

INTERACTIVE WEBSITE FOR MATCHING INTEREST OF PROFESSORS AND STUDENTS

**ESOF 5014:AGILE SOFTWARE DEVELOPMENT
FINAL PROJECT REPORT**

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**LAKEHEAD UNIVERSITY
THUNDER BAY CAMPUS**

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ABSTRACT

Studying in a well known university is very crucial for a successful career. In the modern open economy students have easy access to universities worldwide. There has been significant commercial interest for rendering services to the students to choose universities internationally. Although in Canada a major problem is faced by domestic and international Students who wish to study masters or Doctorate level courses by research. For getting admission it is a prerequisite to find a professor who has funding available or position available in his lab. Students usually have to find professors whose research interests are similar to their academic interests.

To solve the problem our website uses advanced Natural language processing technology to find similarity between the research works of students and professors. It also uses other search criteria like preferred study destination etc. The team chose to use Scrum agile methodology.

1. INTRODUCTION

1.1 AGILE METHODOLOGY:

In the software industry, agile techniques are widely used. Its objective is to deliver working software frequently to customers. Agile method is an iterative approach to project management which helps agile teams to deliver working software frequently to customers. Agile methodology is a way to manage a project by breaking it into various phases. The Agile manifesto has 12 principles and 4 practices. There are various agile methodologies such as scrum, Dynamic System Development Method, kanban, extreme programming and feature driven development. Among these, we applied scrum agile methodologies while developing the website. Agile scrum method delivers software after each sprint. Scrum method has three steps such as iteration planning, iteration execution and software delivery for each iteration.

We used tools such as customized agile development excel templates as project management. Initially, we used Jira for this project. As customized agile development excel templates are very convenient, we transferred from JIRA to this tool as we found it sufficient to track our progress. We focussed on outcome and customer centric software than the tools we use. We used zoom for sprint meetings and whatsapp for daily communications.

Project Objective: It is an interactive website which helps students to find professors according to various matching criteria such as research area interest, scholarships availability. Students can register first and then they are able to login. While registration, according to their input fields such as research area interest, they will be able to see best matched professor or professors contact details.

1.2 APPLICATION AREAS:

Website where students from any part of the world can register. They can save their personal information, educational information and other details. Based on information provided by students such as whether a scholarship is needed or not, their preferred study destination, research abstract, this website can display a list of professors and associated universities. It is useful for students to find professors from any part of the world based on their research interest area.

It is helpful for students who want to do research based master's and ph.d from university. It can also be useful to find collaborative research teams within the university or cross university.

1.3 CHALLENGES:

The most challenging part while developing this project was setting up a common virtual environment for development.

Adapting to agile methodology as a learning experience can be very difficult. It needs patience and co-ordination among students of various backgrounds. Most students had very little experience in agile methodology.

Few challenges faced are listed below:

1. Learning software development while meeting stringent deadlines was a key issue.
2. Team members are full time studying and working part-time, which is why it became difficult to coordinate and manage time suitable for everyone.
3. With no extensive experience, it was difficult to scope the project correctly.
4. Getting everyone on the same page was time consuming as even though we had defined roles for each sprint, it was difficult for everyone to understand their job roles initially.
5. There was chaos in the first few days of discussion as we had to align on project ideas, job roles such as team manager, recruiter, directors and the team did not have any experience about conceptualizing a software project from scratch. It was not only agile project management experience but also an experience of kick starting a startup.

2. MODELING

2.1 INTRODUCTION TO WORKFLOW DIAGRAM :

Workflow diagram provides a graphic overview of the business process. Using various shapes and symbols, workflow explains how work is done from beginning to end point. The workflow diagram clearly indicates how it works in developing websites.

In our project, we have 3 sprints; sprint 1, sprint 2 and sprint 3. Each sprint duration is 14 days. There was a regular standup meeting of 15 minutes with agile team members every three days. Retrospective meeting was done to improve working methodologies.

2.2 AGILE WORKFLOW DIAGRAM :

Product backlog is considered as a master list. At each iteration, the team will decide which user story they want to take. At the beginning of each sprint, there is planning. So all user stories of software are there in the product backlog. The Sprint backlog has user stories which we are going to implement in sprint. The sprint backlog is under the control of the developer. Product owner has nothing to do with sprint backlog. At the end of each sprint, we do a retrospective meeting. It works in three stages such as iteration planning, iteration execution and delivering the results of iteration.

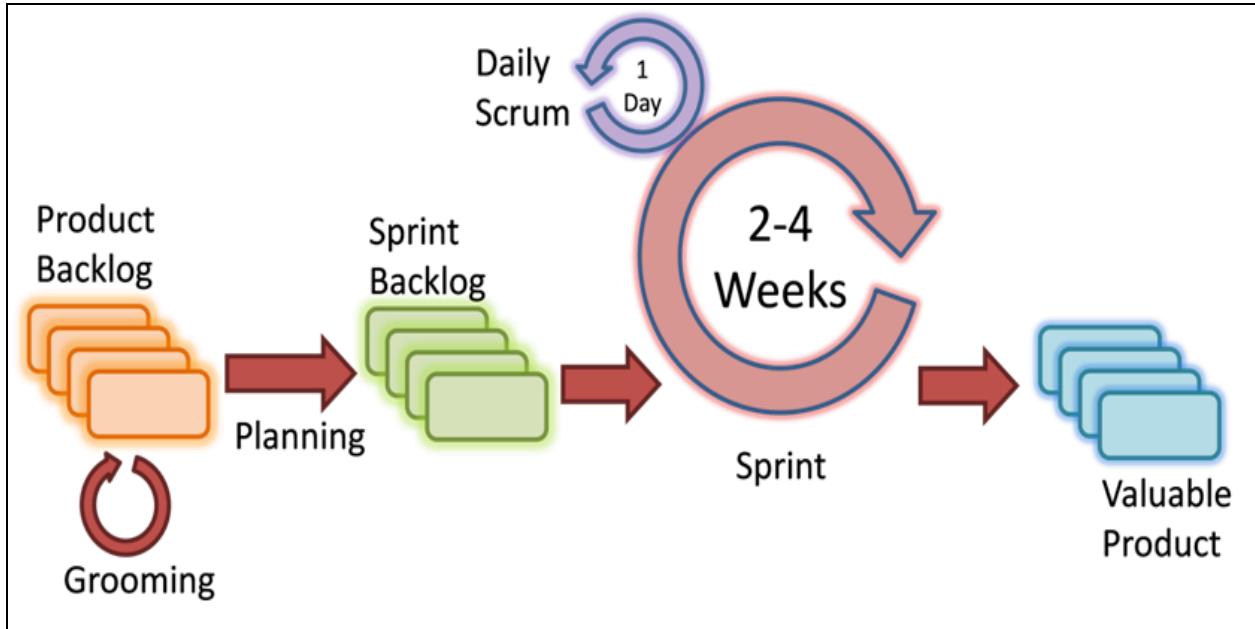


Figure 1 : Agile Workflow diagram

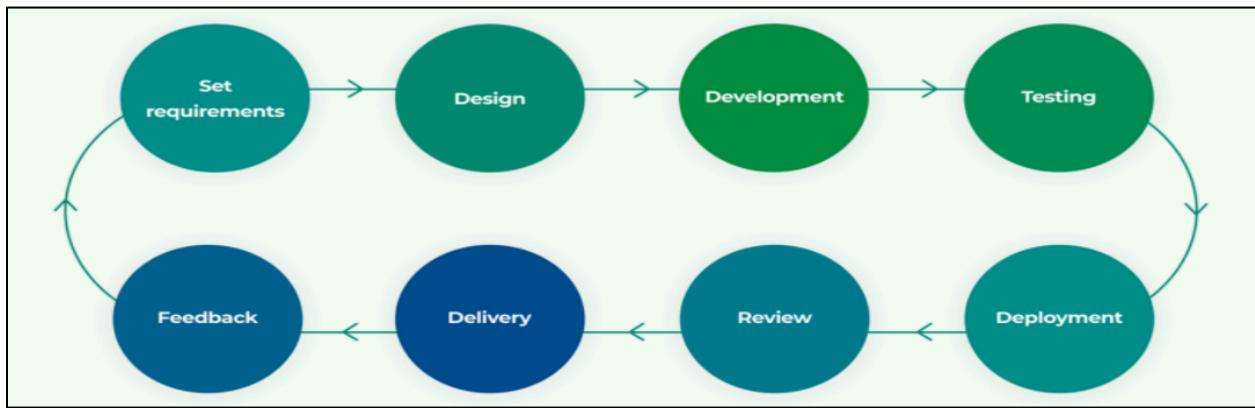


Figure 2 : Agile workflow diagram

The figure 2 shown above represents how agile scrum methodology works. In each sprint, there are different stages such as design, development, testing, deployment, review, delivery and feedback.

Agile planning procedure provides a more iterative approach. It delivers the project in smaller chunks. During agile planning, end users are identified. Relationships between end users or stakeholders is also identified.

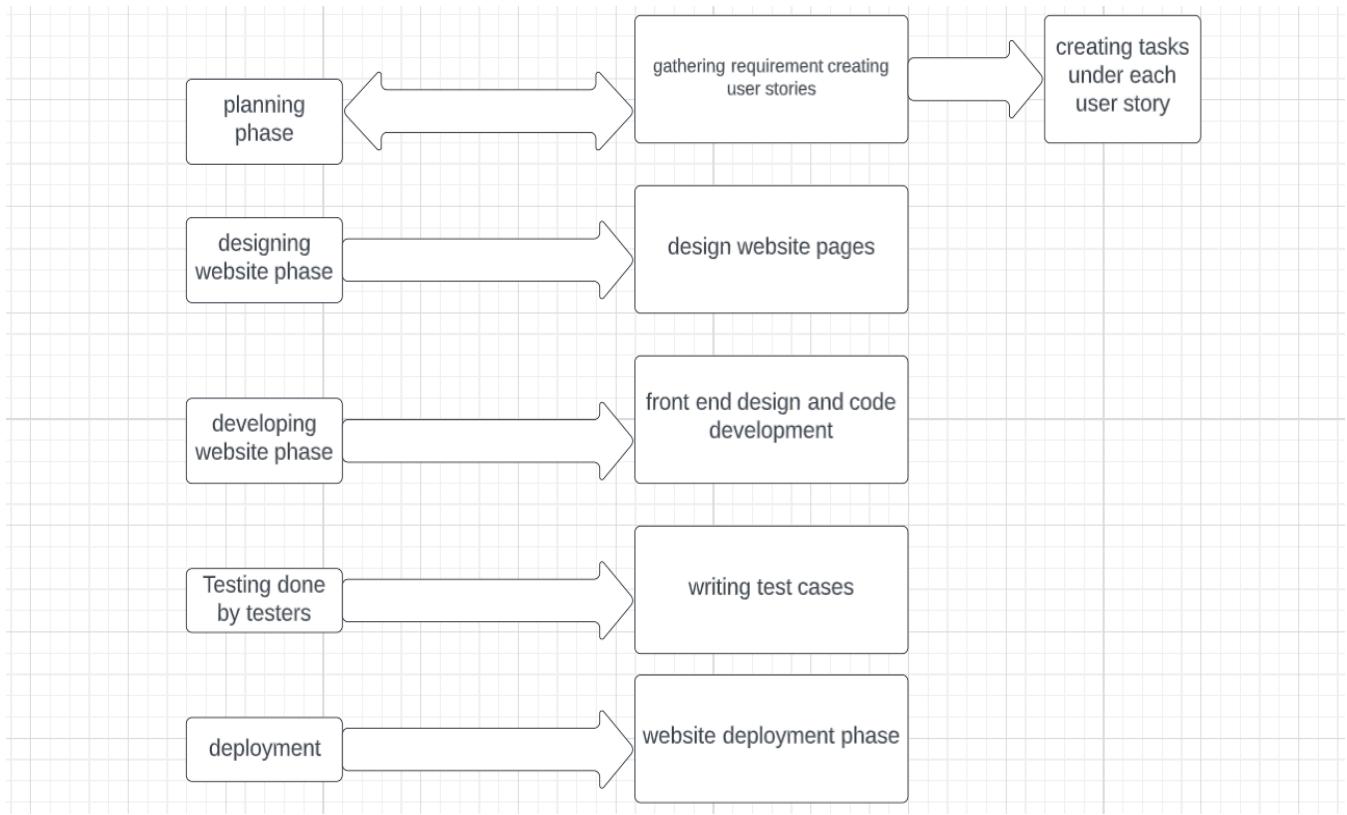


Figure 3 : Project Workflow

2.3 PROJECT WORKFLOW:

For developing this interactive website with scrum methodology, we follow the given procedure-

Phase 1: Decide project objective, Requirement Gathering or concept phase

In this stage, we determine the scope of our project and which type of end users are included in this interactive website. The project owner estimates the cost and duration of the project. Primary needs are collected by the product owner from customers and discussing requirements with customers. All data collection and processing is done manually. Moreover, we gathered data for Masters and Ph.d students and research professors in this phase.

Phase 2: Inception

After defining the concept, the software development team does the meeting together. In this phase, the product owner selects the most qualified individuals for the project. They also provide enough resources for the team. It can also be considered as the design phase. Team will design user interface design for every page of the website. We design individual pages such as student registration page, professor registration page, student search page, professor search page and main page. This phase defines the design and structure of these pages.

Phase 3: Software Modeling

We used the Django framework for developing our agile project. Django is a free and open source web application framework which is written in python language. There are many advantages of using the django framework. In MVT architecture, M means model, V means view and T stands for Template. Model is a data access layer. Template is a presentation layer. View is a business logic layer. Whenever we run a server, HTTP requests are redirected to urls. So information on url is read in url.py. This layer contains everything about data such as how to access it, how to validate it. Moreover, relationships between data are written in models.py. Template is a presentation layer. So it is about how pages look like. View is the interface between model and template. Business logic is written in views.py. Finally, output is written in the html file as a response.

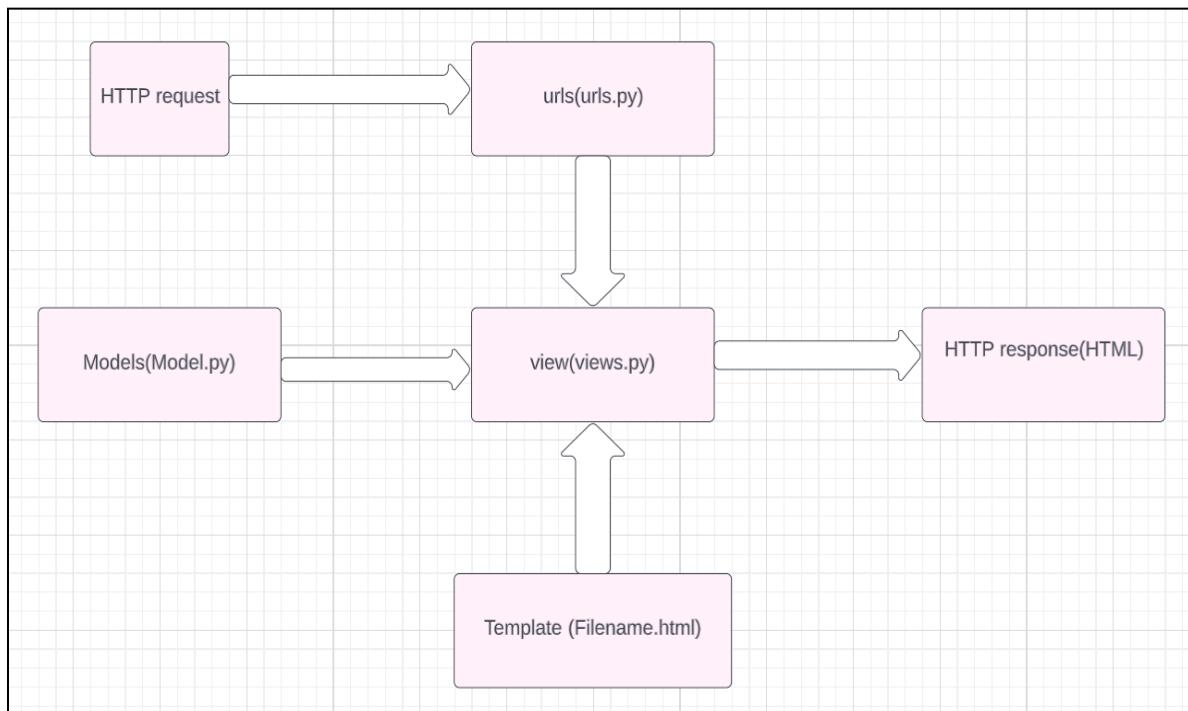


Figure 4 : Overview of MVT Framework

Phase 4: Construction Phase

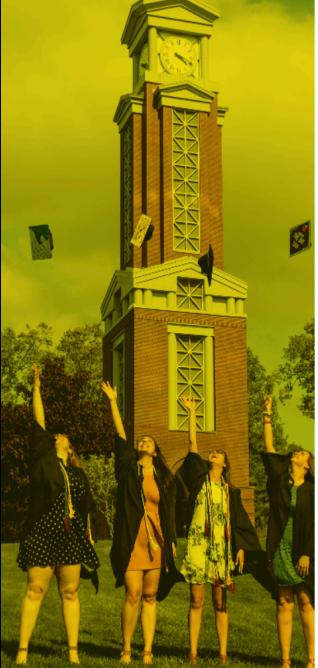
- **Home Page**

This is the homepage design of our interactive website for matching interest of students and professors. From this page, user can login by using their username and password.

The image is a composite of two screenshots. On the left, there is a photograph of a large, ornate library or study room filled with people working at long wooden tables. On the right, there is a screenshot of a website's login page. The page features a logo for "PLANET OF STUDENTS" with a stylized red square icon. The main heading is "Login". Below it is a welcome message: "Welcome to the website , we hope to connect research students to professor based on their research interests. Our efforts are to build better future and collaboration among academic research community." There are input fields for "Username" (containing "Kolin1") and "Password" (containing "*****"). A "Remember me" checkbox is checked. A blue "LOGIN" button is centered below the fields. At the bottom of the page, there are two small links: "Register as Students" and "Register as Professor". A copyright notice at the very bottom reads "© Copyright. All right reserved."

- **Student Registration Page - Personal Information**

This is a student registration page where students have to enter their personal information such as name, phone number, email and country. They can also create a username and password for their account. When you click next, it directs you to register as a student - educational history page.



PLANET OF STUDENTS

Register as Student

Register here as student account now..

PERSONAL INFORMATION

First Name	Last Name
kolin11	kolin
Phone Number	Email
7865435467	kolin@gmail.com
Password	Domestic Country
*****	INDIA
Preferred Study Destination <input type="text" value="USA"/> <input type="button" value="X"/>	

NEXT →

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- **Student Registration page - Educational History**

Students have to enter their educational history which includes their country of education, university name, department, specialization and name of degree. When you click next, it directs you to the other information page.



PLANET OF STUDENTS

Register as Student

Register here as student account now..

EDUCATIONAL HISTORY

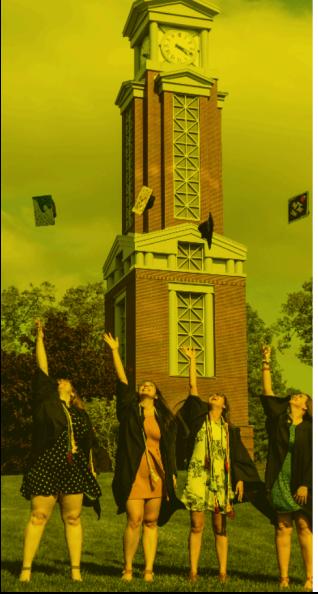
Country of education	University
INDIA	Lovely Professional University
Department	Specialization
IT	Technical Communication/Science Writing
Name of degree	Start Date of Course
bachelor in information technology	2022-04-06
Date of Complete	Level of degree
2024-04-04	Select Level of degree
GPA	
8	

BACK **NEXT →**

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- **Student Registration Page - Other Details**

Here students can explain in brief about their recent research and project description.



PLANET OF STUDENTS

Register as Student

Register here as student account now...

OTHER INFOMATION

Recent Research / Project description

survey on rice crop yield prediction using classification [technique.machine](#) learning approach to classify students data

Research Abstract

In rice crop yield prediction , there are many classification techniques are applied namely support vector machine, neural network and decision tree method. they give accuracy such as 87, 78 and 66 respectively. They also applied data preprocessing techniques before applying classification techniques on dataset. out pf this artificial neural netwoek gives best accuracy.

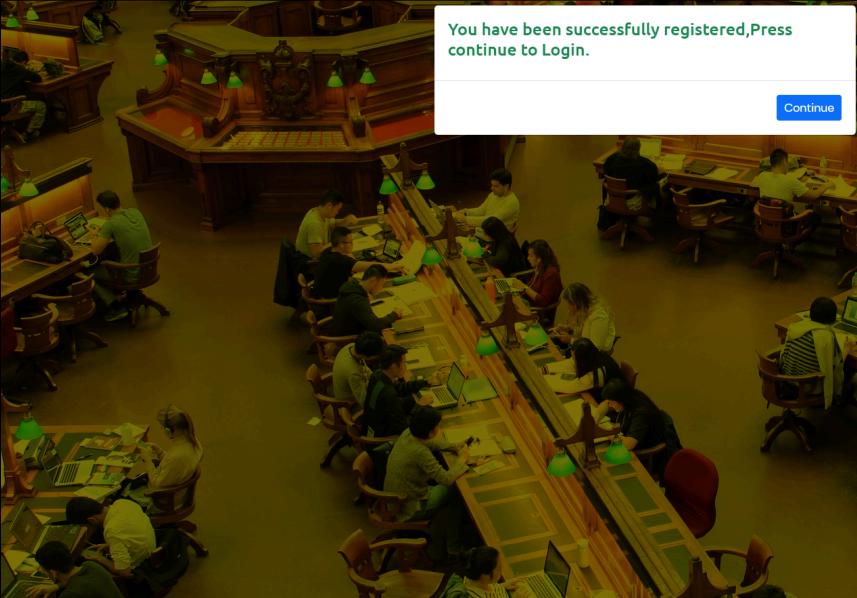
Scholarship needed (limited scholarship)

Yes No

[← BACK](#) [SIGN UP →](#)

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After registering successfully, it displays a message that you have been successfully registered. Press continue to Login.



PLANET OF STUDENTS

You have been successfully registered,Press continue to Login.

[Continue](#)

Login

Welcome to the website , we hope to connect reserach students to professor based on their research interests. Our efforts are to build better future and collaboration among academic research community.

Username
 Enter Username

Password
 Enter Password

Remember me

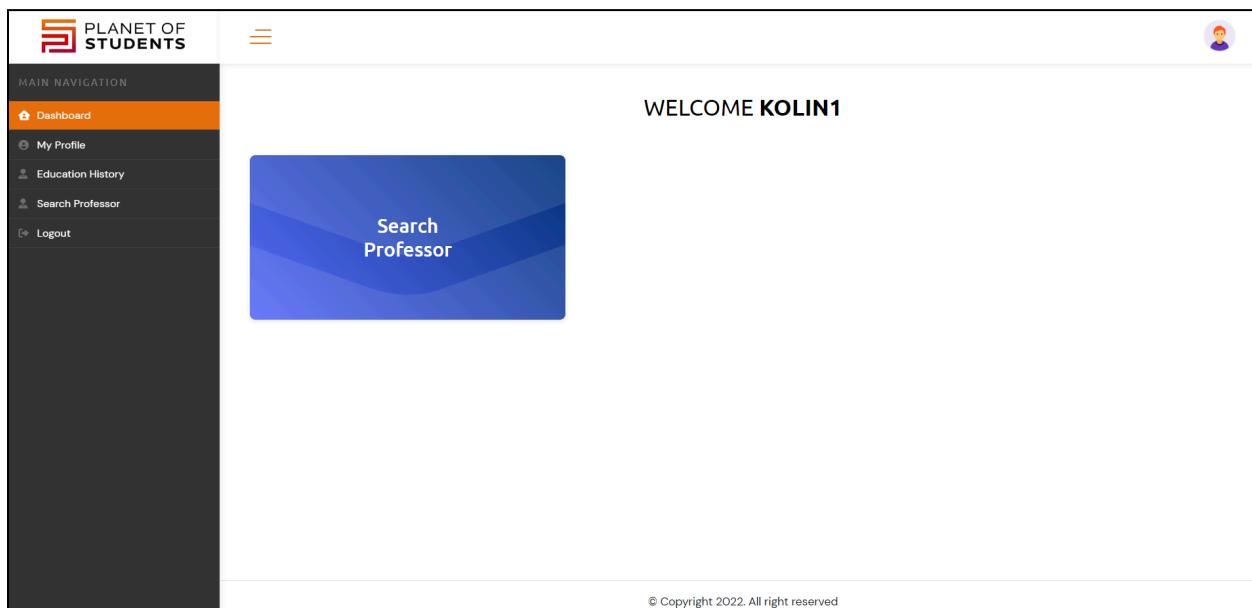
[LOGIN](#)

[Register as Students](#) [Register as Professor](#)

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- **Student Search Page**

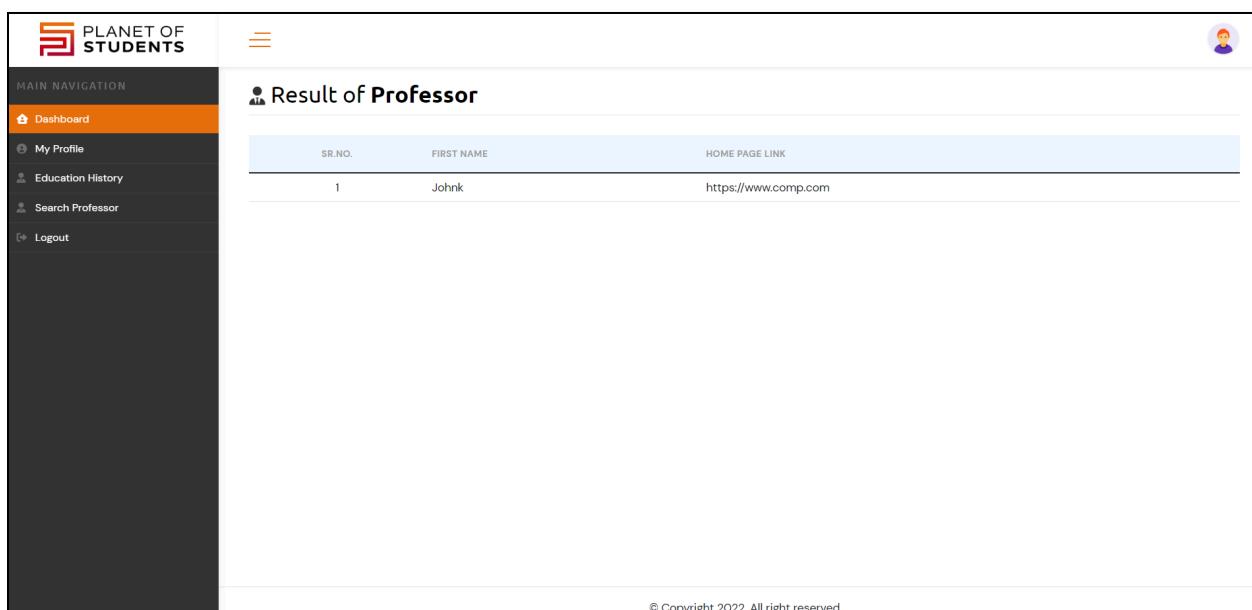
After successfully logged in by students, the website will look as shown below.



The screenshot shows the 'PLANET OF STUDENTS' dashboard. On the left, a dark sidebar contains the logo 'PLANET OF STUDENTS' and a 'MAIN NAVIGATION' menu with options: Dashboard (selected), My Profile, Education History, Search Professor, and Logout. The main content area is titled 'WELCOME KOLIN1'. A large blue button in the center says 'Search Professor'. At the bottom right of the content area, there is a small copyright notice: '© Copyright 2022. All right reserved'.

- **Result Page**

Whenever a student clicks on search professor, it displays matching professor list.



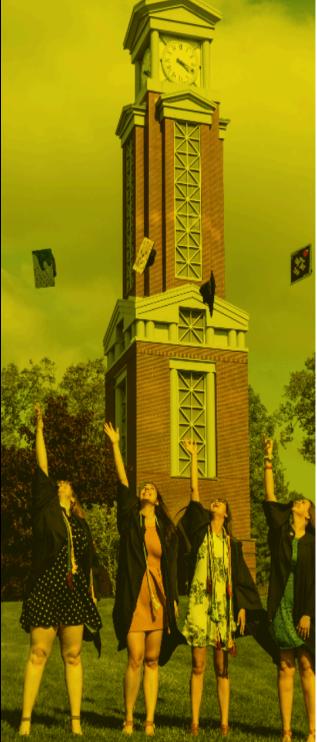
The screenshot shows the 'Result of Professor' page. The left sidebar is identical to the previous screenshot. The main content area is titled 'Result of Professor'. It displays a table with one row of data:

SR.NO.	FIRST NAME	HOME PAGE LINK
1	Johnk	https://www.comp.com

At the bottom right of the content area, there is a small copyright notice: '© Copyright 2022. All right reserved'.

- **Professor Registration page - Personal Information**

This is a professor registration page where professors have to enter their personal information such as name, phone number, email and country. They can also create a username and password for their account. When you click next, it directs you to register as a professor - educational history page.



PLANET OF STUDENTS

Register as Professor
Register here as professor account now...

PERSONAL INFORMATION

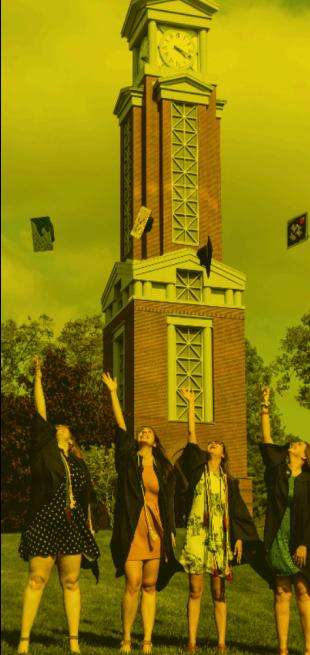
First Name akilanb	Last Name gv	
Phone Number 8796544567	Email akilan@gmail.com	Username ak
Password	Domestic Country INDIA	

NEXT →

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- **Professor Registration Page - Educational History**

Professor has to enter their educational history which includes their previous university name, department, specialization and researches done. When you click next, it directs you to other information page.



PLANET OF STUDENTS

Register as Professor

Register here as professor account now...

EDUCATIONAL HISTORY

University	Department
University of Delhi	IT

Specialization	Research Lab
Technical Communication/Science Writing	data mining, intelligent tools for engineering

Start Date of Course	
2022-04-06	<input type="button" value=""/>

BACK **NEXT →**

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- Professor Registration page - Other information



OTHER INFORMATION

Home Page Link	<input type="text" value="http://akilanj.com"/>
Accepting International Students	<input checked="" type="checkbox"/> Yes
Preferred Country	<input type="text" value="USA"/>
Degree Offered	<input type="text" value="Master by Research"/>
Minimum Qualification Required	<input type="text" value="Bachelor"/>
Latest Research Description	<input type="text" value="In rice crop yield prediction , there are many classification techniques are applied namely support vector machine, neural network and decision tree method. they give accuracy such as 87, 78 and 66 respectively. They also applied data preprocessing techniques before applying classification techniques on dataset. out pf this artificial neural netwok gives best accuracy."/>
Minimum GPA Required	<input type="text" value="8"/>
Scholarship Provided (limited scholarship)	<input checked="" type="radio"/> Yes <input type="radio"/> No

BACK **SIGN UP →**

2.4 CLASS DIAGRAM:

Below is a class diagram for an interactive website for students and professors, which represents software architecture.

We used UML class diagrams to do basic modeling. UML class diagram is used in our design. There are many benefits of UML class diagrams. It is used to express specific requirements of a system. Additionally, it explains data models for systems. There are classes namely PlanetofStudent, User, Education, StudentProfile and ProfessorProfile and Education. Each class has its own variables and methods. PlanetofStudent class has username and password variables of string type. Methods for this class are Login(), Register() and Logout(). User class has variables namely first_name, last_name, password, email, phone_number and id. view() and update() are methods of User class. Education contains attributes namely country_of_education, university, department, specialization, degree_level, research_lab, course_start_date, completion_date, gpa, id and user_id. View() and update are two methods for Education class.

ProfessorProfile is another class. Degree_offered, scholarship provided, minimum_qualification_required, latest_research_description, minimum_gpa_required, accepting_international_student, home_page_link, preferred_country, user_id and id are attributes of ProfessorProfile class. One more class studentProfile is also there in uml class diagram. It has attributes namely recent_research, research_abstract, scholarship_needed, id and user_id. view(), update() and searchprofessor() are three methods in this class. + symbol before attribute name and method name indicates that it is publicly accessible. - symbol depicts that method or attribute is a private modifier. ProfessorProfile and studentProfile are inherited from User class.

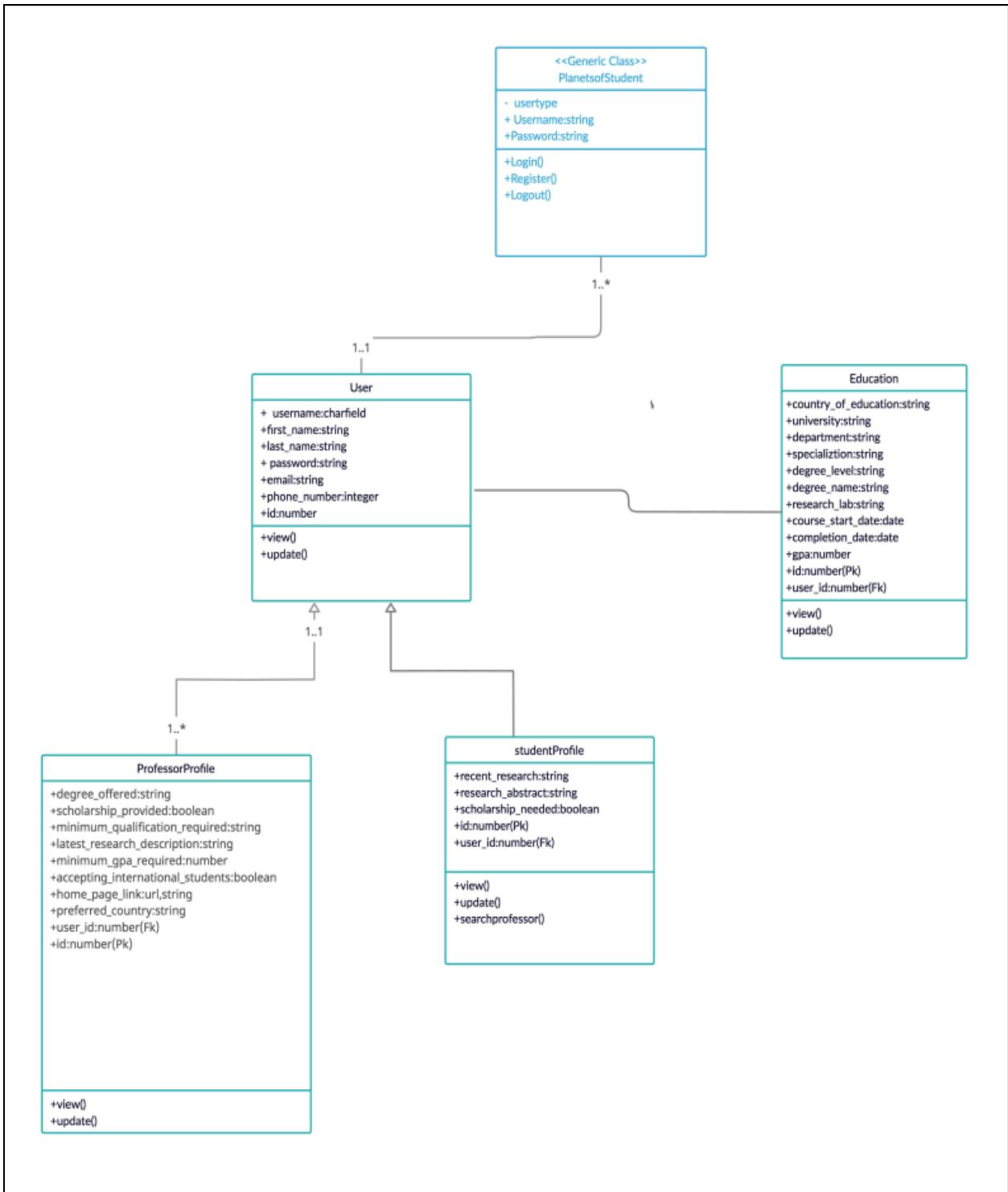


Figure : UML Class Diagram

2.5 USE CASE DIAGRAM:

Use case diagram is also a UML diagram which depicts a data model for software development. Users and use cases are there in this diagram. It describes the scope of software development systems. Register, login, view profile, view education history, view multiple education history, add multiple education history, search professor, view home page by clicking on link are the use cases of software development system.

Additionally, update profile, update education history, logout and view list of professors are also the use cases of our software development system. Students who are willing to do masters by research and Ph.D as well as professors are the users of our system. Relationship between them is also indicated in the figure shown below. One student can see multiple professors. Students can register, login, view profile, view education history. To add to this, students can also add multiple education history and search professor.

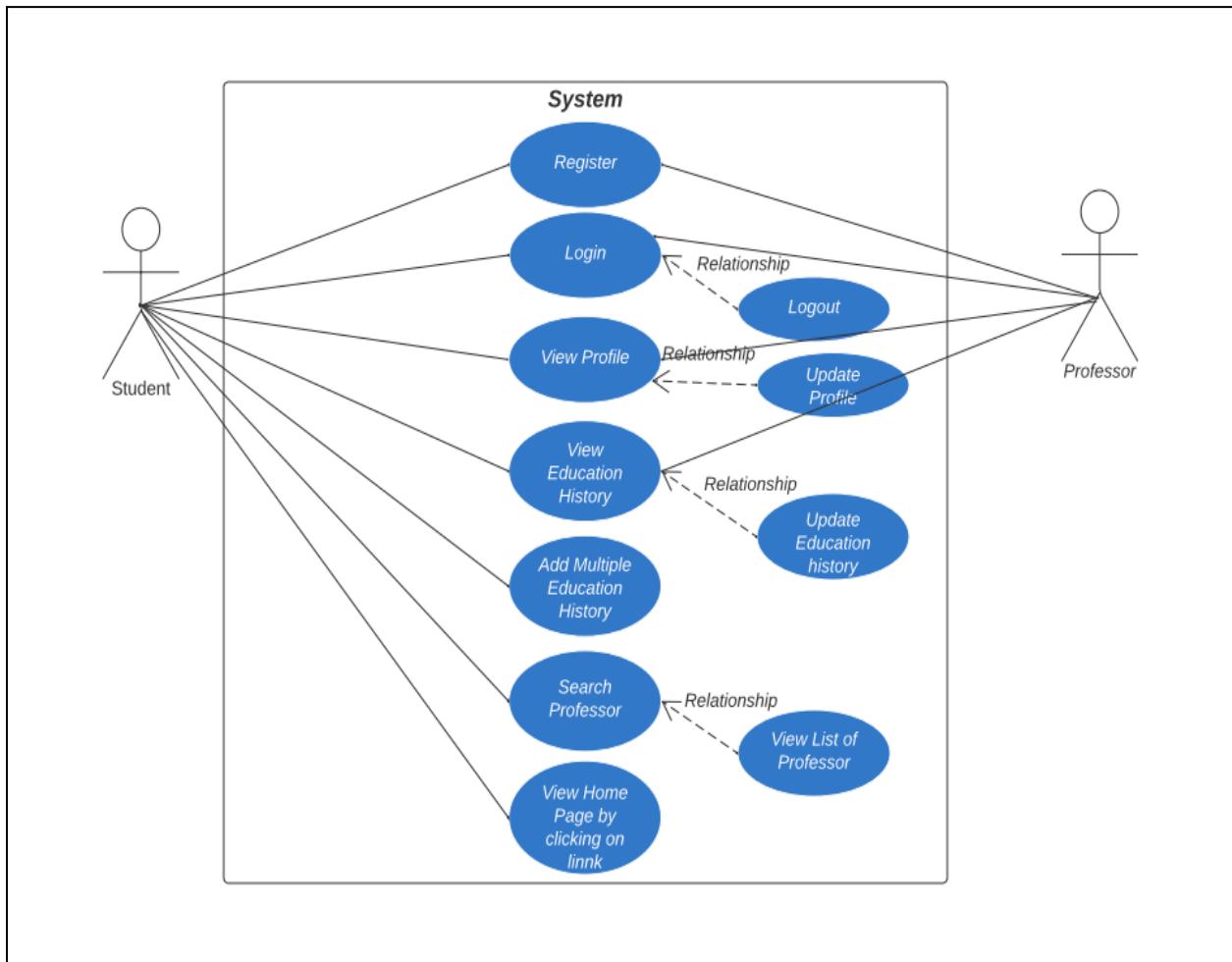


Figure : Use case diagram

3. DESIGN METHODOLOGY

3.1 TOOLS USED:

Customized agile software development excel template tool-

We used this tool for tracking our project. It allows us to create product backlog, sprint backlog. We create user stories and tasks for our project. We can also estimate user story points by using this. It automatically populated charts, namely burndown charts.

Zoom-

For doing daily stand-up meetings, we used a zoom application.

Whatsapp-

We used the Whatsapp application for daily communications. We discussed that what problems everyone faced,

Google Docs-

Google Docs is an online word processor. It creates, edits and maintains documents. We use this for creating project reports. Whatever we discuss in zoom meetings regarding user stories, story points estimation, tasks, and bugs/issues while testing, we write as notes in google docs. This application is developed by google. It supports android, macOS, windows, blackberry and chrome operating systems.

Lucid Chart-

Lucid Chart is a web-based platform that allows users to collaborate on revising, sharing and drawing diagrams and charts. We used Lucidchart to create architecture, class diagrams and activity diagrams for our project.

3.2 SPRINT PLANNING:

Sprint is a short, time-boxed period, when the scrum team works to finish a set amount of work. User stories and tasks are listed as below. Each user story contains several tasks.

Story title : Create design of various pages for a project.
Story : As a team, we should all know how our website look like
Tasks :
<ul style="list-style-type: none">➔ Design various pages of a website.➔ Decide user interface.

- Select the design by discussing with team members.

Story title : Conceptualisation. Exploring research student and professors key problem in recruitment

Story : As a team member, explore and collect research student and professor data.

Tasks :

- Discuss problems with group members faced this problem as end users
- What information students want about the professor.

Story title : Design login and onboarding user interface

Story : After registration, students and professors are able to login. So design a login page.

Tasks :

- Defining How convenient it has to be ?
- Do users prefer the third party login services and is it feasible for the project scope?
- Test login page and user interface.

Story title : Design form for students What information students want to share?

Story : Students are able to enter input details such as personal information, educational history and other information.

Tasks :

- Students should be able to enter their academic credentials.
- They should be able to write about their research work at an academic non-academic level. When do they want to start their education ? When does the course start?
- Be able to explore international education.
- Test the accuracy.

Story Title : Design form for professors. What information do professors want to share?

Story : Professors are able to enter input details such as personal information, educational data

and other information.

Tasks :

- Be able to enter their university , country and research lab , accepting international or not
- Be able to select if offering scholarship , be able to select level of education from master by research / PhD / PostDoc.
- Test the accuracy.

Story Title : Students will be able to search for a professor by matching criteria.

Story :

Tasks :

- Level of study , start date , country , department , scholarship offered , domestic or international
- Students should be able to search for a professor having similar interests.

Product Backlog : Product backlog contains all user stories of software development system. It is a master list. It has all user stories. In every iteration we have to select user stories from product backlog.

Sprint	Backlog Item ID	StoryPoints	Story	Assigned to	Status	Completed on	Start Date
1	1	4	Conceptualisation - Exploring research students and professors	Saket	Done	2/16/2022	2/16/2022
1	2	3	Discuss problems with group members faced this problem as they	Akanksha	Done	2/18/2022	2/18/2022
1	3	10	Information required by professor from students	Kolin	Done	2/20/2022	2/20/2022
1	4	10	Information required by student from professors	Sharmin	Done	2/23/2022	2/23/2022
1	5	10	Design login and onboarding UI	Rayhan	Done	2/25/2022	2/25/2022
1	7	3	Testing login page	Kolin	Done	2/28/2022	2/28/2022
2	8	6	design form for students what information students want to share	kolin	Done	3/2/2022	3/2/2022
2	9	3	They should be able to enter their academic credential	saket	Done	3/4/2022	3/4/2022
2	10	5	create student registration page	akanksha	Done	3/4/2022	3/4/2022
2	11	3	they should be able to write about research work at academic	sharmin	Done	3/6/2022	3/6/2022
2	12	8	be available to find scholarship	rayhan	Done	3/10/2022	3/10/2022
2	13	8	be able to explore international education	kolin	Done	3/10/2022	3/10/2022
2	14	6	testing accuracy	saket	Done	3/12/2022	3/12/2022
2	15	8	what information professors want to share	sharmin	Done	3/14/2022	3/14/2022
2	16	3	be able to select if offering scholarship, be able to select level	saket	Done	3/16/2022	3/16/2022
3	17	4	able to enter their university, country and research lab	kolin	Done	3/18/2022	3/18/2022
3	18	8	test whether all fields are working properly or not for professor	rayhan	Done	3/21/2022	3/21/2022
3	19	3	students will be able to search based on level of study, start	saket	Done	3/22/2022	3/22/2022
3	20	8	astudent should be able to look for student with having similar	akanksha	Done	3/27/2022	3/27/2022

Figure

3.3 SPRINT BACKLOG:

SPRINT 1-

Objective: To collect research student and professor data.

Backlogs:

- Conceptualisation i.e exploring Research student and Professors key problem in recruitment.
- Discuss problems with group members faced with this problem as end users.
- Gathering Information required by professors from students.
- Gathering Information required by students from professors.
- Design login and onboarding UI(user interface).
- Testing login page.
- Organize daily scrum/standup meetings.

Deliverables:

- Defined stakeholders like universities, students, research labs, professors.
- Tested Login page
- Professor, students registration form based on required details.

Status:

Name	Task Assigned	Status
Saket Deshmukh	Explore research students and professors for entering details in website,	DONE
Kolinben Sukhadia	Explore research students and professors. Collect information required from students while doing registration. It includes their personal information, educational history and other information	DONE DONE
Akanksha Sadvelkar	Discuss problems with group members faced as an end user.	DONE
Sharmin Islam Mou	Collect Information required from professors. It includes personal information, Educational history and other information.	DONE
Md Rayhan Sobhan	Design login and onboarding User Interface.	DONE

SPRINT 2:

Objective: Collecting information that the professor and student wants to share. Moreover, start creating registration pages for students and testing it for accuracy.

Backlog:

- Design form for students What information students want to share?
- They should be able to write about their research work at an academic as well as non-academic level. When do they want to start their education ?
- They should be able to enter their academic credentials.
- Create a student registration page.
- Will students be able to find scholarships?
- What information does the professor want to share?
- Be able to select if a scholarship is offered by a professor or not and be able to select the level of education from three options such as Masters by research/ PhD/PostDoc.
- Testing for accuracy.
- Students should be able to explore international education.

Deliverables:

- Registration form for students as shown during the live demonstration.
- Registration form for professors as shown during live demonstration.
- Requirement gathering for selection criteria for selection of best match.
- Sprint review meeting.

Status:

Name	Task Assigned	Status
Saket Deshmukh	<p>Students should be able to enter their academic credentials.</p> <p>Be able to select if a scholarship is offered by a professor or not and be able to select the level of education from three options such as Masters by research/ PhD/PostDoc[DONE].</p>	DONE DONE
Kolinben Sukhadia	Design form for students what information students want to share.	DONE

	Students would be able to enter international education.	DONE
Akanksha Sadvelkar	Create student registration page	DONE
Sharmin Islam Mou	Students should be able to write their research work at academic, non-academic level. They can also write when they want to start education.	DONE
	Testing student registration page for accuracy	DONE
Md Rayhan Sobhan	Will students be able to find scholarships? Collecting data about what information professors want to share.	DONE DONE

SPRINT 3:

Objective: Creating individual search pages for both professors and students.

Backlog:

- Create a professor registration page.
- Students will be able to search professors based on following information such as level of study, start date and country.
- Students will be able to search professors based on information such as scholarships offered.
- For the professor registration page, test whether all fields are working properly or not.
- Test accuracy for the professor registration page.

Deliverables:

- Testing accuracy of website.
- Testing accuracy for the professor registration page.
- Testing whether matching functionality works properly or not.

Status:

Name	Tasks Assigned	Status
Saket Deshmukh	Test whether all fields are working properly or not for professor registration page	DONE

Kolinben Sukhadia	Student will be able to match professor based on various input fields	DONE
Akanksha Sadvelkar	Students will be able to search professors based on information such as scholarships offered.	DONE
	Test accuracy for the professor registration page	DONE
Sharmin Lslam Mou	Testing whether matching functionality works properly or not	DONE
Md Rayhan Sobhan	Students will be able to search professors based on following information such as level of study, start date and country.	DONE

3.4 SPRINT CHARTS:

Sprint 1-

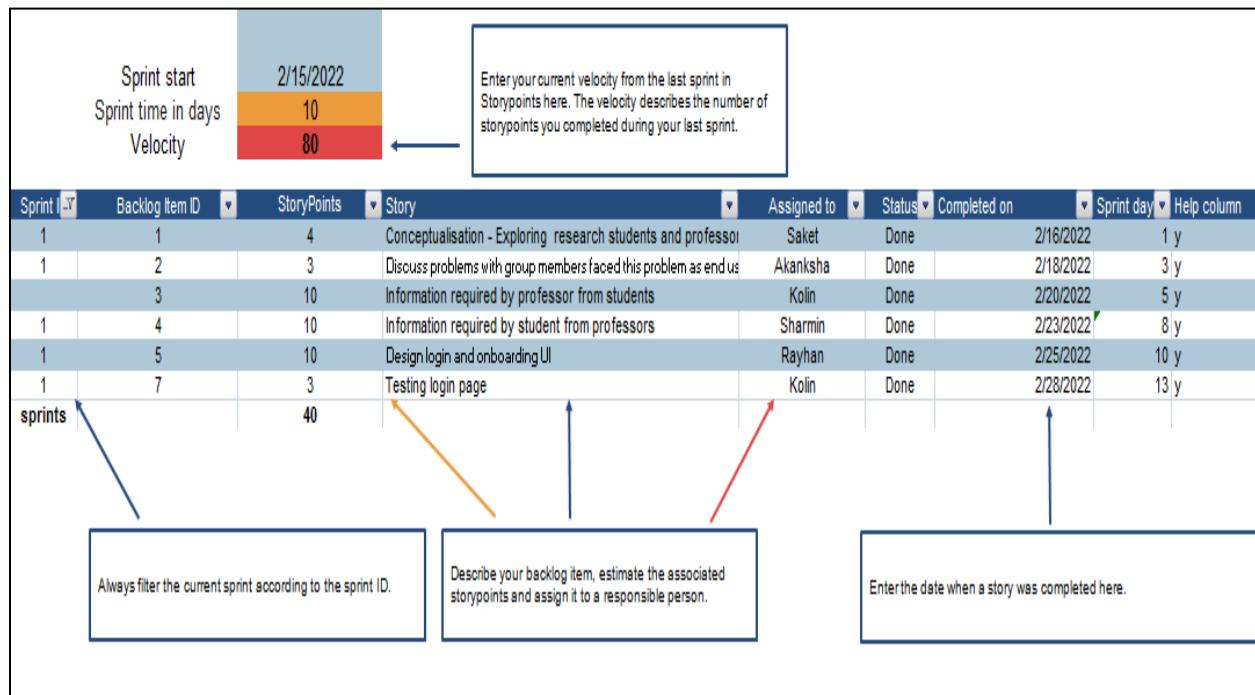


Figure: Sprint 1 backlog chart

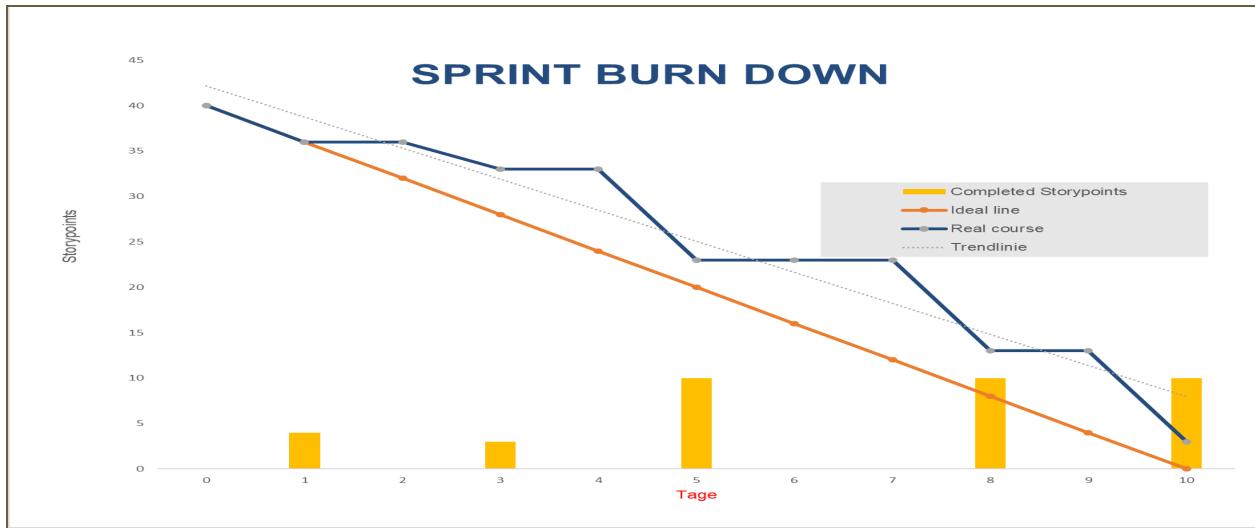


Figure: Sprint 1 burndown chart

Sprint 2-

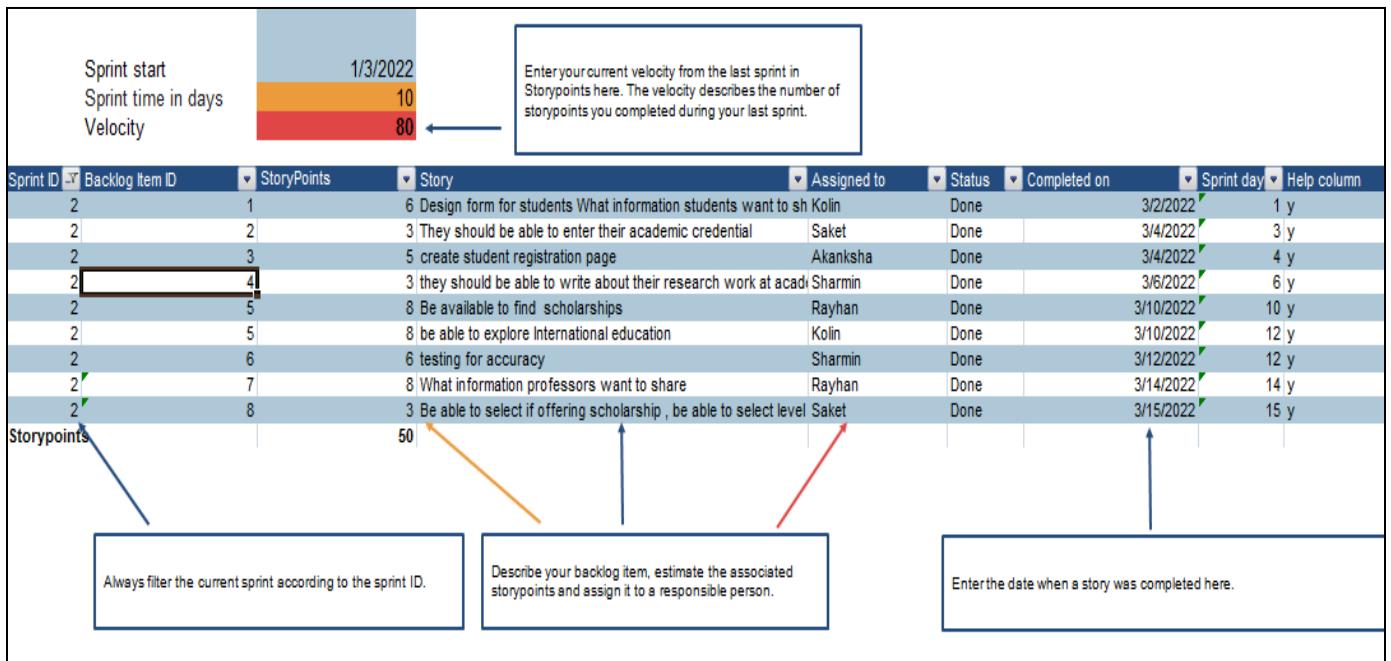


Figure: Sprint 2 backlog chart

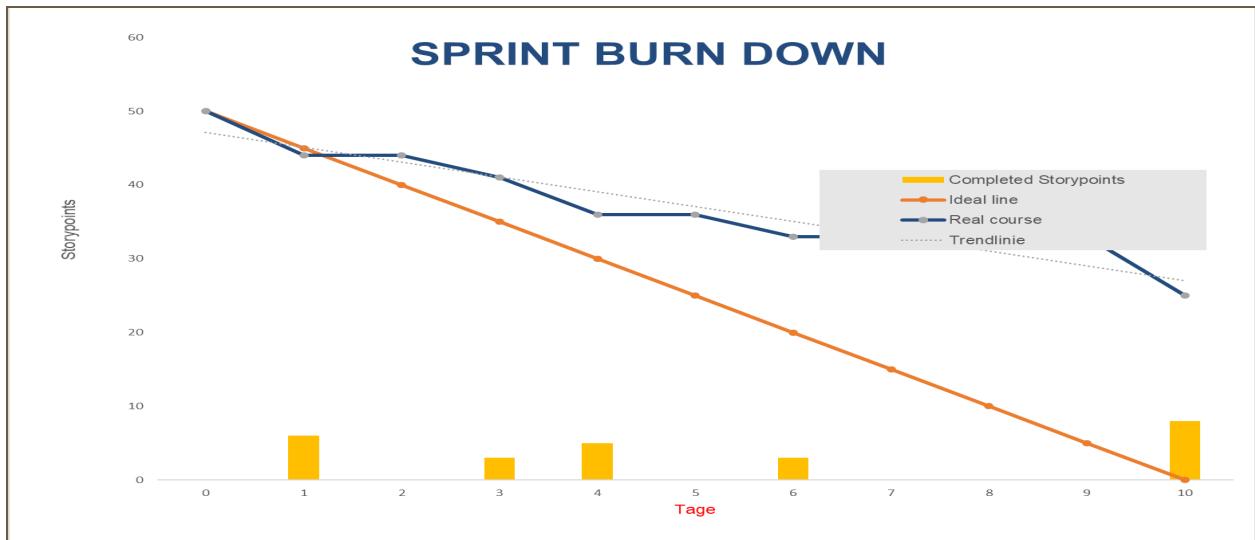


Figure: Sprint 1 burndown chart

Sprint 3-

Sprint start	3/15/2022	Enter your current velocity from the last sprint in Storypoints here. The velocity describes the number of storypoints you completed during your last sprint.						
Sprint time in days	10							
Velocity	80							
<hr/>								
Sprint ID	Backlog Item ID	StoryPoints	Story	Assigned to	Status	Completed on	Sprint day	Help col
3	1	4	able to enter their university , country and research lab , acc	Sharmin	Done	3/16/2022	1 y	
3	2	8	test whether all fields are working properly or not professo	Saket	Done	3/18/2022	3 y	
3	3	3	students and will be able to search based on following infor	Rayhan	Done	3/20/2022	5 y	
3	4	8	student will be able to search based on Level of study , start Kolin		Done	3/21/2022	6 y	
3	5	13	student will be able to search based on scholarship offered , Akanksha		Done	3/24/2022	9 y	
3	6	5	student should be able to search professor having simila	Sharmin	Done	3/25/2022	10 y	
3	7	8	professor should be able to look for student with having s	Kolin	Done	3/26/2022	11 y	
3	8	13	test accuracy for professor registration page	Akanksha	Done	3/27/2022	12 y	
Storypoints			62					
Always filter the current sprint according to the sprint ID.				Describe your backlog item, estimate the associated storypoints and assign it to a responsible person.			Enter the date when a story was completed here.	

Figure: Sprint 3 backlog chart

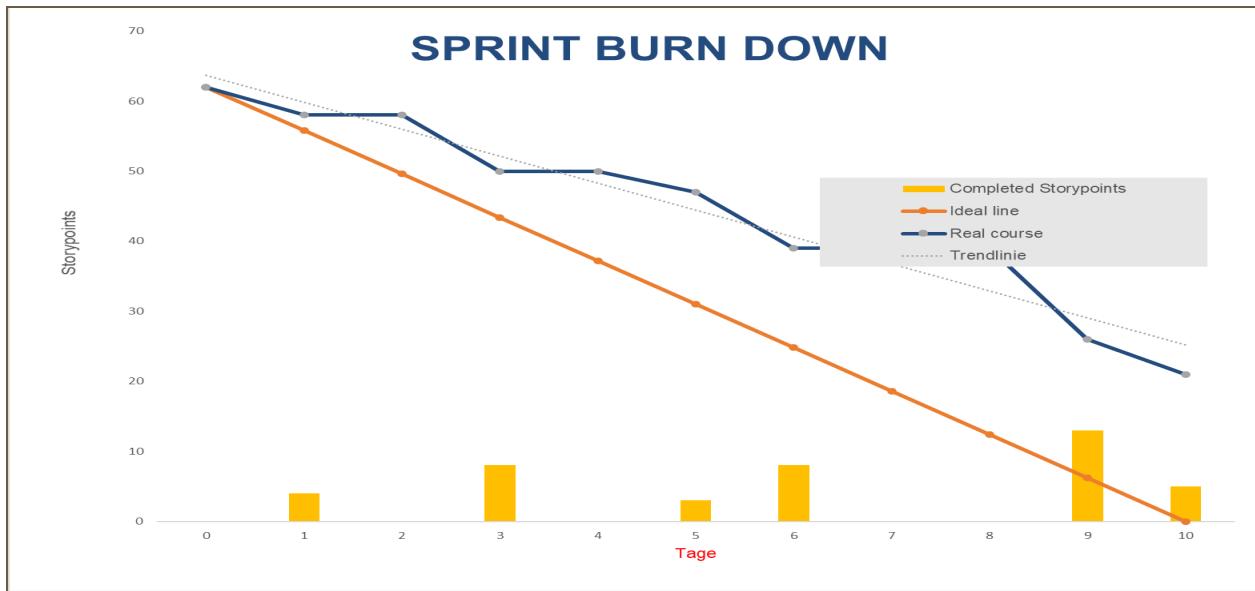


Figure: Sprint 3 burndown chart

4. PRODUCT MANAGEMENT

4.1 PRODUCT BACKLOG:

4.2 PROJECT ORGANIZATION CHART:

Saket Deshmukh -

- Roles: Scrum Master, Data Model, Machine Learning
- Suggested the tasks added in sprints.
- Designed data models and also implemented natural language processing algorithms for matching purposes.

Kolinben Sukhadia -

- Roles: Product Owner, Front-end Developer
- Responsible for designing various pages such as student registration page, student search page, professor registration page and professor search page.
- As a product owner, she was responsible for maintaining the product backlog.
- Being a front-end developer, she ensured the proper functioning of all front-end pages.

Akanksha Sadvelkar -

- Roles: Back-end Developer
- Responsible for writing code for the application.
- Maintained database connection.
- Responsible for fetching and storing data in the database.

Sharmin Islam Mou -

- Roles: Quality Analyst/Tester
- Ensured whether the website is functioning smoothly by using test cases.

Md Rayhan Sobhan -

- Roles: Business Analyst
- Responsible for requirement gathering.

4. RESULTS AND DISCUSSION

This website can help students for their further studies by matching them with professors who share the same interest from different universities as well as countries. Students can see multiple professor lists after login successfully. Matching professors depends on many factors such as research interest area, preferred destination country, scholarship available or not, international student accepted or not and research abstract field. After that, we implemented advanced natural language processing techniques to find similarities between professor and student research work. This methodology also finds similarity between student and professor based on many other parameters such as preferred study destination, scholarship offered by professor or not, and start date of course. For these reasons, this website is very convenient for students who want to do their masters or Phd from universities worldwide. It provides the best result of professor matching based on student's research abstract and student research interest area. While developing this website, we implemented agile scrum methodology. Initially, we created user stories related to our software system. Then created small tasks under each user story, prioritize user story and estimate story points. Then, we prepared designs for website pages such as student registration page, professor registration page, student search page, professor search page, main home page for login. After that we developed a code and tested it. Finally, the last stage is deployment. This process is continued till a number of decided sprints which in our case was three. We did daily standup meetings, retrospective meetings and sprint planning in every sprint.

5. CONCLUSION

We developed an interactive website for matching the interests of students and professors. We followed the agile manifesto while developing this website. There are many agile methodologies such as extreme programming, kanban and scrum. Among these, we used agile scrum methodology while developing the website. It focuses on individuals and interactions over process and tools. Initially, multiple user stories are created. Small tasks are created for each user story. In scrum, there is iteration planning. Then, in the next stage, implementation of the iteration is done. At the last stage, there is delivery of the iteration result. We faced difficulties while setting up a common virtual environment. Moreover, scheduling meetings is the most challenging part as we all are full time students and doing part time jobs. Even though there is a lot of difficulty while developing a website by following agile scrum methodology, we finish our project by team members support.