

Faculty Timetable Generator

Team FTG

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Preview

Introduction

Time table generation is tedious job for educationalist with respect to time and man power. Providing a automatic time table generator will help to generate time table automatically. Proposed system of our project will help to generate it automatically also helps to save time. It avoids the complexity of setting and managing Timetable manually. The system will take the subject choice of teacher and generates the timetable.

Need and Motivation

The need for this system is to reduce the workload on those who struggle to generate timetables for teachers. Using this system will make things easier, no more paperwork, no more confusion, generate timetables easily, access to every faculty's details.

Tools Used

- ✓ Xampp
- ✓ Visual Studio Code
- ✓ SonarQube
- ✓ Pycharm
- ✓ Jenkins
- ✓ Selenium Package

Product Backlog

✧ Report of product backlog

Summary	Priority	Assignee	Custom field (Story Points)
As a teacher, I can request for timetable c	Low	CB.EN.U4CSE17045	2
As a teacher, I would like to change the pe	High	CB.EN.U4CSE17049	2
As a faculty, all attendance related notific	Low	CB.EN.U4CSE17037	2
As an instructor, they can communicate w	Medium	CB.EN.U4CSE1703	2
As a teacher I can turn on notifications so	Medium	CB.EN.U4CSE17018	2
As a teacher, I can request Lab staff to as	Low	CB.EN.U4CSE17019	1
As an Admin, I want all the faculty prefer	High	CB.EN.U4CSE17050	2
As a teacher,I can maintain a list of sched	Low	CB.EN.U4CSE17018	1
As a teacher, I can keep the stat stas of th	Low	CB.EN.U4CSE17037	1
As a teacher, I can refer the e a n tin at	Medium	CB.EN.U4CSE17018	1
As a student, I can know when the faculty	Medium	CB.EN.U4CSE17037	2
As a teacher I should revised time table if	Medium	CB.EN.U4CSE17050	2
As a user,I should have an option which n	Lowest	CB.EN.U4CSE17049	2
As a teacher, I can search for profiles bas	Medium	CB.EN.U4CSE17050	2
As a Student, I can find the faculty cabin a	Medium	CB.EN.U4CSE17018	2
As a teacher, I can write short descriptive	Medium	CB.EN.U4CSE17045	2
As a faculty I should be able to swipe awa	Medium	CB.EN.U4CSE17018	2
As a teacher,I can easily access my timeta	Medium	CB.EN.U4CSE17050	2
As a Teacher, I want a notification of the	Medium	CB.EN.U4CSE17037	1
As an admin, I can restrict faculty from ed	High	CB.EN.U4CSE17037	1
As a faculty, I can see a list of upcoming c	Medium	CB.EN.U4CSE17049	1
Fetch from database the list of classes the	Medium		
display in a list view or as an image	Medium		
create database connection	Medium		
As a teacher I can view other teacher's tir	Medium	CB.EN.U4CSE17049	1
getting that teacher's timetable in a view	Medium		
Searching the database for other instructo	Medium		
Establish connection to database	Medium		
create a search bar in the application	Medium		
As a teacher, I can update my profile whe	Medium	CB.EN.U4CSE17050	2
retrieve contents from text fields	Medium		
save the contents to database	Medium		
create connection to database	Medium		
create a button to edit profile	Medium		
As an admin, I want all the details of class	Highest	CB.EN.U4CSE17050	5
getting a excel output for each teacher v	Medium		
create an algorithm to assign cl as es to t	Medium		
creating an algorithm to spli subjects mo	Medium		
getting all the class timetables	Medium		
As a Faculty, I want to view the details of	Medium	CB.EN.U4CSE17049	1
Display all the faculties handling the same	Medium		
Creation of the list view	Medium		
Fetch from database the list of faculties h	Medium		
creation of a button for same subject.	Medium		
As an admin, I will be the only one who w	Medium	CB.EN.U4CSE17037	3
alter the timetable and save	Medium		
get all the requests from teachers	Medium		
create connection to database	Medium		
permission to edit given only to admin	Medium		
As a teacher,I can download the timetable	Low	CB.EN.U4CSE17050	1
clicking that button download that teache	Medium		
create a button download	Medium		
As a admin I should be able to restrict ma	Low	CB.EN.U4CSE17045	1

✧ **Epic 1-Timetable Generation**

1. As a new teacher I can enter the subjects I teach to get my time table
2. As a teacher,I can download the timetable so that I can view it offline.
3. As an admin, I will be the only one who will alter the timetable.
4. As an admin, I want all the details of class timetables so that I can create teacher timetables.
5. As a teacher I should revised time table if stop teaching a subject
6. As an Admin, I want all the faculty preferences so that I can optimize their timetables.
7. As an instructor, they can communicate with other instructors via ping so that it acts as a means of communication.
8. As a teacher, I would like to change the period session via ping
9. As a teacher, I can request for timetable change so that I get a comfortable time table
10. As an admin, I can restrict faculty from editing the time tables.

✧ **Epic 2-Add-Ons**

1. As a Faculty, I want to view the details of teachers who are handling the same subject
2. As a teacher I can view other teacher's timetables.
3. As a faculty, I can see a list of upcoming classes of that day
4. As a teacher, I can refer the exam timetables at any point in time.
5. As a teacher, I can keep the statistics of the tutorials
6. As a teacher,I can maintain a list of scheduled quizzes and tutorials
7. As a teacher, I can request Lab staff to assign the Lab Evaluation timings earlier.

✧ **Epic 3-Notification**

1. As a Teacher, I want a notification of the number of classes that I am going to handle today.
2. As a faculty I should be able to swipe away the notifications so that i can focus on important things.
3. As a student, I can know when the faculty is going to be free so that I can clarify my doubts.
4. As a teacher I can turn on notifications so that I get notification of what my next class is and its location

✧ **Epic 4-Accessibility**

1. As a teacher, I can update my profile whenever I want
2. As a teacher,I can easily access my timetable so that I always know which class to attend next

3. As a teacher, I can write short descriptive notes about what to teach today
4. As a teacher, I can search for profiles based on few fields (username, course code, branch) so I can communicate with them for exchange of classes
5. As a user, I should have an option which navigates me how to use the app or software

✧ **Epic 5-Profile**

1. As a Teacher, I can save my passwords for the login
2. As a Admin I should be able to impose some password constraints like length, different characters.
3. As a Teacher Forgot password option should be provided so that I can reset my password in case I forget it.
4. As a admin I should be able to restrict maximum attempts can be allowed so that spamming is prevented.
5. As a Teacher I should be able to access my account after some buffer time after crossing maximum allowed attempts so that I can access my account with correct credentials later.
6. As a teacher I want login through my email id or custom created username.

✧ **Epic 6-Student Faculty Communications**

1. As a Student, I can find the faculty cabin and their area of specialization
2. As a faculty, all attendance related notifications should be grouped as one and sub-grouped by class and section so that I can work one class and section at a time.

Sprint 1 Backlog Report

[FTG-39] [As an admin, I can restrict faculty from editing the time tables.](#) Created: 18/Dec/19 Updated: 10/Mar/20 Resolved: 10/Mar/20

Status:	Done
Project:	faculty timetable generator
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	Priority:	High
Reporter:	Mahesh. G	Assignee:	Mahesh. G
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
	FTG-48	create a condition for teachers not t...	Sub-task	Done	

Epic Link:	Time Table Generation
Sprint:	FTG Sprint 1

Description

An admin can Restrict teachers from editing other teachers/faculty's timetables.

[FTG-38] [As an admin, I will be the only one who will alter the timetable.](#) Created: 18/Dec/19 Updated: 10/Mar/20 Resolved: 10/Mar/20

Status:	Done
Project:	faculty timetable generator
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	Priority:	Medium
Reporter:	Mahesh. G	Assignee:	Mahesh. G
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
	FTG-74	permission to edit given only to admin	Sub-task	Done	
	FTG-75	create connection to database	Sub-task	Done	
	FTG-76	get all the requests from teachers	Sub-task	Done	
	FTG-77	alter the timetable and save	Sub-task	Done	

Epic Link:	Time Table Generation
Sprint:	FTG Sprint 1

Description

As an administrator, I shall be the only one who will have the privilege to alter /edit the timetable.

[FTG-33] [As a Teacher I should be able to access my account after some buffer time after crossing maximum allowed attempts so that I can access my account with correct credentials later.](#) Created: 18/Dec/19 Updated:

12/Mar/20 Resolved: 12/Mar/20

Status:	Done
Project:	faculty timetable generator
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	Priority:	Low
Reporter:	Durga naga sai sravan nekkanti	Assignee:	P. Pruthvi
Resolution:	Done	Votes:	0
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Epic Link:	PROFILE
Sprint:	FTG Sprint 1

Description

As a teacher, I should be able to access my account after some buffer time after crossing maximum allowed attempts so that I can access my account with correct credentials later.

[FTG-32] [As a admin I should be able to restrict maximum attempts can be allowed so that spamming is prevented.](#) Created:

18/Dec/19 Updated: 12/Mar/20 Resolved: 12/Mar/20

Status: Done

Project: [faculty timetable generator](#)

Component/s: None

Affects Version/s: None

Fix Version/s: None

Type: Story Priority: Low

Reporter: [Durga naga sai sravan nekkanti](#) Assignee: [P. Pruthvi](#)

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
	FTG-80	creation of constraint on max attempt...	Sub-task	Done	

Epic Link: [PROFILE](#)

Sprint: FTG Sprint 1

Description

This restriction is basically for security purposes.

[FTG-31] [As a Teacher Forgot password option should be provided so that I can reset my password in case I forget it.](#) Created:

18/Dec/19 Updated: 12/Mar/20 Resolved: 12/Mar/20

Status:	Done
Project:	faculty timetable generator
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	Priority:	Medium
Reporter:	Durga naga sai sravan nekkanti	Assignee:	Durga naga sai sravan nekkanti
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
	FTG-68	reset button in login page	Sub-task	Done	
	FTG-69	clicking it goes to new activity with...	Sub-task	Done	
	FTG-70	otp button to send and verify otp mes...	Sub-task	Done	
	FTG-71	mail to send a mail to that requested...	Sub-task	Done	

Epic Link:	PROFILE
Sprint:	FTG Sprint 1

Description

forgot password is a very basic option that should be provided as it is a common issue that every user face while dealing with passwords.

[FTG-30] [As a teacher I want login through my email id or custom created username.](#)

Created: 18/Dec/19 Updated: 12/Mar/20 Resolved: 12/Mar/20

Status:	Done
Project:	faculty timetable generator
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	Priority:	Highest
Reporter:	Durga naga sai sravan nekkanti	Assignee:	P. Pruthvi
Resolution:	Done	Votes:	0
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Epic Link:	PROFILE
Sprint:	FTG Sprint 1

Description

email id and custom created usernames are for the sake of easy accessibility for the user.

[FTG-29] [As a Admin I should be able to impose some password constraints like length, different characters.](#) Created: 18/Dec/19 Updated:

12/Mar/20 Resolved: 12/Mar/20

Status:	Done
Project:	faculty timetable generator
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	Priority:	Medium
Reporter:	Durga naga sai sravan nekkanti	Assignee:	Durga naga sai sravan nekkanti
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
	FTG-65	create limit and character range	Sub-task	Done	
	FTG-66	create appropriate text fields	Sub-task	Done	
	FTG-67	alert box when constraints are not sat...	Sub-task	Done	
Epic Link:	PROFILE				
Sprint:	FTG Sprint 1				

Description

The password constraints that admin imposes are for security reasons of the user so that they cannot easily cracked

Status:	Done
Project:	faculty timetable generator
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	Priority:	Medium
Reporter:	Durga naga sai sravan nekkanti	Assignee:	Durga naga sai sravan nekkanti
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
	FTG-62	create a checkbox	Sub-task	Done	
	FTG-63	copy that username and password to sh...	Sub-task	Done	
	FTG-64	recalling shared preference when a te...	Sub-task	Done	
Epic Link:	PROFILE				
Sprint:	FTG Sprint 1				

Description

saving passwords makes the work easy for teachers, or in case if they are in a hurry, these saved passwords can save their time.

[FTG-26] [As an admin, I want all the details of class timetables so that I can create teacher timetables.](#) Created: 18/Dec/19 Updated:

12/Mar/20 Resolved: 12/Mar/20

Status:	Done
Project:	faculty timetable generator
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	Priority:	Highest
Reporter:	Mahesh. G	Assignee:	akhil
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
	FTG-41	getting all the class timetables	Sub-task	Done	
	FTG-42	creating an algorithm to split subjec...	Sub-task	Done	
	FTG-43	create an algorithm to assign classes...	Sub-task	Done	
	FTG-44	getting a excel output for each teach...	Sub-task	Done	

Epic Link:	Time Table Generation
Sprint:	FTG Sprint 1

Description

As the administrator or software developer, I should be able to get the individual class time tables so that I can get/generate the faculty time table.

[FTG-22] [As a teacher, I can update my profile whenever I want](#) Created: 18/Dec/19 Updated: 12/Mar/20 Resolved: 12/Mar/20

Status:	Done
Project:	faculty timetable generator
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	Priority:	Medium
Reporter:	P. Pruthvi	Assignee:	akhil
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
	FTG-45	create a button to edit profile	Sub-task	Done	
	FTG-46	create connection to database	Sub-task	Done	
	FTG-47	save the contents to database	Sub-task	Done	
	FTG-78	retrieve contents from text fields	Sub-task	Done	

Epic Link:	Accessibility
Sprint:	FTG Sprint 1

Description

A teacher can update his/her profile like the number of subjects he/she teaches

[FTG-19] [As a teacher I can view other teacher's timetables.](#) Created: 18/Dec/19 Updated: 12/Mar/20 Resolved: 12/Mar/20

Status:	Done
Project:	faculty timetable generator
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	Priority:	Medium
Reporter:	Rishi Vignesh	Assignee:	Rishi Vignesh
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
	FTG-52	create a search bar in the application	Sub-task	Done	
	FTG-53	Establish connection to database	Sub-task	Done	
	FTG-54	Searching the database for other inst...	Sub-task	Done	
	FTG-55	getting that teacher's timetable in a...	Sub-task	Done	

Epic Link:	Add Ons
Sprint:	FTG Sprint 1

Description

As a teacher, I can view other teacher's timetables, so that I can swap my classes with other faculty if needed.

Status:	Done
Project:	faculty timetable generator
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	Priority:	Low
Reporter:	Mahesh.G	Assignee:	akhil
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
	FTG-72	create a button download	Sub-task	Done	
	FTG-73	clicking that button download that te...	Sub-task	Done	
Epic Link:	Time Table Generation				
Sprint:	FTG Sprint 1				

Description

Teachers need not always login to view their timetable. They will be provided the facility to download their timetables on their respective timetables. Their is provision to download other faculty time tables.

[FTG-12] [As a new teacher I can enter the subjects I teach to get my time table](#) Created: 18/Dec/19 Updated: 10/Mar/20 Resolved: 10/Mar/20

Status:	Done
Project:	faculty timetable generator
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	Priority:	Highest
Reporter:	Mahesh. G	Assignee:	Mahesh. G
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
	FTG-49	create multiple text boxes for entry ...	Sub-task	Done	
	FTG-50	create connection to database	Sub-task	Done	
	FTG-51	save the contents to database	Sub-task	Done	

Epic Link:	Time Table Generation
Sprint:	FTG Sprint 1

Description

If I am a new teacher enrolled recently, I can provide the list of subjects that I teach. Based on my preference and the allotted credits for the course of my preference a time table is generated.

[FTG-8] [As a Faculty, I want to view the details of teachers who are handling the same subject](#) Created: 18/Dec/19 Updated:

12/Mar/20 Resolved: 12/Mar/20

Status: Done

Project: [faculty timetable generator](#)

Component/s: None

Affects Version/s: None

Fix Version/s: None

Type: Story Priority: Medium

Reporter: [Rishi Vignesh](#) Assignee: [Rishi Vignesh](#)

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
	FTG-56	creation of a button for same subject.	Sub-task	Done	
	FTG-57	Fetch from database the list of facul...	Sub-task	Done	
	FTG-58	Creation of the list view	Sub-task	Done	
	FTG-59	Display all the faculties handling th...	Sub-task	Done	

Epic Link: [Add Ons](#)

Sprint: FTG Sprint 1

Description

As a Faculty, I want to view the details of teachers who are handling the same subject so that i can ask for a substitute if needed.

[FTG-7] [As a faculty, I can see a list of upcoming classes of that day](#) Created: 18/Dec/19 Updated: 12/Mar/20 Resolved: 12/Mar/20

Status:	Done
Project:	faculty timetable generator
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	Priority:	Medium
Reporter:	Rishi Vignesh	Assignee:	Rishi Vignesh
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

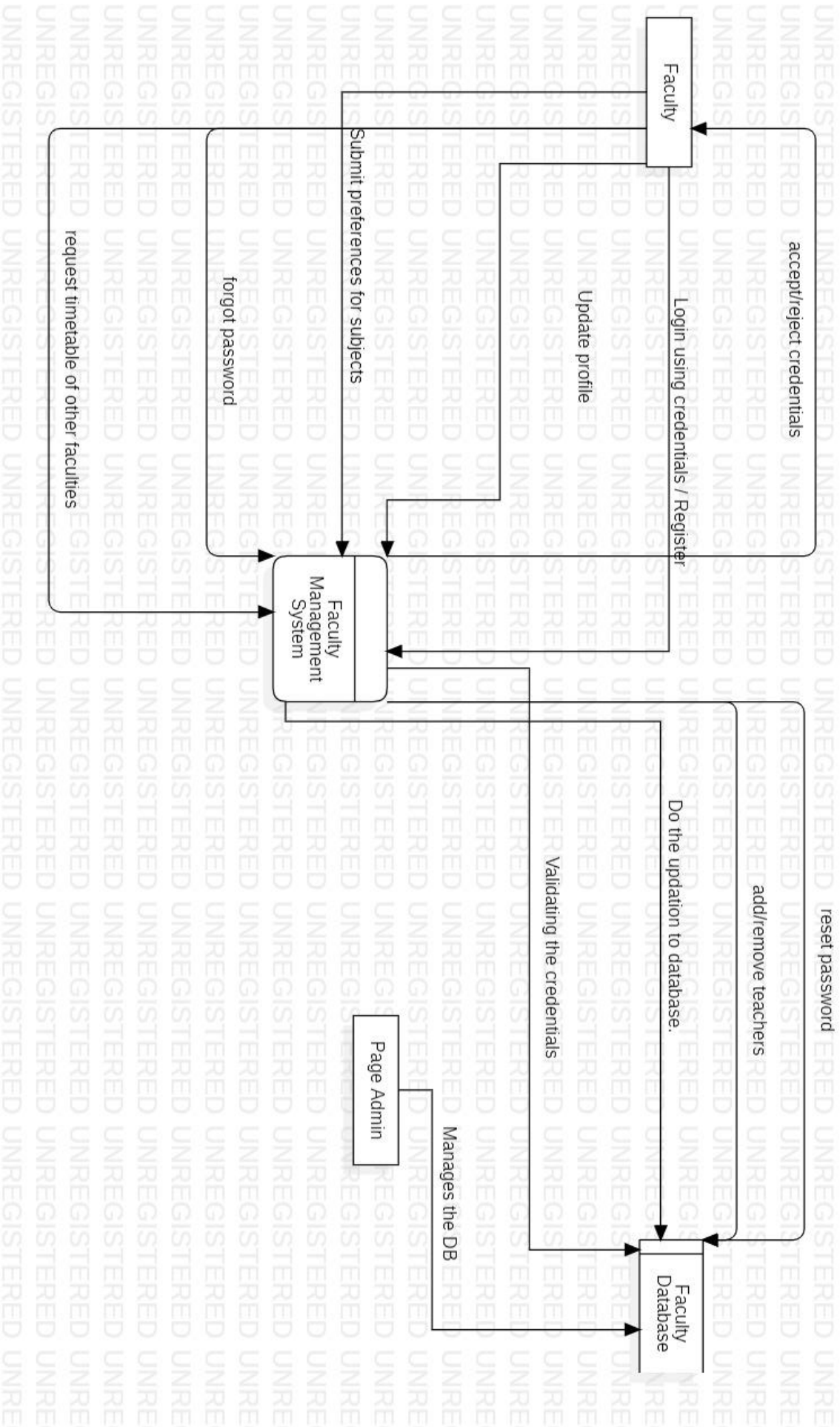
Sub-Tasks:	Key	Summary	Type	Status	Assignee
	FTG-60	create database connection	Sub-task	Done	
	FTG-61	display in a list view or as an image	Sub-task	Done	
	FTG-79	Fetch from database the list of class...	Sub-task	Done	

Epic Link:	Add Ons
Sprint:	FTG Sprint 1

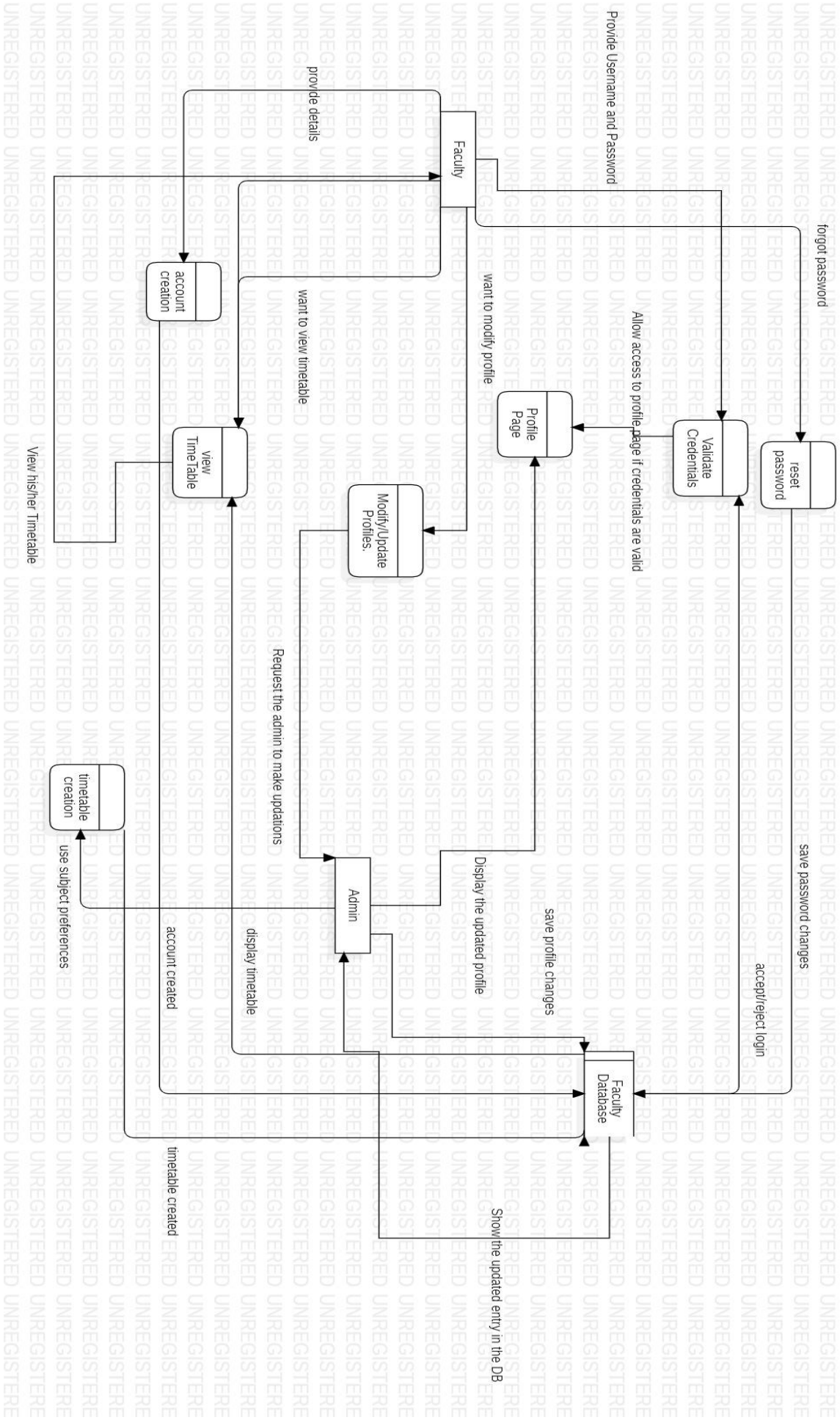
Description

As a faculty, I can see a list of upcoming classes of that day so that I can be to the respective classes on time.

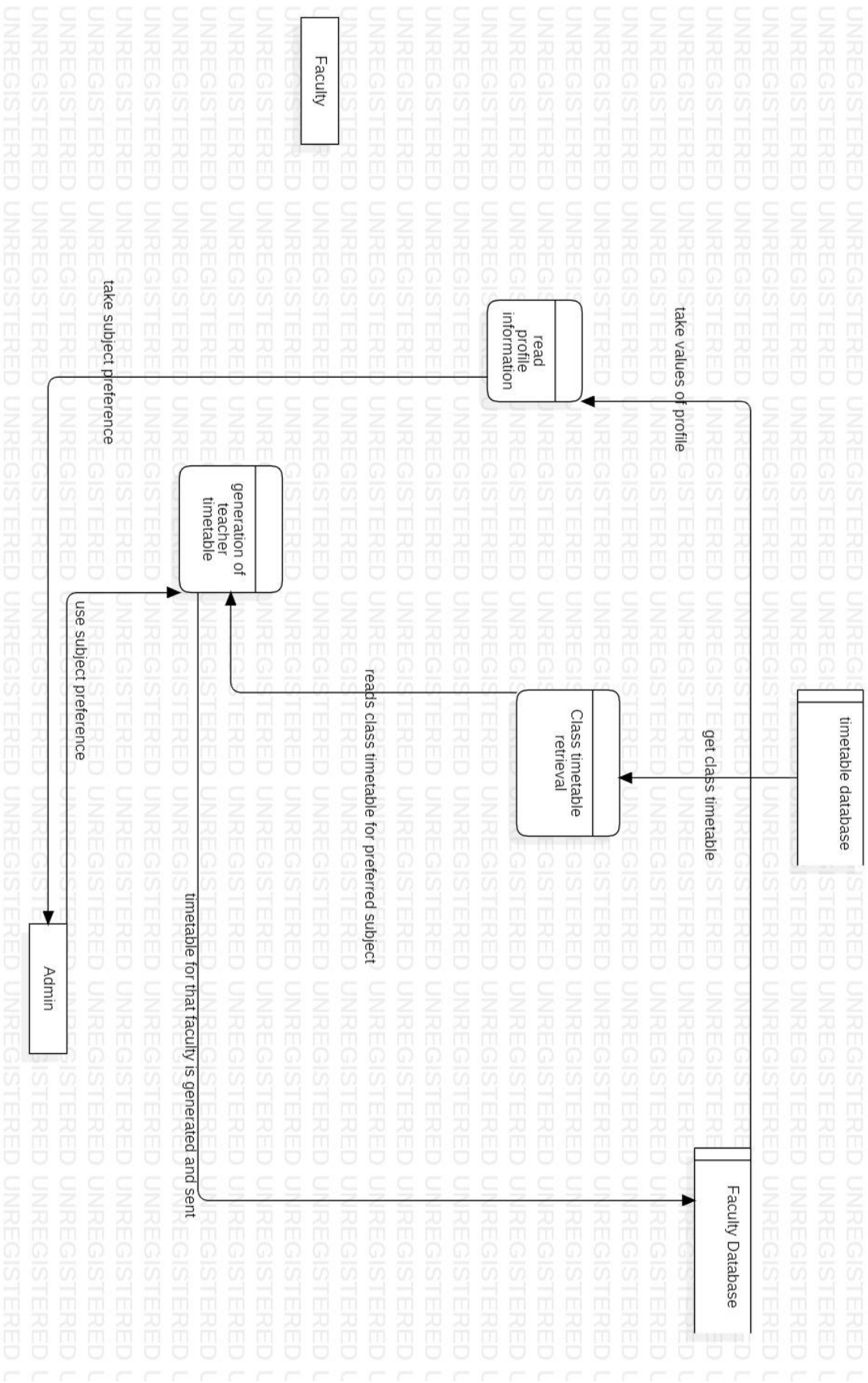
3.1 DFD Level 0



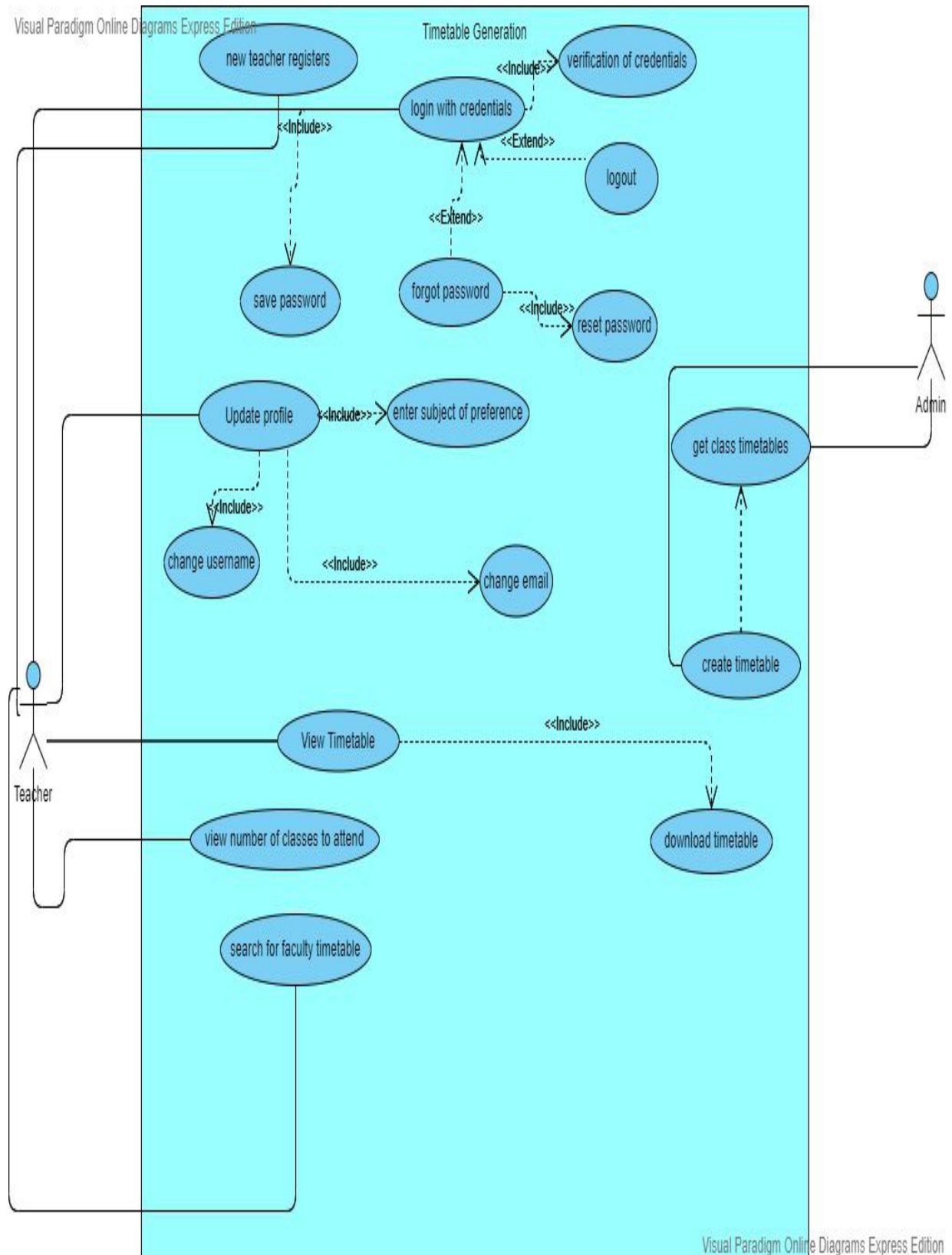
DFD Level 1



DFD Level 2



3.2 Use-Case Diagram



Scrum Activities

Sprint 1 Backlog

- As a faculty, I can see a list of upcoming classes of that day
- As a Faculty, I want to view the details of teachers who are handling the same subject
- As a new teacher I can enter the subjects I teach to get my time table
- As a teacher,I can download the timetable so that I can view it offline.
- As a teacher I can view other teacher's timetables.
- As a teacher, I can update my profile whenever I want
- As an admin, I want all the details of class timetables so that I can create teacher timetables.
- As a Teacher, I can save my passwords for the login
- As a Admin I should be able to impose some password constraints like length, different characters.
- As a teacher I want login through my email id or custom created username.
- As a Teacher Forgot password option should be provided so that I can reset my password in case I forget it.
- As a admin I should be able to restrict maximum attempts can be allowed so that spamming is prevented.
- As a Teacher I should be able to access my account after some buffer time after crossing maximum allowed attempts so that I can access my account with correct credentials later.
- As an admin, I will be the only one who will alter the timetable.
- As an admin, I can restrict faculty from editing the time tables.

Sprint 1 Stand-up Notes 1(8-1-2020)

Name	Question	Answer
Sravan N	What did you do yesterday?	download the required software for managing database
	What will you do today?	complete setting up xampp servers
	Are there any impediments in your way?	error in starting of apache server
Sai Akhil Y	What did you do yesterday?	download the required software for managing database
	What will you do today?	complete setting up xampp servers
	Are there any impediments in your way?	error in starting of apache server
Mahesh G	What did you do yesterday?	download the required software for developing a website
	What will you do today?	download all required extensions for the project
	Are there any impediments in your way?	error in extension installation
Pruthvi P	What did you do yesterday?	download software for writing php code
	What will you do today?	search for open-source files that are useful for writing project code
	Are there any impediments in your way?	--
Rishi Vignesh	What did you do yesterday?	download required software for developing site
	What will you do today?	download all required extensions for project
	Are there any impediments in your way?	error in extension

Sprint 1 Stand-up Notes 2(12-1-2020)

Name	Question	Answer
Sravan N	What did you do yesterday?	complete the setting up of xampp server settings
	What will you do today?	start writing php code required for registration page
	Are there any impediments in your way?	constraints not working
Sai Akhil Y	What did you do yesterday?	complete the setting up of xampp server settings
	What will you do today?	start writing php code for login page
	Are there any impediments in your way?	-
Mahesh G	What did you do yesterday?	download all required extensions for the project
	What will you do today?	help with cosmetic part of the project
	Are there any impediments in your way?	
Pruthvi P	What did you do yesterday?	search for open source files that are useful for the project
	What will you do today?	help with cosmetic part of the project
	Are there any impediments in your way?	css styling no showing perfectly
Rishi Vignesh	What did you do yesterday?	download all required extensions for the project
	What will you do today?	study about unit testing
	Are there any impediments in your way?	doubts raised from watching tutorials

Sprint 1 Stand-up Notes 3(15-1-2020)

Name	Question	Answer
Sravan N	What did you do yesterday?	start writing php code for registration page
	What will you do today?	complete forgot password
	Are there any impediments in your way?	-
Sai Akhil Y	What did you do yesterday?	start writing php code for login page
	What will you do today?	create a homepage with navigation bar
	Are there any impediments in your way?	-
Mahesh G	What did you do yesterday?	help with cosmetic part of project
	What will you do today?	download components required for UI testing
	Are there any impediments in your way?	-
Pruthvi P	What did you do yesterday?	help with the cosmetic part of the project
	What will you do today?	download components required for static code analysis
	Are there any impediments in your way?	error in installation of sonar qube
Rishi Vignesh	What did you do yesterday?	study about unit testing
	What will you do today?	download components required for unit testing
	Are there any impediments in your way?	-

Sprint 1 Stand-up Notes 4(19-1-2020)

Name	Question	Answer
Sravan N	What did you do yesterday?	complete forgot password
	What will you do today?	create a dropdown for searching other timetables
	Are there any impediments in your way?	-
Sai Akhil Y	What did you do yesterday?	complete home page navigation bar
	What will you do today?	complete the part of code where timetable is displayed
	Are there any impediments in your way?	timetable not shown correctly
Mahesh G	What did you do yesterday?	download components required for UI testing
	What will you do today?	conduct UI test for webpage completed
	Are there any impediments in your way?	-
Pruthvi P	What did you do yesterday?	download components for static code analysis
	What will you do today?	download components for static code analysis
	Are there any impediments in your way?	
Rishi Vignesh	What did you do yesterday?	download components required for unit testing
	What will you do today?	start writing test plan document
	Are there any impediments in your way?	-

Sprint 1 Stand-up Notes 5(22-1-2020)

Name	Question	Answer
Sravan N	What did you do yesterday?	create a dropdown menu for searching other timtables
	What will you do today?	complete the remaining webpage and help in unit testing
	Are there any impediments in your way?	-
Sai Akhil Y	What did you do yesterday?	complete the part of code where timetable is displayed
	What will you do today?	sit with tester to bring down the number of bugs, vulnerabilities and code swells of the code
	Are there any impediments in your way?	bugs may increase
Mahesh G	What did you do yesterday?	perform UI testing
	What will you do today?	perform UI testing
	Are there any impediments in your way?	error in iterations
Pruthvi P	What did you do yesterday?	perform static code analysis
	What will you do today?	sit with developer to solve issue in code
	Are there any impediments in your way?	more bugs in next run
Rishi Vignesh	What did you do yesterday?	start writing document for testing
	What will you do today?	do unit testing on some component
	Are there any impediments in your way?	-

Sprint 1 Stand-up Notes 6(5-2-2020)

Name	Question	Answer
Sravan N	What did you do yesterday?	complete the site
	What will you do today?	draw DFD diagram for this sprint(level 0,1,2)
	Are there any impediments in your way?	-
Sai Akhil Y	What did you do yesterday?	to bring down bugs, vulnerabilities and code smells of code
	What will you do today?	draw use case diagram
	Are there any impediments in your way?	
Mahesh G	What did you do yesterday?	perform UI testing
	What will you do today?	complete the documentation related to UI testing
	Are there any impediments in your way?	-
Pruthvi P	What did you do yesterday?	sit with developer to solve issues with code
	What will you do today?	take screen shots of the project,testing & create a file of them
	Are there any impediments in your way?	-
Rishi Vignesh	What did you do yesterday?	do unit testing on some component
	What will you do today?	complete whole documentation related to testing
	Are there any impediments in your way?	-

Sprint 1 Retrospective Notes

Continue:

1. Continue proper splitting of work
2. Continue maintaining proper documentation
3. Continue to submit proposed user stories for the sprint
4. Continue perfect implementation of each user story
5. Continue to clear bugs, code smells and vulnerabilities during the sprint
6. Continue backing up every unit of our product.

Stop:

- I. Stop delaying scrum meetings
- II. Stop postponing the work decided for that week
- III. Stop getting stuck in developing user stories of one epic
- IV. Stop having less user stories in a sprint
- V. Stop getting distracted from the main objective of the project

















Start:

1. Start continuous integration
2. Start doing testing and development parallelly
3. Start development at the earliest
4. Start updating jira regularly
5. Start using some repository

Sprint 2 Backlog

















3/15/2020

FTG board - Agile Board - Amrita Vishwa Vidyapeetham - Jira Server

<div> FTG-13 </div> <p>As a Teacher, I want a notification of the number of classes that I am going to handle today.</p> <div><div>Notifications</div><div>1</div></div>	<div> FTG-11 </div> <p>As a teacher, I can easily access my timetable so that I always know which class to attend next</p> <div><div>Accessibility</div><div>2</div></div>
<div> FTG-18 </div> <p>As a faculty I should be able to swipe away the notifications so that i can focus on important things.</p> <div><div>Notifications</div><div>2</div></div>	<div> FTG-24 </div> <p>As a teacher, I can write short descriptive notes about what to teach today</p> <div><div>Accessibility</div><div>2</div></div>
<div> FTG-36 </div> <p>As a Student, I can find the faculty cabin and their area of specialization</p> <div><div>Student Faculty Communicatio...</div><div>2</div></div>	<div> FTG-21 </div> <p>As a teacher, I can search for profiles based on few fields (username, course code, branch) so I can communicate ...</p> <div><div>Accessibility</div><div>2</div></div>
<div> FTG-14 </div> <p>As a user, I should have an option which navigates me how to use the app or software</p> <div><div>Accessibility</div><div>2</div></div>	<div> FTG-15 </div> <p>As a student, I can know when the faculty is going to be free so that I can clarify my doubts.</p> <div><div>Notifications</div><div>2</div></div>







3/15/2020

FTG board - Agile Board - Amrita Vishwa Vidyapeetham - Jira Server

 FTG-23  As a teacher I should revised time table if stop teaching a subject <div>Time Table Generation</div> <div>2</div>	 FTG-9  As a teacher, I can refer the exam timetables at any point in time. <div>Add Ons</div> <div>1</div>
 FTG-6  As a teacher, I can keep the statistics of the tutorials <div>Add Ons</div> <div>1</div>	 FTG-16  As a teacher,I can maintain a list of scheduled quizzes and tutorials <div>Add Ons</div> <div>1</div>
 FTG-5  As a teacher, I can request Lab staff to assign the Lab Evaluation timings earlier. <div>Add Ons</div> <div>1</div>	 FTG-35  As an Admin, I want all the faculty preferences so that I can optimize their timetables. <div>Time Table Generation</div> <div>2</div>
 FTG-40  As an instructor, they can communicate with other instructors via ping so that it acts as a means of ... <div>Time Table Generation</div> <div>2</div>	 FTG-10  As a teacher I can turn on notifications so that I get notification of what my next class is and its location <div>Notifications</div> <div>2</div>

3/15/2020

FTG board - Agile Board - Amrita Vishwa Vidyapeetham - Jira Server

 FTG-37  As a faculty, all attendance related issues must be grouped class-wise <div>Student Faculty Communicatio...</div> <div>2</div>	 FTG-25  As a teacher, I would like to change the period session via ping <div>Time Table Generation</div> <div>2</div>
 FTG-20  As a teacher, I can request for timetable change so that I get a comfortable time table <div>Time Table Generation</div> <div>2</div>	

Sprint 2 Stand-up Notes 1(29-2-2020)

Name	Question	Answer
Sravan N	What did you do yesterday?	push the remaining user stories into sprint backlog and start sprint
	What will you do today?	start writing code for notifications
	Are there any impediments in your way?	notifications are not showed
Sai Akhil Y	What did you do yesterday?	complete sprint 1 and download the sprint report
	What will you do today?	complete the code related to timetable generation(adding more classes)
	Are there any impediments in your way?	error in assigning the timetable
Mahesh G	What did you do yesterday?	backup the project completed til sprint 1
	What will you do today?	perform UI testing for each change in UI
	Are there any impediments in your way?	-
Pruthvi P	What did you do yesterday?	Learn about jenkins tool.
	What will you do today?	Learn about Jenkins tool.
	Are there any impediments in your way?	-
Rishi Vignesh	What did you do yesterday?	start using sonar qube for static code analysis
	What will you do today?	perform static code analysis for the updated code
	Are there any impediments in your way?	-

Sprint 2 Stand-up Notes 2(4-3-2020)

Name	Question	Answer
Sravan N	What did you do yesterday?	start writing code for notifications
	What will you do today?	verify whether all the notification buttons are working
	Are there any impediments in your way?	some are not working properly
Sai Akhil Y	What did you do yesterday?	complete the code related to timetable generation(adding more classes)
	What will you do today?	write the code where the system checks for availability of classes for a particular subject.
	Are there any impediments in your way?	classes are not allotted properly
Mahesh G	What did you do yesterday?	perform UI testing for each change in UI
	What will you do today?	write enough test cases for new UI changes.
	Are there any impediments in your way?	some test cases not working to
Pruthvi P	What did you do yesterday?	Learn about jenkins tool
	What will you do today?	Start using jenkins tool
	Are there any impediments in your way?	-
Rishi Vignesh	What did you do yesterday?	perform static code analysis for updated code
	What will you do today?	sit with developer to solve issue in code
	Are there any impediments in your way?	more bugs may occur

Sprint 2 Stand-up Notes 3(8-3-2020)

Name	Question	Answer
Sravan N	What did you do yesterday?	verify whether all the notification buttons are working
	What will you do today?	Develop ping system among the faculties
	Are there any impediments in your way?	ping not working properly
Sai Akhil Y	What did you do yesterday?	write the code where the system checks for availability of classes for a particular subject.
	What will you do today?	Write code for tutorial statistics
	Are there any impediments in your way?	Details not getting updated properly
Mahesh G	What did you do yesterday?	write enough test cases for new UI changes.
	What will you do today?	write enough test cases for new UI changes.
	Are there any impediments in your way?	some test cases not working to
Pruthvi P	What did you do yesterday?	Start using jenkins tool
	What will you do today?	Post the code in github and do the unit testing
	Are there any impediments in your way?	Error in console output
Rishi Vignesh	What did you do yesterday?	perform static code analysis for updated code
	What will you do today?	sit with developer to solve issue in code
	Are there any impediments in your way?	more bugs may occur

Sprint 2 Stand-up Notes 4(11-3-2020)

Name	Question	Answer
Sravan N	What did you do yesterday?	Develop ping system among the faculties
	What will you do today?	Complete all other user stories
	Are there any impediments in your way?	Errors may occur
Sai Akhil Y	What did you do yesterday?	Write code for tutorial statistics
	What will you do today?	Complete all other user storiesand write documentation
	Are there any impediments in your way?	Errors may occur
Mahesh G	What did you do yesterday?	write enough test cases for new UI changes.
	What will you do today?	Write test cases for unit testing
	Are there any impediments in your way?	-
Pruthvi P	What did you do yesterday?	Post the code in github and do the unit testing
	What will you do today?	Write test cases for unit testing
	Are there any impediments in your way?	-
Rishi Vignesh	What did you do yesterday?	sit with developer to solve issue in code
	What will you do today?	Complete the documentation with scrum master
	Are there any impediments in your way?	-

Sprint 2 Stand-up Notes 5(14-3-2020)

Name	Question	Answer
Sravan N	What did you do yesterday?	Complete all other user stories
	What will you do today?	Check whether everything is working perfectly
	Are there any impediments in your way?	
Sai Akhil Y	What did you do yesterday?	Complete all other user stories and write documentation
	What will you do today?	Complete the documentation
	Are there any impediments in your way?	
Mahesh G	What did you do yesterday?	Write test cases for unit testing
	What will you do today?	Check whether all of UI testing is working properly
	Are there any impediments in your way?	-
Pruthvi P	What did you do yesterday?	Write test cases for unit testing
	What will you do today?	Check whether Jenkins is working correctly
	Are there any impediments in your way?	-
Rishi Vignesh	What did you do yesterday?	sit with developer to solve issue in code
	What will you do today?	Check the working of sonar cube and bind the record
	Are there any impediments in your way?	-

Implementation

We started developing this system with the help of PHP which is a popular general-purpose scripting language that is especially suited to web development. We used XAMPP which is a free and open-source cross-platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP Server, MariaDB database, and interpreters for scripts written in the PHP. We used Each user story is taken by respective individual and each story is analyzed completely and then development of that user story is started. We used Visual studio code for easy code updations. Ideas for the design of web pages were taken from Bootstrap(used for styling of your web pages). Sonarqube is used for static code analysis to check for bugs in code. Selenium package paired with python code for UI testing. PHPUnit for unit testing and Jenkins for continuous integration.

Sample Code

Registration.php

```
<?php
include 'dbconnect.php';
if (isset($_POST['fullname']) && isset($_POST['username']) && isset($_POST['pass']) &&
isset($_POST['phone']) && isset($_POST['email']) ) {
    $sname = $_POST['fullname'];
    $snumber = $_POST['username'];
    $sroll = $_POST['phone'];
    $semail = $_POST['email'];
    $spassword = $_POST['pass'];
    $ssubject=$_POST['subject'];
    $cabin=$_POST['cabin'];

} else {
    $message = "dead.";
    echo "<script type='text/javascript'>alert('$message');</script>";
    die();
}

$q = mysqli_query($conn, "INSERT INTO teacher_info
( name, uname, email, password, phone, subject, cabin) VALUES
('$sname', '$snumber', '$semail', '$spassword', '$sroll', '$ssubject', '$cabin')");

$sql = "CREATE TABLE " . $sname . " (
dayid VARCHAR(10) PRIMARY KEY,
day VARCHAR(10),
period1 VARCHAR(30),
period2 VARCHAR(30),
period3 VARCHAR(30),
period4 VARCHAR(30),
period5 VARCHAR(30),
```

```

period6 VARCHAR(30),
period7 VARCHAR(30),
period8 VARCHAR(30)
    );
mysqli_query($conn, $sql);
$days = array('monday', 'tuesday', 'wednesday', 'thursday', 'friday');
for ($i = 0; $i < 5 ; $i++) {
    $day = $days[$i];
    $sql = "INSERT into " . $sname . " VALUES('$i','$day','','','','','','')";
    mysqli_query($conn, $sql);
}
$class = array('csea','cseb','csec');
for($i =0; $i <3 ; $i++)
{
    $c=$class[$i];
    $chk= mysqli_query($conn,
    "SELECT " . $c . " FROM flag where SUBJECT= '$ssubject' and " . $c . " = 0");
    if(mysqli_num_rows($chk)==1) {
        $flag=1;
        $chk= mysqli_query($conn,
        "UPDATE flag SET " . $c . " =1 WHERE SUBJECT= '$ssubject'");
        $clr= mysqli_query($conn,
        "UPDATE teacher_info SET classroom = '$c' WHERE name= '$sname'");
        break;
    }
    else{
        $flag=0;
        continue;
    }
}
if($flag==1) {
    $i=0;
    $period = array('period1', 'period2', 'period3', 'period4',
    'period5','period6','period7','period8');
    $per=array('PERIOD1','PERIOD2','PERIOD3','PERIOD4','PERIOD5','PERIOD6','PERIOD7','PERIOD8');
    while($i<9)
    {
        $p1=$period[$i];
        $p2=$per[$i];
        $qq = mysqli_query($conn,
        "UPDATE " . $sname . " SET " . $p1 . " =' $ssubject'  where day in(select DAY from " .
        $c . " WHERE " . $p2 . " =' $ssubject')");
        $i++;
    }
}
else{
    $message = "timetable not created please change your subject in update profile page!!";
    echo "<script type='text/javascript'>alert('$message');</script>";
}

```

```
}  
if ($q) {  
    $message = "teacher added.\\nTry again.";   
    echo "<script type='text/javascript'>alert('$message');</script>";  
    header("Location:login.html");  
} else {  
    $message = "Username and/or Password incorrect.\\nTry again.";   
    echo "<script type='text/javascript'>alert('$message');</script>";  
  
}  
  
?>
```

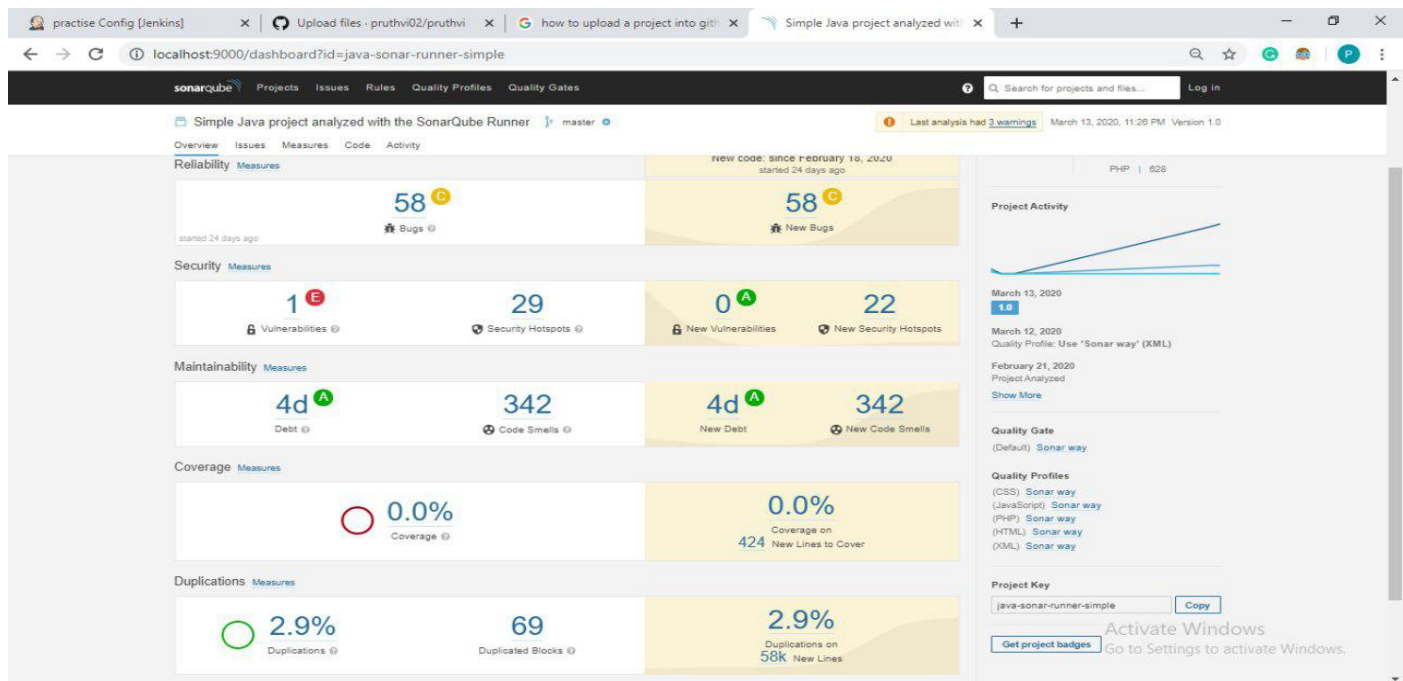
Software Engineering Tools

We are testing our product using various testing techniques such as:

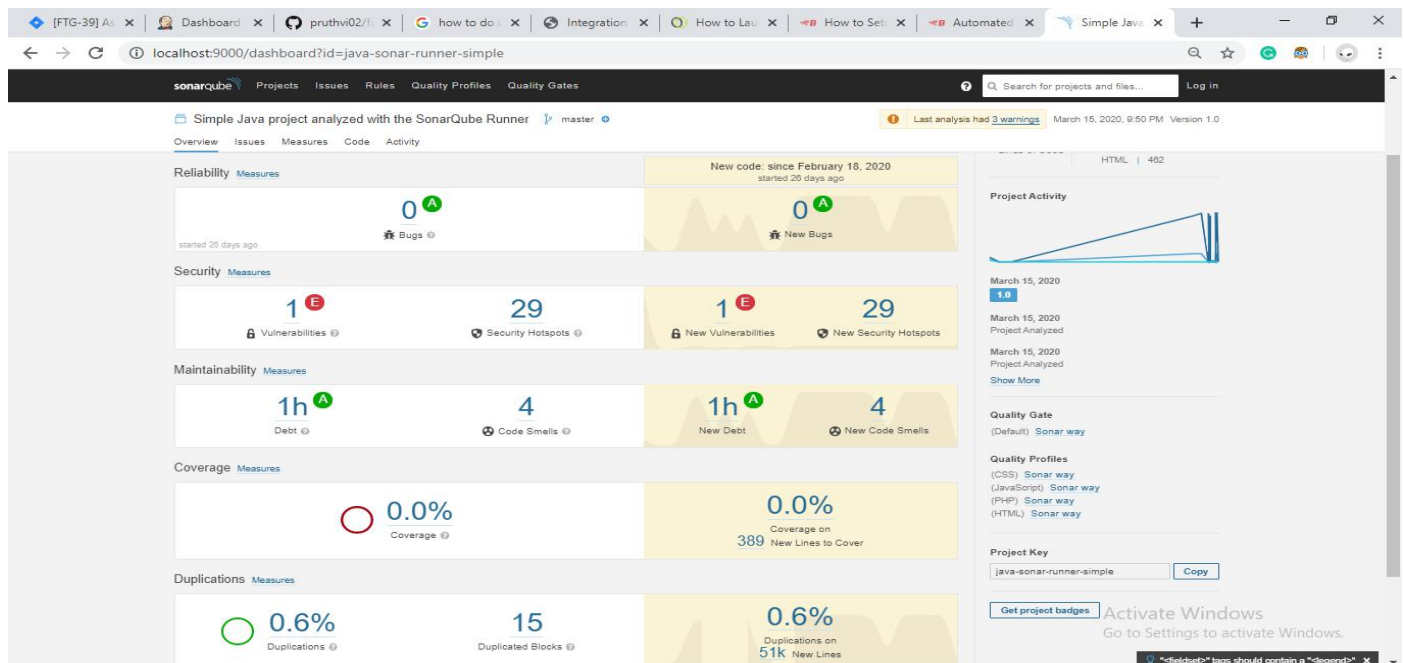
1. SonarQube for static code analysis
2. Selenium package for UI testing
3. PHPUnit for Unit testing
4. Jenkins for Continuous Integration

1. Static Code Analysis

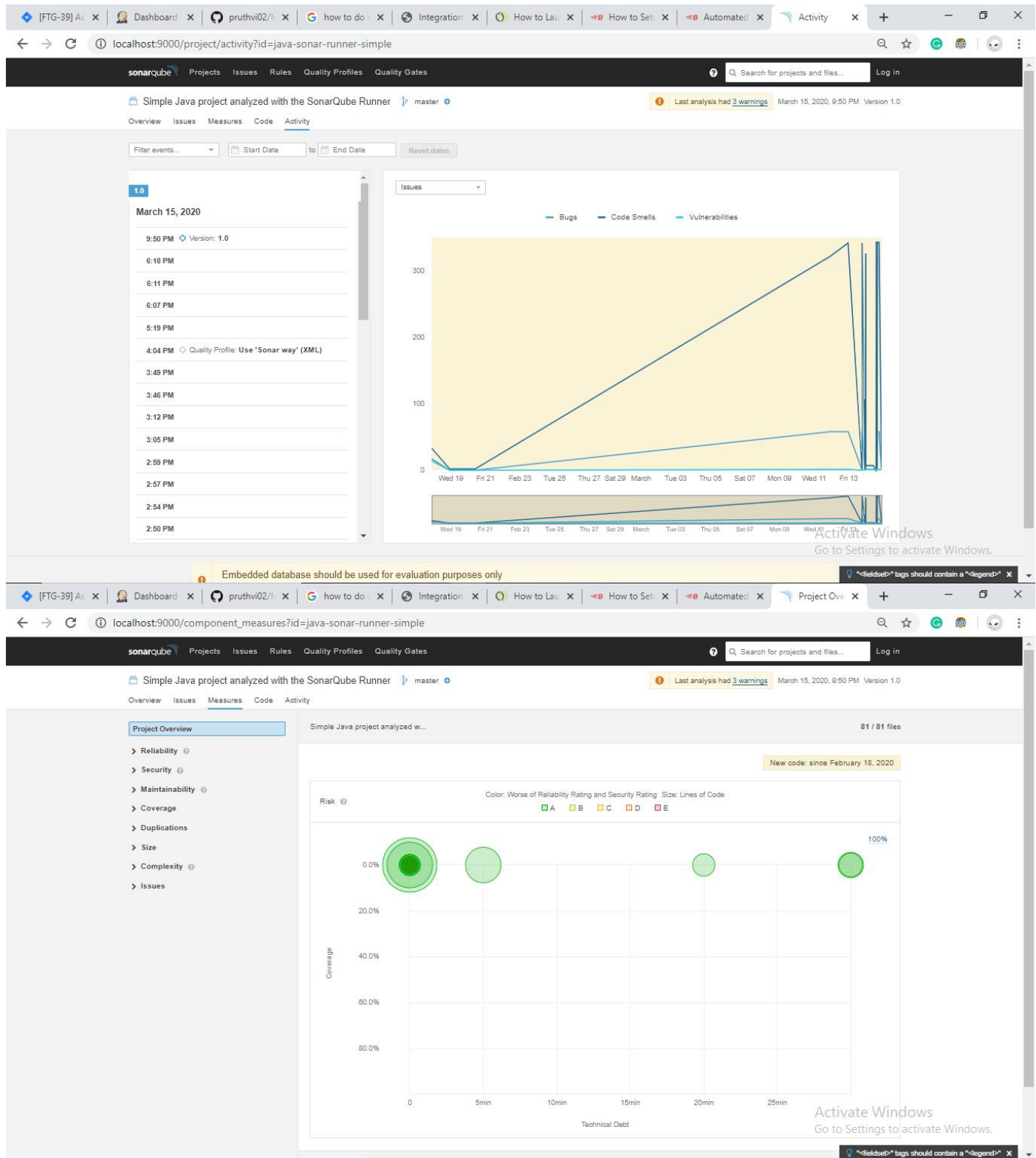
Before



After



Progress:



Actions Taken:First all the bugs are cleared then we check the issues in vulnerabilities and try to clear them all. Then code smells are taken care to bring down the value to almost zero.After taking out all the bugs, vulnerabilities and code smells another run of the updated product folder should take place

2. Unit Testing

Tools Used: PHPUnit

Setup Details: First install composer, then install phpunit through composer. Then write your test cases in .php format and run that in cmd with the command- "phpunit ---pathname---/file.php"

Number of units covered under unit testing= 4

Number of test cases for each unit= 3

Test Cases:(for login unit)

1

```
<?php
class test1 extends \PHPUnit_Framework_TestCase
{
    public function testlogin()
    {
        define('DB_SERVER','localhost');
        define('DB_USER','root');
        define('DB_PASS','');
        define('DB_NAME','teacher');
        $con = mysqli_connect(DB_SERVER,DB_USER,DB_PASS,DB_NAME);

        $ret=mysqli_query($con,"SELECT * FROM teacher_info WHERE uname='sravan123' and
        password='Asdfgh123'");
        $num=mysqli_fetch_array($ret);
        if($num>0)
        {
            $this->assertTrue(true);
        }
        else{
            $this->assertTrue(false);
        }
    }
}
```

2

```
<?php
class test1 extends \PHPUnit_Framework_TestCase
{
    public function testlogin()
    {
        define('DB_SERVER','localhost');
        define('DB_USER','root');
        define('DB_PASS','');
```

```

define('DB_NAME', 'teacher');
$con = mysqli_connect(DB_SERVER,DB_USER,DB_PASS,DB_NAME);

    $ret=mysqli_query($con,"SELECT * FROM teacher_info WHERE uname='sravan123' and
password='Asdf123'");
$num=mysqli_fetch_array($ret);
if($num>0)
{
    $this->assertTrue(true);
}
else{
    $this->assertTrue(false);
}

}
}

```

Test Cases:(for recover password unit)

1

```

<?php
class test1 extends \PHPUnit_Framework_TestCase
{
    public function testlogin()
    {
        define('DB_SERVER','localhost');
define('DB_USER','root');
define('DB_PASS','');
define('DB_NAME','teacher');
$con = mysqli_connect(DB_SERVER,DB_USER,DB_PASS,DB_NAME);

        $ret=mysqli_query($con,"select tid from teacher_info where name='vijay' and
email='vij@gmail.com'");
$num=mysqli_fetch_array($ret);
if($num>0)
{
    $this->assertTrue(true);
}
else{
    $this->assertTrue(false);
}

}
}

```

2

```

<?php
class test1 extends \PHPUnit_Framework_TestCase
{

```

```
public function testlogin()
{
    define('DB_SERVER','localhost');
define('DB_USER','root');
define('DB_PASS','');
define('DB_NAME','teacher');
$con = mysqli_connect(DB_SERVER,DB_USER,DB_PASS,DB_NAME);

    $ret=mysqli_query($con,"select tid from teacher_info where name='vij' and
email='vij@gmail.com'");
$num=mysqli_fetch_array($ret);
if($num>0)
{
    $this->assertTrue(true);
}
else{
    $this->assertTrue(false);
}

}
}
```


3. UI Testing

Tools Used:

Selenium webdriver for python. Done in pycharm IDE

Setup:

- Open the command prompt and go inside the environment where you want to install the module
- Type pip install selenium.

For example : (idp) D:\qwlead\htdocs\teacher\python>pip install selenium

```
• pip install selenium
```

Selenium will get installed.

Test cases statistics:

Main page:

6 testcases are written. Clicking of buttons is randomised so order and count of the number of times a button is clicked varies each time.

Student Home page:

5 testcases are written. It randomly clicks on the list of available faculties.

Login Page:

A total of 8 test cases are written. 5 of the testcases are randomised where input is a random string generated by the function. Three extra testcases are written where check for negative testcases. (i.e.) those test cases where problem is supposed to produce a error. These include empty username, empty password and both.

Forgot Password (html page):

A total of 10 test cases were written here. The 10 testcases are randomised using a random function. We have covered two possible cases here.

1. We can click on login button and get redirected to login page
2. We can enter our full name and email and it will be verified against the data in database for existence of data.

Forgot Password (php page):

We can enter the new password. There are 2 input forms are provided. One for the new password and another for confirm password. We have included both positive (When both fields match) and negative testcases (When fields don't match).

Register page:

1 test case is written where we check if we can register a new user. All the input fields must not null. This constraint is also checked.

Home page:

-Profile page:

The page displays the basic profile info. There is also a button to edit the profile. 1 testcase is written.

-Edit profile:

We can enter update username, phone and email. One testcase is written in this regard. The changes are reflected and visualized in console.

-Checking other faculty timetable:

A faculty has provision to check other faculties time table. Five testcases are written in this regard.

-Writing notes feature:

A faculty can write notes for his classes beforehand. Three testcases are written. They add new notes to the list.

-Check notes:

We check whether the notes written beforehand are visible. One testcase is written

-Schedule tutorial feature:

A faculty can schedule tutorial for his classes. He can note them down here. One testcases are written.

-Check notes:

We check whether any tutorial are scheduled for today. One testcase is written

-Ping and Messages:

A teacher can ping other teachers. This is reflected in the messaged section. One testcase each is written.

-Logout:

One testcase is written to check if logout is working. It was tested working.

Test case code:

```
from pprint import pprint
from selenium.common.exceptions import NoSuchElementException,
StaleElementReferenceException, TimeoutException, \
    UnexpectedAlertPresentException,
ElementNotSelectableException, NoAlertPresentException
from selenium.webdriver import Firefox
from time import sleep
import requests
from selenium.webdriver.support.ui import WebDriverWait, Select
from selenium.webdriver.support import expected_conditions as ec
from random import randint, choices
from string import ascii_letters, printable, digits
from selenium.webdriver.common.action_chains import ActionChains

driver = Firefox(executable_path=r'D:\geckodriver.exe')
url = 'http://localhost/teacher/'

print(" ..... Starting UI Testing .....")
try:
    driver.get(url=url)
    print("Trying to open the Website ")
    req = requests.head(url=url)
    if req.status_code == 200:
        print('The Website exists and a response code of {} was
received'.format(req.status_code))
    else:
        print('Unable to open the website and a response code of {} was
received'.format(req.status_code))
        exit(105)
except Exception as e:
    print('Encounted a exception of {}'.format(e))
```

```

print('Length of the screen/Window Size is {}'.format(driver.current_window_handle))
print('.....Making the window to full Screen .....')
driver.maximize_window()
# sleep(3)
driver.get_screenshot_as_png()

print('Starting Main page Button testing .....')
try:
    for iter in range(6):
        main_buttons = driver.find_elements_by_class_name('login100-form-btn')
        ran = randint(0, 2)
        main_buttons[ran].click()
        current_url = driver.current_url
        if current_url == 'http://localhost/teacher/login.html':
            var = 'login'
        elif current_url == 'http://localhost/teacher/register.html':
            var = 'register'
        else:
            if current_url == 'http://localhost/teacher/shome.php':
                var = 'Student home'
            # noinspection PyUnboundLocalVariable
            print('In {i} iteration clicked on {button} button.'.format(i=iter + 1,
button=var))
            # sleep(1)
            driver.get(url)
            driver.get_screenshot_as_png()

            # sleep(3)
except StaleElementReferenceException as exe:
    # noinspection PyUnboundLocalVariable
    print('Reference button is not found. Might be using old reference. Found in the {i}
iteration'.format(i=iter))

print('.....Successfully tested all the buttons in the main page\t.....')

print('.....Main page Testing Complete .....')

```

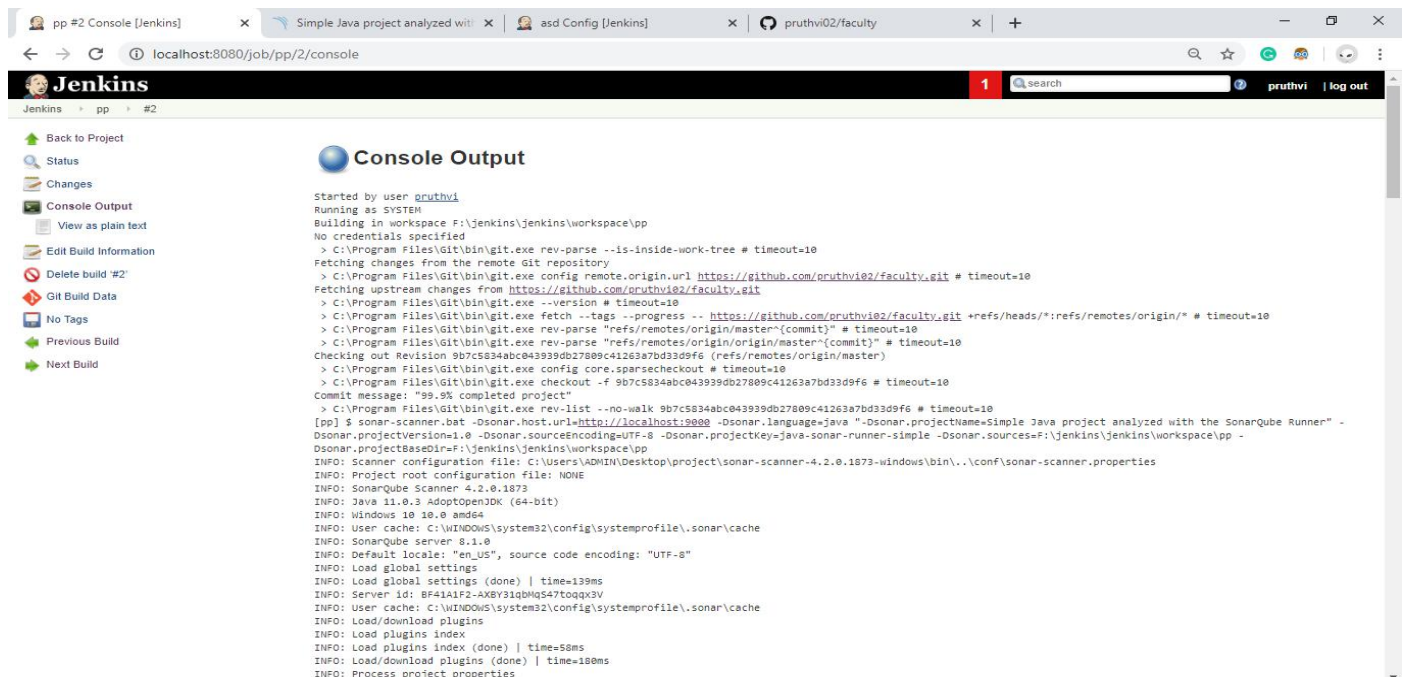
4. Continuous Integration

This is done in the tool called Jenkins which is a free and open source automation server. Jenkins helps to automate the non-human part of the software development process, with continuous integration and facilitating technical aspects of continuous delivery.

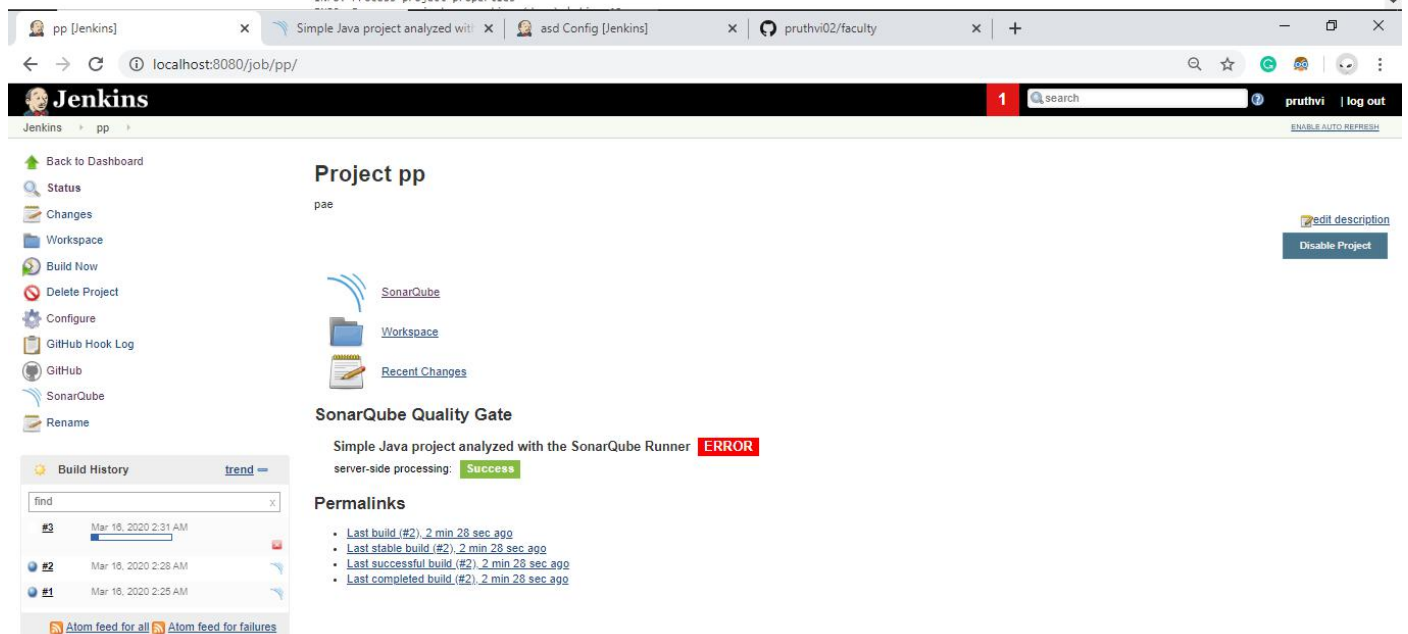
How CI is done?

First, the Jenkins long term support version is installed using Homebrew in terminal. Then it is started and can be accessed in port 8080 of localhost. For the first time, Jenkins needs to be setup, install the support plugins. Install SonarQube plugin for static code analysis. Create a freestyle project, in that give the URL of the location of your project folder. Then add required number of builds for static code analysis, UI testing, Unit testing. Save the project. Select build

now



```
Started by user pruthvi
Running as SYSTEM
Building in workspace F:\jenkins\workspace\pp
No credentials specified
> C:\Program Files\Git\bin\git.exe rev-parse --is-inside-work-tree # timeout=10
Fetching changes from the remote Git repository
> C:\Program Files\Git\bin\git.exe config remote.origin.url https://github.com/pruthvi02/faculty.git # timeout=10
Fetching upstream changes from https://github.com/pruthvi02/faculty.git
> C:\Program Files\Git\bin\git.exe fetch --tags --progress -- https://github.com/pruthvi02/faculty.git +refs/heads/*:refs/remotes/origin/* # timeout=10
> C:\Program Files\Git\bin\git.exe rev-parse "refs/remotes/origin/master^{commit}" # timeout=10
> C:\Program Files\Git\bin\git.exe rev-parse "refs/remotes/origin/master^{commit}" # timeout=10
Checking out Revision 9b7c5834abc043939db27809c41263a7bd33d9f6 (refs/remotes/origin/master)
> C:\Program Files\Git\bin\git.exe config core.sparsecheckout # timeout=10
> C:\Program Files\Git\bin\git.exe checkout -f 9b7c5834abc043939db27809c41263a7bd33d9f6 # timeout=10
Commit message: "99.9% completed project"
> C:\Program Files\Git\bin\git.exe rev-list --no-walk 9b7c5834abc043939db27809c41263a7bd33d9f6 # timeout=10
[pp] $ sonar-scanner.bat -Dsonar.host.url=http://localhost:9000 -Dsonar.language=java -Dsonar.projectName=Simple Java project analyzed with the SonarQube Runner -Dsonar.projectVersion=1.0 -Dsonar.sourceEncoding=UTF-8 -Dsonar.projectKey=java-sonar-runner-simple -Dsonar.sources=F:\jenkins\workspace\pp -Dsonar.projectBaseDir=F:\jenkins\workspace\pp
INFO: Scanner configuration file: C:\Users\ADMININ\Desktop\project\sonar-scanner-4.2.0.1873-windows\bin\..\conf\sonar-scanner.properties
INFO: Project root configuration file: NONE
INFO: SonarQube Scanner 4.2.0.1873
INFO: Java 11.0.3 AdoptOpenJDK (64-bit)
INFO: Windows 10 10.0 amd64
INFO: User cache: C:\WINDOWS\system32\config\systemprofile\.sonar\cache
INFO: SonarQube server 8.1.0
INFO: Default locale: "en_US", source code encoding: "UTF-8"
INFO: Load global settings
INFO: Load global settings (done) | time=139ms
INFO: Server id: BF41A1F2-AXB31qBHQ547toqx3V
INFO: User cache: C:\WINDOWS\system32\config\systemprofile\.sonar\cache
INFO: Load/download plugins
INFO: Load plugins index
INFO: Load plugins index (done) | time=58ms
INFO: Load/download plugins (done) | time=180ms
INFO: Process project properties
```



Project pp
pae

[SonarQube](#)
[Workspace](#)
[Recent Changes](#)

SonarQube Quality Gate
Simple Java project analyzed with the SonarQube Runner **ERROR**
server-side processing: **Success**

Permalinks

- Last build (#2) 2 min 28 sec ago
- Last stable build (#2) 2 min 28 sec ago
- Last successful build (#2) 2 min 28 sec ago
- Last completed build (#2) 2 min 28 sec ago

Build History

#	Time
#3	Mar 16, 2020 2:31 AM
#2	Mar 16, 2020 2:28 AM
#1	Mar 16, 2020 2:25 AM

[Atom feed for all](#) [Atom feed for failures](#)

Test Plan for Sprint 1

I. Introduction

The following testing strategy determines the project's approach to testing. The strategy looks at the characteristics of the system to be built, the project timeline plans the breadth and depth of the testing effort. Testing strategy will influence tasks related to test planning, test types, test script development and test execution.

II. Test Plan

Key Objectives:

- Determine the significance, or critical nature of the application system to give proper feedback regarding timetable.
- Determine the types of tests required by each testing task.
- Determine the need for a system integration and instrumentation test by identifying key system interfaces.
- Identify performance assurance requirements

Test ID	Description	Expected Results	Actual Results	Automated?
0.1	I CAN SEE LIST OF UPCOMING CLASSES	FROM MY TIMETABLE I CAN SEE THE LIST OF UPCOMING CLASSES	PASS	YES
1.1	I CAN ENTER MY SUBJECT OF PREFERENCE AND SHOULD BE ABLE TO VIEW MY TIMETABLE	I SHOULD BE ABLE TO VIEW THE TIMETABLE	PASS	YES
1.2	AS A TEACHER I CAN VIEW OTHER TEACHER'S	SHOULD BE ABLE TO VIEW OTHER	PASS	YES

	TIMETABLE	TEACHER'S TIMETABLE		
2.1	I CAN UPDATE PROFILE WHenever I WANT	THERE SHOULD BE A PROVISION TO EDIT PROFILE IF LOGIN WAS DONE PROPERLY	PASS	YES
2.2	IMPOSE DIFFERENT CONSTRAINTS ON PASSWORD LIKE LENGTH,,DIFFERENT CHARACTERS.	ONLY PASSWORD ABOVE 8 CHARACTERS AND SHOULD HAVE ATLEAST 1 NUMBER	PASS	YES
3.1	I SHOULD BE ABLE TO LOGIN	LOGIN SHOULD BE VALIDATED	PASS	YES
3.2	FORGOT PASSWORD SHOULD VERIFY PASSWORDS ENTERED	SHOULD REFLECT CHANGES IN DB ONLY IF PASSWORD AND CONFIRM PASSWORD ARE CORRECT	PASS/FAIL	YES
3.3	FORGOT OPTION SHOULD BE PROVIDED SO THAT I CAN RESET THE PASSWORD IF FORGOTTEN	SHOULD BE ABLE TO RESET PASSWORD ONLY IF CREDENTIALS ENTERED ARE VALID	PASS	YES
3.4	RESTRICT FACULTIES FROM EDITING THEIR	FACULTIES CAN ONLY VIEW	PASS	YES

Where:		TIMETABLES	TIMETABLES		
	4.0	I CAN LOGOUT OUT OF MY ACCOUNT	IF LOGGED IN I SHOULD BE ABLE TO LOGOUT	PASS	YES

- Test ID is a unique identifier for the test case. The unique identifier should relate back to the particular story the test case is verifying. For example, if your naming scheme for story is numbers, test cases for story 3 could have test IDs 3.1, 3.2, etc.
- Description should clearly document the steps that need to be done in order to run the test case. Write the description specifically, such that any team member can run the test case, even if the author of the test case is not present.
- Expected results is a statement of what should happen when the test case is run.
- Actual results are an indication of whether the test case is currently passing or failing when it is run. The actual results could be recorded simply as “Pass” or “Fail.”
- Automated? Should have answer “Yes” or “No” indicating if you have automated this particular test case using any of the automation tool. You are required to automate a minimum of three test cases for sprint 1 evaluation.

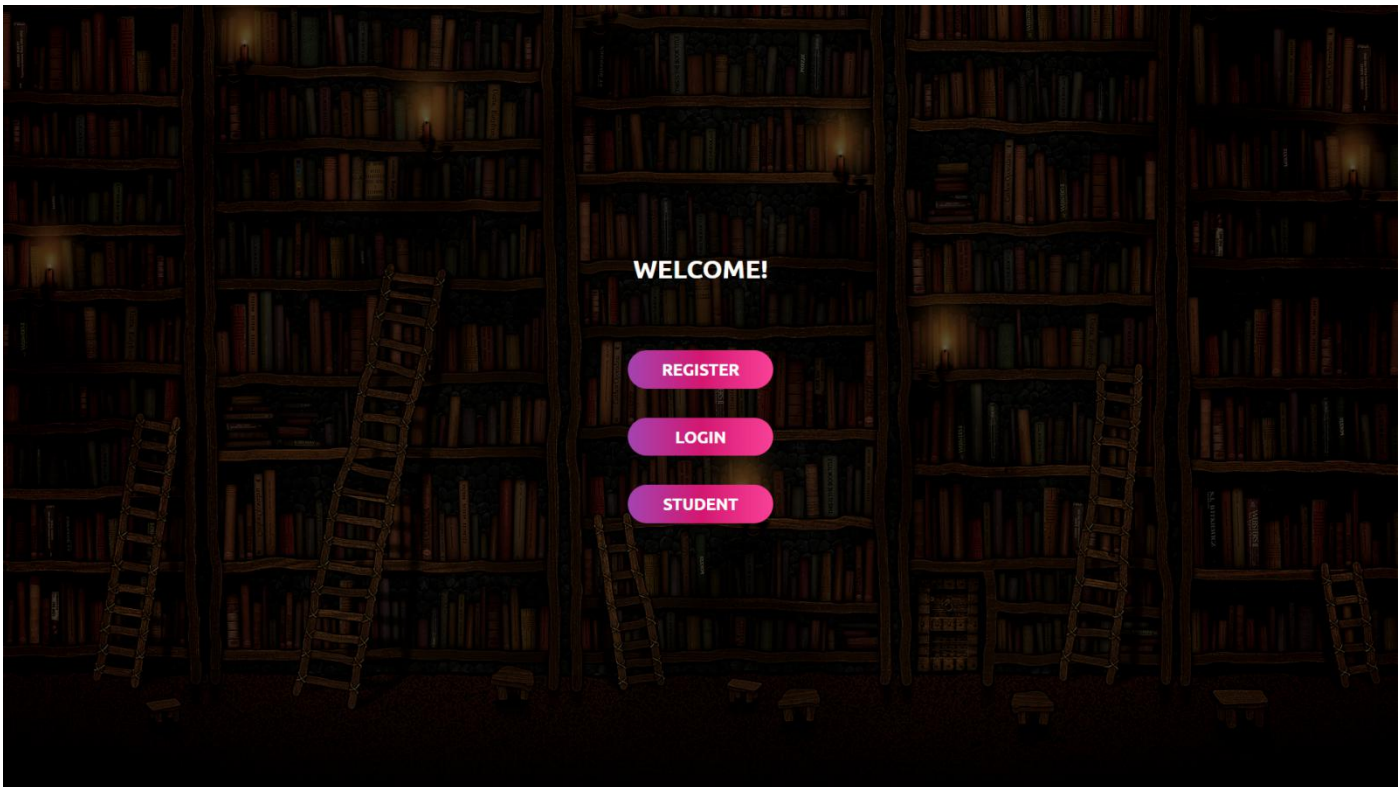
III. Test Approach

This approach defines and prepares the approach or way to carry out the testing procedures only after the completion of the development phase, i.e. testing could only be initiated when the development phase of the software has reached a functional finished state. This approach also consists of those methods which are pre-determined and pre-defined to carry out the testing activity, the methods covered under this approach are used to test a software product from each different perspective and requirements, so as to remove all the possible bugs, vulnerabilities and code smells.

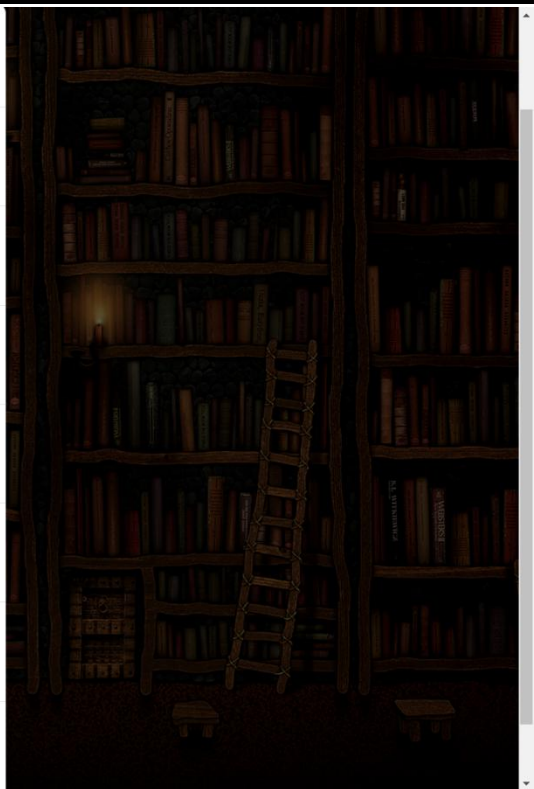
IV. Environmental Requirements

- Selenium for UI testing
- PyCharm to write the test cases in python
- SonarQube for static code testing
- JDK 11 or above for SonarQube
- PHP Unit for unit testing


Screenshots



REGISTER



ACCOUNT LOGIN

 Username

 Password

LOGIN

FORGOT

User Password Recovery

Please enter your Email and password to recover your password.

Registered Full Name

Registered Email

Reset

Already have an account? [Log-in](#)

ACCOUNT DETAILS

akhil

✉email:akhil@gmail.com

📞Phone:2147483647

📁Subjects:ML

EDIT PROFILE

Press **F11** to exit full screen

ACCOUNT UPDATE

👤 username

📁 subject

✉ Email


UPDATE

Press **F11** to exit full screen

TUTORIAL STATISTICS

 roll-number

 tutorial-number

 marks

SUBMIT

CHECK MARKS

MY NOTES

 dd-mm-yyyy

SUBMIT

Select teacher ▼

Select teacher

akhil

sravan

rishi

pruthvi

mahesh

Search

Class Notification

TURN ON

date	subject
24/03/2020	SOFT SKILLS
26/03/2020	COMPILER DESIGN
28/03/2020	SOFTWARE ENGINEERING
30/03/2020	COMPUTER NETWORKS
01/04/2020	PRINCIPLES OF MACHINE LEARNING
03/04/2020	ELECTIVE

Press **F11** to exit full screen

day	period1	period2	period3	period4	period5	period6	period7	period8
MONDAY	CIR	CIR	CIR					
TUESDAY								
WEDNESDAY								
THURSDAY								
FRIDAY								

Conclusion

The sole aim for this project is to reduce manpower on unnecessary things and focus on more significant areas like counselling etc where nowadays many schools are in need of it. This system alone is enough for most of the tasks required for the faculty to be completed.