

Mentoring Platform SRS

Group 2

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1. INTRODUCTION

1.1 PURPOSE

There is a lot of scope for top tier colleges and universities to help other colleges / institutions in India. This can be broken down into two major needs:

1. Improving the learning of students and make them job ready
2. Improving the quality of teachers so they can improve their teaching, which would in turn facilitate the first need

Students and faculty in top institutions are in a very good position to fulfill these needs by mentoring students and faculty of other institutions. With the growing popularity and acceptance of electronic mediums to meet and collaborate, creating an online platform to tap this potential of the upper tier colleges would be a very viable and interesting idea to bridge this opportunity gap.

1.2 OVERVIEW

The main aim of the project is to facilitate this mentoring by providing a platform for such mentors to guide other students and faculty to the right path. What we mean by mentoring is not giving online lectures about technical topics, but directing the mentees towards relevant online resources like lectures, tutorial videos, upcoming programming workshops/contests etc.

The platform would include certain disciplines (like CSE, ECE, ME etc.) where respective mentors and mentees can sign up and connect with each other.

1.3 SCOPE

The main user base of the platform would be students and faculties of the institutions all across the country.

- **Students** from top tier colleges can sign up as mentors to mentor students from other colleges, and/or as mentees hoping to be mentored by faculty/their seniors who have a good experience in their field of interest. These students may be undergraduates, post-graduates or even PhD. These students can seek/provide mentorship about:
 - Academic topics: Links to online resources, how to prepare a particular topic, list of important topics etc.
 - Preparation for job placements
 - Opportunities of further studies

- Research related queries
- Any general topic like time management, stress management etc.
- Students from other colleges can sign up as mentees to seek guidance about one or more of the aforementioned topics.
- **Faculty** from top tier colleges can sign up as mentors to guide faculty from other colleges by:
 - Sharing online resources to subject specific topics
 - Clarifying doubts
 - Sharing effective teaching and pedagogical methods
 - Sharing the assignments and projects to give out to students
 - Guiding them on the course content and structure
 - Guiding them on how to better conduct their courses
 - Helping and guiding them for publications
- Faculty from other colleges can sign up as mentees to seek help on the aforementioned topics.
- **Industry experts** can also mentor students and faculty to provide a real world practical experience by giving them industrial projects and helping them complete them in a professional manner.

1.4 DESCRIPTION OF USERS ON THE PLATFORM

- **Mentor:** A mentor is either an undergraduate/postgraduate/PhD student/faculty of a top tier institution who will mentor his/her fellow students from other institutions or a top tier faculty who will mentor other faculty. Types of mentors are:
 - **Faculty:** Will mentor faculty and PhD students (if they want, others also)
 - **Senior UG/PG/PhD students:** Will mentor other UG students
 - **Industry practitioners:** Largely to guide UG students in projects
 - **Industry researchers:** May mentor UG students or PhD students
- **Mentee:** A mentee is a student/faculty from another institution that seeks guidance from mentors. Types of mentees are:
 - **UG/Masters student:** For guidance to be better prepared for a career
 - **PhD student:** For guidance about research, publication etc
 - **Faculty:** For guidance in academic career and research

2. REQUIREMENTS

2.1 EXTERNAL INTERFACES

2.1.1 USER INTERFACES

- The font used would be Roboto
- All the buttons would be rectangular contained buttons with rounded vertices
- The color scheme would be dark themed (pastel shades on a dark gray background)
- Fixed buttons on every screen would be Home, Profile, Chats and a dropdown navigator having My Mentors, My Mentees, My Calendar and Settings.

2.1.2 HARDWARE INTERFACES

- Since the application must run over the internet, all the hardware must be able to connect to the internet.
- The current support would only be for browsers.
- Microphone would be required
- There are no other hardware limitations like webcam requirements as of now.

2.1.3 SOFTWARE INTERFACES

- The service must connect with Google login to enable sign-in/sign-up.

2.1.4 COMMUNICATION INTERFACES

- The service shall use HTTPS for communication over the internet.

2.2 PERFORMANCE REQUIREMENTS

- Assuming a stable internet connection at the user end, the response time should not exceed 100 ms about 90% of the time.
- The database must have enough storage to accommodate sign-up of 1000 users initially, which must be scalable as per need.

2.3 DESIGN REQUIREMENTS

- Must be compatible with all the major browsers like Safari, Chrome, Firefox, Edge
- Must work correctly on different screen resolutions
- Must work on any device that has browser support
- The user passwords and other confidential data must be stored in an encrypted manner.
- Must protect against common attacks such as XSS, SQL injection etc.

2.4 FUNCTIONAL REQUIREMENTS

(From next page)

PRIORITIES USED FOR USE-CASES

1. Critical
2. High
3. Medium
4. Low
5. Optional

MENTOR VERIFICATION

The mentors will be verified before listing them as verified mentors. To aid in this we will collect relevant information such as mobile number, institute email, homepage, LinkedIn profile etc.

Moreover, mentors that have been verified can vote for a mentor's verification if she knows that the newly added mentor is indeed a real mentor.

2.4.1 VISITOR

USE CASE: Visitor shall be able **register for a new account**

PRIORITY: Critical

ADDITIONAL DETAILS: A visitor can use his GMail credentials to create an account on this platform

USE CASE: Visitor shall be able **login to her registered account**

PRIORITY: Critical

ADDITIONAL DETAILS: A visitor can use his GMail credentials to login to her registered account

2.4.2 USER

PRECONDITION FOR ALL USE CASES: USER MUST BE LOGGED IN

USE CASE: User shall be able to **edit their profile**

PRIORITY: Medium

ADDITIONAL DETAILS: A user can change their profile attributes, such as "EMail", "Mobile Number", "Resume" etc.

USE CASE: Users shall be able to **maintain a to-do list**

PRIORITY: Medium

ADDITIONAL DETAILS: Users can maintain a personal to-do list, to set and achieve private targets. They may choose to share the same with other users.

USE CASE: User shall be able to **manage discussions**

PRIORITY: Low

ADDITIONAL DETAILS: A user can

- create a new discussion
- pose their views by commenting on a discussion
- react (upvote / downvote) to discussions / comments
- delete a discussion or a comment posted by them.

USE CASE: User shall be able to **subscribe to notifications**

PRIORITY: Low

ADDITIONAL DETAILS: A user can subscribe to notifications of

- any upcoming meeting
- a message from a mentor / mentee
- a reply on their discussion etc.

USE CASE: User shall be able to **delete their account**

PRIORITY: Medium

ADDITIONAL DETAILS: All personal information will be removed permanently

USE CASE: User shall be able to **communicate with the admins**

PRIORITY: High

ADDITIONAL DETAILS: A user can communicate with the admins regarding

- any bug
- platform related query
- any form of misconduct

E.g. A user can report another user in case of any form of misconduct. The user shall support the same with some evidence (eg - screenshots)

USE CASE: User shall be able to **block other users**

PRIORITY: Medium

ADDITIONAL DETAILS: The blocked user won't be able to communicate in any form with the user

USE CASE: Admin shall be able to **invite mentors to the platform**

PRIORITY: Medium

ADDITIONAL DETAILS: The invited mentors, upon acceptance of the invite, will be added as verified mentors on the platform

2.4.2.1 MENTOR

PRECONDITION FOR ALL USE CASES: USER MUST BE LOGGED IN

USE CASE: Mentor shall be able to **choose the type of mentee to mentor**

PRIORITY: Critical

ADDITIONAL DETAILS: A mentor can select her preferences (e.g. only UGs) on the types of mentee she wants to mentor. The mentee recommendation system will then recommend mentees based on these preferences, which she may or may not choose.

USE CASE: Mentor shall be able to **request a mentee for mentorship**

PRIORITY: Critical

ADDITIONAL DETAILS: A mentor can request a mentee (either search the mentee manually, or through the 'Mentee' recommendation system) for a mentorship. It is then up to the mentee to accept / decline this request.

USE CASE: Mentor shall be able to **chat with her mentees**

PRIORITY: High

ADDITIONAL DETAILS: None

USE CASE: Mentor shall be able to **accept / decline a mentee's mentorship request**

PRIORITY: Critical

ADDITIONAL DETAILS: Mentor will receive a request from a mentee for mentorship. The mentor can then accept / decline this request.

USE CASE: Mentor shall be able to **have meeting with her mentee(s)**

PRIORITY: Critical

ADDITIONAL DETAILS: Mentor can schedule meetings with her mentee(s). The mentee(s) will receive an invite for the meeting with the meeting link (probably using Google Meets).

USE CASE: Mentor shall be able to **specify the time of her meetings** (per mentee) while sending an invite

PRIORITY: Critical

ADDITIONAL DETAILS: A mentor can (per mentee) set a meeting schedule Eg: Every Tuesday 7pm.

USE CASE: Mentor shall be able to **manage the meeting agenda**

PRIORITY: Medium

ADDITIONAL DETAILS: A mentor can request / review / suggest changes to the meeting agenda as provided by the mentee before every meeting. The meeting agendas will be stored for the mentor to analyze later.

USE CASE: Mentor shall be able to **manage her mentor-mentee folder** (per mentee)

PRIORITY: Low

ADDITIONAL DETAILS: A mentor can create / edit notes that are shared with the mentee and stored in the mentor-mentee folder. The mentor can add resources, tips for easy access to the mentee.

USE CASE: Mentor shall be able to **manage mentee's progress tracker**

PRIORITY: Low

ADDITIONAL DETAILS: A mentor can view the mentee's progress tracker. The mentor can suggest edits / add tasks for the mentee to complete.

USE CASE: Mentor shall be able to **request for a certificate**

PRIORITY: Optional

ADDITIONAL DETAILS: A mentor can request for a certificate after she meets a certain criteria.

USE CASE: Mentor shall be able to **provide feedback to the mentee**

PRIORITY: Low

ADDITIONAL DETAILS: A mentor can provide regular feedback to the mentee, based on her performance, progress etc.

USE CASE: Mentor shall be able to **refer mentee to other users**

PRIORITY: Optional

ADDITIONAL DETAILS: A mentor can refer their mentees to other mentors / faculty / field experts as and when needed.

USE CASE: Mentor shall be able to **endorse skills of others**

PRIORITY: Low

ADDITIONAL DETAILS: A mentor can endorse a skill of their mentees or people they know of.

2.4.2.2 MENTEE

PRECONDITION FOR ALL USE CASES: USER MUST BE LOGGED IN

USE CASE: Mentee shall be able to **choose the type of mentor(s) for mentorship**

PRIORITY: Critical

ADDITIONAL DETAILS: A mentee can select the type of mentors she would like to be mentored by (eg. UG in CSE). The mentor recommendation system will then recommend mentors based on these preferences.

USE CASE: Mentee shall be able to **accept / reject mentorship request from a mentor**

PRIORITY: High

ADDITIONAL DETAILS: None

USE CASE: Mentee shall be able to **chat with her mentor**

PRIORITY: High

ADDITIONAL DETAILS: None

USE CASE: Mentee shall be able to **request mentorship from mentors**

PRIORITY: Critical

ADDITIONAL DETAILS: A mentee can request for mentorship from a mentor (either manually or through the mentor recommendation system). It is up to the mentor to accept / decline the request.

USE CASE: Mentee shall be able to **manage the meeting agenda** before every meeting

PRIORITY: Low

ADDITIONAL DETAILS: A mentee can write the meeting agenda to inform the mentor of the things that she plans/wants the mentor to discuss in the meeting. The meeting agenda is stored for the mentee to review in the future.

USE CASE: Mentee shall be able to **manage her mentor-mentee folder** (per mentor)

PRIORITY: Low

ADDITIONAL DETAILS: A mentee can create / edit notes that are shared with the mentor and stored in the meeting folder. The mentee can add important resources that are to be reviewed later, and can see the resources shared by the mentor.

USE CASE: Mentee shall be able to **refer mentor to other users**

PRIORITY: Optional

ADDITIONAL DETAILS: A mentee can refer their mentors to other mentees.

USE CASE: Mentee shall be able to **maintain a progress tracker** (per mentor)

PRIORITY: Low

ADDITIONAL DETAILS: A mentee can add / update milestones or objectives in the progress tracker. The mentee can add sub-tasks per milestone.

USE CASE: Mentee shall be able to **request for a certificate**

PRIORITY: Optional

ADDITIONAL DETAILS: A mentee can request for a certificate after she meets a certain criteria.

USE CASE: Mentee shall be able to **provide feedback to the mentor**

PRIORITY: Low

ADDITIONAL DETAILS: A mentee can provide feedback on the mentor on a regular basis on various parameters (e.g. helpfulness, expertise, trustworthiness etc.)

2.4.3 ADMIN

PRECONDITION FOR ALL USE CASES: USER MUST BE LOGGED IN

USE CASE: Admin shall be able to **manage user accounts**

PRIORITY: High

ADDITIONAL DETAILS: An admin can create / disable (for n days) / delete a user account if needed.

USE CASE: Admin shall be able to **delete any discussion**

PRIORITY: Medium

ADDITIONAL DETAILS: An admin can delete any discussion / post if it classifies as profane / obscene / spamming.

USE CASE: Admin shall be able to **address reported issues**

PRIORITY: Critical

ADDITIONAL DETAILS: An admin can view a reported issue (bug, platform related query). The admin can communicate with the user (via chatbox) regarding the same.

USE CASE: Admin shall be able to **view mentor-mentee statistics**

PRIORITY: Medium

ADDITIONAL DETAILS: An admin can view the high-level mentor-mentee statistics.
E.g.

- how often are the meetings conducted
- what days are meetings generally conducted
- timely completion of milestones on the progress tracker

2.4.4 PLATFORM

COMPONENTS:

General View (GV) (when user is not logged in):

1. Homepage
2. Features
3. Login System [General View Only]
4. Registration System [General View Only]
5. FAQ
6. About Us

When user is logged in (in addition to General View components) (except for those which are marked as “General View only”):

1. My Profile
2. Discussions
 - a. Create new
 - b. Edit existing ones [If owner]
 - c. Delete existing ones [If owner]
 - d. Search for discussions (e.g. using title or keywords)
3. My Mentors / Mentees
 - a. Mentor-Mentee private data
 - i. Folders
 - ii. Chats
 - iii. Meetings notes
 - iv. Recording of meetings
 - v. Feedback (for mentor or mentee)
 - vi. Ratings
 - b. Request for meeting
 - i. Specify or request for timings
 - ii. Specify agenda (if user is mentee)
4. My Folder
 - a. Links
 - b. Notes
 - c. PDFs
 - d. Sub-Folders
5. Meetings
 - a. Meeting space (where the meeting takes place)
 - i. Chat box (temporary, the chat gets archived / deleted once the ongoing meeting is over)
 - b. Calendar (for managing meetings)
6. To-Do list
7. Progress tracker
8. Feedback (for the platform)

Note: Upon signing up as a mentor, he/she will also receive relevant resources regarding what is expected of them as a mentor, how to be an effective mentor and some dos and don'ts about mentorship.

3. APPENDIX

3.1 CLASS DIAGRAMS

