

Project Proposal

IITJ INSTI APP

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- Short Bio :

I'm a first-year bioengineering student at IIT-Jodhpur. The world of web development and open source is quite new to me but I'm still exploring the overall tech domain so I hope this is something that clicks for me as a personal area of interest.

- Contacts :

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- Why are you interested in working on this project?

I find this project to be something which would be very useful for both students and outsiders. As a current fresher, I would have loved to have had a similar website which catered to all my doubts in my first semester and being a part of developing something like this would definitely be a wonderful opportunity to contribute to a project that would simplify the lives of future and current students and also build up my skills as a new-to-the-field developer.

Project Understanding

- **What problem the project solves and who faces that problem?**

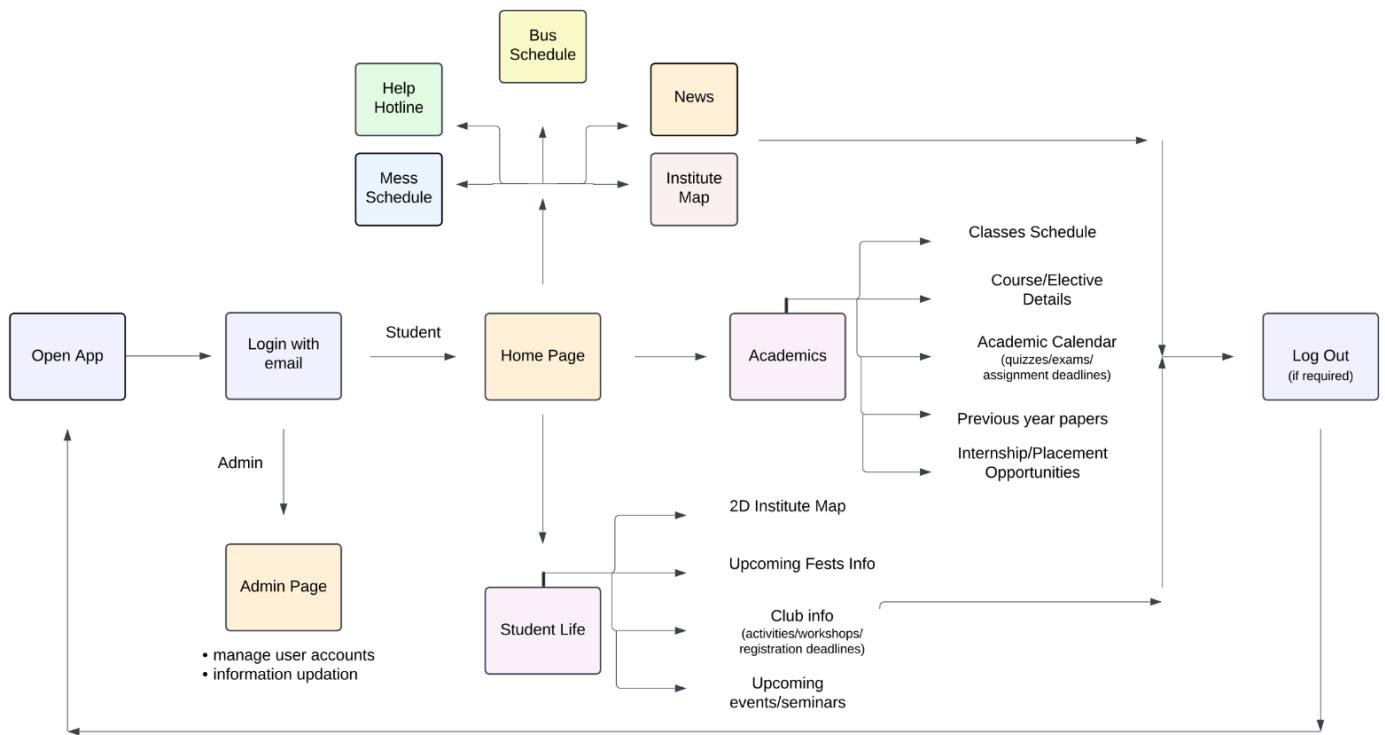
The project aims to make the life of students of IITJ better by providing a single platform where students can access all information related to the college like bus and mess schedules, academic calendar, fests, club activities, and other useful information including a separate tab for a “freshers guide” of sorts. This is an effective solution to the otherwise scattered information of the campus and the difficulty faced by students in acquiring it.

- **What do you plan to do with the project (list of features, user flow)?**

Features :

- Interactive Institute Map (integrated with google maps) to help freshers and outsiders find their way around campus.
- Mess Schedule which has the menu and timings everyday with feedback so that food can accordingly be improved.
- Bus Schedule with daily updated bus timings and a GPS tracking so one can track how far the bus is from the bus stop. It can also include how far you are from the bus stop and how long it would take you to reach it.
- Details of the upcoming fests and information on volunteering and participation. It can include the different events being held and how you can sign up and the contacts of the AHs and FCs involved in each vertical.
- Upcoming activities and workshops held by clubs. (this can also prevent clashing of multiple activities at once so students can participate more)
- A news page with the latest hot news of the campus
- An ask-a-doubt hotline of sorts which answers random questions posed by students.
- A ride sharing page
- Trusted mental health help contacts
- Details on internship and placement opportunities

User Flow :



Other accessible features include :

- Global search bar
- Notifications for events, deadlines etc.

- **What is your tentative timeline for the progress of your project?**

Week 1 - Project planning

Week 2 - UI interface and initial phase of mobile and web development

Week 3 - Integration of API

Week 4,5 - Final phase of web and mobile development

Week 6 - Debugging and testing of the project

- **Any open source alternatives to the project?**

GraphQL in place of APIs. Although more complex to understand, it efficiently fetches data and is more specific, taking only what is required thus optimizing performance. This overall leads to a better user experience as it leads to faster, smoother updates.

Technical Understanding

- **Suggest some tech stack options which you think we can use in this project?**

For web development, React.js can be used to build the homepage and provide all the predefined components necessary for building the page. It can be made more powerful by using Next.js along with React. On further research, I have found that Next.js has three powerful tools - SSG, SEO, and SSR which fills in the gaps of React, overall making a much more efficient running system.

Tailwind CSS has a wide range of predefined classes and libraries which make the job of designing the interface easier as you add the classes directly to HTML, instead of spending time on writing long lines of CSS code.

For mobile development, Flutter reduces time wastage as it uses the same code for both iOS and Android devices. It thus ensures that the website looks consistent across all devices.

- **Which components of the tech stack do you know about?**

Basic understanding of HTML and CSS, and on research, I now have a brief idea of what each component of the tech stack is used for, but overall little to no prior knowledge of the actual working or code of any of them. But I am willing to learn and eager to develop my understanding of web development.

Time Commitment

How much time (in hours per week) will you be able to commit to this project? Also mention any time phases when you will have other commitments (for example, end sems) and cannot devote the same time compared to your regular schedule.

- Approximately 10 hours per week.
- Planning on working on a robotics project for Prometeo so around Jan 15-19 might be a little busy.
- Minor Exams (20-22 Feb)
- Major Exams (22-28 Apr)