Introduction

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Languages: Hindi (Native), English

Location: I currently live in New Delhi, INDIA. My current timezone is UTC+05:30. I intend to work from 9:30 AM to 10:00 PM which can be adjusted to 8:00 AM to 11:30 PM in case of urgent work which is further adjustable as per the requirements of the mentors.

Degree : B.Tech

Major : Computer Science Engineering

Institute : Guru Gobind Singh Indraprastha University

Resume : Resume

My Motivation

- What is your motivation to take part in Google Summer of Code ?

I have always been intrigued by the field of web development and the kind of immense potential it offers to the individual. During the course of my B.Tech(Bachelor in Technology) in Computer Science, I worked on various projects and internships, but I believe that a learning experience through Google Summer of Code would be irreplaceable and provide me an opportunity to work and learn from well experienced mentors.

- Why did you choose Sugar Labs ?

I have always believed in contributing towards the betterment of society and I feel that being a part of Sugar Labs would enable to do so as the organisation enhances the educational system at its roots.

- Why do you want to work on this particular project ?

I chose '**improve sugarizer server dashboard**' because the tech stack being used aligned with my skill set. It would provide me a great opportunity to apply the skills that I have learned, while also learning from well experienced mentor on the journey.

- What are your expectations from us during and after successful completion of the program ?

I have always aspired to be a part of this programme and I expect it to be a great learning experience which would not only enhance my technical skill set but also add some soft /

interpersonal skills to my arsenal. During the course of the programme I expect the organization to be approachable and an active mail thread.

Open Source Contributions :

https://github.com/techspaceusict/infox18 -InfoXpression is the annual techno-cultural fest of University school of Information and Communication Technology.
It is based on nodejs , express , ejs and mongodb and various interesting js libraries
Here are some of my contributions -
https://github.com/techspaceusict/infox18/pull/40
https://github.com/techspaceusict/infox18/pull/37
The complete list of my contributions to this organisation can be found here

I have been contributing on open source for more than 2 years and can be tracked from my github account .

Some of my work Samples :

Cocoberry : Cocoberry is india's first and leading frozen yogurt brand . It is PHP based project . I did internship here last summer vacations and worked with a team to complete the project . I worked both on backend and ui . We worked as per timeline set by the Client . I learnt here how to work in a time bound environment in an efficient manner .

Animal Vcare : It is a Cross platform mobile application built using Flutter and allows user to share information about stray animals including location , images and a small description. Allow users to login , continue as guest and search for animals (filtering based on location) they want to help and make a request to the original publisher .
I developed this application during my winter vacations and is also published on playstore .
https://play.google.com/store/apps/details?id=com.ashish.vcareanimal

Suvidha Home : It is a Apartment management system . it consists mobile Application for the resident of the apartment and (Vue.js and google cloud and cloud firestore) administrator Portal.I did internship here in my winter vacations and learnt how to manage to work on a production level project having large number of active users .
https://suvidhahome.com/
https://play.google.com/store/apps/details?id=com.sunshinesuvidha.sunshinesuvidha

I have also created large number of creative and interesting projects and can be found through my github account .

About My Project

What are you making ?

We would be working to make enhancements to the sugarizer server dashboard which encompasses a plethora of features and utilities. The major enhancement which we propose in this proposal are :

1. **Teacher Profile**

As the project is based on the educational ecosystem which includes teachers and students as its main protagonists, thus being able to manage their profiles would be a necessity for the project. It would help the administrator to monitor the progress of the system efficiently while also obtaining actionable insights from the data available. This aims at enhancing engagement from teacher's side on the sugarizer application. Following are the parts we wish to work upon during the this tenure to provide the functionality of teacher's profile :

- Updating the API for the purpose of facilitating the admin to perform operations like adding a user with the role as a teacher, editing the teacher's profile, deleting the created profile. It would allow the admin to assign classrooms to the teacher through his dashboard, for which separate screens would be created to achieve the sought after objective. The process would be similar to how the classrooms were assigned to students using dashboard.

- A new dashboard for the teacher would be created which would look like the screenshots mentioned below. It would have 4 major tabs :
    1. Home : In this tab, the teacher would be able to view the student as well as the classroom count along with the statistics available to the teacher. It would be based on the standardised UI which has been followed throughout the project. (Figure 1).
    2. Students : In this tab, the teacher would be able to view the students currently being taught by him. He would be able to view as well as sort them based on various parameters. (Figure 2)
    3. Classrooms : In this tab, the teacher would be able to view the classrooms currently being taught by him. (Figure 3)
    4. Journals : In this tab, the teacher would be able to view the journals of the students. (Figure 4)

    The dashboard would be interactive for the teacher and would provide a standardised user interface based on the rest of the project. The dashboard would be available in different languages, similar to the rest of the project and the teacher would be able to perform searching and sorting operations from each of the tabs. The different parts of the dashboard would be well connected, for example - When a teacher selects a student after searching and/or sorting from the students tab, upon clicking on the student, he/she would be able to access the journals of that student. Similarly, when a classroom is selected, the teacher would be able to view the students of that classroom and subsequently journals of students can be accessed by selecting any student from that list.

- Authentication would be added for the teacher where he/she would be able to access his/her dashboard where he/she can access the different views available to him which

includes, namely, the classrooms as well as the students whom he would be interacting with, while also knowing what kind of activity that needs to be performed. He/she would also be able to access the student's journal through the dashboard as shown in the screenshots provided below.

- All global views of the existing dashboard would be updated for the teacher such that his data can be seen as well as updated at a global view. This would also enable the admin to obtain more informed and accurate stats as more data would be available for analysis.
- Admin dashboard would be updated to include a counter for the teachers and thus enabling the admin to have a comprehensive view of the whole system.
- Statistics related to the teacher would be shown under the Home tab in the teacher's dashboard. These statistics would comprehensively represent the snapshot of the system from the teacher's perspective. Some of those statistics are :
  1. A bar-graph representing the number of active students vs months. It would show the variation in the number of students under that teacher over the previous months. This can be a helpful parameter for the teacher to keep a check on the involvement of students and compare it with past months.
  2. A pie-chart representing the most contributing classrooms among those being currently taught by the teacher. The share provided in the chart would be directly proportional to the contribution made by each of the classrooms.
  3. A bar-graph representing the most active students (top 6) along with the number of contributions done by them. Also, upon selecting the bar of a student, the teacher would be directed to that student's journals.

More statistics would be added during the course of work depending upon the requirements of the mentors and the project .

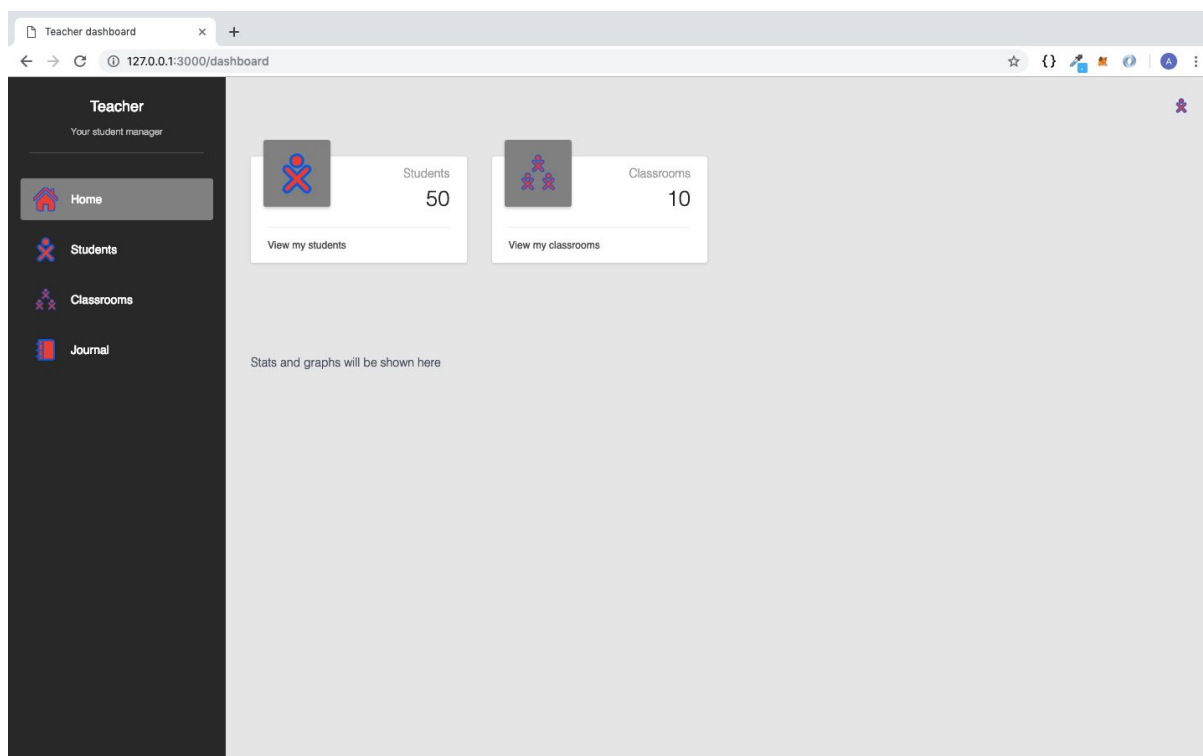Here are some screenshots for new teacher dashboard -
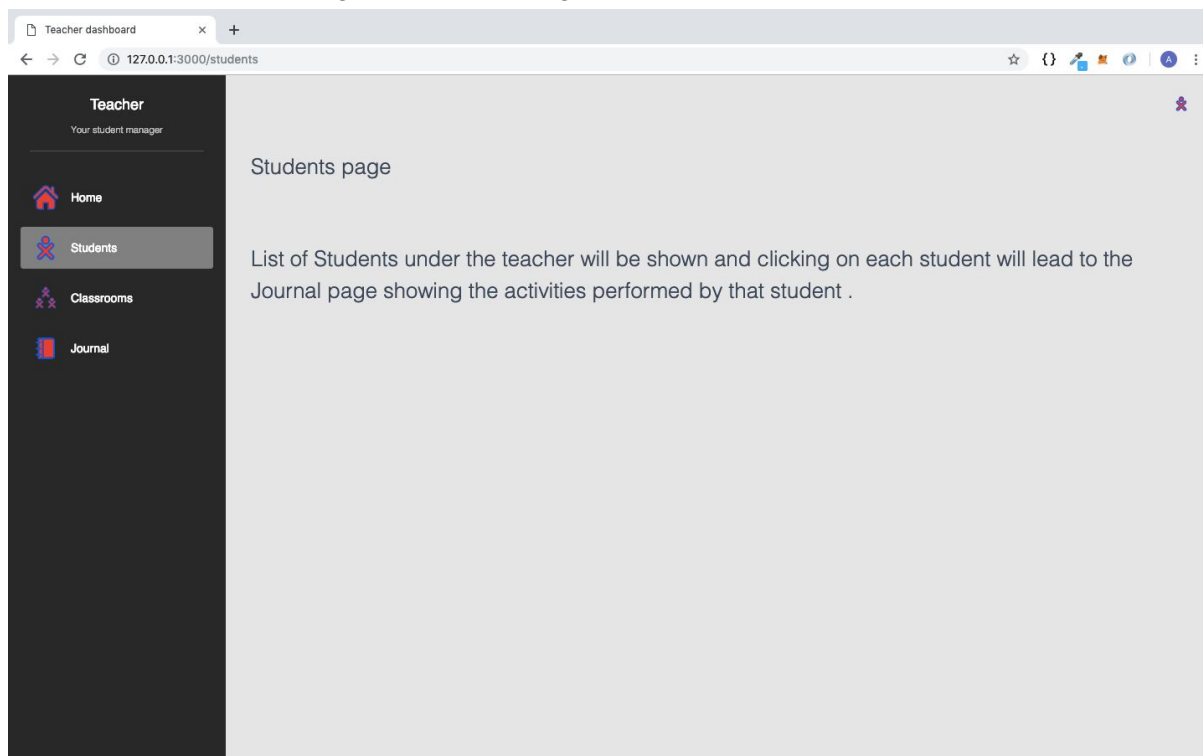

Figure 1: Home Page of Teacher's Dashboard

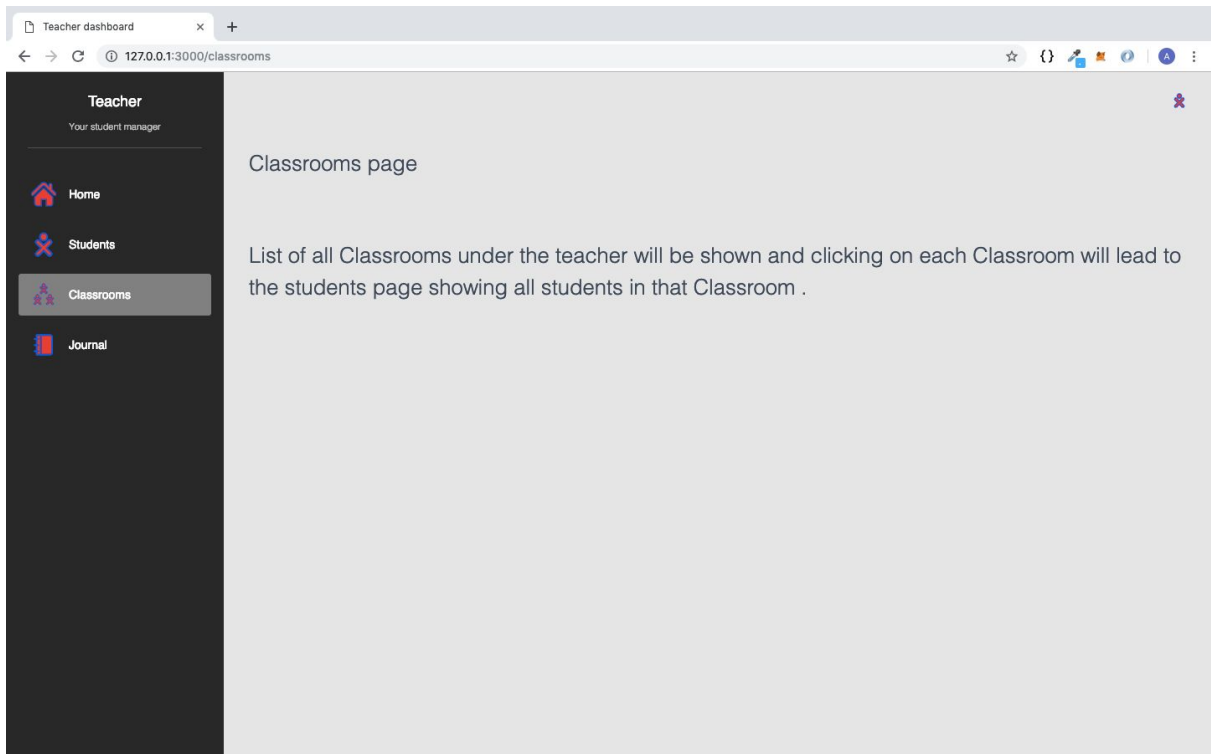Figure 2 : Students Page of Teacher's Dashboard

Figure 3: Classrooms Page of Teacher's Dashboard

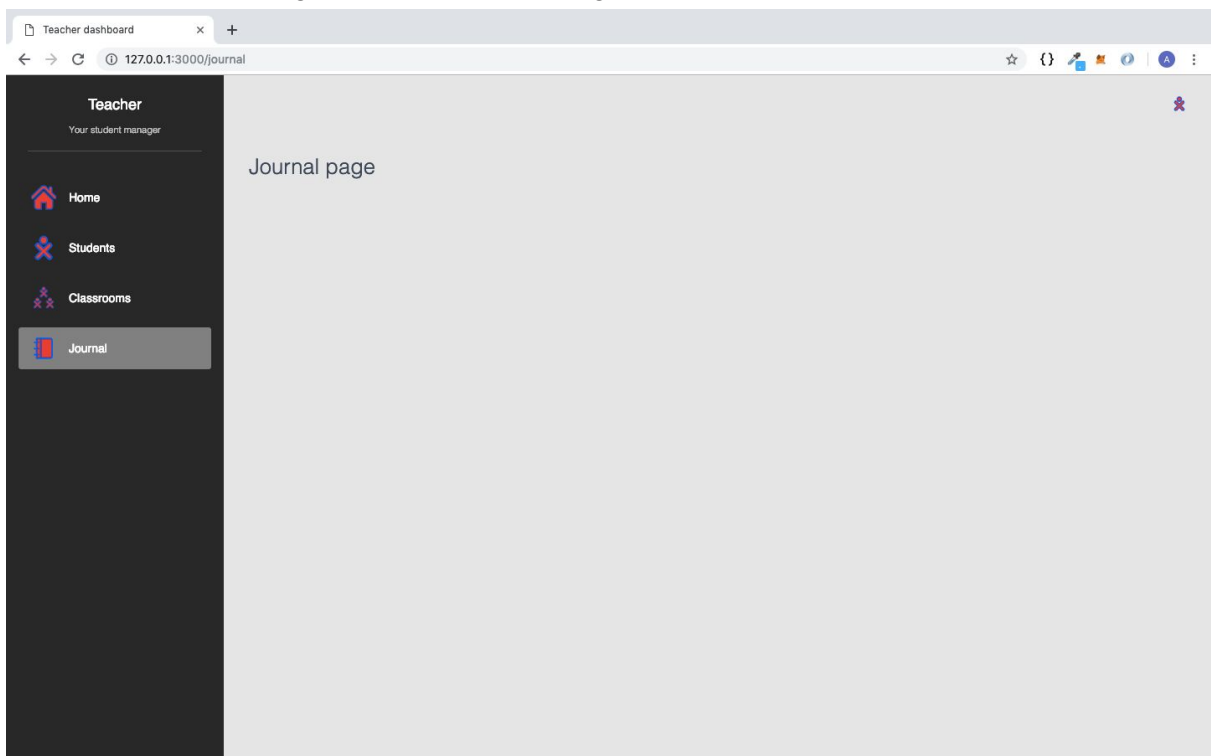

Figure 4 : Journal Page of Teacher's Dashboard

Sample for Teacher

```json
{
    "name": "Tarun",
    "role": "teacher",
    "color": {
      "stroke": "#00A0FF",
      "fill": "#00B20D"
    },
    "favorites": [
      "org.olpcfrance.Abecedarium",
      "org.sugarlabs.ChatPrototype",
      "org.sugarlabs.Clock",
      "org.olpcfrance.FoodChain",
      ...
    ],
    "classrooms": [
      "592d4445cc8be9187abb284f",
      "456d4445cc8be9187abb2123",
      "777d4445cc8be9187abb2123",
      "987d4445cc8be9187abb2123",
      "678d4445cc8be9187abb2123",
      ...
    ],
    "language": "en",
    "password": "xxx",
    "private_journal": "5569f4b019e0b4c9525b3c96",
    "shared_journal": "536d30874326e55f2a22816f",
    "created_time": 1423341000747,
    "timestamp": 1423341000747,
    "_id": "5569f4b019e0b4c9525b3c97"
  }
```
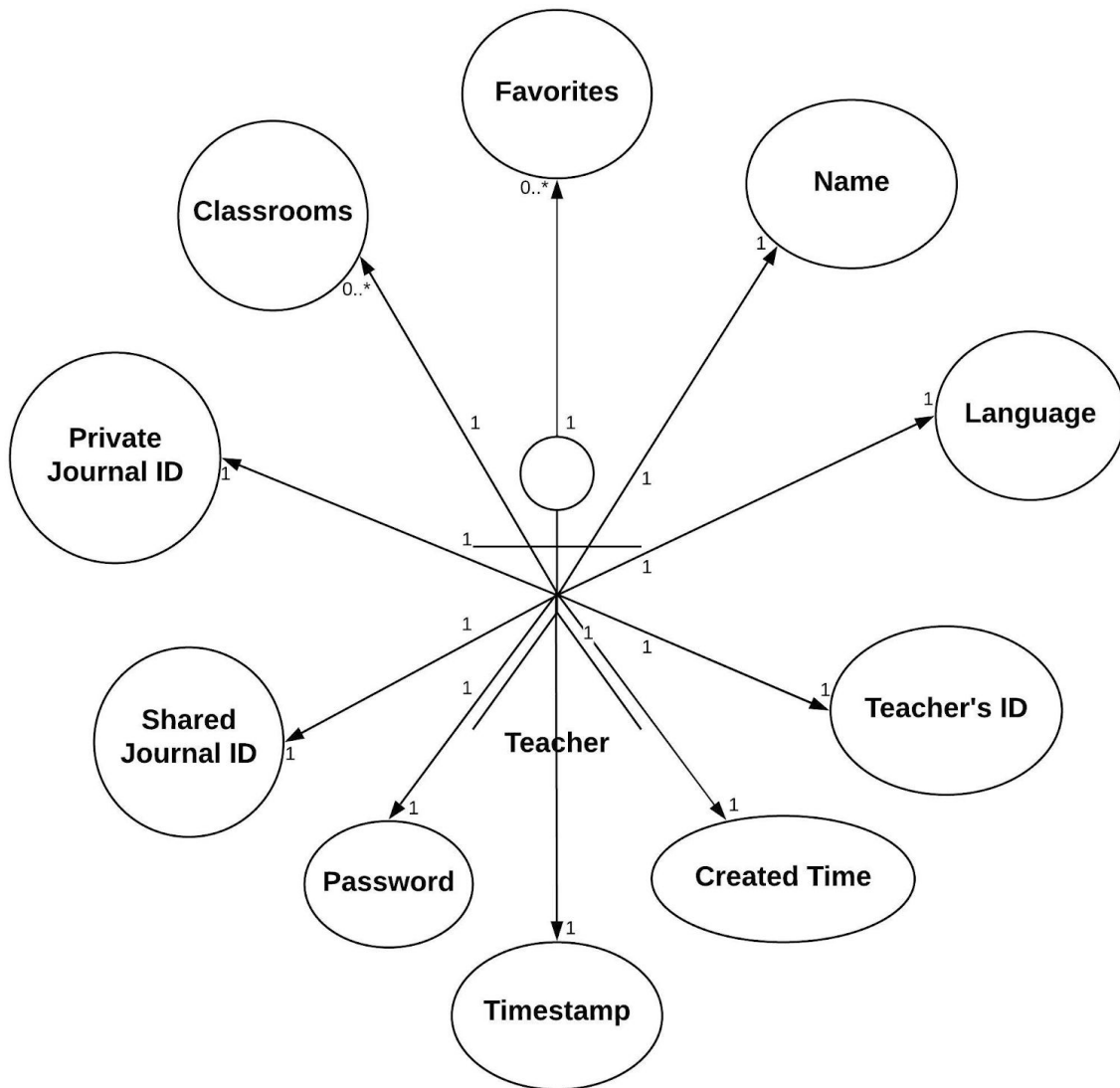
Figure 5

2. Extend Dashboard UI

For every application / project, its user interface is of paramount importance as it enables the administrator engage the user on the application for a longer duration. A well structured User Interface also entails the comfortability of its users and thus increasing their efficiency. We wish to extend the UI features currently available to provide a more structured and comprehensive experience to the users. Following are the major UI extensions we propose :
- Sorting facility would be provided in all the dashboard screens based on parameters like - Alphabetical, Last Seen Date, etc. This would allow faster and accurate filtration of data by the user(Admin/Teacher) leading to a much better user experience.

- As the project would be running on different screen sizes, it is necessary for it to be responsive to different screen sizes so that not only the functionality of the application remain unaffected but also provides a structured and standardized user interface. Thus, we propose to enhance the current User Interface to make it responsive to all types of screen sizes.
- We also propose a sample tutorial which would provide a walkthrough to the user of the application to make him acquainted with the process and features of the application. This would enhance the accessibility and usability of the application. This would by developed by taking insights from the tutorial already available for sugarizer.

3. **Miscellaneous**

- Any system / application which accepts or produces data in a standardized format, which is largely accepted by the community is of paramount importance and thus we propose to build features to not only enable the system to accept data in CSV format but also produce CSV files containing the data which is required by the user. This would enable further efficient use of that data as it would be present in a standardized format. We would be providing functionalities like : exporting data of users (Admin, Teacher, Students) in CSV using npm package JSON2csv, importing data from a CSV file to create single/multiple users (Admin, Teacher, Student) using npm package csv2json.
- A system/application can always be judged on the basis of its ease of deployment and maintenance. Thus, to enhance that capability in our application, we propose to implement GRUNT, which would minify the public resources and perform certain processes leading to a reduced size of the deployment package and thus easing the deployment process.Technology used for this will be very flexible as it is being discussed here .
- A system/application always needs to cater its development environment and not only stay up to date with its dependencies but also maintain the optimum configuration of the system. Therefore, we propose to upgrade dependencies related to MongoDB and EJS which would enable access to new features and also increase the efficiency of the application.

Technology used -

The new dashboard would be based on Node.JS, EJS, MongoDB and Express which would be in congruence with the existing system.Various other dependencies such as Grunt , csv2json, json2csv will also be required .

Timeline

GSoC is round about 12 week duration, with about 22 days of Community Bonding Period in addition. I will be spending 35% time in fixing the bugs left out in the current existing dashboard, adding Teacher profile , updating global views for teacher and adding proposed features minification to existing dashboard using Grunt . 35% time on creating new dashboard for teacher and integrate teacher API in it. 30% time on testing the project , writing documentation , Adding miscellaneous features . I will be needing a break for about 9 days in the month of May for my end Semester exams, which I will cover up by chipping in some extra hours daily after the exams.

DURATION	TASK
6 May - 27 May	Explore the technologies to be used in developing Sugarizer Dashboard. Talk to the mentors to decide how to integrate the existing API with the Dashboard and think about possible changes to existing API so that they both work seamlessly.
27 May - 2 June	Implement changes in the existing API in order to accomodate teacher API. -Give admin control to perform create,read and delete teachers -Give admin control to update teacher which includes editing the classrooms under the teacher and update all the data of teacher
2 June – 9 June	Complete the Teacher API and Update the global views of existing dashboard to incorporate Teacher profile and test workflow and add unit tests.
9 June – 16 June	Discuss the Final project structure for deployment and add minification to the existing dashboard using grunt
16 June – 23 June	Complete the user interface of new dashboard for Teacher
24 June – 28 June	Phase 1 Evaluation (progress - Teacher API created , global view updated , and new dashboard created).
28 June – 5 July	Integrate Teacher API into teacher dashboard with authentication and test the workflow .

5 July – 12 July	Add import from CSV for Teacher , Students , Classrooms -Update the API to add this feature -Update the Global views
12 July – 22 July	Add export to CSV for Teacher , Students , Classrooms and make changes as per mentor feedback and test workflow and add unit testing
22 July – 26 July	Phase 2 Evaluation (Progress - Teacher API incorporated in new teacher dashboard and import/export CSV).
26 July - 2 August	Create documentation and add tutorials (Inspired by sugarizer tutorial) and Changes as per the mentor Feedbacks
2 August –12 August	Review documentation , User interface polish and Prepare for final Evaluation
12 August - 19 August	Buffer Week : Complete the remaining tasks
19 August - 26 August	Final evaluation (progress - Remaining tasks completed , documentation and tutorials)

- Also discuss your plans after the GSOC period ends. Do you plan to continue working on the project after GSOC ends ?

I would continue to work on this project post the completion of my GSOC tenure as an active contributor so as to keep in touch with the updates and also guide new contributors. I wish to apply as a mentor next year in this organisation and work towards the growth of this organisation.

- Mention how much time will you spend each week working on your project

I would be able to spend 49 hours a week on this project during the tenure. I would be working on, but not limited to the proposed objectives. I would be working 7 hours/day as an average and would be willing to work more if the project demands. My main aim would be to stick by the timeline and perform all the mentioned tasks efficiently.

- **Convince us that you will be a good fit for this project, by sharing links to your contribution to Sugar Labs**

I have been majorly contributing to sugar labs for a while now . Here are some links
To the pull requests and issues .

SugarLabs Contributions

Pull requests -

[Sorting added in classroom , user and journal views (77)](#)

[Improve Record activity to see picture in real time (275)](#)

[Bring Consistency in language of users issue (35)](#)

[Create a class room with a name in space (26)](#)

[Fixed error in dashboard when deleting a user (25)](#)

[Added Missing message string in dashboard on delete (24)](#)

[Created documentation for Macosx (31)](#)

[video tutorials added for creating activities on sugarizer (281)](#)

[Users and classroom add route crash fixed (71)](#)

[create new user with space in name (32)](#)

[Add Size column in journal view (67)](#)

[Classroom and user page crash fixed (57)](#)

[added No user or classroom found message (44)](#)

[Convert classrooms and users to CSV (70)](#)

[size column in journal view bug fixed (94)](#)

[localisation added in size column in journal view (104)](#)

[User role and search class translation added (113)](#)

[Private and select tag of journal translation issue (132)](#)

[added tooltip localisation in classroom views (136)](#)

[Added localisation for translating language select box (146)](#)

[Added localisation for the language of user (145)](#)

[Classroom select combo box in user view UX and localisation (150)](#)

[Show journal of all users (122)](#)

Issues -

[users , classroom add route crash (69)](#)

[Classroom and User page crash (56)](#)

[Allow sorting on various views in Dashboard (50)](#)

[show no result found message (39)](#)

[Consistency in language of users (33)](#)

[Add filtering to speaker Activity (273)](#)

[Not able to access journal of all users (111)](#)

[private and shared select tag of journal translation issue (131)](#)

[Page navigation problem on language switching (142)](#)