DEPARTMENT OF APEX INSTITUTE OF TECHNOLOGY

# PROJECT PROPOSAL

## 1. Project Title: -

To create a Lab MST Schedule Generator for CU

## 2. Project Scope: - (Max 500 words)

We as a student of 4th semester has always been faced a problem of getting Lab MST schedule merely before 3-4 days of MST during our all 3 semesters. Apart from us, the college faculty also faces problem while creating a perfect and optimum Lab MST schedule as currently in our college its being done manually as no automation is used apart from simple spreadsheet application and manual methods. As it is a tedious job to perform scheduling of exams in such a brief period because the constraint for scheduling the exams is not fixed like number of teachers available, number of available rooms so as number of days in which exams should be finished. Also, a slight change would require great hassle as it require whether the teacher is free or not and multiple checks. Hence, we decided to solve this problem by creating an app which would help CU for generating Lab MST schedule considering various constraints, the app would not only generate the schedule but also make it available to the end users i.e., teachers and students.

We as a team of 4 would deliver a working application with backend hosted on CU servers (permission to be granted for) which would provide the users with their scheduled Lab MST exams after the completion of project. However, we are currently determined to make the flow easier for the user to get service, but it would be little tough for the backend maintainers to process any new constraints and changes because the backend would be controlled manually by CLI and direct queries by admins. As, it is a part of mini project of 4th semester, we would like to restrict the scope to this only. The backend would be handled by us at starting and later handed to the CU with a good documentation. But we completely assure our support for this project in future and remove the pain for backend maintainers by providing them a UI based management tool.

The approach for completion of this project is simply divided into multiple branches of backend- (APIs and Scheduler algorithm), frontend (priority is to make a mobile app, however we will extend it to web app as well if time permits). The task of creating the algorithm is our main central problem with the given constraints and requirements, this phase would be consuming our most of the time. Hence, we decided to parallelly develop our project constrained to defined structure so as for better merging and integration at later point of time. We ought to take help from the CU faculty and its administration for required help, support and guidance for the completion of project.

This project is intended to be finished by the end of 4th semester and ready to be used for production by the start of 5th semester with a generous budget of just the server cost.

## 3. Requirements: -

* Hardware Requirements

1. PC or Laptop – min 8GB RAM – for development and testing purpose.
2. Network Connectivity- 100MbPS
3. Android Phone – for testing mobile apps.

* Software Requirements

1. Flutter SDK – for creating mobile apps.
2. VS Code Editor – for development of codes
3. BUN or Node.js
4. POSTMAN – for testing APIs.
5. React Framework – for creating web app.
6. Figma – to collaborate with UI/UX designer.
7. Discord – to collaborate with team members.

**STUDENTS DETAILS**

|  |  |  |
| --- | --- | --- |
| **Name** | **UID** | **Signature** |
| Hare Krishna Raj | 22BAI70019 |  |
| Nimit Uppal | 22BAI70037 |  |
| Himanshu Singh | 22BAI70010 |  |
| Ritik Rajpal | 22BAI70347 |  |

**APPROVAL AND AUTHORITY TO PROCEED**

We approve the project as described above and authorize the team to proceed.

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| --- | --- | --- |
| **Name** | **Title** | **Signature**  **(With Date)** |
| Aman Kumar |  |  |