">Authenticating....</h6>
424     </FadeIn>
425     }
426     </div>
427     <React.Suspense fallback=<div>Loading...</div>>
428     <Switch>
429     {
430         routes.map(({path,component:C, fetchInitialData})=>{
431             <Route
432                 key={path}
433                 path={path}
434                 exact={true}
435                 render={({props})=><C {...props} expanded={this.state expanded} authProps={authProps} fetchInitialData={fetchInitialData}/>}
436             )}
437         )
438     }
439     </Switch>
440     </React.Suspense>
441     </div>
442     </Router>
443     </div>
444     </div>
445     </div>
446     </div>
447     </div>
448     </div>
449     </div>
450     </div>
451     port {App,Home,CourseSelect,ProgressChange,PersonalSpace};

```



7 Software Engineering practices used

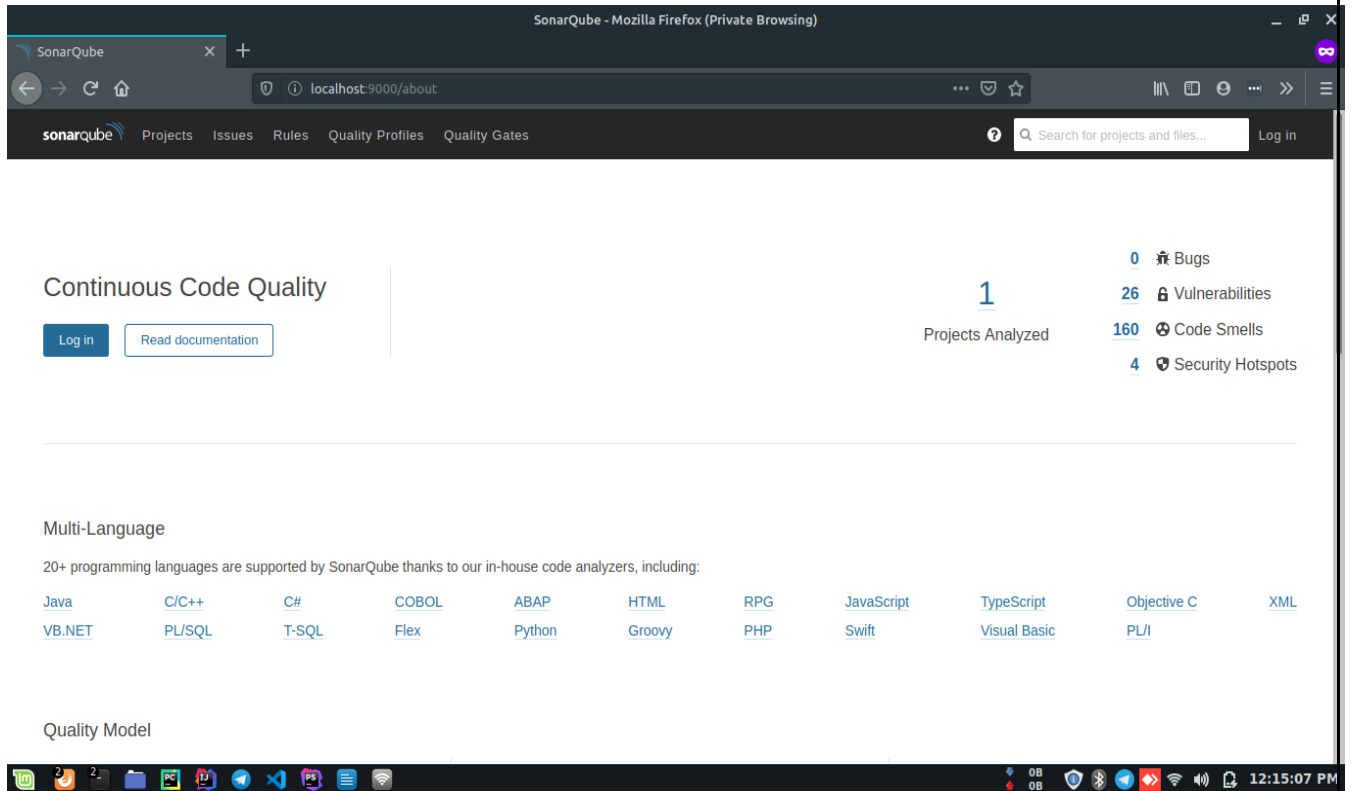
7.1 Static Code Analysis

7.1.1 Screenshots/Report of the scanning results

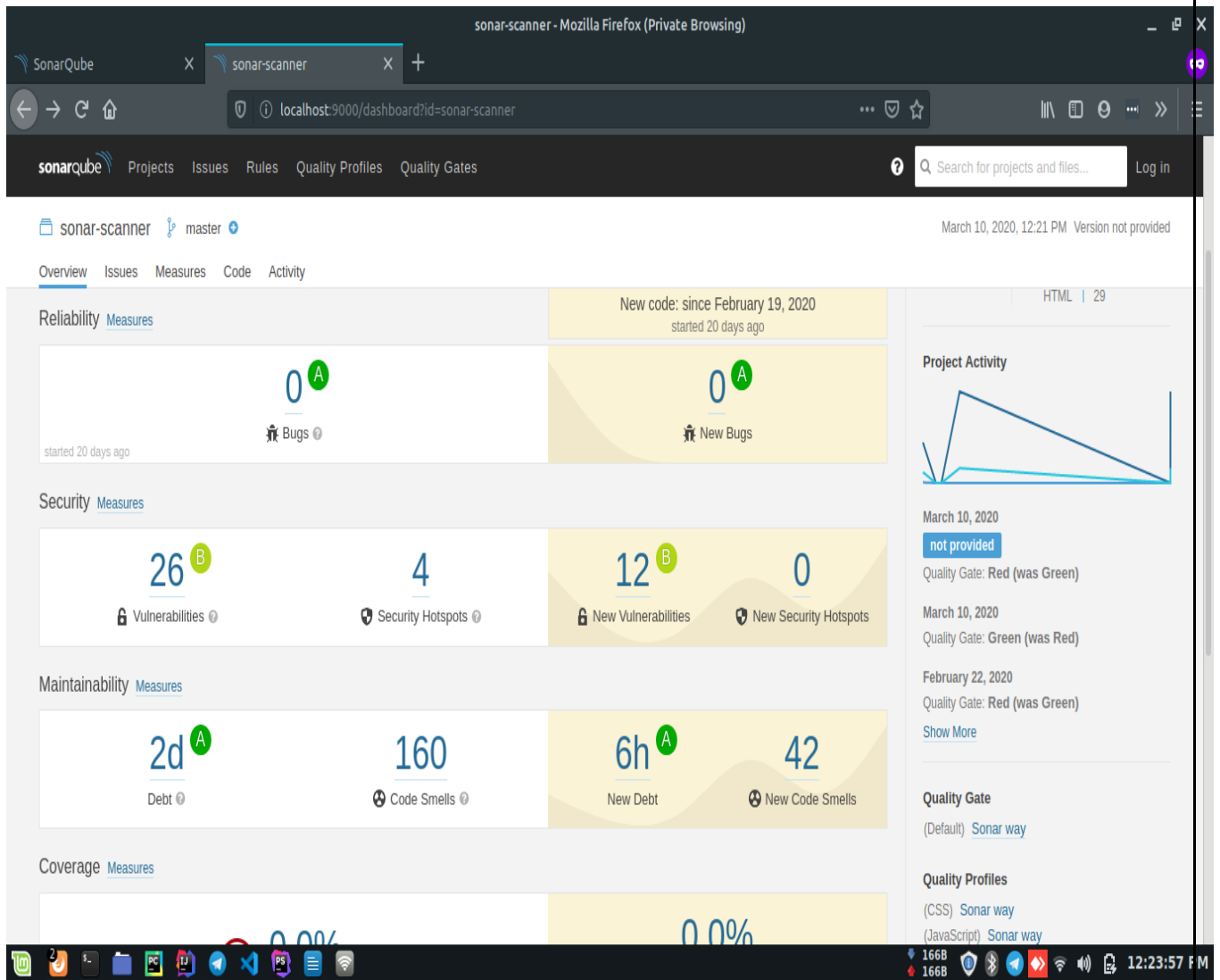
Tools Used - SonarQube

- After downloading the community edition of SonarQube, unzip the file and choose the sonarQube file compatible with OS to run. Command to run is **./sonar.sh start**. Download SonarScanner and put it in the project folder. Add its path to environmental variables. Run SonarScanner using **sonar-scanner** command in project file. Open url <http://localhost:9000/dashboard?id=sonar-scanner> to see the bugs.
- OpenJDK 11 or JRE 11 must be there for SonarQube to run in PC.
- SonarQube collects and analyzes source code, measuring quality and providing reports for your projects. It combines static and dynamic analysis tools and enables quality to be measured continuously over time. Everything that affects our code base, from minor styling details to critical design errors, is inspected and evaluated by SonarQube, thereby enabling developers to access and track code analysis data ranging from styling errors, potential bugs, and code defects to design inefficiencies, code duplication, lack of test coverage, and excess complexity.

Screen Shots:



SonarQube running in localhost 9000



SonarScanner dashboard

7.1.2 Actions taken

- Bugs are resolved from the count of 5 to 0.
- Code Smells are cut down to 160 from 255.
- Vulnerabilities are reduced to 26 from 35.
- Code Coverage is increased to 95%.

7.2 Unit Testing

7.2.1 Tool used and its setup details

Tools Used - Jest and Enzyme

- 1) Jest comes pre-installed with create-react-app package and enzyme can be installed as npm package using “`npm install --save-dev enzyme enzyme-adapter-react-16`”.
- 2) Jest acts as one library which serves multiple purposes like **scaffolding, assertion, test runner**, and for writing **mocks, stubs** and **spies** and finally also offers **code coverage** for unit testing. Jest also provides **Snapshot** testing.
- 3) Enzyme is compatible with jest, and adds some additional utility methods for rendering a component, finding elements, and interacting with elements. Enzyme is specifically designed for ReactJS.

7.2.2 Test cases statistics

Total Major Components/Units - 8 & Total Testcases - 28

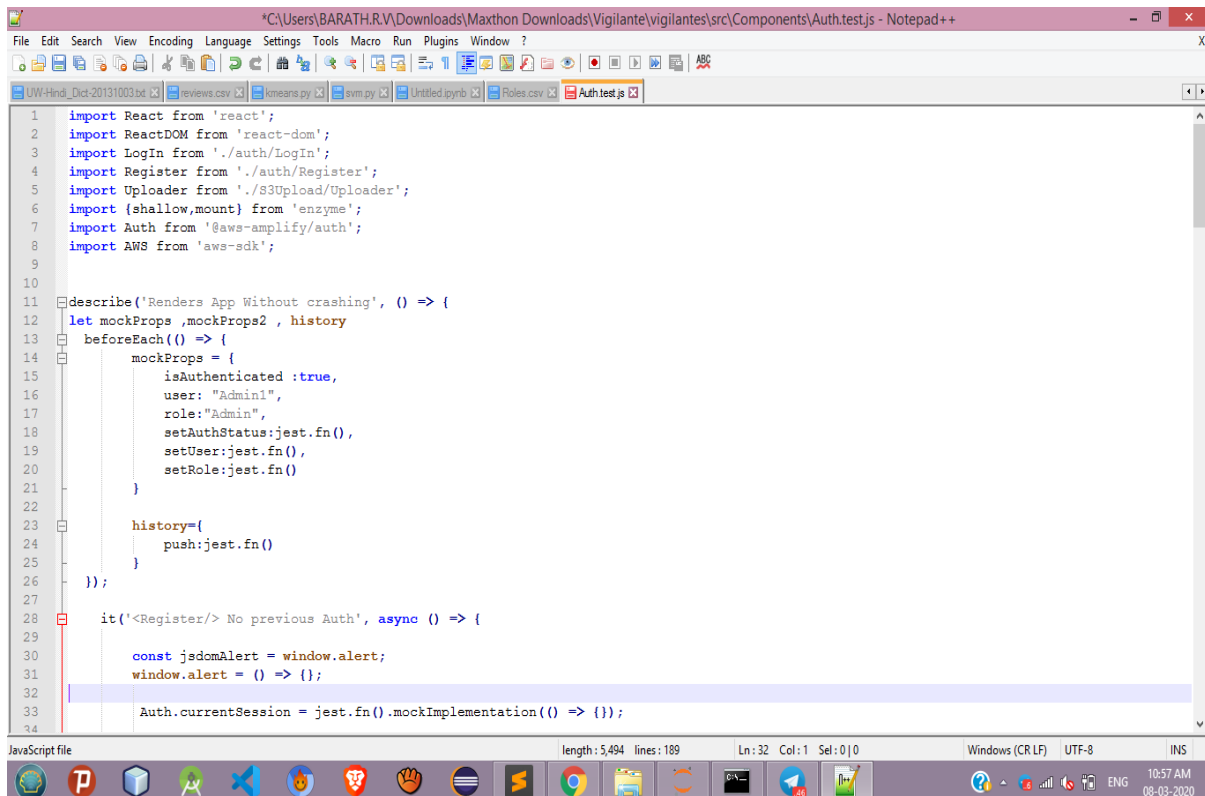
App Unit - 8

Auth Unit - 8

TodoApp Unit - 12

Remaining Units - 2 each

7.2.3 Test case code



```
1 import React from 'react';
2 import ReactDOM from 'react-dom';
3 import Login from './auth/Login';
4 import Register from './auth/Register';
5 import Uploader from './s3Upload/Uploader';
6 import {shallow, mount} from 'enzyme';
7 import Auth from '@aws-amplify/auth';
8 import AWS from 'aws-sdk';
9
10
11 describe('Renders App Without crashing', () => {
12   let mockProps, mockProps2, history
13   beforeEach(() => {
14     mockProps = {
15       isAuthenticated: true,
16       user: "Admin1",
17       role: "Admin",
18       setAuthStatus: jest.fn(),
19       setUser: jest.fn(),
20       setRole: jest.fn()
21     }
22
23     history = {
24       push: jest.fn()
25     }
26   });
27
28   it('<Register/> No previous Auth', async () => {
29
30     const jsdomAlert = window.alert;
31     window.alert = () => {};
32
33     Auth.currentSession = jest.fn().mockImplementation(() => {});
34   });
35 }
```

Mocks and Stubs and Spies

```
*C:\Users\BARATH.R.V\Downloads\Maxthon Downloads\Vigilante\vigilantes\src\Components\Auth.test.js - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
UW-Hind_Dict-20131003.txt reviews.csv kmmeans.py svm.py Untitled.pyth Roles.csv Auth.test.js
81  });
82  });
83
84
85  describe('Throws errors on Blank fields in <Register/>', () => {
86
87    it('username blank', async () => {
88
89      Auth.currentSession = jest.fn().mockImplementation(
90        () => {
91          return {idToken:{"payload":{"cognito:groups":"Admin"}}};
92        });
93
94      const dummy = document.createElement('username');
95      document.getElementById = jest.fn().mockImplementation(
96        () => {
97          return dummy;
98        });
99
100      const wrapper = mount(<Register authProps={mockProps2} history={history}/>);
101      wrapper.setState({username:"", email:"Admin@gmail.com"});
102      wrapper.find('#registerbutton').simulate("click")
103      var rblank= (cognito: null,blankfield: true)
104      expect(wrapper.state('errors')).toEqual(rblank)
105      expect(wrapper.state('errors')).toEqual(rblank)
106      expect(wrapper.state('errors')).toEqual(rblank)
107
108    });
109
110    it('email blank', async () => {
111      Auth.currentSession = jest.fn().mockImplementation(
112        () => {
113          return {"idToken":"None"};
114        });
115    });
116  });
117
118
119
120
121
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125
126
127
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```


7.3 *UI Testing*

7.3.1 *Tool used and its setup details*

Tools used: Selenium

- In a Python IDE like **Visual Studio Code** the selenium package is installed with the help of the command ***pip install selenium***.
- **Driver** for the web browser, **Chrome**, is downloaded and is ought to be included in the code. The programming language used is python.
- Adding on to it, **Selenium IDE** plugin is downloaded from ***www.selenium.dev*** and is used for UI testing in the web browser, Chrome.

7.3.2 *Test cases statistics*

Total number of test cases: 30

Number of test cases passed: 27

Number of test cases failed: 3

Number of test cases passed after debugging: 29

7.3.3 Test case code

Valid Login (faculty)

```
import pytest
import time
import json
from selenium import webdriver
from selenium.webdriver.common.by import By
from selenium.webdriver.common.action_chains import ActionChains
from selenium.webdriver.support import expected_conditions
from selenium.webdriver.support.wait import WebDriverWait
from selenium.webdriver.common.keys import Keys
from selenium.webdriver.common.desired_capabilities import DesiredCapabilities

class TestLoginFaculty():
    def setup_method(self, method):
        self.driver = webdriver.Chrome()
        self.vars = {}

    def teardown_method(self, method):
        self.driver.quit()

    def test_loginFaculty(self):
        self.driver.get("https://vigilante.netlify.com/login")
        self.driver.set_window_size(1552, 840)
        assert self.driver.find_element(By.CSS_SELECTOR, "h1").text == "Log in"
        assert self.driver.find_element(By.CSS_SELECTOR, "h3").text == "Digital Course File | Login"
        self.driver.find_element(By.ID, "username").click()
        self.driver.find_element(By.ID, "username").send_keys("Faculty2")
        self.driver.find_element(By.ID, "password").click()
        self.driver.find_element(By.ID, "password").send_keys("Faculty@2000")
        self.driver.find_element(By.ID, "submitbutton").click()
        self.driver.find_element(By.ID, "signout").click()
        self.driver.close()
```

Invalid Login

```
import pytest
import time
import json
from selenium import webdriver
from selenium.webdriver.common.by import By
from selenium.webdriver.common.action_chains import ActionChains
from selenium.webdriver.support import expected_conditions
from selenium.webdriver.support.wait import WebDriverWait
from selenium.webdriver.common.keys import Keys
from selenium.webdriver.common.desired_capabilities import DesiredCapabilities

class TestInvalidLogin2Admin():
    def setup_method(self, method):
        self.driver = webdriver.Chrome()
        self.vars = {}

    def teardown_method(self, method):
        self.driver.quit()

    def test_invalidLogin2Admin(self):
        self.driver.get("https://vigilante.netlify.com/login")
        self.driver.set_window_size(1536, 824)
        self.driver.find_element(By.ID, "username").click()
        self.driver.find_element(By.ID, "username").send_keys("Admin2")
        self.driver.find_element(By.ID, "password").click()
        self.driver.find_element(By.ID, "password").send_keys("Admin2@2000")
        self.driver.find_element(By.ID, "submitbutton").click()
        assert self.driver.find_element(By.CSS_SELECTOR, ".justify-content-center").text == "Incorrect username or password."
        self.driver.find_element(By.ID, "resetbutton").click()
        self.driver.close()
```

View Uploads

```
import pytest
import time
import json
from selenium import webdriver
from selenium.webdriver.common.by import By
from selenium.webdriver.common.action_chains import ActionChains
from selenium.webdriver.support import expected_conditions
from selenium.webdriver.support.wait import WebDriverWait
from selenium.webdriver.common.keys import Keys
from selenium.webdriver.common.desired_capabilities import DesiredCapabilities

class TestTest1():
    def setup_method(self):
        self.driver = webdriver.Chrome(executable_path=r'C:\Users\malav\Desktop\chromedriver.exe')
        self.vars = {}

    def teardown_method(self):
        self.driver.quit()

    def test_test1(self):
        self.driver.get("https://vigilante.netlify.com/login")
        self.driver.set_window_size(1366, 728)
        self.driver.find_element(By.ID, "username").click()
        element = self.driver.find_element(By.ID, "username")
        actions = ActionChains(self.driver)
        actions.double_click(element).perform()
        self.driver.find_element(By.ID, "username").send_keys("Faculty2")
        self.driver.find_element(By.ID, "password").click()
        self.driver.find_element(By.ID, "password").send_keys("Faculty@2000")
        self.driver.find_element(By.ID, "submitbutton").click()
        element = self.driver.find_element(By.CSS_SELECTOR, ".bg-white:nth-child(1) > .bg-black")
        actions = ActionChains(self.driver)
```

```
def test_test1(self):
    self.driver.get("https://vigilante.netlify.com/login")
    self.driver.set_window_size(1366, 728)
    self.driver.find_element(By.ID, "username").click()
    element = self.driver.find_element(By.ID, "username")
    actions = ActionChains(self.driver)
    actions.double_click(element).perform()
    self.driver.find_element(By.ID, "username").send_keys("Faculty2")
    self.driver.find_element(By.ID, "password").click()
    self.driver.find_element(By.ID, "password").send_keys("Faculty@2000")
    self.driver.find_element(By.ID, "submitbutton").click()
    element = self.driver.find_element(By.CSS_SELECTOR, ".bg-white:nth-child(1) > .bg-black")
    actions = ActionChains(self.driver)
    actions.move_to_element(element).perform()
    element = self.driver.find_element(By.CSS_SELECTOR, "body")
    actions = ActionChains(self.driver)
    actions.move_to_element(element, 0, 0).perform()
    self.driver.find_element(By.XPATH, "//input[@value='View Course']").click()
    self.driver.find_element(By.XPATH, "//div[@id='3']/a/div/div").click()
    self.driver.find_element(By.CSS_SELECTOR, ".btn:nth-child(1)").click()
    element = self.driver.find_element(By.CSS_SELECTOR, ".btn:nth-child(1)")
    actions = ActionChains(self.driver)
    actions.move_to_element(element).perform()
    element = self.driver.find_element(By.CSS_SELECTOR, "body")
    actions = ActionChains(self.driver)
    actions.move_to_element(element, 0, 0).perform()
    self.driver.find_element(By.CSS_SELECTOR, "h4").click()

if __name__ == "__main__":
    func = TestTest1()
    func.setup_method()
    func.test_test1()
```

Test Samples from SELENIUM IDE:

Valid Login

Project: DCF - 1

Tests ▾ +

Search tests... 🔍

https://vigilante.netlify.com

	Command	Target	Value
Download Grade Sheet	1	open	/login
Invalid Login - Faculty	2	set window size	1536x824
Invalid Login1 - Admin	3	click	id=username
Invalid Login2 - Admin	4	type	id=username Faculty
Login - Admin	5	type	id=username Faculty1
Login - Faculty	6	click	id=password
Register - Admin	7	type	id=password Faculty@2000
To-Do List	8	click	id=submitbutton
To-Do List Negative C...	9	verify text	css= justify-content-center Temporary password has expired and must be reset by an administrator.
Upload Grade Sheets1	10	click	id=resetbutton
View Courses	11	close	

Command: open // # 📄

Target: /login 📄 🔍

Value:

Description:

Log Reference

View uploads

Selenium IDE - from first*

Project: from first*

Tests ▾ +

Search tests... 🔍

https://vigilante.netlify.com/login

	Command	Target	Value
Test1*	1	open	https://vigilante.netlify.com/login
Untitled	2	set window size	1366x728
view_uploads*	3	click	id=username
	4	double click	id=username
	5	type	id=username Faculty2
	6	click	id=password
	7	type	id=password Faculty@2000
	8	click	id=submitbutton
	9	mouse over	css= bg-white:nth-child(1) > .bg-black
	10	mouse out	css= bg-white:nth-child(1) > .bg-black
	11	click	xpath=//input[@value='View Course']

Command: mouse over // # 📄

Target: css= bg-white:nth-child(1) > .bg-black 📄 🔍

Value:

Description:

Log Reference

7.4 Continuous Integration

7.4.1 Tools used

CI/CD Tool - CircleCI

Advantages:

- No need of server maintenance
- Debugging is easier
- SSH support
- No additional plugins required
- Built-in support for Docker

7.4.2 Brief description of how CI has been done

In our project, Version Control System is achieved through Github and after integrating with CircleCI, whenever a developer commits new code and creates pull requests, predefined jobs are ran in CircleCI, where Unit Test cases followed by UI Test cases are executed one by one and results are then notified via mail as well as UI in Github where collaborator can accept changes.

7.4.3 Analysis/Findings

Through usages of artifacts and workspace, CI/CD can be made faster. Jobs are a collection of Steps. All of the steps in the job are executed in a single unit. Jobs and Steps enable greater control and provide a framework for workflows. Workspaces persist data between jobs in a single workflow. Caching persists data between the same job in different Workflow builds. Artifacts persist data after a workflow has finished.

7.5 Any additional software engineering practices followed

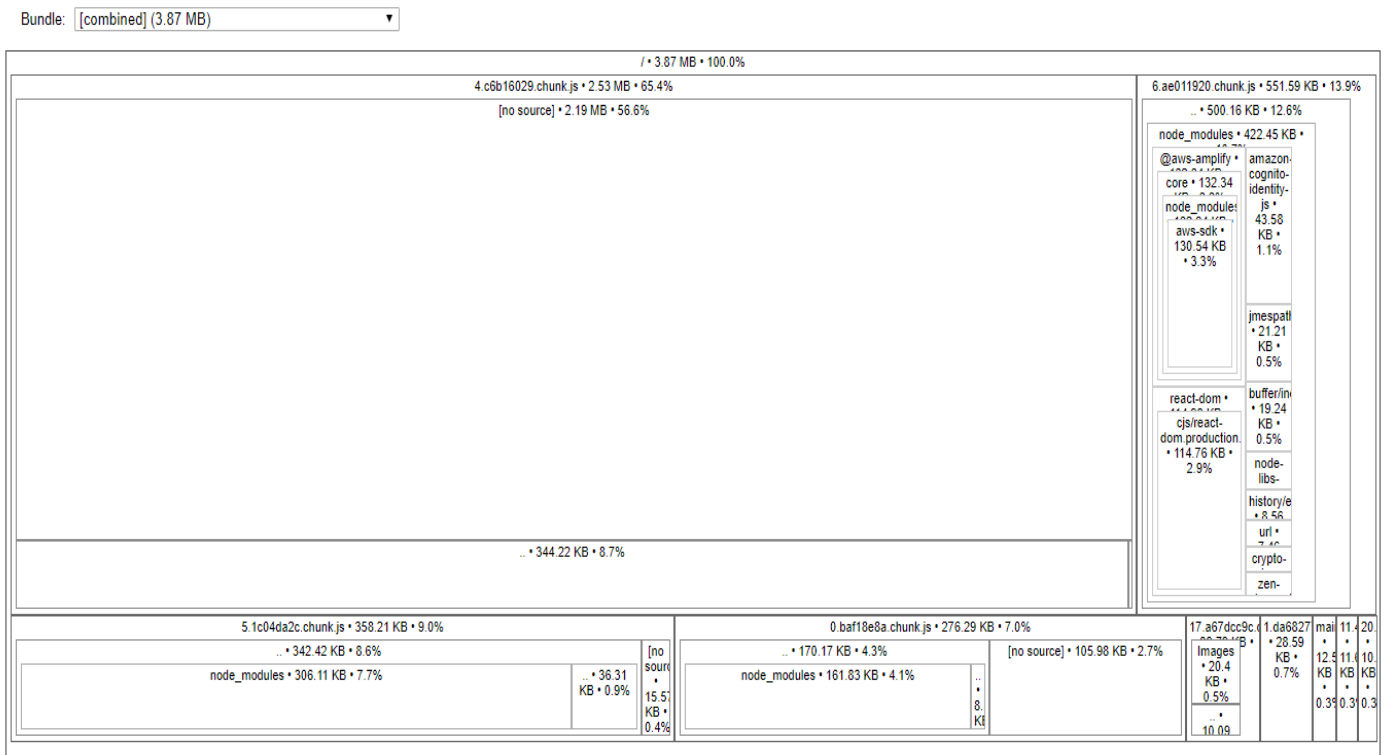
7.5.1 Code Coverage For Unit Testing Using Jest Code Coverage

Code coverage is a measure which describes the degree of which the source code of the program has been tested. Code coverage will show **statistics of percentage** code covered by test cases and **uncovered lines**, based on which we were able to cover more lines.

npm					
File	% Stmts	% Branch	% Funcs	% Lines	Uncovered Line #s
All files	23.99	25.5	12.63	25.52	
src	53.37	36.99	27.27	59.31	
App.js	71.07	65.85	37.5	82.52	... 45,349,358,363
Template.js	0	0	0	0	
aws-exports.js	0	100	100	0	3
courses.js	100	100	100	100	
index.js	0	100	100	0	8,12
serviceWorker.js	0	0	0	0	... 23,130,131,132
src/Components	62.5	73.33	50	62.5	
Footer.js	0	100	0	0	4
FormErrors.js	71.43	73.33	100	71.43	21,27
Loading.js	0	0	0	0	
src/Components/Admin	0	100	0	0	
AdminLog.js	0	100	0	0	8,9,15,34
src/Components/Card	0	100	0	0	
Card.js	0	100	0	0	10,11,18,24
src/Components/CourseDashboard	0	0	0	0	
CourseDashboard.js	0	0	0	0	... 22,23,26,27,32
MentorDashboard.js	0	0	0	0	... 22,23,26,27,32
src/Components/EnrolledCourses	0	0	0	0	
EnrolledCourses.js	0	0	0	0	... 37,38,45,46,67
src/Components/Notes	0	100	0	0	
Notes.js	0	100	0	0	... 19,20,21,27,33
src/Components/Progress4Mentor	0	0	0	0	
ProgressAdder.js	0	0	0	0	... 99,307,308,309
ProgressMentor.js	0	0	0	0	... 48,53,58,64,70
src/Components/S3Upload	0	0	0	0	
Uploader.js	0	0	0	0	... 97,314,325,326
change.js	0	0	0	0	9,10,14,19
digitalRep.js	0	0	0	0	... 55,272,283,284
qnbank.js	0	0	0	0	... 98,315,326,327
src/Components/ToDoApp	90.11	81.82	86.36	91.11	
ToDoApp.js	90.11	81.82	86.36	91.11	... 69,271,286,287
src/Components/Tracker	40.74	55.56	27.27	40	
Tracker.js	40.74	55.56	27.27	40	... 49,50,60,61,62
src/Components/auth	26.86	15.79	27.27	27.33	
ChangePassword.js	0	0	0	0	... 56,65,66,69,73
ChangePasswordConfirm.js	0	100	0	0	29
ForgotPassword.js	0	0	0	0	... 43,47,48,51,55
ForgotPasswordVerification.js	0	0	0	0	... 53,64,65,68,72
Login.js	30.36	12.5	57.14	31.48	... 24,125,128,159
Register.js	85.71	50	83.33	88.24	78,79,80,137
Welcome.js	0	100	0	0	4
setpass.js	0	0	0	0	... 64,73,74,77,81
src/Components/utility	56.25	61.11	100	54.84	
FormValidation.js	56.25	61.11	100	54.84	... 55,56,63,64,65
src/libs	0	100	0	0	
awsLib.js	0	100	0	0	... 86,91,92,93,94
Test Suites: 3 passed, 3 total					
Tests: 28 passed, 28 total					
Snapshots: 0 total					
Time: 43.399s					

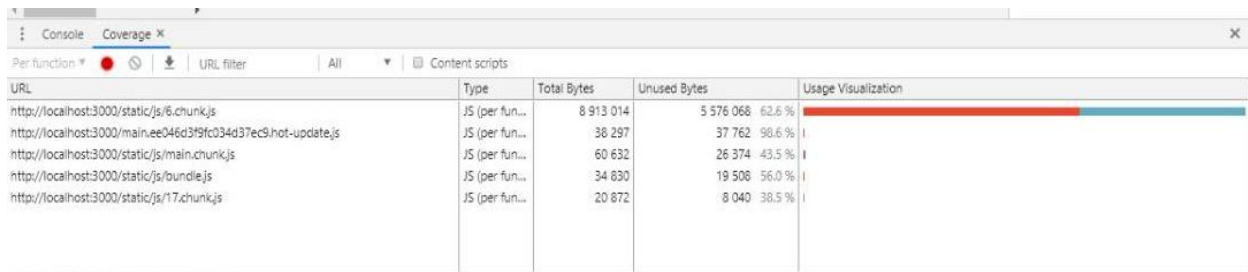
7.5.2 Performance Testing using Lighthouse Dev Tool and Source-Map-Explorer

Lighthouse analyzes web apps and web pages, collecting modern performance metrics and insights on developer best practices.



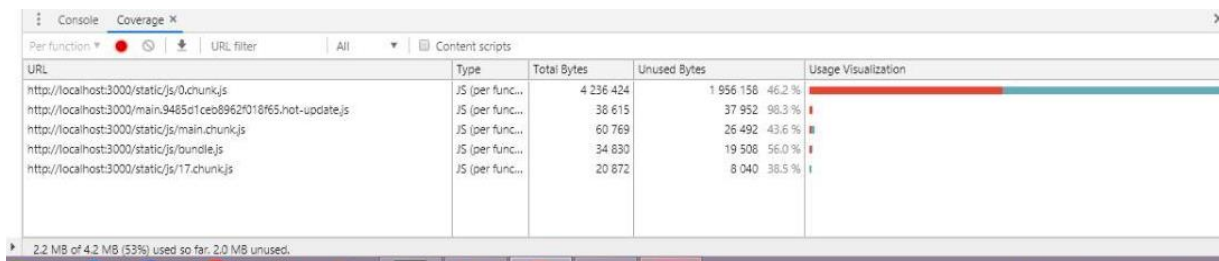
Before and After Optimisations:

Nearly Half the size of the generated chunk files was reduced by optimising imports and through Lazy Loading of Components, thus increasing loading time of website.



The screenshot shows the Chrome DevTools Coverage tab before optimization. The table lists four JavaScript files with their total and unused bytes, and a usage visualization bar. The first file, `http://localhost:3000/static/js/6.chunk.js`, has a total size of 8,913,014 bytes and 5,576,068 bytes unused (62.6%).

URL	Type	Total Bytes	Unused Bytes	Usage Visualization
<code>http://localhost:3000/static/js/6.chunk.js</code>	JS (per fun...	8 913 014	5 576 068 62.6 %	<div><div></div></div>
<code>http://localhost:3000/main.046d3f9fc034d37ec9.hot-update.js</code>	JS (per fun...	38 297	37 762 98.6 %	<div><div></div></div>
<code>http://localhost:3000/static/js/main.chunk.js</code>	JS (per fun...	60 632	26 374 43.5 %	<div><div></div></div>
<code>http://localhost:3000/static/js/bundle.js</code>	JS (per fun...	34 830	19 508 56.0 %	<div><div></div></div>
<code>http://localhost:3000/static/js/17.chunk.js</code>	JS (per fun...	20 872	8 040 38.5 %	<div><div></div></div>



The screenshot shows the Chrome DevTools Coverage tab after optimization. The table lists the same four JavaScript files, but the first file, `http://localhost:3000/static/js/0.chunk.js`, is now significantly smaller, with a total size of 4,236,424 bytes and 1,956,156 bytes unused (46.2%).

URL	Type	Total Bytes	Unused Bytes	Usage Visualization
<code>http://localhost:3000/static/js/0.chunk.js</code>	JS (per func...	4 236 424	1 956 156 46.2 %	<div><div></div></div>
<code>http://localhost:3000/main.9485d1ceb8962f018f65.hot-update.js</code>	JS (per func...	38 615	37 952 98.3 %	<div><div></div></div>
<code>http://localhost:3000/static/js/main.chunk.js</code>	JS (per func...	60 769	26 492 43.6 %	<div><div></div></div>
<code>http://localhost:3000/static/js/bundle.js</code>	JS (per func...	34 830	19 508 56.0 %	<div><div></div></div>
<code>http://localhost:3000/static/js/17.chunk.js</code>	JS (per func...	20 872	8 040 38.5 %	<div><div></div></div>

2.2 MB of 4.2 MB (53%) used so far. 2.0 MB unused.

7.5.3 Security Testing using OWASP-Zaproxy

Ajax spyder tool from Zaproxy was used to crawl website to retrieve possible alerts for exposed vulnerabilities. It reported bugs like no custom header was set to prevent clickjacking attack and expiry of cache headers. This allowed us to modify our deployment as per recommended practices. Further, we registered our site in **lets-encrypt.org** through Netlify for **SSL/TLS** certificate, thereby enabling **HTTPS** support for our website. This prevents third party intruders from stealing data from our website.

ZAP Scanning Report

Summary of Alerts

Risk Level	Number of Alerts
High	0
Medium	1
Low	3
Informational	2

Alert Detail


Medium (Medium)	X-Frame-Options Header Not Set
Description	X-Frame-Options header is not included in the HTTP response to protect against 'ClickJacking' attacks.
URL	https://vigilante.netlify.com/sitemap.xml
Method	GET
Parameter	X-Frame-Options
URL	https://vigilante.netlify.com/
Method	GET
Parameter	X-Frame-Options
Instances	2
Solution	Most modern Web browsers support the X-Frame-Options HTTP header. Ensure it's set on all web pages returned by your site (if you expect the page to be framed only by pages on your server (e.g. it's part of a FRAMESET) then you'll want to use SAMEORIGIN, otherwise if you never expect the page to be framed, you should use DENY. ALLOW-FROM allows specific websites to frame the web page in supported web browsers).
Reference	http://blogs.msdn.com/b/ieinternals/archive/2010/03/30/combating-clickjacking-with-x-frame-options.aspx
CWE Id	16

8 Screen shots of Project

Home

Sign In

Log in



श्रद्धावान् लभते ज्ञानम्

Digital Course File | Login

Having trouble logging in ?

LoginReset

Admin1
Sign Out

ADMIN PAGE

AmritaVidya:

- Integrated system that enables easy access to data
- Digital Data Store across Courses
- Upload Reports and statistical analysis of student progression.
- N' tier architecture.
- Security, Roles and Privileges.
- Incomplete modeling of the academic workflow.

Usage Tips:

- For confidentiality, always Log Off and close your browser when you have finished your online session.
- You can add new faculty details
- Best viewed with Google Chrome or Mozilla Firefox
- For Queries contact @Team-Vigilante



Register a new faculty


Assign New Course Mentors

Time Table Management

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Admin1
Sign Out

Register



श्रद्धावान् लभते ज्ञानम्

Digital Course File | Register

RegisterReset



Welcome!

Admin1
Sign Out

You have successfully registered a new account.
Please ask the faculty to verify email. Link has been sent via email.
Faculty should change their temporary password before proceeding



Home

Sign In

Forgot your password?

Please enter the email address associated with your account and we'll email you a password reset link.

Enter email

Confirm email



Home

Faculty2
Sign Out

Enrolled Courses

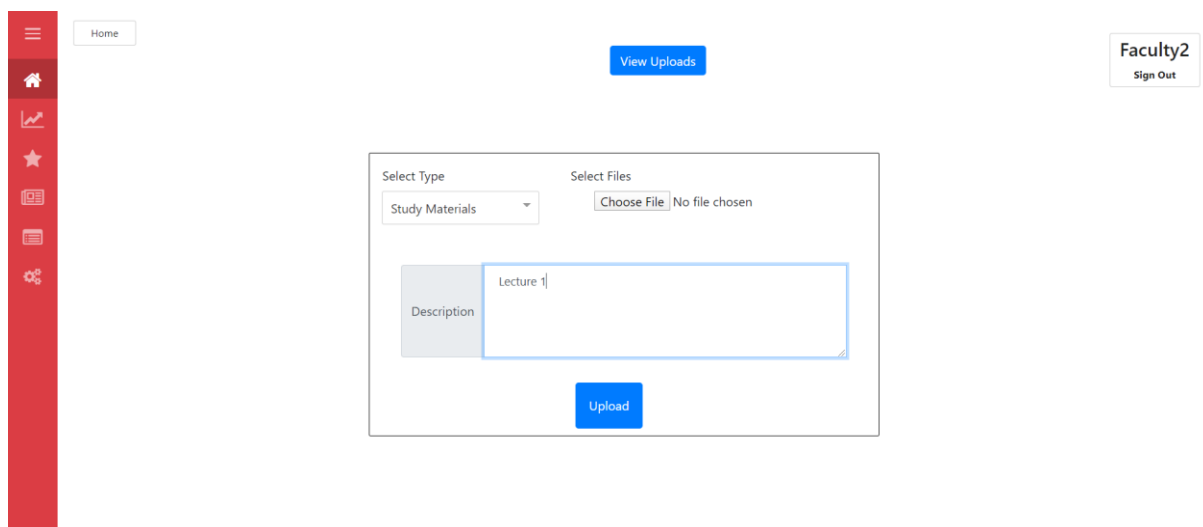
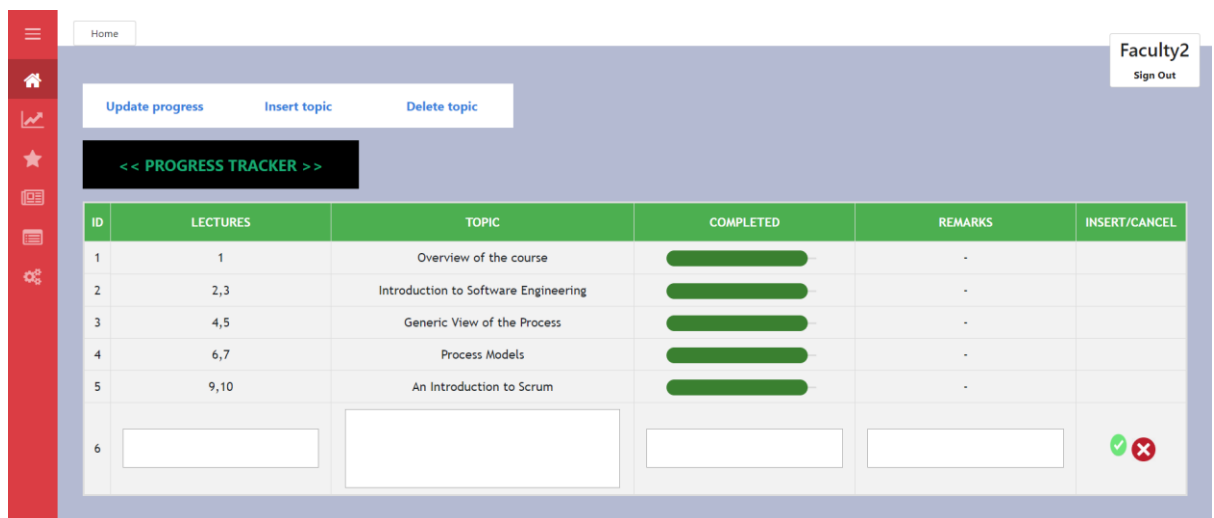
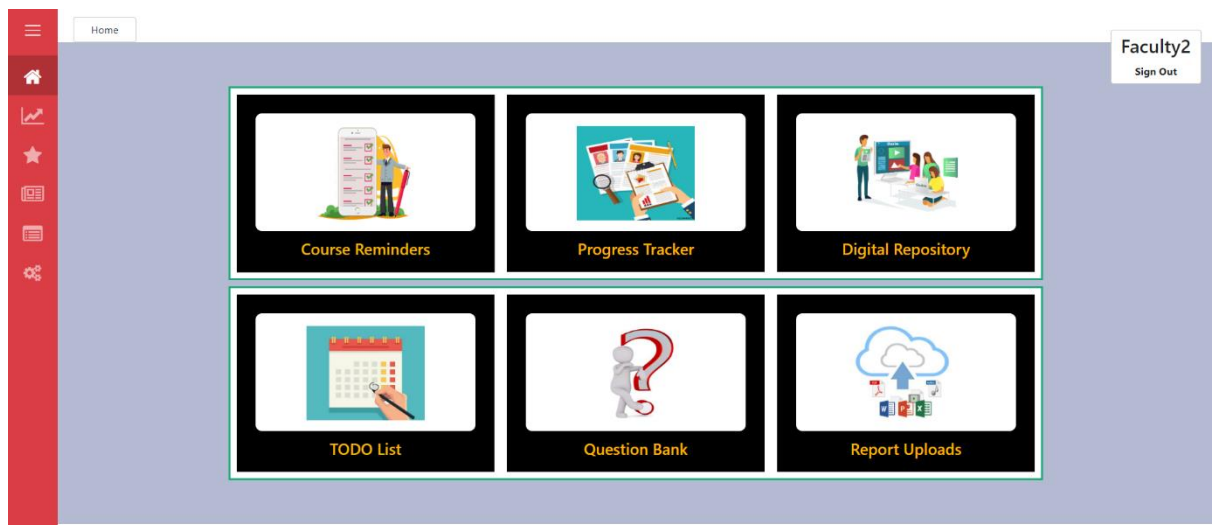
Previous Semesters
Current* Semester

Year: 2020
Semester: 6
Game Theory
View Course

Year: 2020
Semester: 6
Software Engineering
View Course Mentor View

Year: 2019
Semester: 5
COA
View Course

Year: 2019
Semester: 5
Cloud Computing
View Course



Home

Faculty2
Sign Out

TODO LIST

I have to...

dd-mm-yyyy

Add Reminder

Clear reminders

Publish

Home

Faculty2
Sign Out

View Uploads

Select Year

2017

Select Files

Choose File

No file chosen

Enter Semester

3

Enter Type

P2

Upload

Home

Faculty2
Sign Out

Upload

Enable Filters

Type

Assignment

ID	TOPIC	DESCRIPTION	TYPE	DOWNLOAD
1	Listening Activity.pdf	Go through it.	Assignment	<div>Download/View</div>

9 Conclusion

Thus we created a portal for Faculties to enter and manage the course file for various subjects he is handling and manage them online.

Using this web application it's easier for Faculties now to check the list of courses that they are enrolled. They can at a time check the ppt's that are uploaded videos shared and mark sheets distributed. If there is any doubt regarding class average or any class issue he can solve at one step. This web application can be opened anywhere using internet which increases the flexibility. We used SonarQube to test the software and unit testing to make sure it works for a long time. This app takes care of Continuous Integration also.

Validations are also done on back end to make sure correct users have logged in. Thus we created a software that is bug-free and consistent. It's useful because it eliminates lot of hand work that should be done by Faculties.