

Software Systems Lab
CS251 Project Report
Course Networking

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1 Title

Course Networking

2 Abstract

- Social networking website for courses, with emphasis on notifications, discussion forums and student feedback. Separate interfaces for instructors and students, profiles for all users.
- Students
 - maintain profile
 - have a calender containing events highlighted
 - receive notifications for upcoming events such as exams, assignment deadlines and feedback deadlines based on the events created by instructors.
 - can view his weekly timetable for all courses.
 - can post a question in the discussion forum, search the forum for a question, give answer to one, comment , upvote or downvote an answer.
- An instructor
 - can upload course material, make announcements.
 - can put up a feedback form, view the responses(anonymous),
 - answer a question in discussion forum.
 - has the feature to signup using social media account

3 Problem Statement

Creating a **social networking site** for courses with a **user friendly interface** for instructors, students with a platform for **Discussions**, **Timely notifications** for important events, **Feedback forms** and Display of **timetables**.

4 Login Signup

We extended django's default user model (one-one) to make Student and Instructor models. Login url : 'http://127.0.0.1:8000/'. The Login (Figure 1) and Signup (Figure 2) pages are shown below.

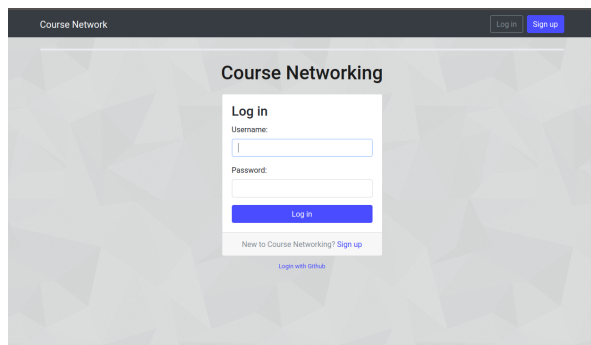


Figure 1: Login

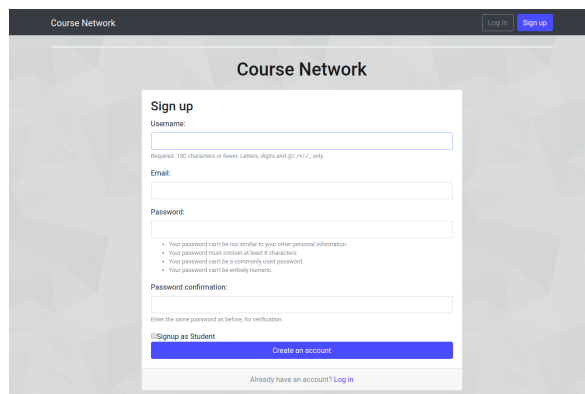


Figure 2: Signup

During signup after the above filling form user is shown a student or an instructor signup form after filling it he is redirected to homepage.

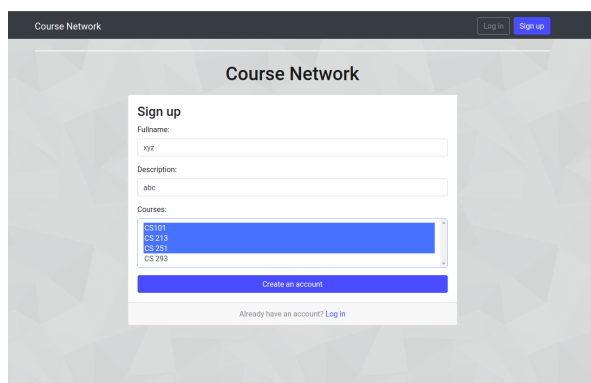


Figure 3: Student signup

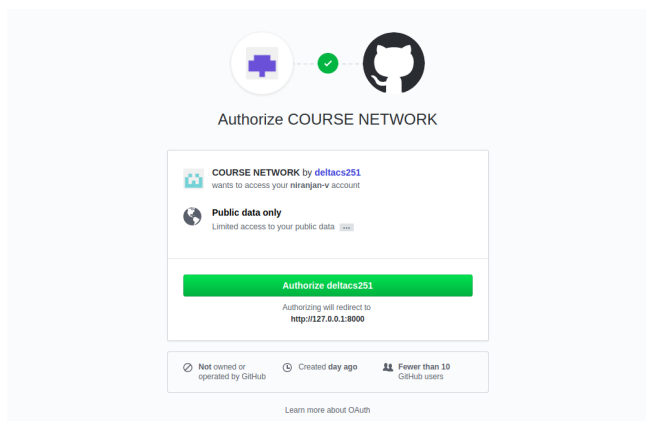


Figure 4: Git Signup

There is also an option for Git-Signup/Login (Figure 4)

5 Homepage

The homepages are different for student (Figure 5) and instructor(Figure 6). After login user is redirected to his corresponding home page. The courses taken (given) by student (instructor) are displayed.

In student home page, links to view his timetable, event calendar are displayed. Also notifications and links to feedback forms to be filled are displayed. When clicked on a notification, its detailed description is showed.

Courses	
Course	
CS 213	DSA
CS 251	SSL
CS 293	DSA LAB
EE 101	Intro to EE

- [View timetable](#)
- [Calendar-Monthly View](#)

Notifications			
Event	Course	Deadline Date	Deadline Time
end sem	CS 251	Oct. 30, 2017	11:59 p.m.
Midsem	CS 251	Nov. 13, 2017	11:59 p.m.

Feedback	Course	Time/Deadline
Midsem feedback	CS 293	Oct. 28, 2017

[Fill out Feedback Form](#)

Figure 5: Student home

Courses
Course
CS 213 DSA
CS 293 DSA LAB
CS 251 SSL
CS101 CS101

Figure 6: Instructor home

6 Student timetable

Student's timetable (Figure 7) is generated from Slot field the Courses he has taken up.

Course Network

niranjan-v

[Home](#) / [My timetable](#)

Day\Time	8:30-9:30	9:30-10:30	10:30-11:00	11:00-11:30	11:30-12:30	12:30-14:00	14:00-15:30	15:30-17:00
Monday	CS 293		CS 251			Lunch Break	CS 251	
Tuesday	CS 293	CS 251	CS 293			Lunch Break		CS 293
Wednesday		EE 101		EE 101		Lunch Break	EE 101	
Thursday	EE 101		CS 293			Lunch Break	CS 293	
Friday		EE 101		CS 251		Lunch Break	CS 293	EE 101

Figure 7: Timetable

7 Course homepage

The course homepages for Instructor (Figure 9) and Student (Figure 8) are shown below.

Course Network

niranjan-v

[Home](#) / [CS 293](#)

CS 293

DSA LAB

Instructor(s) for this course

Instructor

[suraj](#)

[ajit dhewan](#)

Notifications of CS 293

Event	Course	Deadline Date	Deadline Time
quiz 1	CS 293	Oct. 28, 2017	noon
quiz 2	CS 293	Oct. 28, 2017	11:59 p.m.
Assignment 2	CS 293	Oct. 28, 2017	11:59 p.m.

QUICK LINKS

- [View discussion forum](#)
- [View course resources](#)

Participants of CS 293

[ajay](#)

[Jeevithiesh D](#)

[Team delta](#)

[V_niranjan](#)

[Niranjan Vaddi](#)

[kalyan](#)

Figure 8: Student course home

Course Network suyash

Home / CS 251

CS 251

SSL

Instructor(s) for this course

Instructor

[suraj](#)

[Suyash P Awate](#)

[Ajit Diwan](#)

Notifications of CS 251

Event	Course	Deadline Date	Deadline Time		
quiz 4	CS 251	Oct. 26, 2017	11:59 p.m.	Edit	Delete
end sem	CS 251	Oct. 30, 2017	11:59 p.m.	Edit	Delete
Midsem	CS 251	Nov. 13, 2017	11:59 p.m.	Edit	Delete

QUICK LINKS

- [View discussion forum](#)
- [View course resources](#)
- [Add a New Event](#)
- [Add Feedback Form](#)
- [View Feedback](#)

Students of CS 251

[ajay](#)

[Jeevithiesh D](#)

[Team delta](#)

[V_nirnanjan](#)

[Niranjan Vaddi](#)

[kalyan](#)

Figure 9: Instructor course home

In course home page, the instructors for the course, the students who have taken up the course are showed (these are also links to their profiles). The events related to that course are displayed in this page. There are links to discussion forum and course resources page. Similarly in instructor page there are also options to add/edit/delete an event. Add feedback form, view responses.

8 Course resources

Instructor's course resources page is shown below. The download link for the resource is given

Course Network suyash

Courses / CS 251 / Resources

Resources

File description	Download link	Uploaded at
tutorial1	tutorial1_Oc8hXvJ.pdf	Oct. 26, 2017, 4:30 p.m.
tutorial 2	tutorial2_ynH89jr.pdf	Oct. 26, 2017, 4:30 p.m.
tut 3	l8.pdf	Oct. 26, 2017, 4:40 p.m.

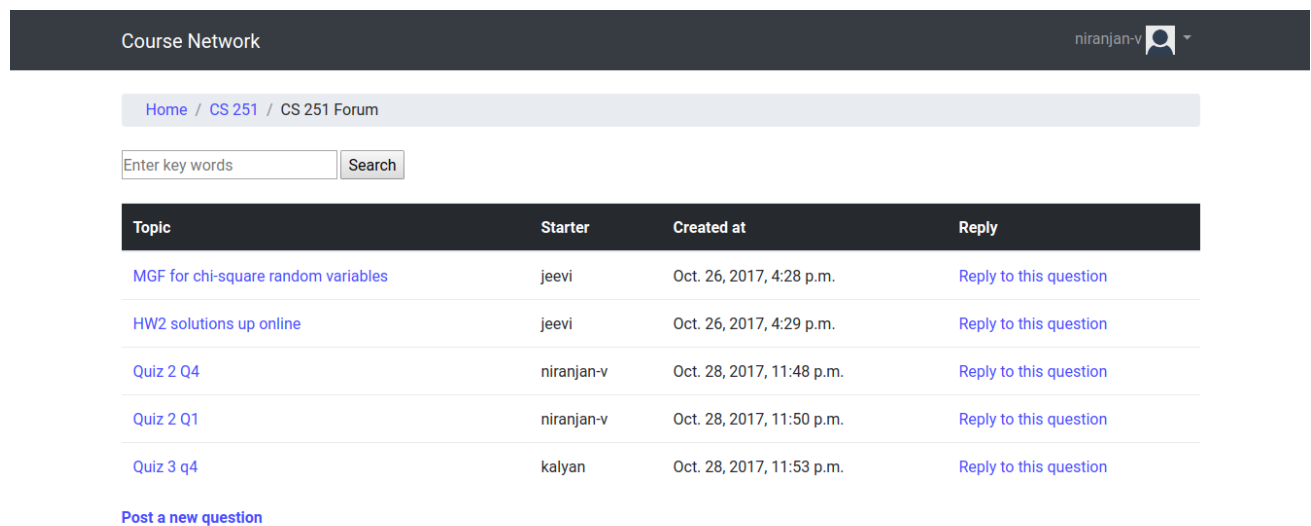
[Upload a new resource](#)

Figure 10: Course resources page

in the table. Student's page looks the same except that there is no upload a new resource link.

9 Discussion forum

In discussion forum page(Figure 26), the topics are displayed in a tabular format. There is a search feature (implemented using django filter). The search results page (Figure 12) is shown below.

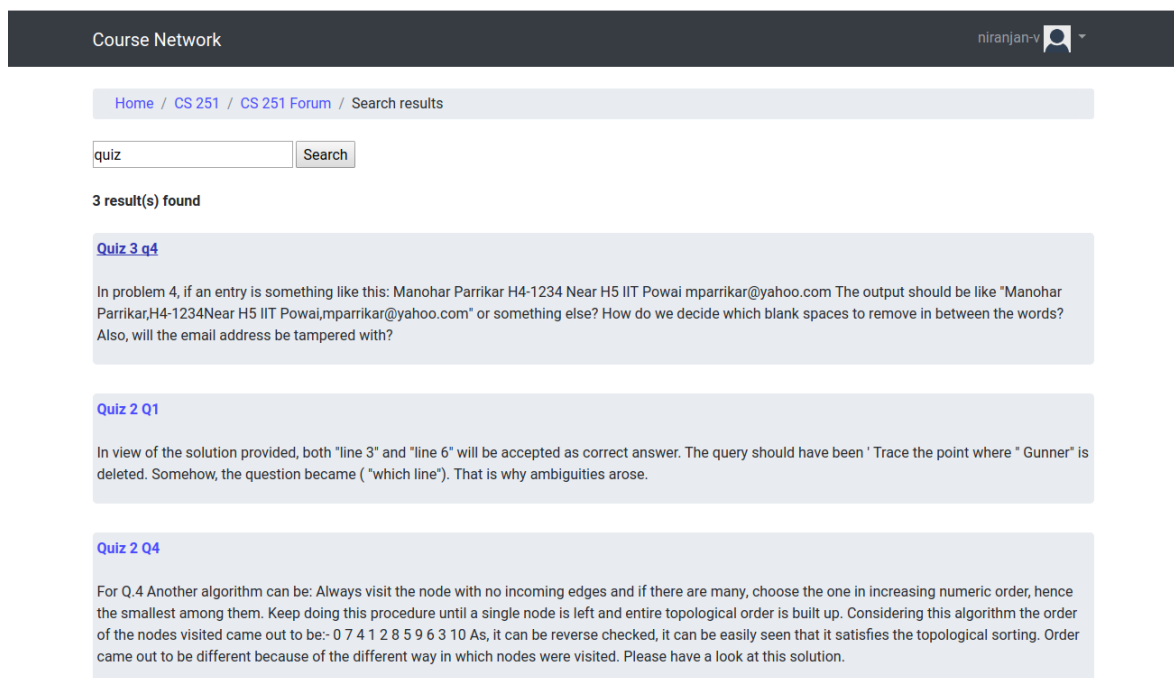


The screenshot shows the 'Course Network' header with a user profile 'niranjan-v'. The breadcrumb trail is 'Home / CS 251 / CS 251 Forum'. Below the breadcrumb is a search bar with the text 'Enter key words' and a 'Search' button. The main content is a table with four columns: 'Topic', 'Starter', 'Created at', and 'Reply'. The table lists five topics: 'MGF for chi-square random variables', 'HW2 solutions up online', 'Quiz 2 Q4', 'Quiz 2 Q1', and 'Quiz 3 q4'. Each row has a 'Reply to this question' link. Below the table is a link 'Post a new question'.

Topic	Starter	Created at	Reply
MGF for chi-square random variables	jeevi	Oct. 26, 2017, 4:28 p.m.	Reply to this question
HW2 solutions up online	jeevi	Oct. 26, 2017, 4:29 p.m.	Reply to this question
Quiz 2 Q4	niranjan-v	Oct. 28, 2017, 11:48 p.m.	Reply to this question
Quiz 2 Q1	niranjan-v	Oct. 28, 2017, 11:50 p.m.	Reply to this question
Quiz 3 q4	kalyan	Oct. 28, 2017, 11:53 p.m.	Reply to this question

[Post a new question](#)

Figure 11: Forum page



The screenshot shows the 'Course Network' header with a user profile 'niranjan-v'. The breadcrumb trail is 'Home / CS 251 / CS 251 Forum / Search results'. Below the breadcrumb is a search bar with the text 'quiz' and a 'Search' button. The main content shows '3 result(s) found'. There are three search results, each with a title and a description. The first result is 'Quiz 3 q4' with a description about a problem involving a string and a query. The second result is 'Quiz 2 Q1' with a description about a solution involving a point where a gunner is deleted. The third result is 'Quiz 2 Q4' with a description about an algorithm for finding a node with no incoming edges.

Topic	Starter	Created at	Reply
Quiz 3 q4			
Quiz 2 Q1			
Quiz 2 Q4			

Figure 12: Search results

When clicked on a topic, it takes to the page of that topic. In that page the question and the replies for that question are displayed (sorted by the number of upvotes for the reply) are displayed. And the instructor's reply is shown first mentioning it as an instructor's reply. For this page we have used Javascript to update the number of votes when user clicks on either of the buttons. Also we dynamically update this page every 30 seconds(this interval can be changed in the JS function).

Course Network
niranjan-v

Home / CS 251 / CS 251 Forum

MGF for chi-square random variables

Please note that the MGF for a chi-square random variable with n degrees of freedom, is defined only for $t < 1/2$. I have now added this statement in the slides for Families of Random Variables (download the slides from the class website again).

by : jeevi Oct. 26, 2017, 4:28 p.m.

[Reply to this question](#)

License checkout error is being displayed currently due to a multitude of active users. We're unable to complete the first two questions.

Replied by : kalyan Oct. 26, 2017, 4:31 p.m.

Then you have 2 options (and perhaps more): 1) Compute the information that the boxplot needs yourself and display that information using standard curve plots. For this you'd need to find percentiles (25, 50, 75) of the data within each "box" of the box plot. 2) Use some other software just to display the boxplot (python, SciLab, etc).

Replied by : kalyan Oct. 26, 2017, 4:31 p.m.

Use octave it is very similar to MATLAB

Replied by : niranjan-v Oct. 28, 2017, 11:55 p.m.

[Post a new question](#)

Figure 13: Topic page

Course Network
niranjan-v

Home / CS 251 / CS 251 Forum / Search results

3 result(s) found

Quiz 3 q4

In problem 4, if an entry is something like this: Manohar Parrikar H4-1234 Near H5 IIT Powai mparrikar@yahoo.com The output should be like "Manohar Parrikar,H4-1234Near H5 IIT Powai,mparrikar@yahoo.com" or something else? How do we decide which blank spaces to remove in between the words? Also, will the email address be tampered with?

Quiz 2 Q1

In view of the solution provided, both "line 3" and "line 6" will be accepted as correct answer. The query should have been "Trace the point where " Gunner" is deleted. Somehow, the question became ("which line"). That is why ambiguities arose.


Quiz 2 Q4

For Q.4 Another algorithm can be: Always visit the node with no incoming edges and if there are many, choose the one in increasing numeric order, hence the smallest among them. Keep doing this procedure until a single node is left and entire topological order is built up. Considering this algorithm the order of the nodes visited came out to be: 0 7 4 1 2 8 5 9 6 3 10 As, it can be reverse checked, it can be easily seen that it satisfies the topological sorting. Order came out to be different because of the different way in which nodes were visited. Please have a look at this solution.

Figure 14: Search results

There are options to post a new topic(for student only) and reply for a question in the forum page and the topic page.

Course Network

kalyan 

[Courses](#) / [CS 251](#) / [CS 251 Forum](#) / New topic

Start a New Topic


Brief

Subject

Post

Figure 15: New Topic

Course Network

kalyan 

[Courses](#) / [CS 251](#) / [CS 251 Forum](#) / New topic

New reply

Answer


Post

Figure 16: New reply

10 My Drive

User's My Drive page (Figure 17) and upload page (Figure 18) are shown below.

Course Network

kalyan 

[Home](#) / [My drive](#)

My Drive

File description	Download link	Uploaded at
full syllabus	Project_Proposal_Report.aux	Oct. 29, 2017, 8:22 a.m.

[Upload a new resource](#)

Figure 17: My drive

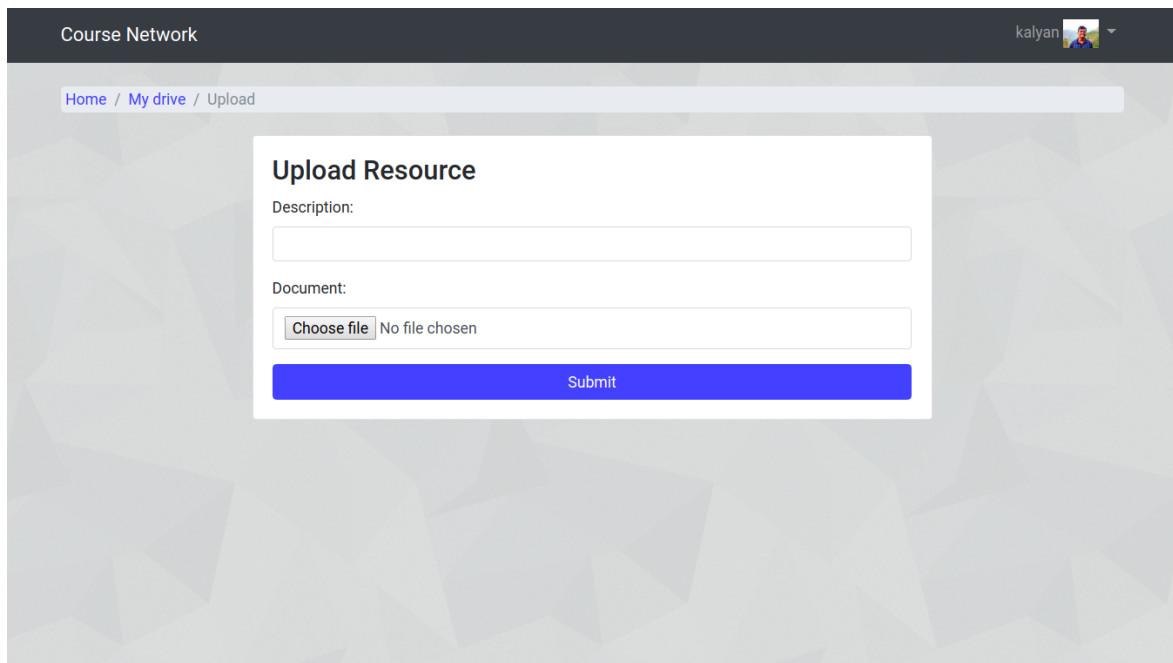


Figure 18: Upload

Every User has their own personal drive where he can upload files

11 User Profile

User's Profile page (Figure 23) and Edit Profile page (Figure 24) are shown below.

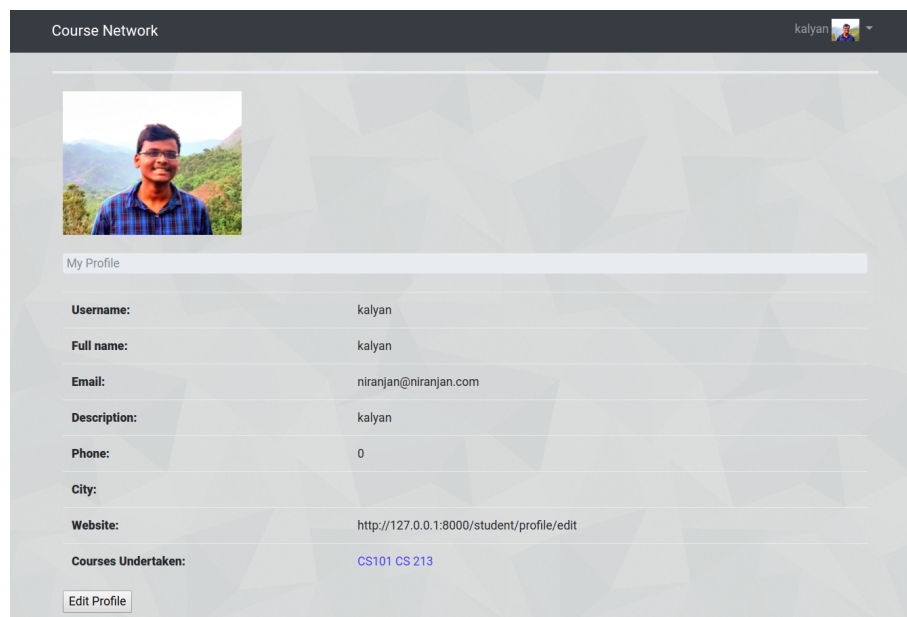


Figure 19: My Profile

The screenshot shows the 'Edit Profile' form in the Course Network application. The form is centered on a page with a 'Home' header. The form fields include: Fullname (kalyan), Description (kalyan), Website (http://127.0.0.1:8000/student/profile/edit), Phone (0), City (empty), and Image (Currently: documents/kalyan2.jpg). There is a 'Choose file' button and a 'No file chosen' text. A blue 'Submit' button is at the bottom.

Figure 20: Edit Profile

My Profile contains Fields of Username ,Full name, Email, Description,Phone,City,Website and Courses Undertaken.

Edit Profile contains edit Fields of Fullname,website,description,phone,city and profile image

The screenshot shows the 'Course Info' page for 'CS 213 DSA'. The page has a dark header with 'Course Network' and a user profile. The main content area shows the course title 'CS 213 DSA' and a section for 'Instructor(s) for this course'. Below this, there is a table with one row: 'Instructor' with the name 'suraj' and 'suyash awle' listed below it.

Figure 21: Course Info page

On clicking a course in Courses Undertaken we get info in this way as above.

The screenshot shows a user profile page titled 'Course Network' in the top header. The user's name 'kalyan' is in the top right corner. The profile section includes a default silhouette icon and a 'My Profile' tab. Below the tab, the following information is displayed:

Username:	ajit
Full name:	ajit dhewan
Email:	niranjan@niranjan.com
Description:	prof at stats
Phone:	None
City:	
Website:	
Courses Undertaken:	CS 293 CS 251 CS101

Figure 22: Profile page

Other Profiles can be viewed through their id's and we have used default profile image as shown.

12 Events

Events of a Course are Created by it's Instructor with name,description,deadline time and date, and they appear in the notifications of students and also in instructor's homepage

The screenshot shows the 'Add Event' form within the 'Course Network' interface. The top header shows 'Course Network' and the user 'suraj'. A breadcrumb trail indicates 'Home / CS101'. The form itself is titled 'Add Event' and contains the following fields:

- Name:
- Deadline date:
- Deadline time:
- Description:

A blue button labeled 'Add Event' is located at the bottom of the form.

Figure 23: Add Event

Course Network

suraj

Home

Edit Event

Name:

Deadline date:

Deadline time:

Description:

Submit

Figure 24: Editing Event

Course Network

suraj

Home / CS101

CS101

CS101

Instructor(s) for this course

Instructor

suraj

ajit dhewan

Notifications of CS101

Event	Course	Deadline Date	Deadline Time		
test	CS101	Oct. 30, 2017	11:59 p.m.	Edit	Delete
test2	CS101	Oct. 26, 2017	11:59 p.m.	Edit	Delete

QUICK LINKS

- [View discussion forum](#)
- [View course resources](#)
- [Add a New Event](#)
- [Add Feedback Form](#)
- [View Feedback](#)

Students of CS101

kalyan

ajay


Jeevithiesh D

Team delta

V_niranjan

Figure 25: Display of event in instructor's page

Instructor can edit/delete the event in the course's homepage and in same way events are displayed in student's home page with no edit,delete option sorted in deadlinetime order
Cicking on an event it redirects to event info containing information about event

Course Network kalyan 


CS101

EventName:	test2
Deadline Date:	Oct. 26, 2017
Deadline Time:	11:59 p.m.
Description:	lab syllabus

Figure 26: Event details page

13 Calendar

Student's Calendar is generated from Event Deadlines of the Courses he has taken up.

Course Network kalyan 

Home / Calendar

Calendar

<< September 2017 << October 2016 Today October 2018 >> November 2017 >>

Mon	Tue	Wed	Thu October 2017	Fri	Sat	Sun
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26 test2 10A quiz 4	27	28 quiz 2 Assignment 2	29
30 end sem	31					

Figure 27: Timetable

- Each Day contain all its events listed
- On clicking an event we get redirected to event info page
- If a day contains events its highlighted in blue
- Today is bordered with blue as shown
- we can access other months events through navigation above

14 Feedback

The instructor can add a feedback form with subjective and objective questions.

Course:

CS101

Feedback name:

Enter feedback Name

Deadline date:

2017-10-29

Deadline time:

23:59

Rating Question 1:

Enter Question Here

Subjective Question 1:

Enter Question Here

Rating Question 2:

Enter Question Here

Add Rating Question

Add Subjective Question

Submit

Figure 28: Add Feedback Form

The student must fill the form and submit it. If a student submits a form more than once, his/her responses will be overwritten.

CS 251 : Midsem Feedback

Question:Rate difficulty of question paper

Your Response:

☒ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Question:Rate quality of questions

Your Response:

☐ 1 ☐ 2 ☒ 3 ☐ 4 ☐ 5

Question:Additional comments

Your Response:

The paper was balanced.

Submit

Figure 29: View Feedback

The instructor can then view the collected responses. The answers are anonymous and the rating answers are shown in the form of a graph.

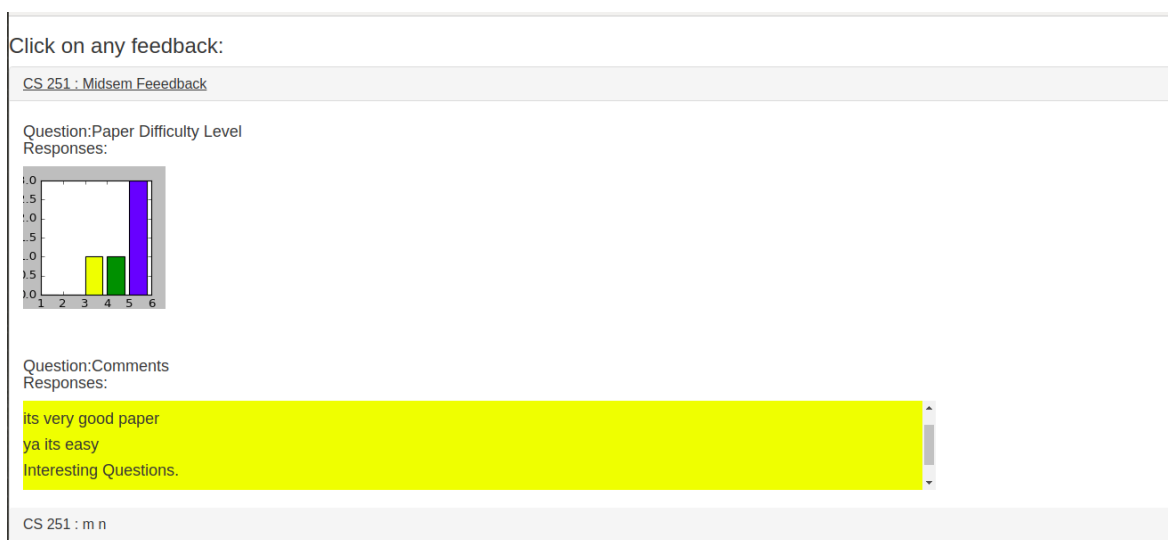


Figure 30: Submit Feedback(student)

15 Site setup and maintenance by admin

We have used default django admin in this project. To create a an admin (superuser), go to main directory of project and run this command: 'python3 manage.py createsuperuser'
Next run this command : 'python3 slot_setup.py' - this command create some Slot instances we've used in this project.
admin login page - <http://127.0.0.1:8000/admin/login>

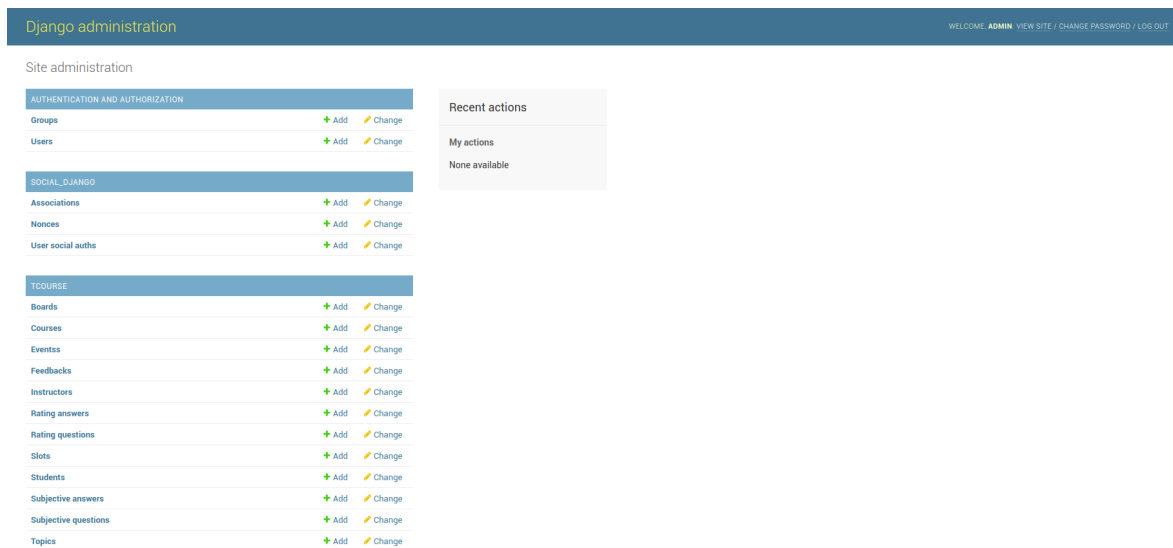


Figure 31: Admin home page

We have registered some models in admin.py file, so that the admin can **view/edit/add/delete** instances of these models. To create a course, go to Courses model, click on add Course, enter Course name and description, select instructor and slot from available instances of those. Also admin has to create a Board model (for discussion forum) for this Course, which can be done in a similar fashion.

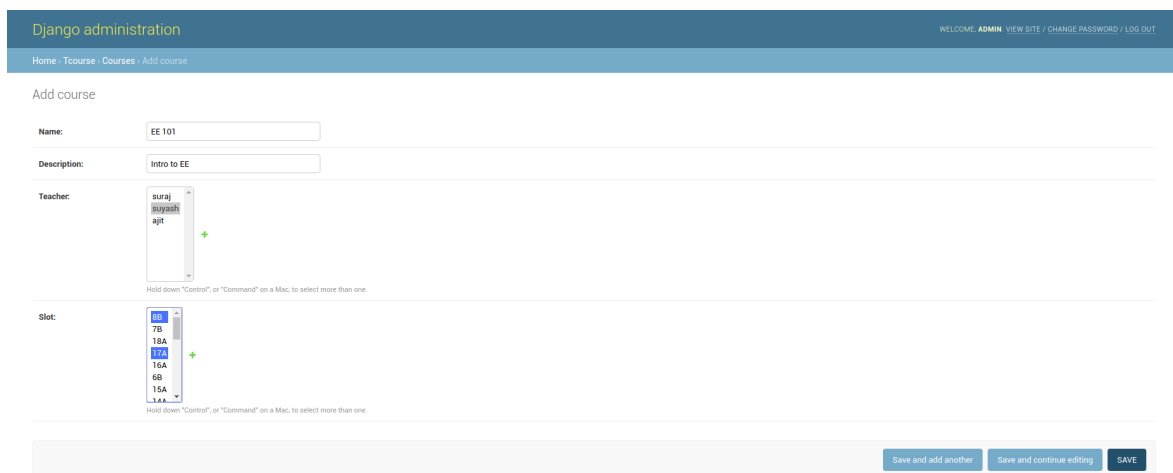


Figure 32: Creating a course

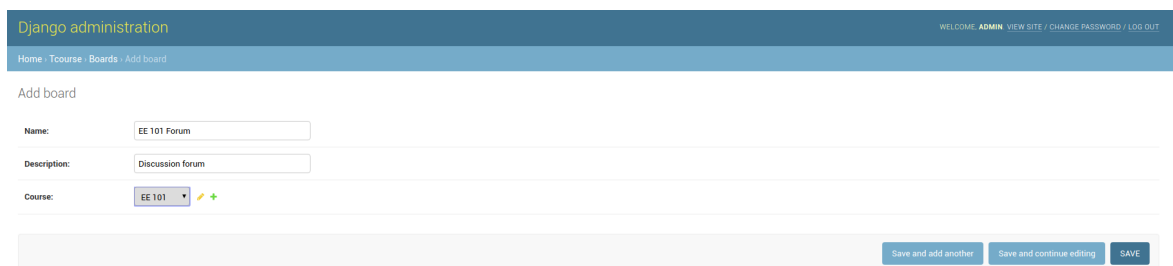


Figure 33: Creating a board

Setting up git-hub login service:

Step1: Go to <https://github.com/settings/applications/new>

give the url of your homepage

Step2: Authorization callback URL: `your_homepage_url/oauth/complete/github/`

Step3: Get Client ID and Client secret

Step4: In your `project-2/mysite/settings.py` add this:

`SOCIAL_AUTH_GITHUB_KEY = <Client ID>`

`SOCIAL_AUTH_GITHUB_SECRET = <Client secret>`

Now we are all set. To start server run: `'python3 manage.py runserver'`

16 Features

Promised	Delivered
Allowing instructor to sign up through social media account	Instructor can signup/login through github
Feedback forms	Feedback forms with subjective and rating questions
Calendar	Monthly Calendar with events displayed with hyperlinks.
Profile of individual(instructor and student)	Each user has a profile
Notifications	Students see events in their homepage when an instructor creates them
Timetable generation for a particular student	Student's weekly timetable based on his/her courses
Discussion forum with votes, comments and special status for instructor	Everything mentioned, and real time changes in the forum
Uploading of files	Personal drive for all users and Instructor can upload resources visible to everybody

Apart from these, we have been able to develop these extra features:

- Search in Discussion Forum
- Graphical feedback viewing for instructor
- User can see changes in topic view page without refreshing ie page is dynamically updated without actually refreshing it