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## TEAM - AURORA

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# COURSESPACE

## ABSTRACT

Create an online platform for teachers and students to interact.

Firstly, there is a login page which matches the credentials entered to a database and redirects the user to either a student's page or a teacher's page.

Students are able to submit their homework assignments and provide feedback for the same. That is, there will be a portal to upload assignments for the students and the teacher can download them to check them and see the feedbacks collectively.

The students can discuss their queries with other students or teachers on a discussion thread.

The students are notified of any assignment/resource addition in the course automatically.

## ABSTRACT (Features delivered)

- Login Page (log in using the credentials in the database)
- User registration page (not part of initial prototype, added because of TA's suggestion)
- Student Page
  - a. Homepage
    - i. Course List
    - ii. Updates(Notifications)
    - iii. Sign Out Button
  - b. Course Page
    - i. Course Details
    - ii. Resources
    - iii. Assignments/Homeworks
      - 1. List of Homeworks
        - a. Problem Statement ( text and/or file)
        - b. Submission Portal

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- c. Feedback
  - iv. Discussion Forum

**User registration page** - Students can register by choosing a username and password, fill out personal details and choose courses he wishes to enroll in.

**Updates** - Corresponds to all the updates from different courses which come to the student.

**Resources** - This contains all the files and books added by the teacher as the supplement for the course.

**Feedback** - This is the rating given by student to the homework assignments as integers between 1 to 10. This will be kept anonymous and sent collectively to the teacher.

- Teacher's Page
  - a. Home Page
    - i. Course List
  - b. Course Page
    - i. Add Resources
    - ii. Assignments/Homeworks
      - 1. List of Homeworks
        - a. Problem Statement ( text and/or file)
        - b. Submissions
        - c. Feedbacks
    - iii. Add Assignments
    - iv. Send Notifications
    - v. Discussion Forum
  - c. Logout Button

**Submissions** - This contains list of students and their assignments, together with the option to give remarks on them.

**Feedbacks** - The feedback is collected from all the students and displayed to the prof in the form of histogram of ratings.

## **ABSTRACT (Features which were promised in the initial prototype)**

- Login Page (log in using the credentials in the database)
- Student Page
  - a. Homepage
    - i. Course List
    - ii. Updates

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- iii. Update Resources Button (**if time permits**)
  - iv. Sign Out Button
  - b. Course Page
    - i. Course Details
    - ii. Resources
    - iii. Assignments/Homeworks
      - 1. List of Homeworks
        - a. Problem Statement ( text and/or file)
        - b. Submission Portal
        - c. Feedback
        - d. Remarks (**if time permits**)
    - iv. Discussion Forum

**Updates** - Corresponds to all the updates from different courses which come to the student.

**Update Resource Button** - This will automatically download all the files shared under resources in a specific folder in the memory.

**Resources** - This contains all the files and books added by the teacher as the supplement for the course.

**Feedback** - This is the rating given by student to the homework assignment like easy, just ok, hard etc. This will be kept anonymous and sent collectively to the teacher.

**Remarks** - Teacher can give remarks to the assignment of the student.

- Teacher's Page
  - a. Home Page
  - b. Resources
  - c. Assignments/Homeworks
    - i. List of Homeworks
      - 1. Problem Statement ( text and/or file)
      - 2. Submissions
      - 3. Feedbacks
      - 4. Remarks (**if time permits**)
  - d. Discussion Forum
  - e. Logout Button

**Submissions** - This contains list of students and their assignments, together with the option to give remarks on them.

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**Feedbacks** - The feedback is collected from all the students and displayed to the prof in the form of percentages of each type of response.

## **INTRODUCTION / MOTIVATION**

To make the course more interactive by encouraging interaction between students themselves and also with the teachers.

To make homework and assignment submissions hassle free.

Also give students the chance to inform the professor of the difficulty level of each assignment/homework which will be kept anonymous.

To help students be updated of the course by notifying them through the Updates area in the website.

## **PROBLEM STATEMENT**

To create a website as the interface for students and teachers to interact and discuss about the course. Provide option for homework assignments submission and feedback.

## **SOFTWARE / HARDWARE REQUIREMENTS**

HTML , CSS ,BOOTSTRAP - for webpage designing.

SQLite3 - for database management.

PYTHON & DJANGO - for the backend of both website and app.

DOXYGEN - for documentation.

GIT - for managing the code.

## **IMPLEMENTATION**

- Used Django Models to make suitable classes to represent objects such as Student, Instructor, Course, Assignment, Submission etc.
- Used SQLite3 to manage the database
- Used HTML, CSS and Bootstrap to create the front end of the website.
- Used Django ModelForms to generate forms to edit models.
- Used Django Authentication System to authenticate users in the login page.

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- Used matplotlib python package to generate histogram of feedbacks displayed to the instructor.

## TESTING

- Create a teacher's account and flood some courses.
- Make two student accounts.
- Discuss with other student and teacher in the discussion forum.
- Teacher adds an assignment/resource and students get notified.
- Upload a submission to an assignment (through student's account) and give feedback.
- Access the file (through teacher's account) and see the feedback.
- Add notifications through teacher's account.
- Register a new user.

## WORK ALLOCATION

Aman Jain	Backend
Ashutosh Kumar Verma	Frontend
Shubham Anand	Backend

## CITATIONS

- Learnt Django from -
  - <https://www.youtube.com/watch?v=qgGlqRFvFFk&list=PL6gx4CwI9DGBImzzFcLgDhKTTfNLfX1IK>
  - <https://tutorial.djangogirls.org/en/>
- Instructor/views : view\_feedback -
  - <https://stackoverflow.com/questions/30886364/plotting-a-histogram-from-array>
  - <https://stackoverflow.com/questions/12608788/changing-the-tick-frequency-on-x-or-y-axis-in-matplotlib>
  - <https://stackoverflow.com/questions/45162020/return-image-in-http-response>
- Login page template - <https://codepen.io/colorlib/pen/rxddKy>

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- Course/templates/course : basic\_page.html &  
instructor/templates/instructor : instructor\_basic\_page.html inspired from -  
<https://github.com/buckyroberts/Viberr/blob/master/music/templates/music/base.html>
  - Course/templates/course : index.html &  
instructor/templates/instructor : instructor\_index.html inspired from -  
<https://github.com/buckyroberts/Viberr/blob/master/music/templates/music/index.html>
  - Course/templates/course : upload\_submission.html &  
instructor/templates/instructor : add\_notification.html, add\_resource.html,  
create\_assignment.html inspired from -  
[https://github.com/buckyroberts/Viberr/blob/master/music/templates/music/form\\_template.html](https://github.com/buckyroberts/Viberr/blob/master/music/templates/music/form_template.html)
  - Background image -  
<https://i.pinimg.com/originals/5d/5d/79/5d5d79ab40f17440b11dfdf9cd0f1f08.jpg>
  - Course Logos - Google Images