Project Report

MediaTech and Workspace

A project report dedicated to the courses
Database Management Systems
and
Software Engineering
Submitted by Team 9

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Spring Semester 2021

Contents

Index	Topics	Page No
1	Project Scope	3
2	Technology used	4
3	Functional Flowchart	6
4	Functional Specifications	7
5	Work Flow	19
6	Conclusion	22

Project Scope

Purpose and Background:

The purpose of the website is to create an interactive workspace for the mentors and a user-friendly experience for the students to get insights into a particular topic. So, the website is very useful for the students and mentors of the same college because apart from the college hours both of them will be able to interact with each other through the site.

There are lots of websites of this type that are available in the market but, this site has many other features such as it helps to interact the students with the mentors of their college. A mentor could be either a senior or a college professor. There are lots of websites of this type that are available in the market but, this site has many other features such as it helps to interact the students with the mentors of their college. A mentor could be either a senior or a college professor.

Objectives:

The main objective of the project is to give students a free interactive platform to learn and interact with the mentors. Also, the mentors get a workspace on the website where they can upload their subject-related content like videos, ppts, and notes.

Approach:

The approach of the website is to register more experienced and authentic mentors who can interact with the students and share their knowledge and to get more students who will take the benefit of it.

Technology Used

Front-End	HTML, CSS, JS
Front-End Framework	Bootstrap
Back-End	Node.js, Django
Back-End Framework	Express
Modules	Passport, Nodemon
Database	MongoDB
Tools Used	Git, formspree
Deployment	Heroku, PythonAnywhere
IDE & Editor	Atom, VS Code

Why should we use above technologies and what are there uses in our Project?

1.Bootstrap:

i. Saves time and is easy to use
ii. Great grid system
iii. Compatibility
iv. Open-source

2.Node.js:

i. As we are using stacks called as MERN stack (MongoDB, Express), so it will be correct choice to use Node.js.
ii. It makes easier to have the same language (JavaScript) across our whole stack.
iii. Node.js is much faster than PHP when it comes to execution.
iv. It is better option over python as we are creating website application.

3. Modules:

A. Passport:

i. It is authentication middleware for Node.js as it's extremely flexible and modular.

ii. It can be unobtrusively dropped into any Expressed based web application

iii. A comprehensive set of strategies supports authentication using a username and password for Google, Facebook, Instagram, and more.

B. Nodemon:

i. It is a tool that helps to develop node.js based applications by automatically restarting the node application when file changes in the directory are detected.

ii. It does not require any additional changes to your code or method of development.

4.UI and UX:

i. The UI and UX Design of the application improves the user experience and customer satisfaction that ultimately helps increase the number of users of the specific application.

ii. It handles a variety of tasks focused around the optimization of a product for effective and pleasurable use.

5.MongoDB:

i. It is a schema-less database. No schema migrations anymore. Since it is schema-free, our code defines our schema.

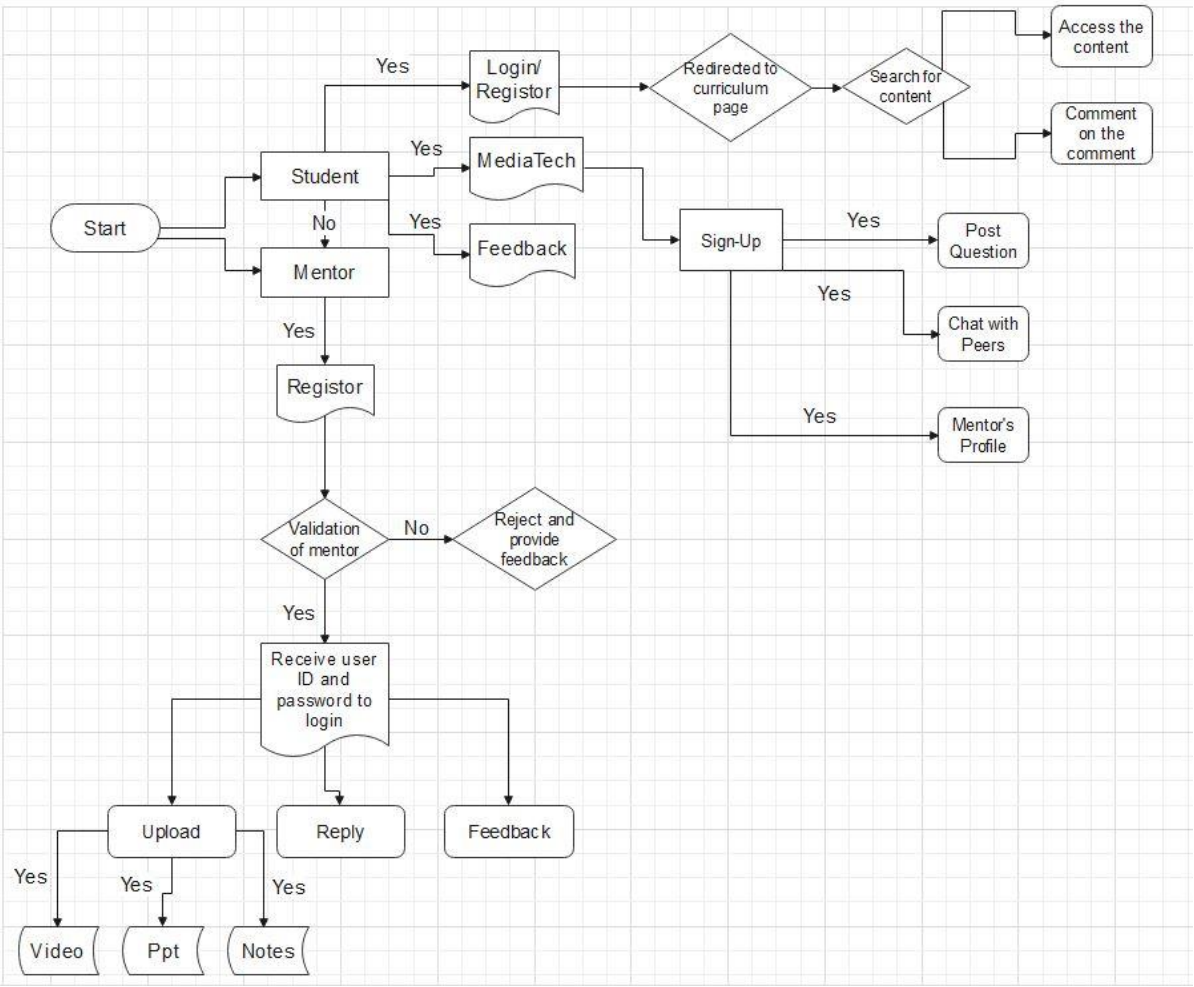
ii. It has ability to derive a document-based data model. Because, the way it stores the data in the form of BSON (Binary JSON), ruby hashes etc, helps to store the data in a very rich way while being capable of holding arrays and other documents.

iii. When we sign up via google or any other platform the data we will retrieve is in the form of text or images or numbers so for it we have to use non-relational database as the data coming is in unstructured form

6.Django:

Django is a high-level Python Web framework that encourages rapid development and clean, pragmatic design. Built by experienced developers, it takes care of much of the hassle of Web development, so you can focus on writing your app without needing to reinvent the wheel. It's free and open source.

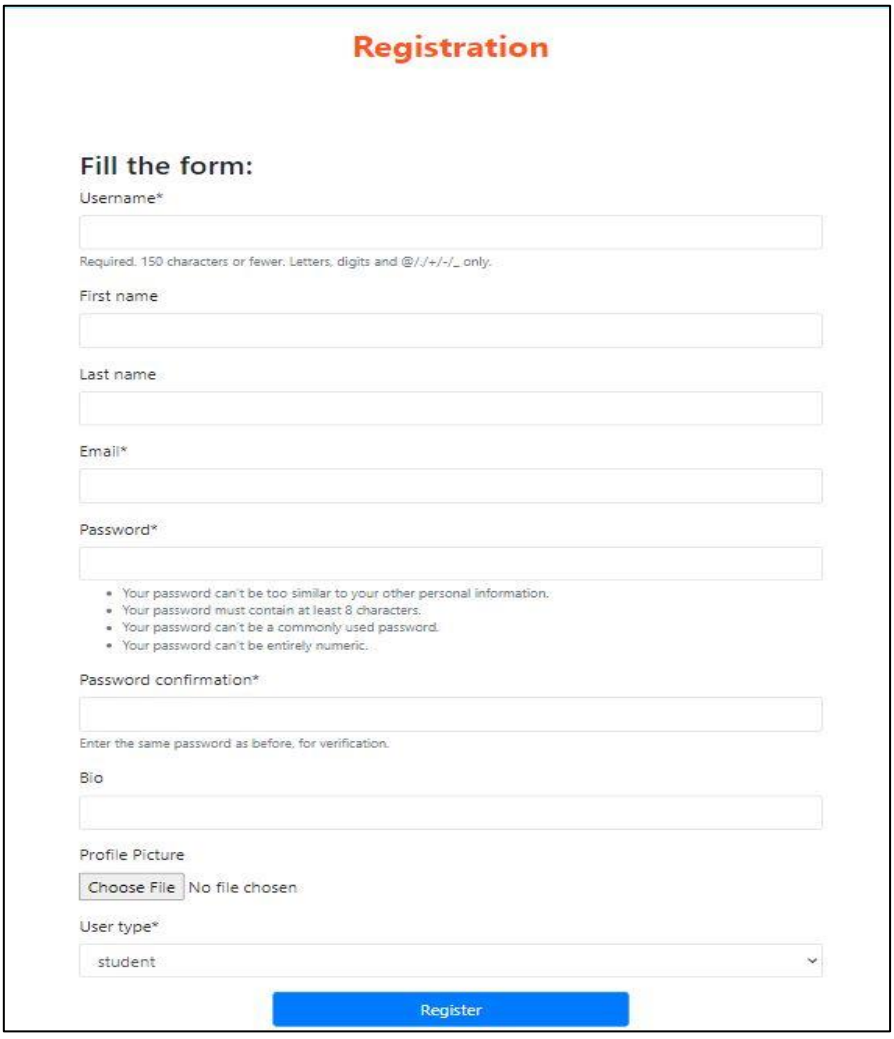
Functional Flowchart

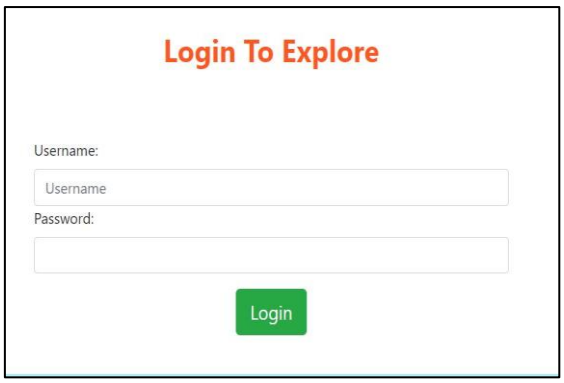


Functional Specifications

Student's POV

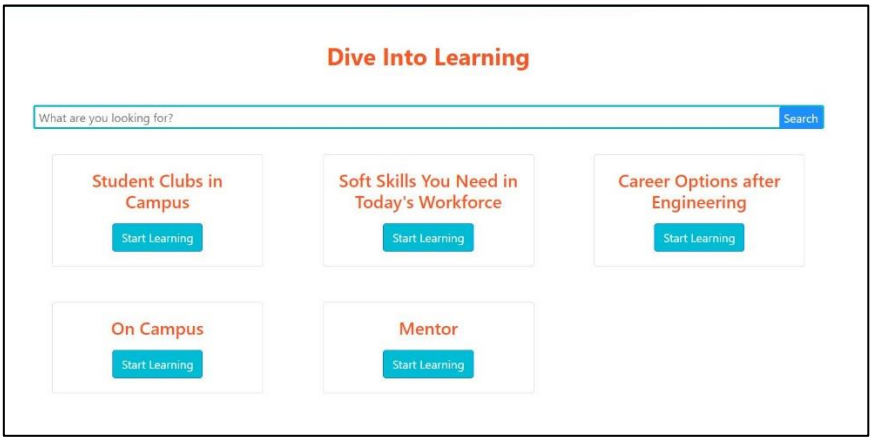
1)

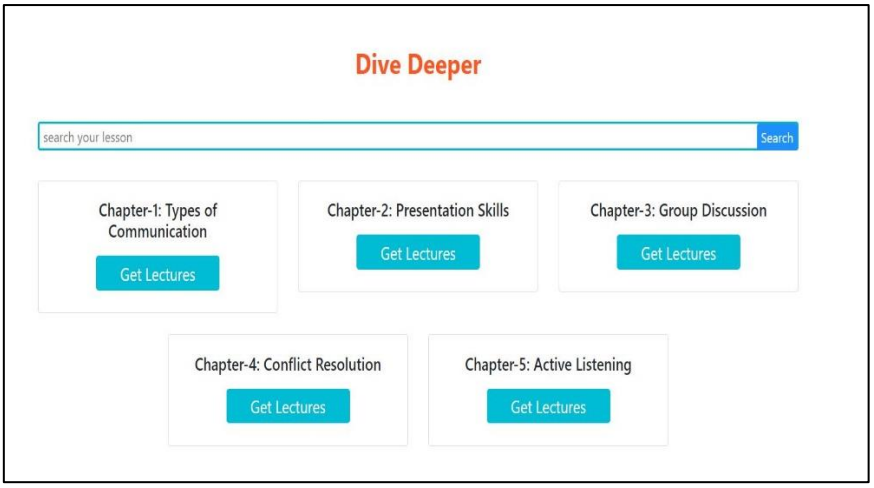




To access the material of the topics the student first needs to register on the web-site and then login. After the login is successful, they can access the any topics that they want.

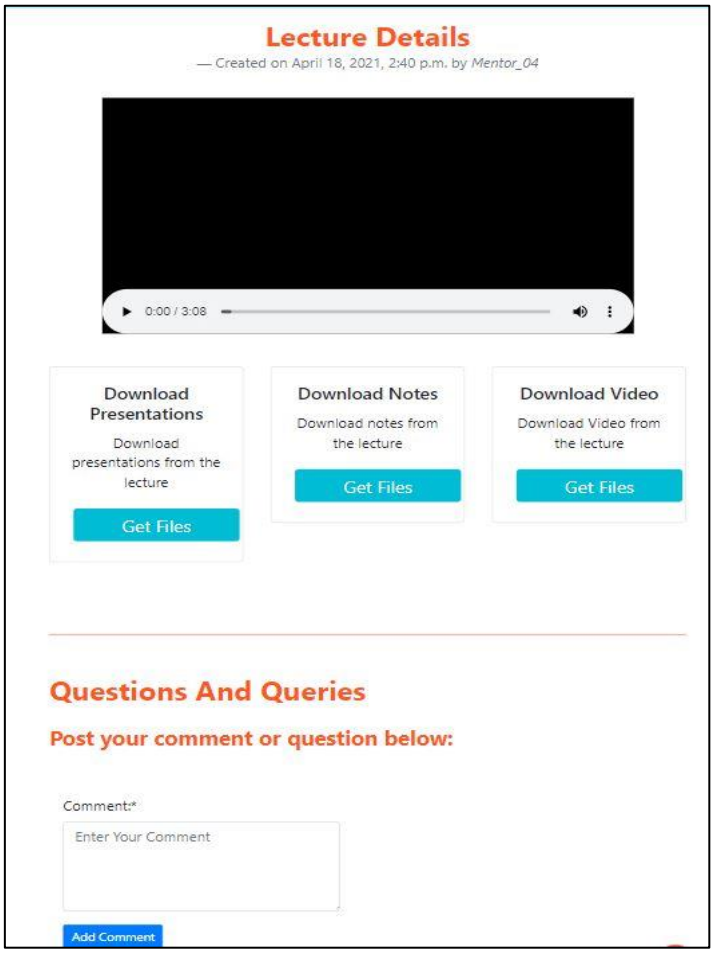
2)





Inside the curriculum section, students will get ‘frequently asked topics’. There they can choose any topic of their choice. Inside the topics section, there are many lectures available that were uploaded by the mentors.

3)



If students click on any lecture, they will get forwarded to the above page where they can get access to the lecture materials like videos, ppt's and notes which were uploaded by the mentor.

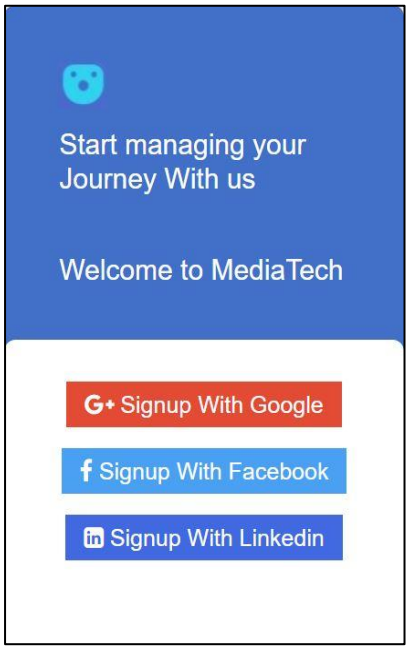
Below the lecture material, students can post any doubt which will be replied to by the mentor or any user of the site.

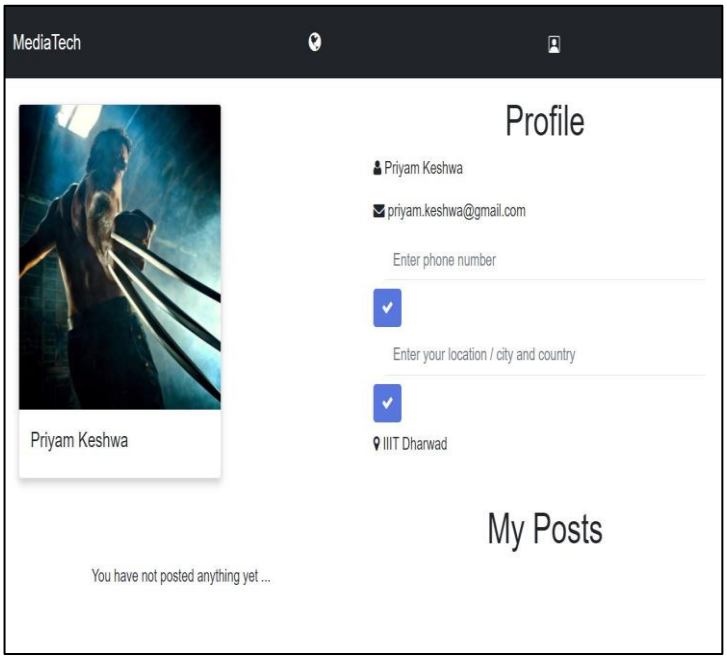
4)

If the user of the website wants to give any suggestion or feedback about the website, they can give it through the contact us option. The 'Team Octette' will receive the feedback and will work on it.

If the student wants to post any doubt or if they want to access any mentor's profile, then they can visit the MediaTech website.

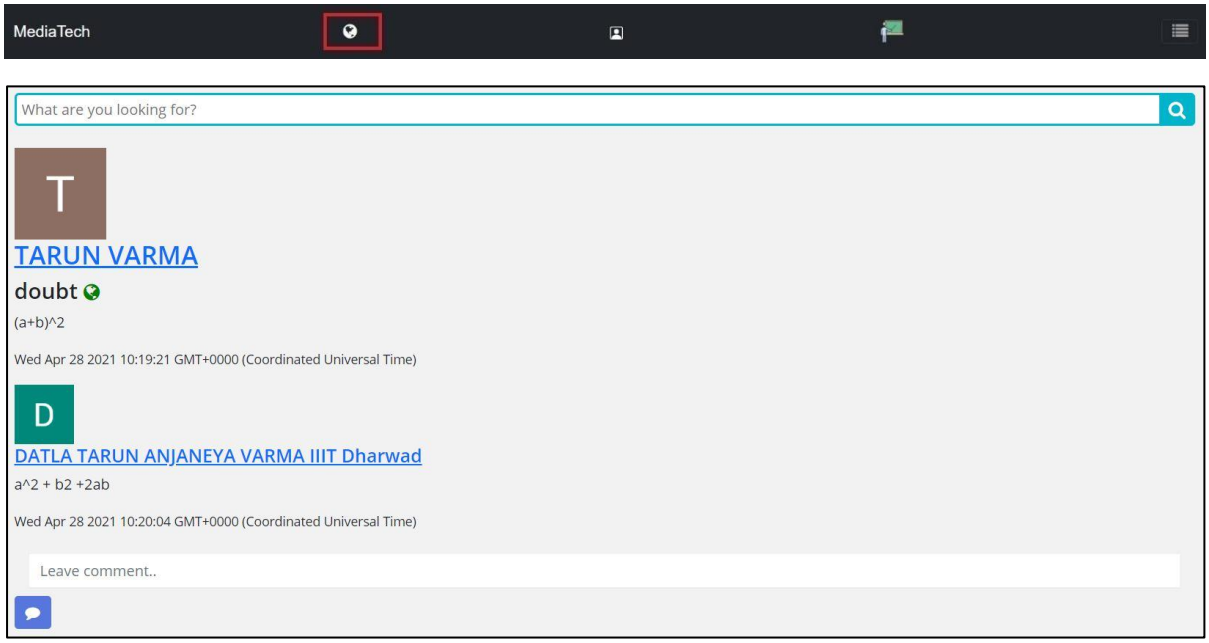
5)

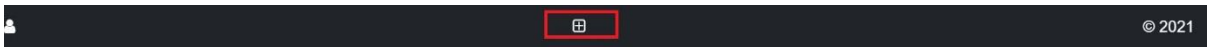


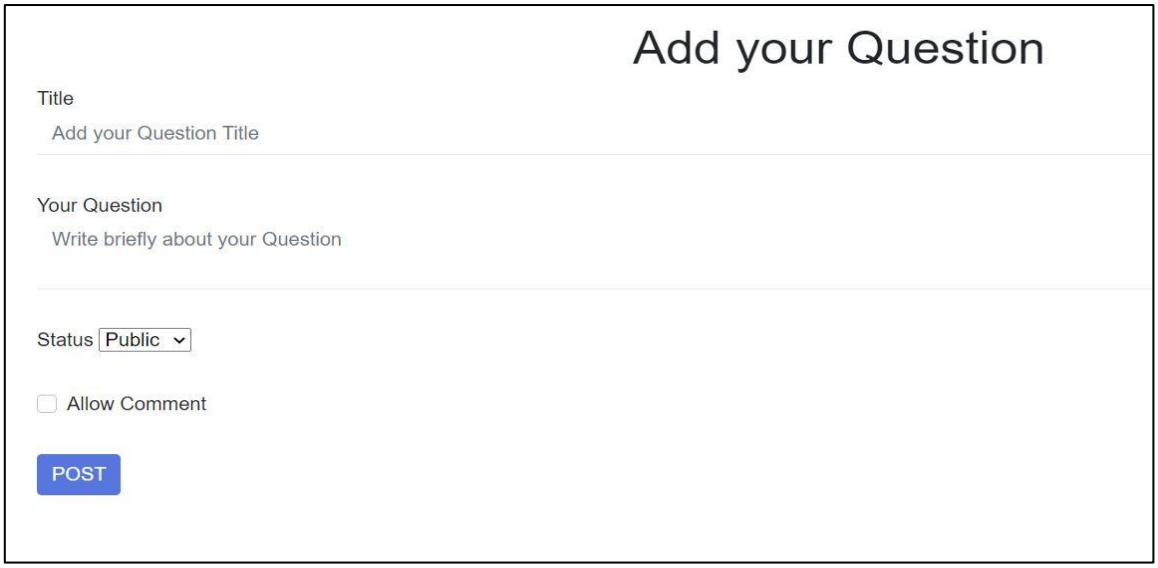


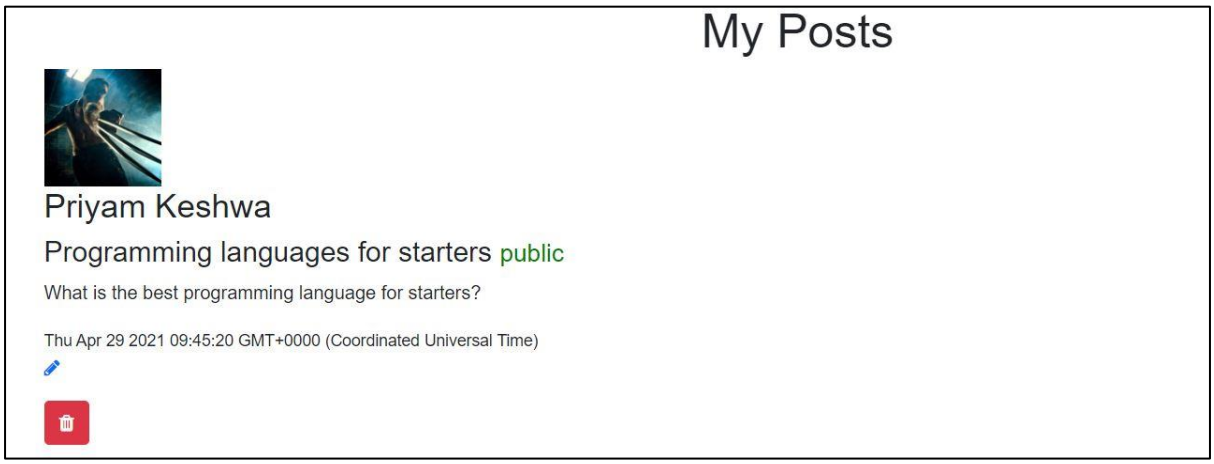
In MediaTech, the student first needs to sign-up with their respective accounts. After the sign-up, they will be re-directed to the profile page inside which their fetched data like profile image, name, and e-mail will be displayed.

6)


MediaTech
What are you looking for?
T
TARUN VARMA
doubt
(a+b)^2
Wed Apr 28 2021 10:19:21 GMT+0000 (Coordinated Universal Time)
D
DATLA TARUN ANJANEYA VARMA IIIT Dharwad
a^2 + b2 +2ab
Wed Apr 28 2021 10:20:04 GMT+0000 (Coordinated Universal Time)
Leave comment..


© 2021

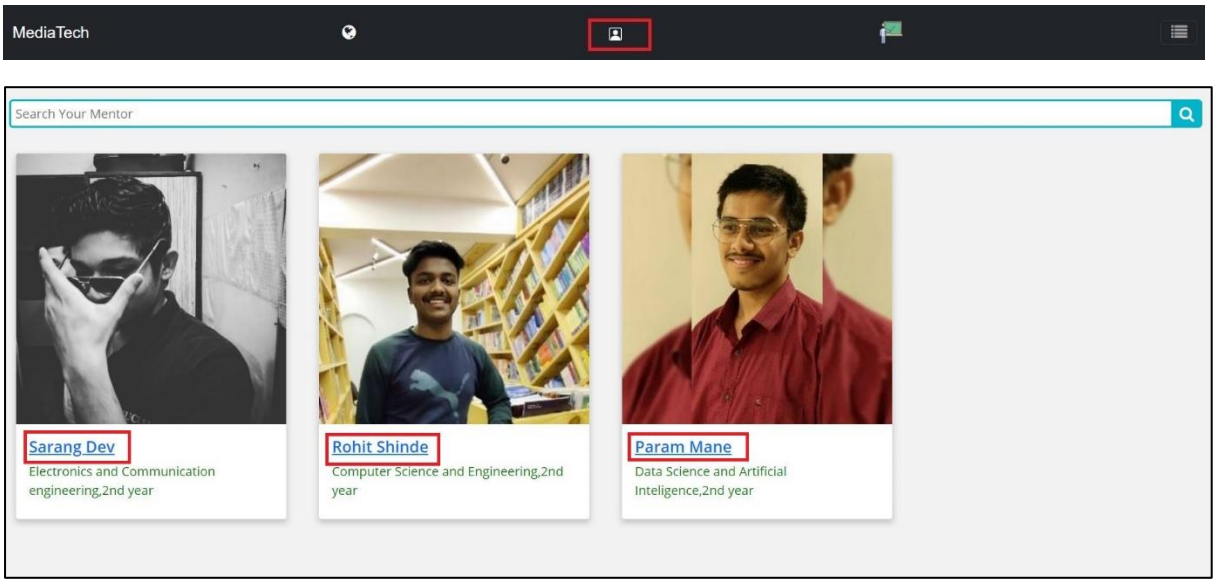

Add your Question
Title
Add your Question Title
Your Question
Write briefly about your Question
Status Public
Allow Comment
POST

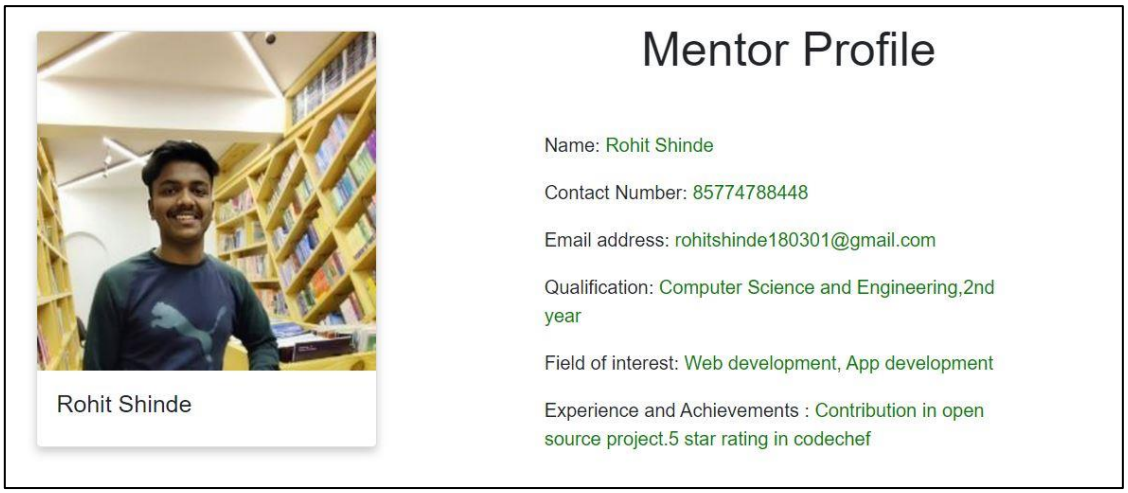

My Posts
Priyam Keshwa
Programming languages for starters public
What is the best programming language for starters?
Thu Apr 29 2021 09:45:20 GMT+0000 (Coordinated Universal Time)

Inside the ‘all posts’ button, the user will get to see the questions which were posted by other users. The user can reply to anybody’s post.

If the user wants to search for any query, he/she can search it in the search box. If the user didn’t find the relevant question then he/she can post the question by the button in the footer. If the user wants to edit his/her question, they can come to their profile page where at the bottom there is ‘my post’ section where they can edit/delete their post.

7)

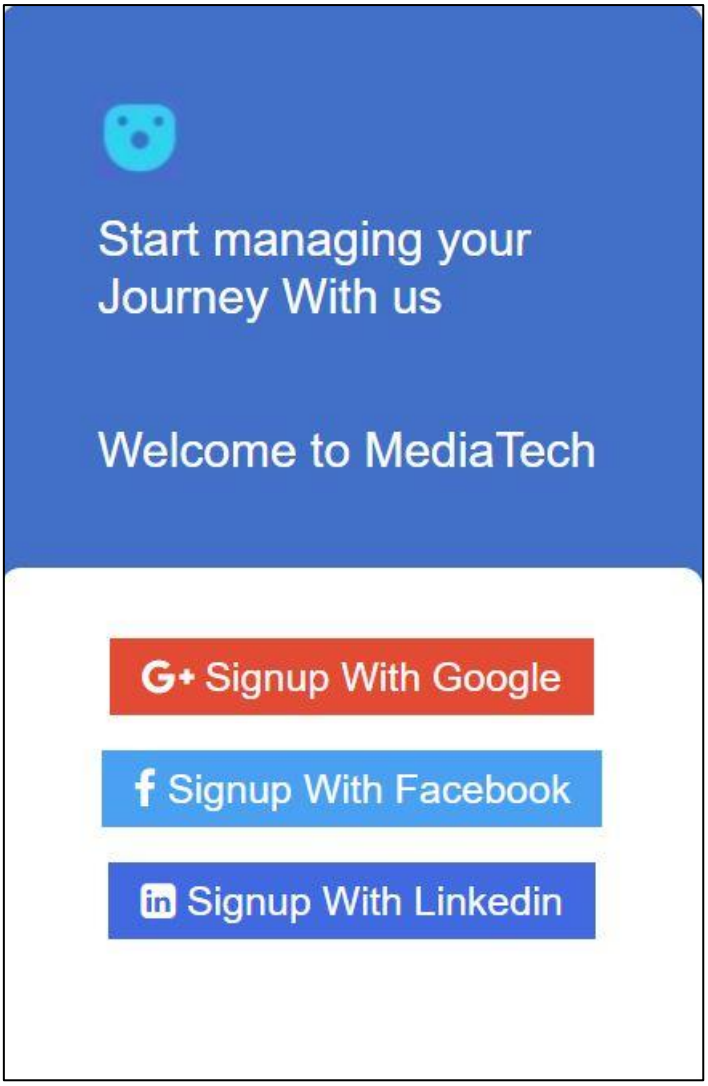


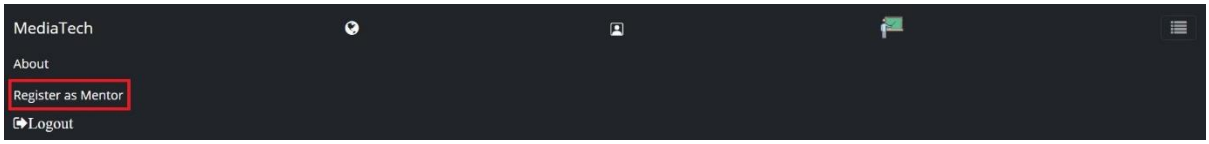


If the user wants to see the list of registered mentors then, they need to click on the ’mentors’ button. If the user wants to know about the particular mentor, then they need to click on the ’mentors name’ button where they can view the respective mentor’s profile.

Mentor's POV

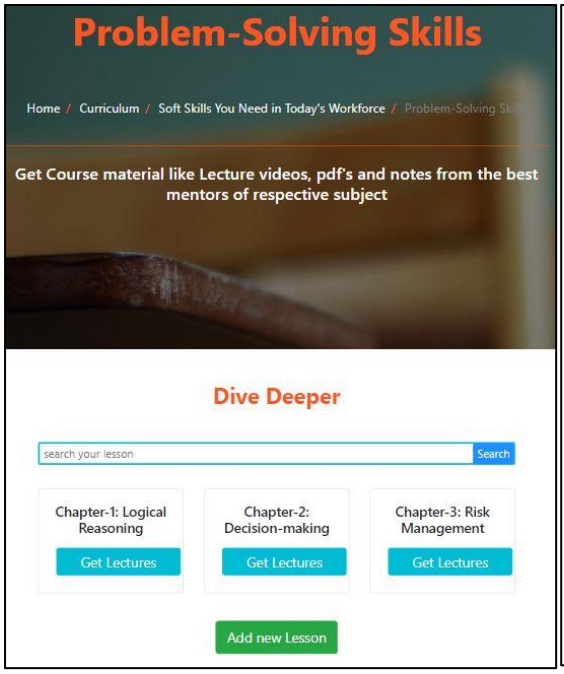
1)

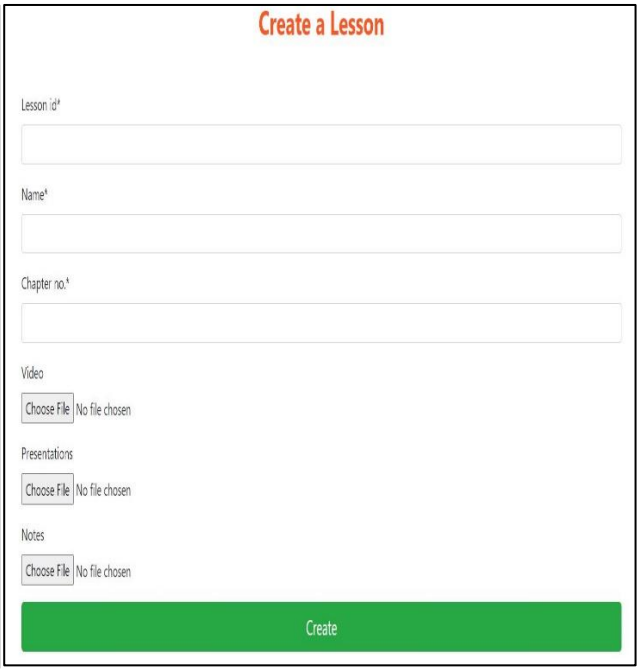




If any users want to enroll as a mentor, select the "Register as Mentor" option where they get redirected to a google form to fill in the required details. Once this gets completed user gets a reply from the admin who provides a user id and password to log in. Now mentor gains access to upload content according to his/her allocated expertise

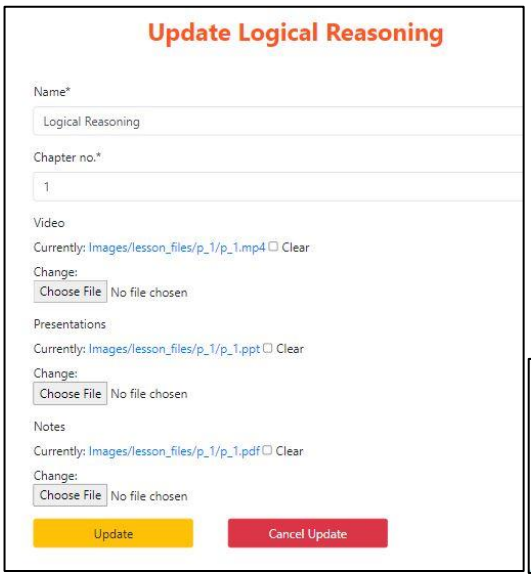
2)

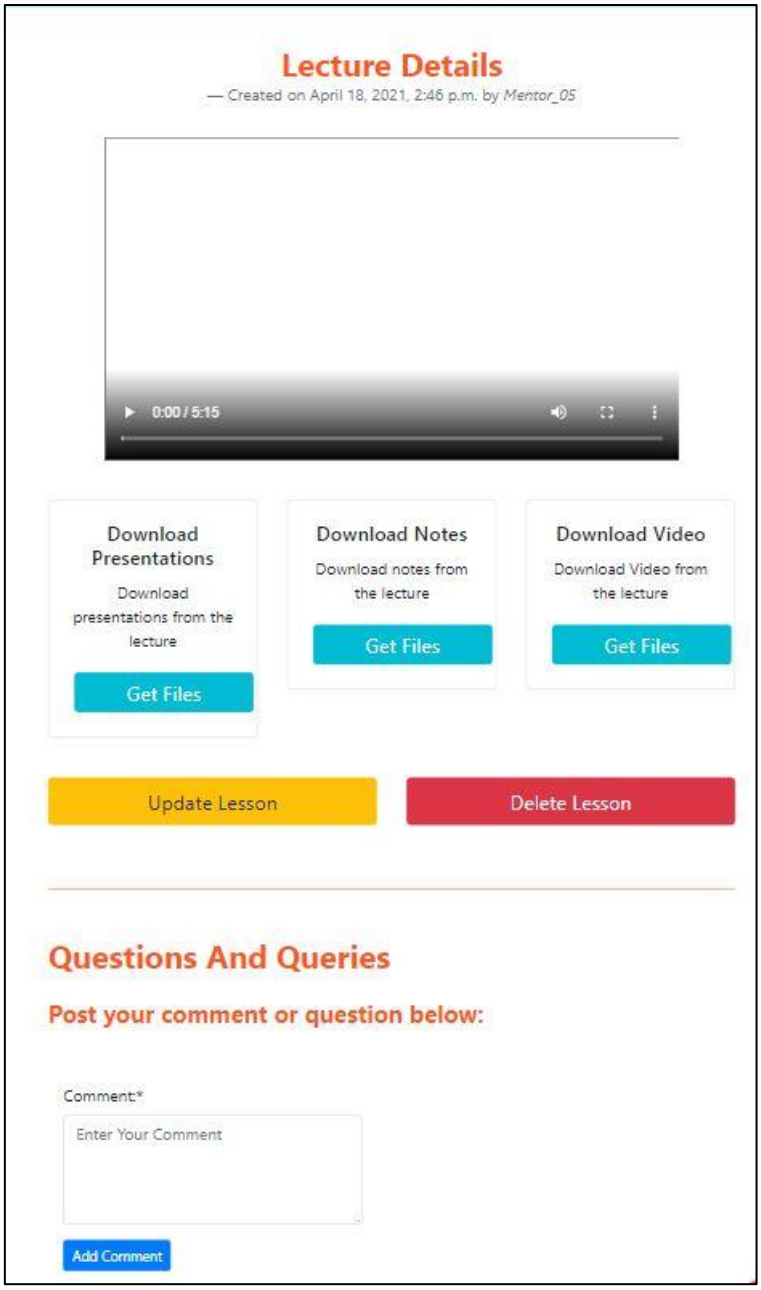




The respective mentor can add a new lesson to their allotted section. The mentor can't add lessons to the sections which are not allotted to them.
As soon as the mentor clicks on the 'Add new Lesson' button, they will be redirected to the page where they can upload the lecture material. After clicking on the 'Create' button, the users of the website will be able to access the material.

3)

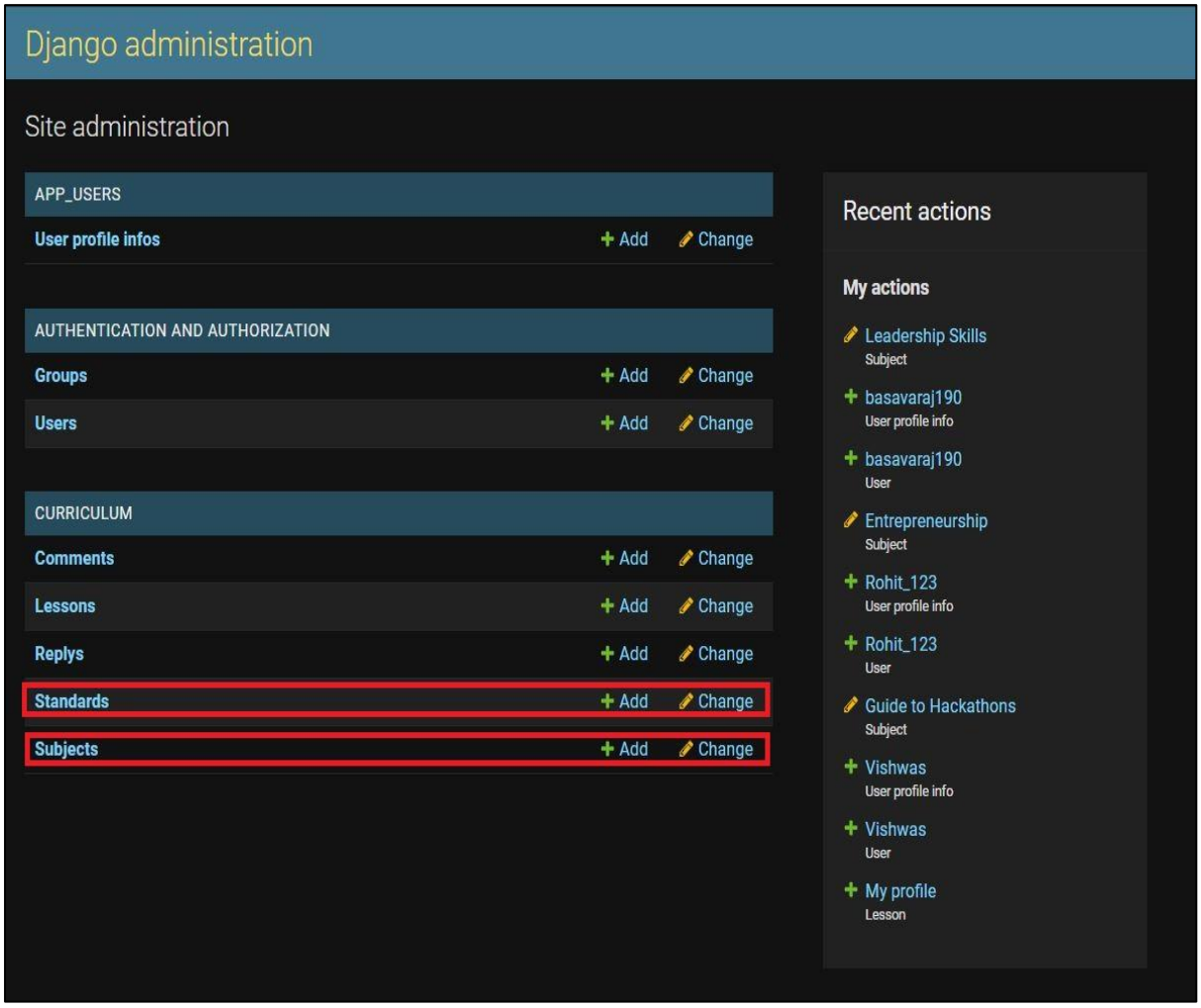


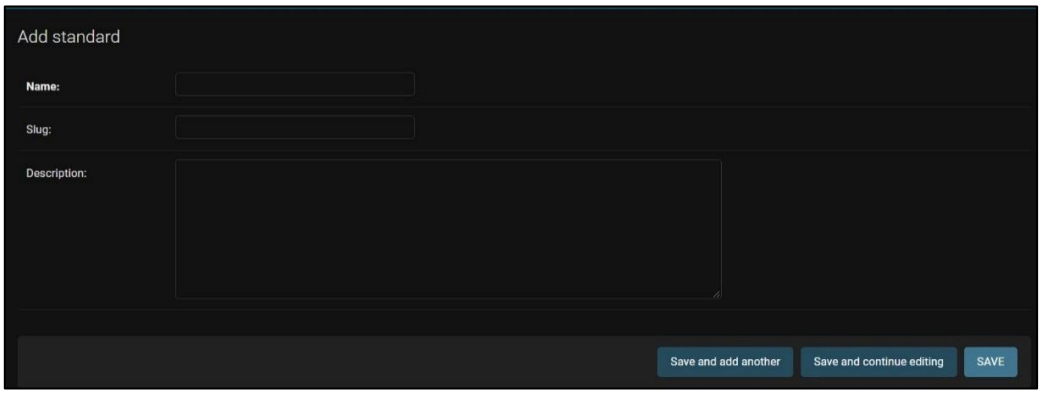


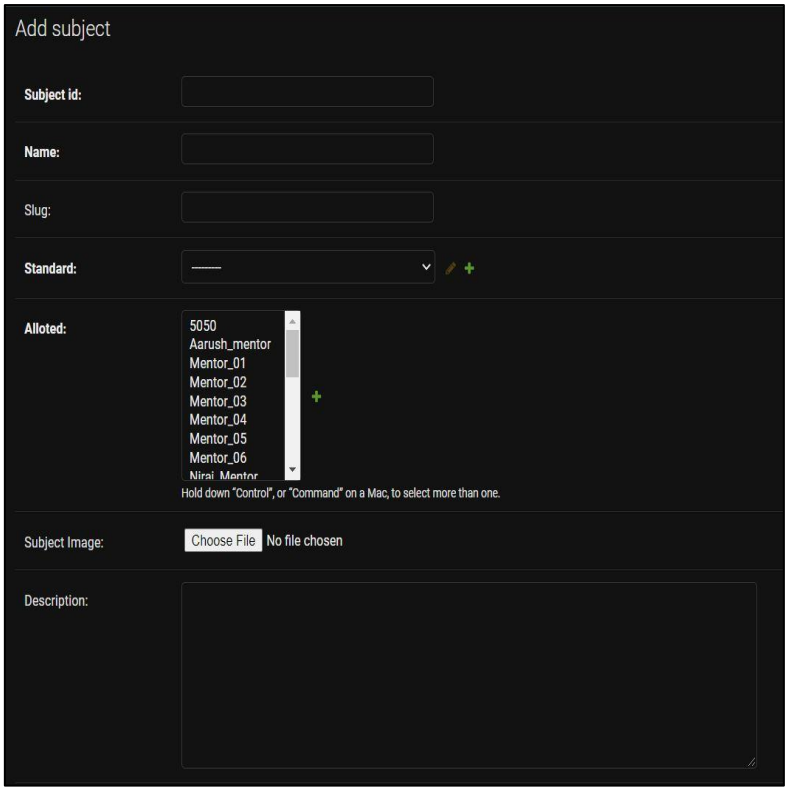
The mentors get the feature to update or delete the lesson. If the mentor clicks on the ‘Update lesson’ button, they get redirected to the page where they can update anything new about the lesson. If they want to delete the lesson, they need to click on the ‘Delete lesson’ button and the lesson will be deleted from the website.
Below the update and delete lessons button there is a comment section where students can post any doubt and the mentor can reply to them.

Admin’s POV

1)

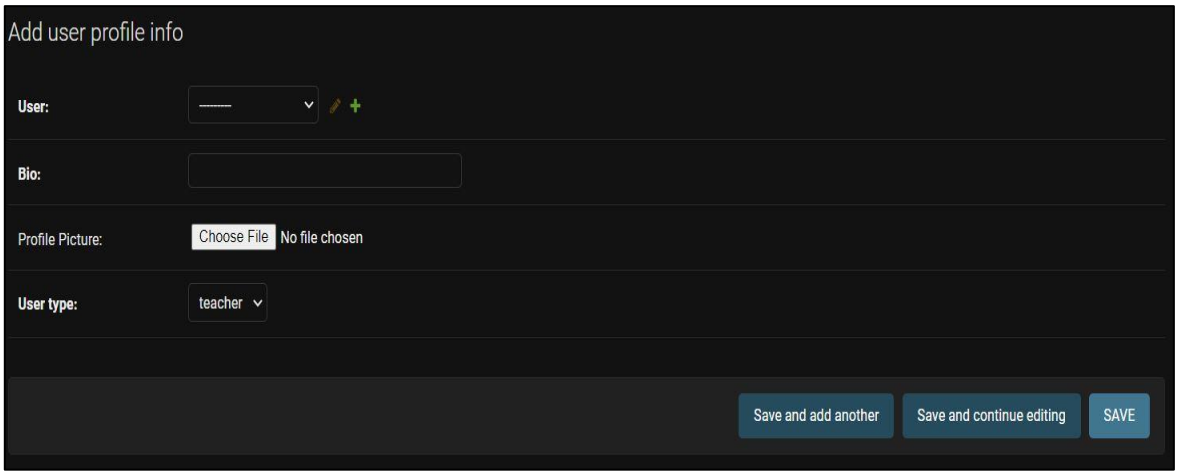

Django administration
Site administration
APP_USERS
User profile infos + Add Change
AUTHENTICATION AND AUTHORIZATION
Groups + Add Change
Users + Add Change
CURRICULUM
Comments + Add Change
Lessons + Add Change
Replys + Add Change
Standards + Add Change
Subjects + Add Change
Recent actions
My actions
Leadership Skills
Subject
basavaraj190
User profile info
basavaraj190
User
Entrepreneurship
Subject
Rohit_123
User profile info
Rohit_123
User
Guide to Hackathons
Subject
Vishwas
User profile info
Vishwas
User
My profile
Lesson

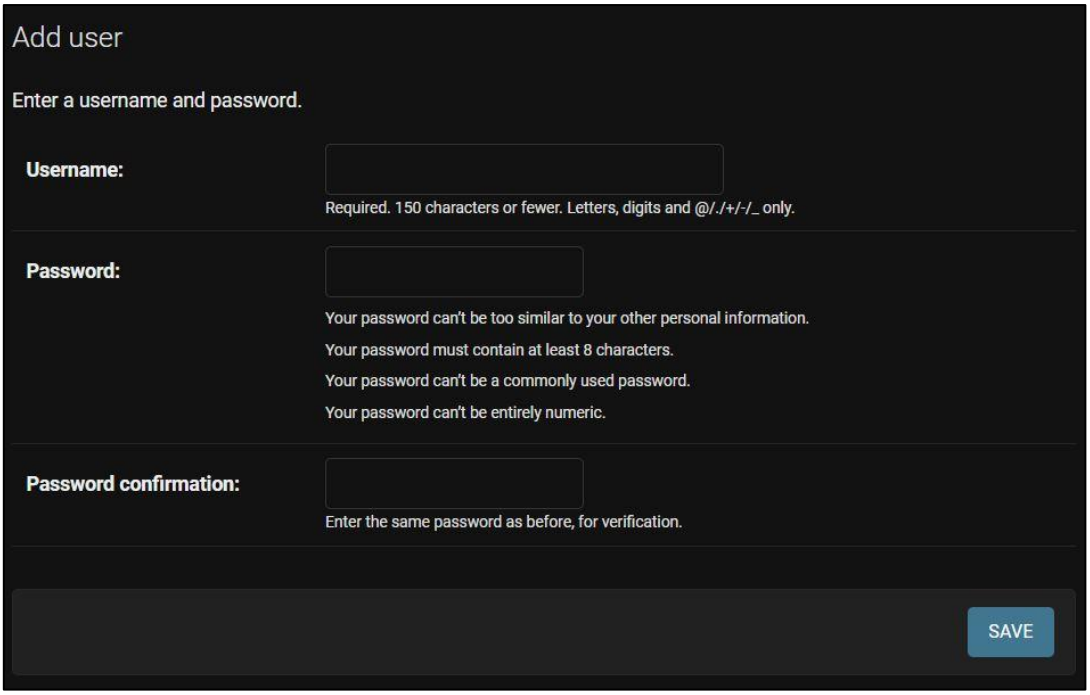

Add standard
Name:
Slug:
Description:
Save and add another
Save and continue editing
SAVE



The first option that the admin gets is to add the 'Frequently Asked Topics' by clicking on the 'Add Standards' button which is requested by the website users. The second option that the admin gets is to add the 'Relevant Topics' by clicking on the 'Add Subjects' button which is requested by the website mentors. After clicking on the add subjects button, the admin will be able to create the new topic and also allot the topic to the mentors. After completing this process, the respective mentors of the website will be able to add lessons to their allotted topics.

2)



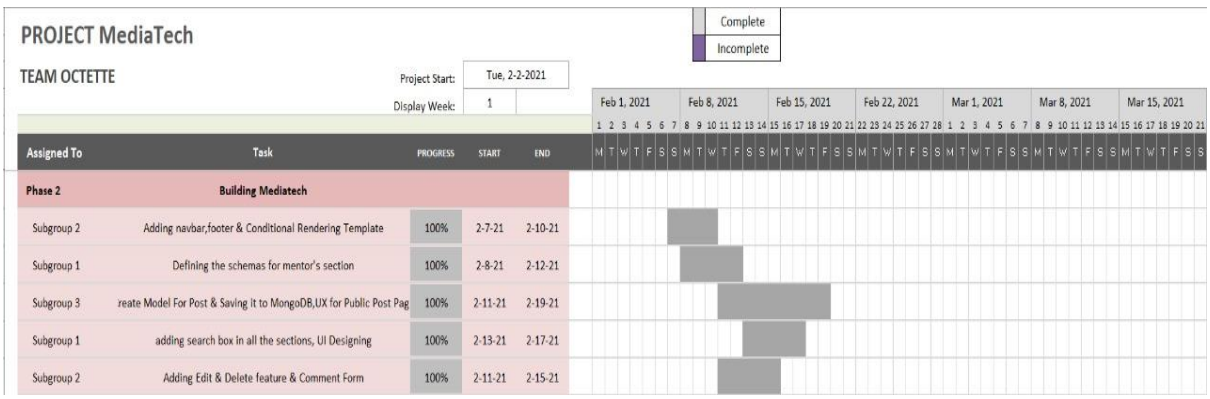


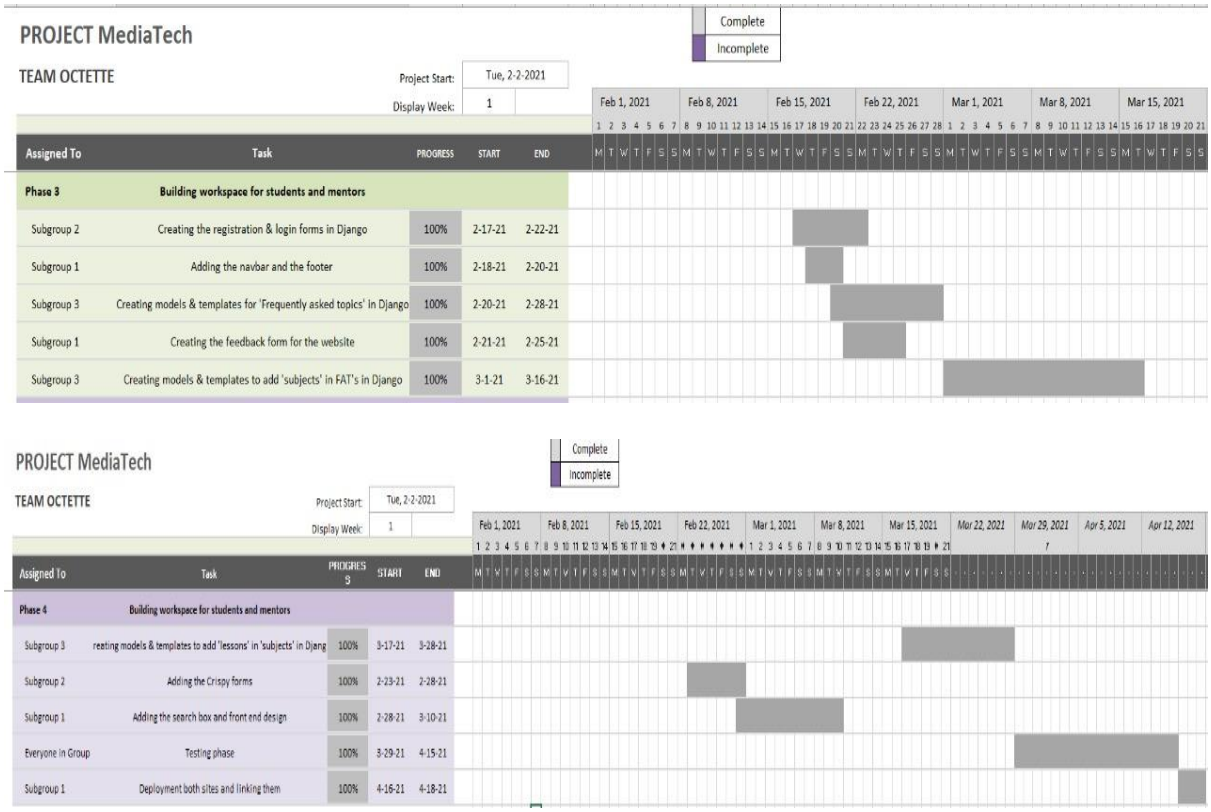
Before allotting the particular topic to the mentor, the admin has to create the user profile where the admin will create the mentor's user id and password and in the 'User Profile info' section bio of the mentor and the user type as a teacher needs to be added.

Work Flow

Team members contribution

Subgroup Details	
Subgroup 1	Rohit, Param, Tarun
Subgroup 2	Basavaraj, Randheer
Subgroup 3	Vishwas, Priyam, Yashwant





PROJECT MediaTech

TEAM OCTETTE

Project Start: Tue, 2-2-2021

Display Week: 1

Complete

Incomplete

Assigned To	Task	PROGRESS	START	END
Phase 3	Building workspace for students and mentors			
Subgroup 2	Creating the registration & login forms in Django	100%	2-17-21	2-22-21
Subgroup 1	Adding the navbar and the footer	100%	2-18-21	2-20-21
Subgroup 3	Creating models & templates for 'Frequently asked topics' in Django	100%	2-20-21	2-28-21
Subgroup 1	Creating the feedback form for the website	100%	2-21-21	2-25-21
Subgroup 3	Creating models & templates to add 'subjects' in FAT's in Django	100%	3-1-21	3-16-21

PROJECT MediaTech

TEAM OCTETTE

Project Start: Tue, 2-2-2021

Display Week: 1

Complete

Incomplete

Assigned To	Task	PROGRESS	START	END
Phase 4	Building workspace for students and mentors			
Subgroup 3	reating models & templates to add 'lessons' in 'subjects' in Djang	100%	3-17-21	3-28-21
Subgroup 2	Adding the Crispy forms	100%	2-23-21	2-28-21
Subgroup 1	Adding the search box and front end design	100%	2-28-21	3-10-21
Everyone in Group	Testing phase	100%	3-29-21	4-15-21
Subgroup 1	Deployment both sites and linking them	100%	4-16-21	4-18-21

We have divided ourselves into 3 subgroups:
SUBGROUP 1: Rohit Shinde, Param Mane, Tarun Varma
SUBGROUP 2: Basavaraj Channur, Randheer
SUBGROUP 3: Vishwas, Keshwa Priyam, Yashwant Mopada

We have started discussing the project on 2nd February 2021. Everyone gave their opinions and we have decided to create a social web application, MediaTech on 3rd February.
From 3rd-7th Feb, subgroup 3 created a login page and authenticated Google, Facebook, LinkedIn users while subgroup 1 completed the storing and fetching data from MongoDB.
From 8-10th Feb, subgroup 3 completed displaying user profile and logout page. While subgroups 1 and 3 were doing their works, subgroup 2 was adding profile information and user location into the database from 2nd-5th Feb.
From 7th-10th Feb, subgroup 2 completed small tasks like adding navbar, footer, and conditional rendering template.
Subgroup 1 defined the schemas for the mentor's section from 8th-12th Feb.
From 11th-19th Feb, subgroup 3 created a post model and saved it to MongoDB, UX for public post page. In the meantime, subgroup 1 added a search box in all sections while subgroup 2 added an edit and delete feature and comment form.

From 17th-22nd Feb, subgroup 2 created the registration and login forms in Django. At the same time, subgroup 1 added a navbar and footer. Subgroup 3 created models and templates for frequently asked topics in Django from 20th-28th Feb. In the meantime, subgroup 1 created the feedback form for the website. From 1st-16th march, subgroup 3 created models and templates to add ‘subjects’ in FAT’s in Django.
From 17th-28th march, subgroup 3 created models and templates to add ‘lessons’ in ‘subjects’ in Django.
In the meantime, subgroup 2 added crispy forms and subgroup 1 added search box and front-end design. From 29th March to 15th April all the group members tested the project. Finally, from 16th-18th April we complete deployment of both sides and linking them.

Conclusion

As part of the conclusion, we would like to conclude that using different technologies and various ideas to make our project "MediaTech" unique, we have focused to have unique features in our website like mentor facility, workspace for students and mentors, and many others.

Hereby we are declaring that our project "MediaTech" is fully functional and ready to use. We hope that our website "MediaTech" would find useful in our IIITDWD campus so that it can be used by teachers as well as students to help other students on campus.

Appreciating efforts made towards making and maintaining the website by group members, we would like to thank Uma Ma'am and Manjunath Sir for their valuable time and guidance to various ideas of our project. We hope that usage of our website will make you interested to provide mentorship to fellow students on campus.