

# GSoC'23 Project Proposal

## Sugar Labs: Port Sugar and Core Activities to Python 3

Priyanshu Arora

---

### **Basic Details**

#### **Full Name:**

Priyanshu Arora

#### **Emails and Contacts:**

Primary email : [priyanshuarora02@gmail.com](mailto:priyanshuarora02@gmail.com),  
Secondary Email : [priyanshuarora.2020cs@technonjr.org](mailto:priyanshuarora.2020cs@technonjr.org)  
Github : [priyanshuarora595](https://github.com/priyanshuarora595)  
LinkedIn Profile : [Priyanshu Arora](#)  
Phone : (+91) 7976584633  
Resume : [Resume link](#)

#### **Your First Language:**

My first language is Hindi but I am proficient in speaking, reading, writing, and understanding English.

#### **Location and Timezone:**

Location: Udaipur, Rajasthan, India  
Timezone: Indian Standard Time (UTC+5:30)

#### **Communication:**

The time I will be comfortable working with [Timezone : IST (UTC+5:30)]:

- UTC 11:30 - UTC 14:30 (IST 17:00 - IST 20:00)
- UTC 16:00 - UTC 19:30 (IST 21:30 - IST 01:00)

I can start my day 2 hours early or late if it helps to communicate with other developers and mentors, and I will be reachable anytime through my Mobile No. and Email.

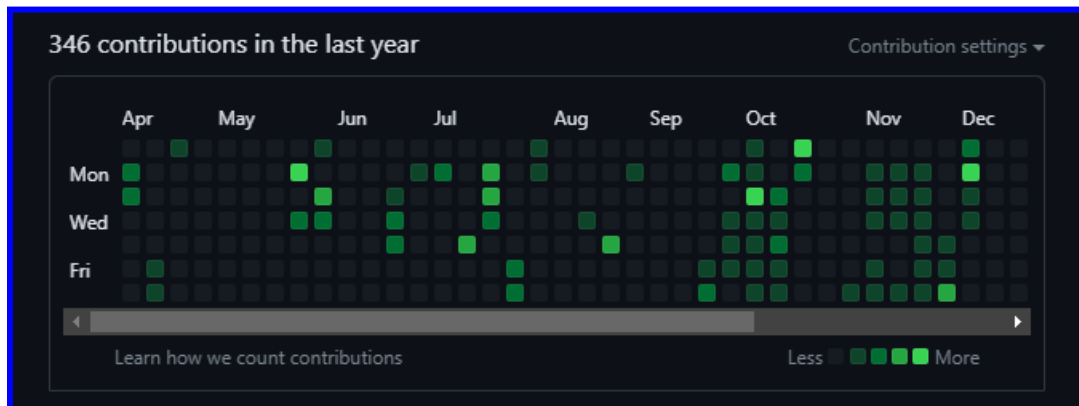
### **Education Details**

I am an undergraduate student at the **Techno India NJR Institute of Technology** pursuing my Bachelor of Technology with majors in Computer Science and Engineering. I was introduced to the world of programming and software development when I was in High School, 11<sup>th</sup> grade. Since then, I have explored various fields such as Web Development, Data Structures, Algorithms, Computer Architecture, and Operating Systems. I also have been contributing to open-source from 2022. For most of my programming journey, I have worked primarily with Web-based technologies and C/C++, Python programs.

## **Share links, if any, of your previous work on open source projects**

I got introduced to open-source projects and community in the second year of my undergraduate studies. Since then I kept myself involved in developing and learning about software and technologies.

Github username - priyanshuarora595 | [link](#)



### **My Contributions**

I worked on some of my personal projects for various hackathons like **SMART INDIA HACKATHON**, And also for learning purposes. I have also participated in Hacktoberfest 21 and 22. I have started my own community in my college to promote open-source and to inculcate various skills among my fellow students.

Details can be found on my Github profile [here](#)

Community profile - [here](#)

## **Personal Projects:**

### **Graphical Password Authentication | [Link](#)**

I participated in **Smart India Hackathon 2022** and we were challenged with a problem of making a *Graphical Password authentication* system which uses a series of images in a particular order as a password instead of regular text-based password.

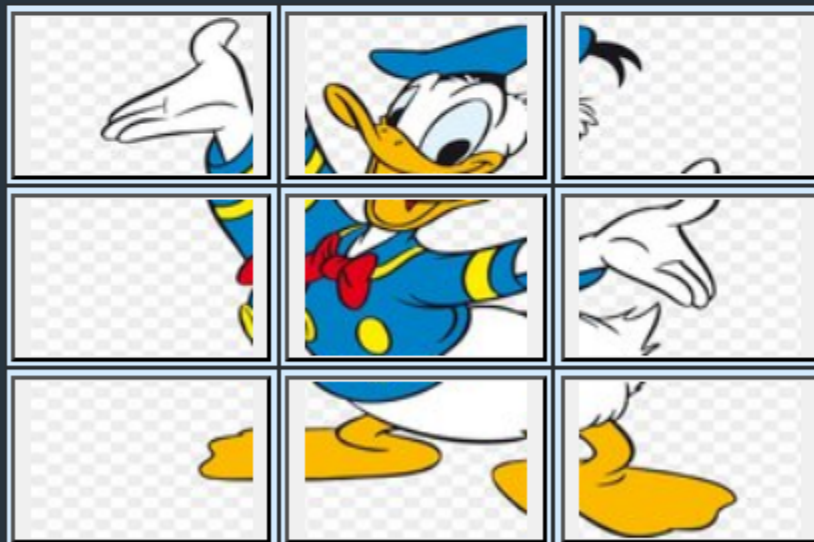
**Technologies used:** Django framework, HTML5, CSS, JavaScript, and MySQL for database

# WELCOME USERS

Login **Register**

E-mail Address

**Password:** select any 3 images and remember their order! these images will be shuffled and become blur after your confirmation



Change-image

confirm-image

Register screen

When a new user wants to register, they are welcomed with this screen. Here the user can change an image and select a particular image as their password. After confirming the image, along with 3 or more selected tiles, the image gets shuffled.

# WELCOME USERS

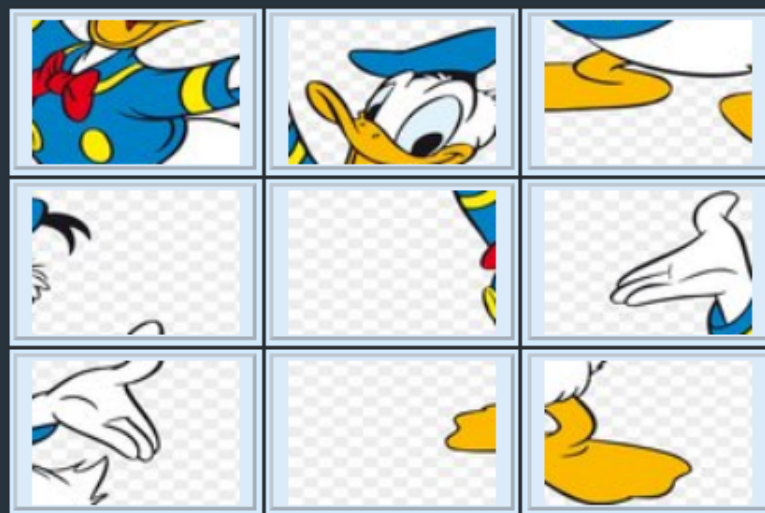
[Login](#)   [Register](#)

priyanshuarora.2020cs@technonjr.org

**Password:** select any 3 images and remember their order! these images will be shuffled and become blur after your confirmation

Now find those 3 images in order. These will become blur in 10 seconds. You will be able to select only after images becomes blur.

in 06 seconds , images will become blur!



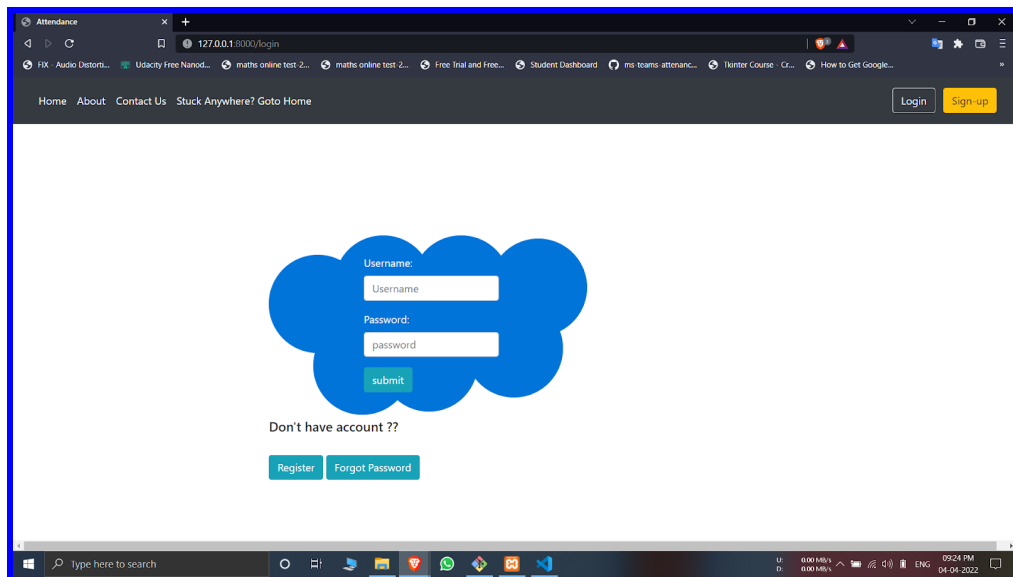
Register

## Confirm Password Screen

- **Attendance Marking System | [Link](#):**

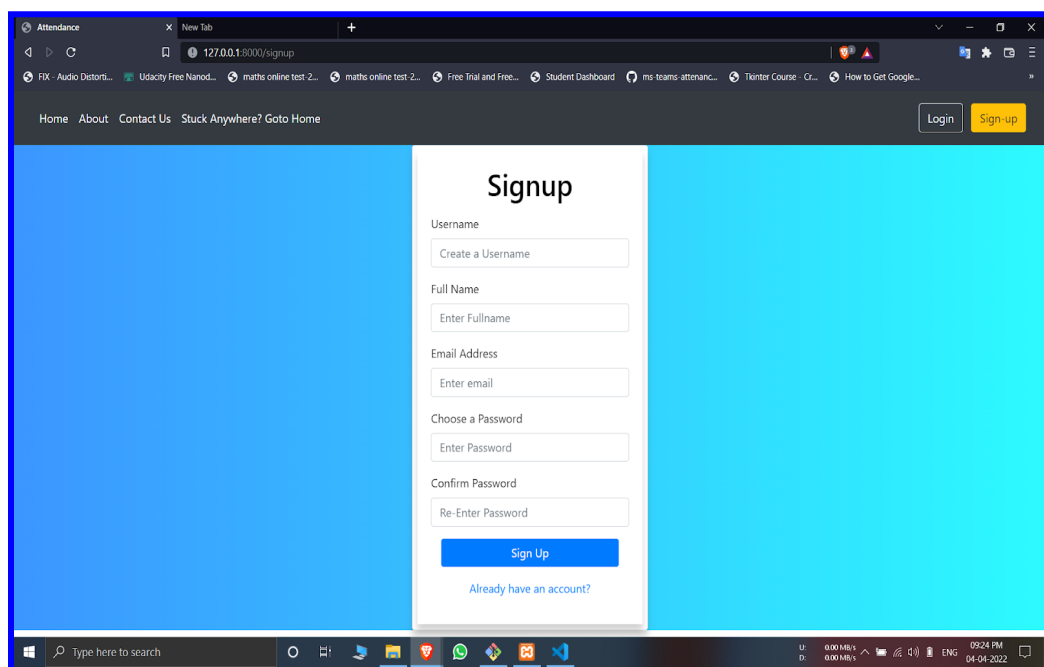
I made this project in my second year of college. The goal was to enhance the attendance marking process for teachers and also try to minimize the possibility of proxies.

Here, Faculties and students both have to create accounts to be able to use the facilities. A faculty can start an attendance server and an otp will be generated, but the whole system will only work on an internal network, so the students can't access it over the internet. Also, no single student can mark attendance of other students because the ip address is being traced.



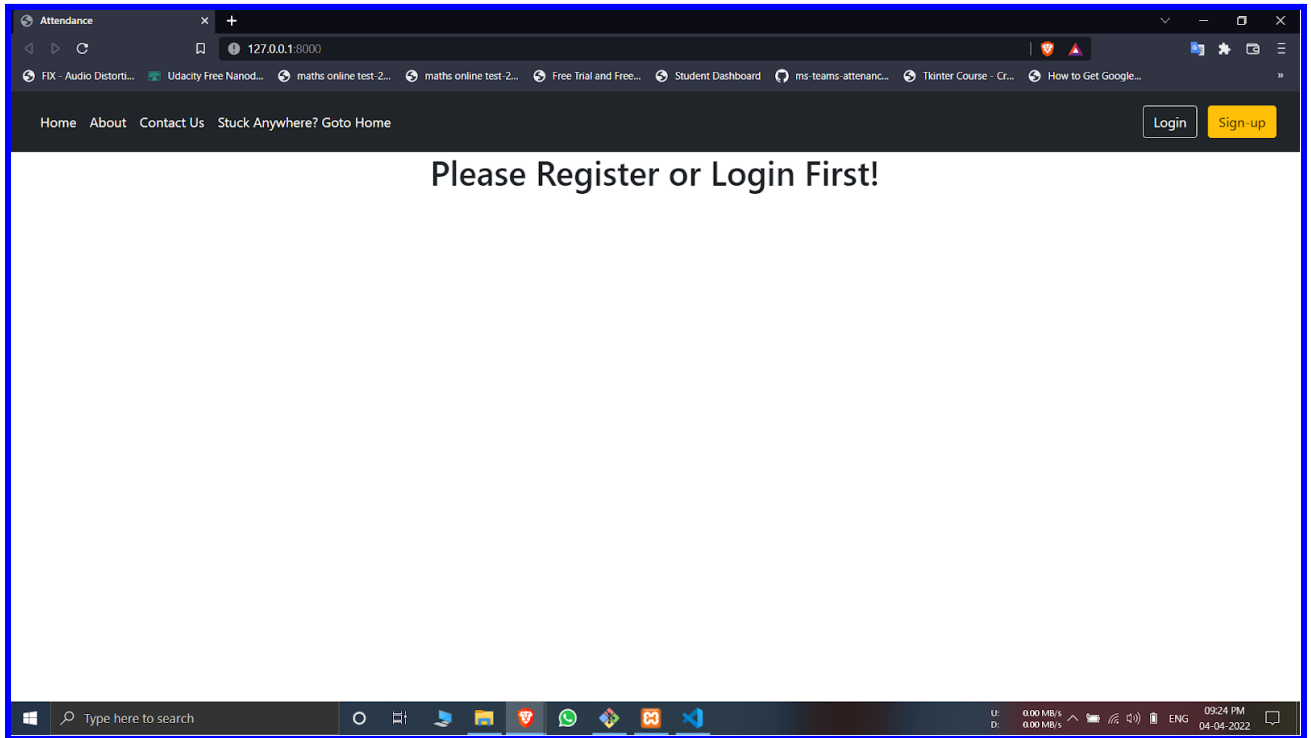
The screenshot shows a web browser window with the URL [127.0.0.1:8000/login](http://127.0.0.1:8000/login). The page features a navigation bar with links for Home, About, Contact Us, and Stuck Anywhere? Goto Home, along with Login and Sign-up buttons. The main content area contains a blue cloud-shaped graphic with a login form. The form includes fields for Username (containing 'Username') and Password (containing 'password'), a submit button, and a link for 'Don't have account ??'. Below the form are buttons for Register and Forgot Password.

Login Screen

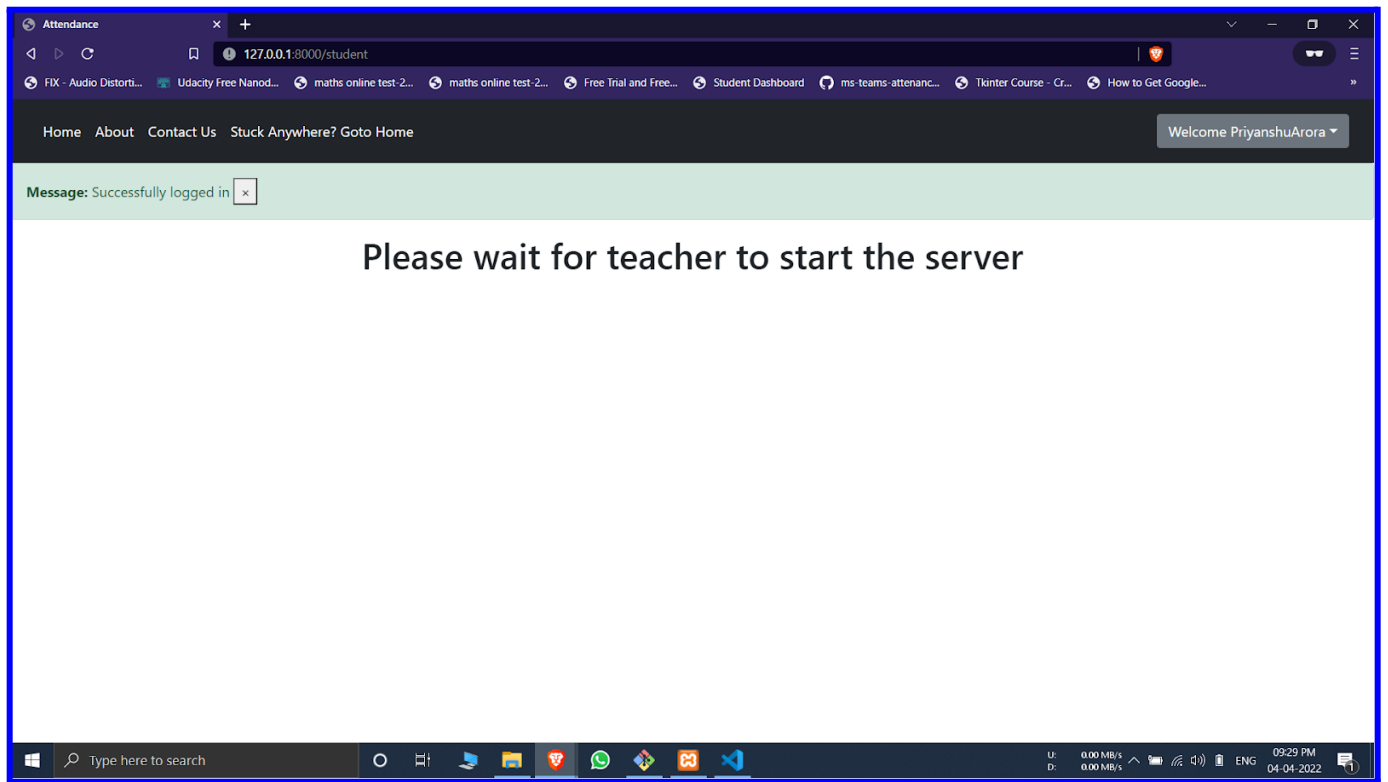


The screenshot shows a web browser window with the URL [127.0.0.1:8000/signup](http://127.0.0.1:8000/signup). The page features a navigation bar with links for Home, About, Contact Us, and Stuck Anywhere? Goto Home, along with Login and Sign-up buttons. The main content area contains a white signup form on a blue background. The form includes fields for Username (with a 'Create a Username' placeholder), Full Name (with an 'Enter Fullname' placeholder), Email Address (with an 'Enter email' placeholder), Choose a Password (with an 'Enter Password' placeholder), and Confirm Password (with a 'Re-Enter Password' placeholder). A blue Sign Up button is at the bottom of the form, and a link for 'Already have an account?' is below it.

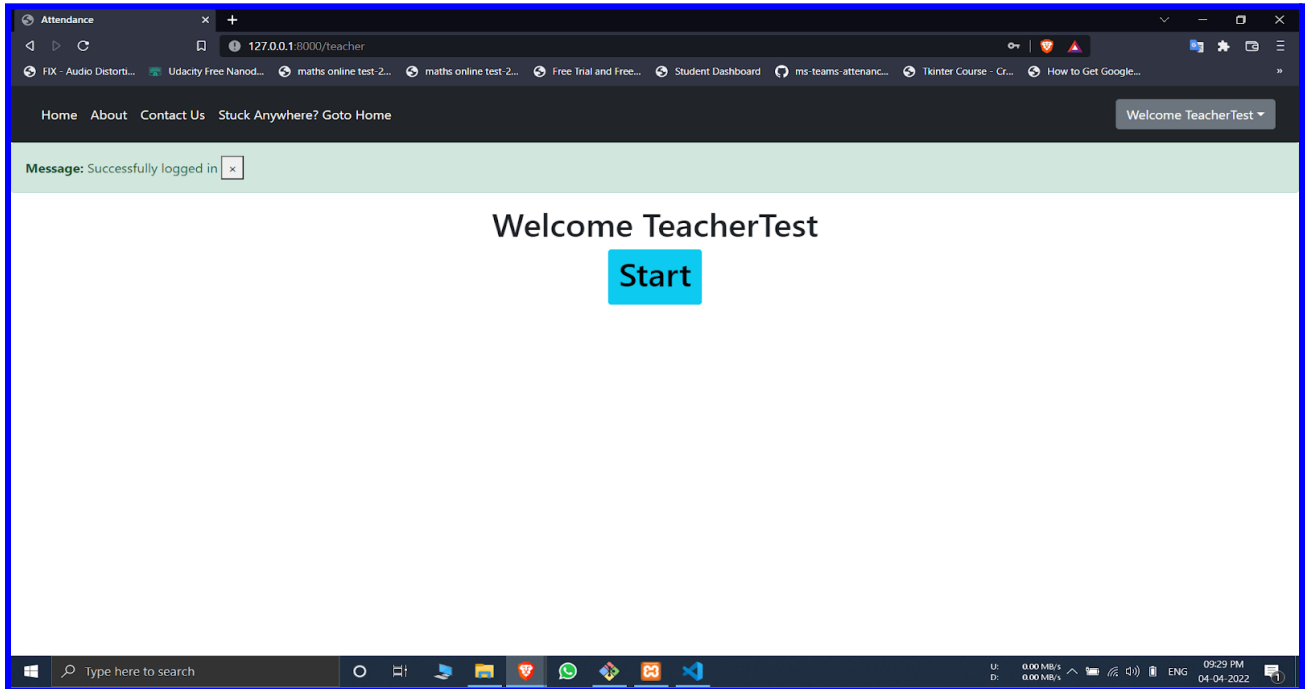
Signup Screen



Landing Page

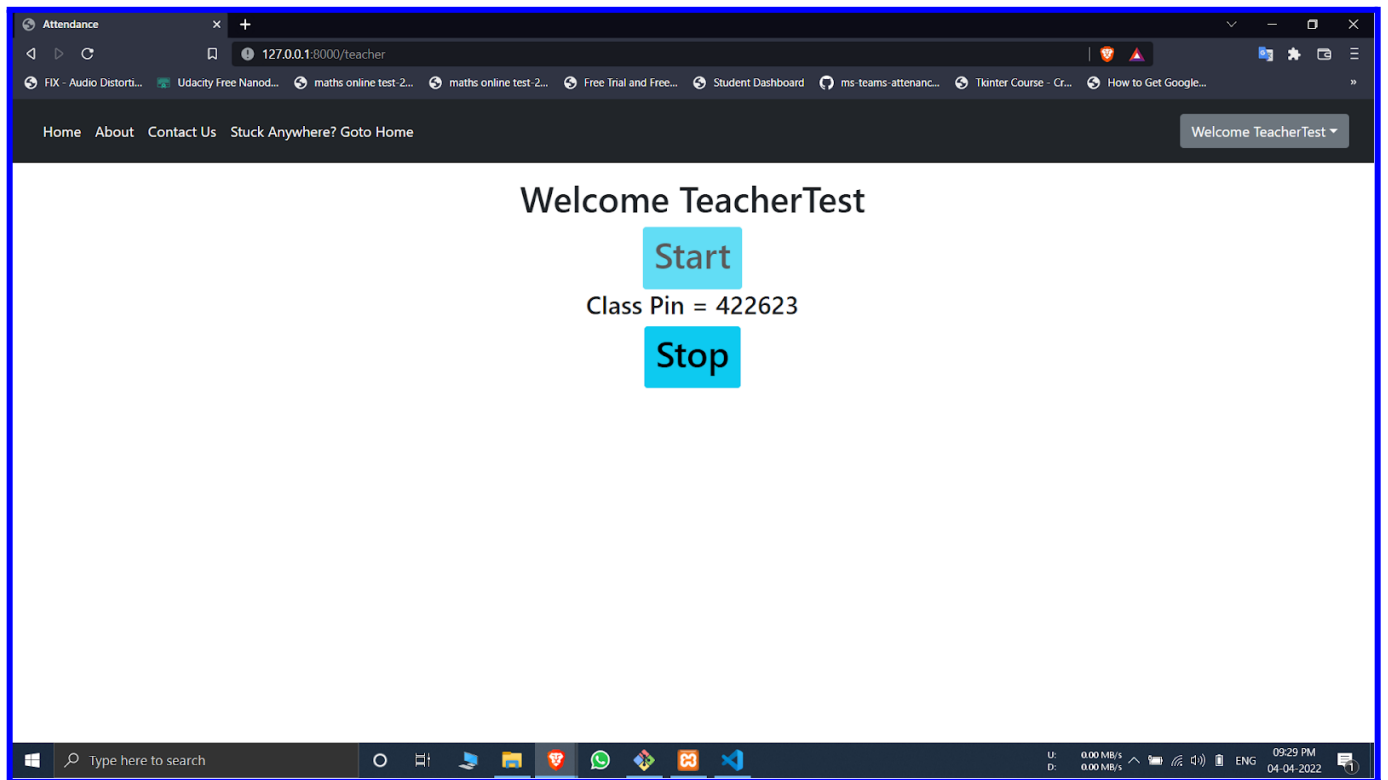


Waiting Screen



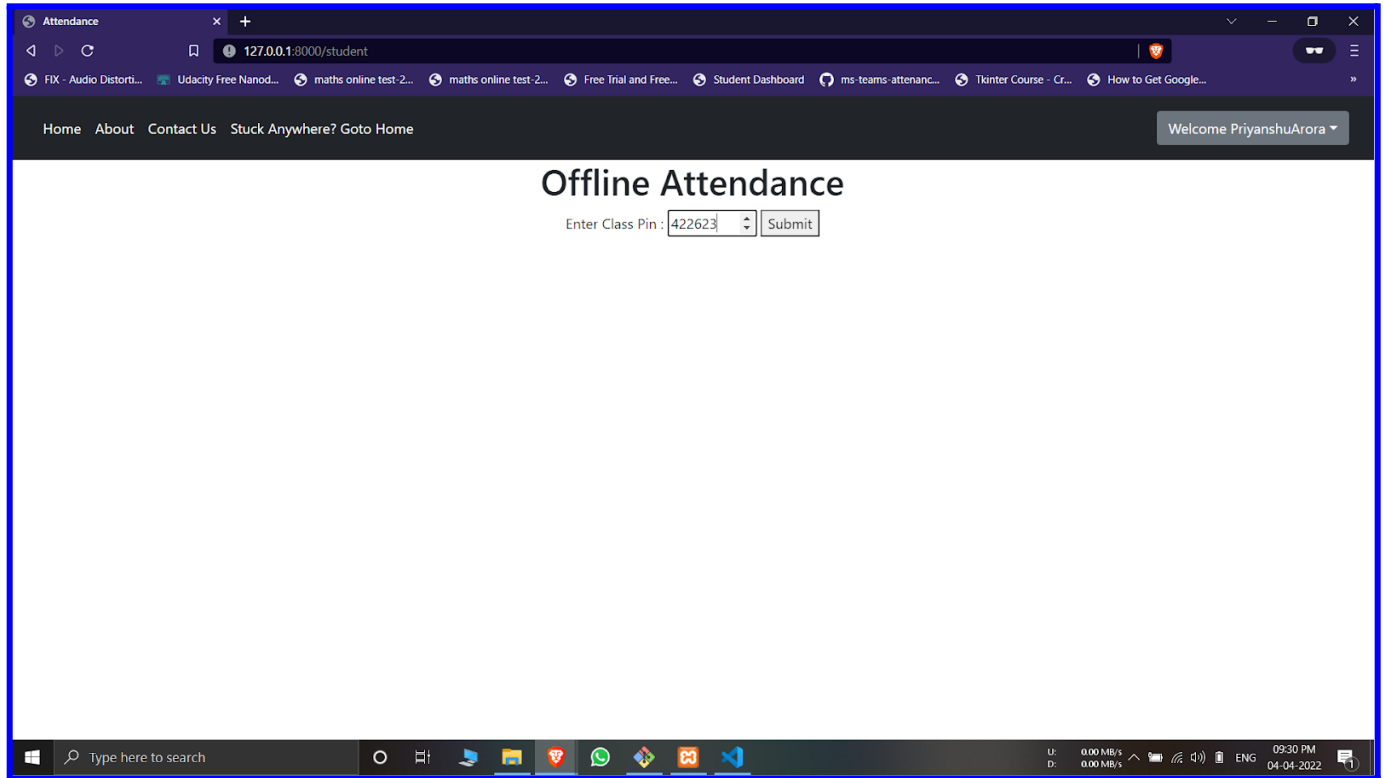
**After Login Screen for faculty**

The faculty logs in and clicks on the start button to enable taking attendance, This will provide an otp for proceeding.



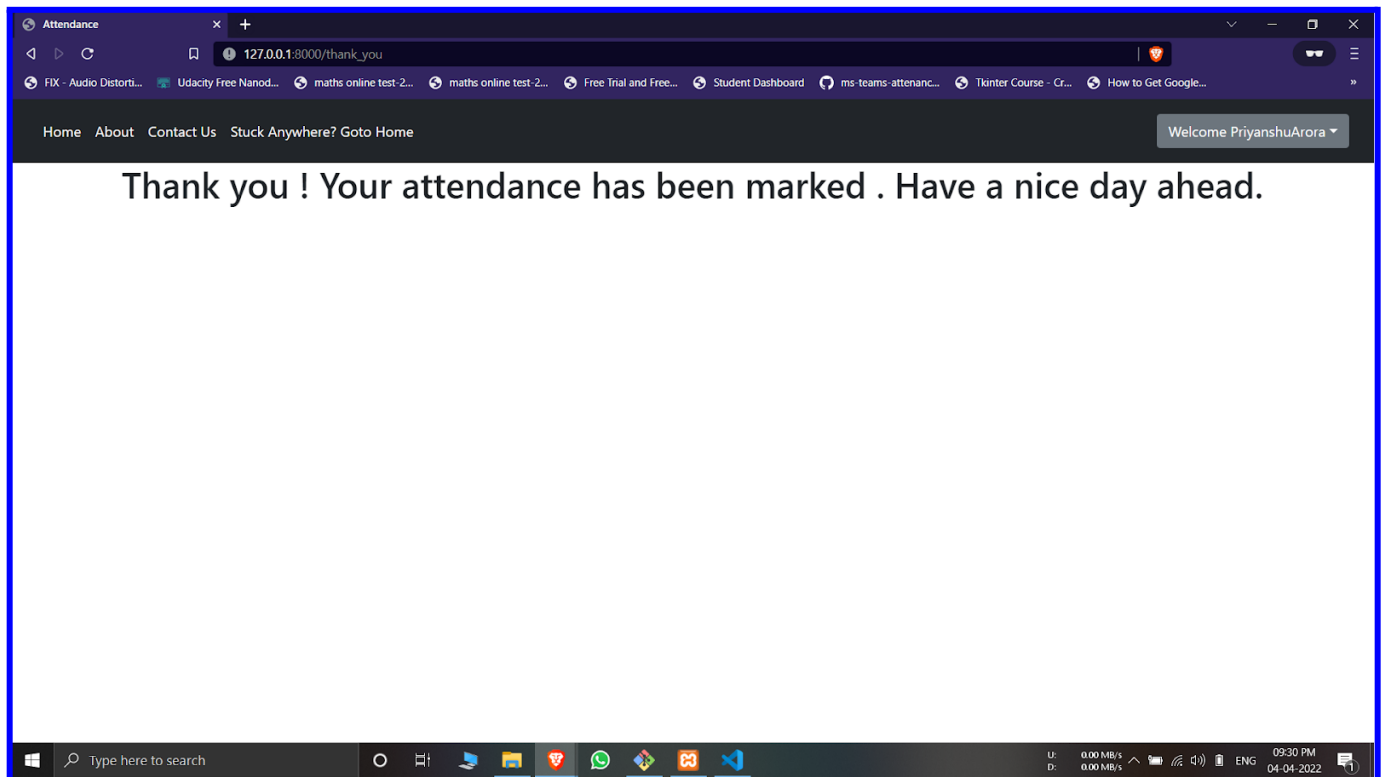
**Accepting Entries**

Now the faculty needs to share this otp among the students.



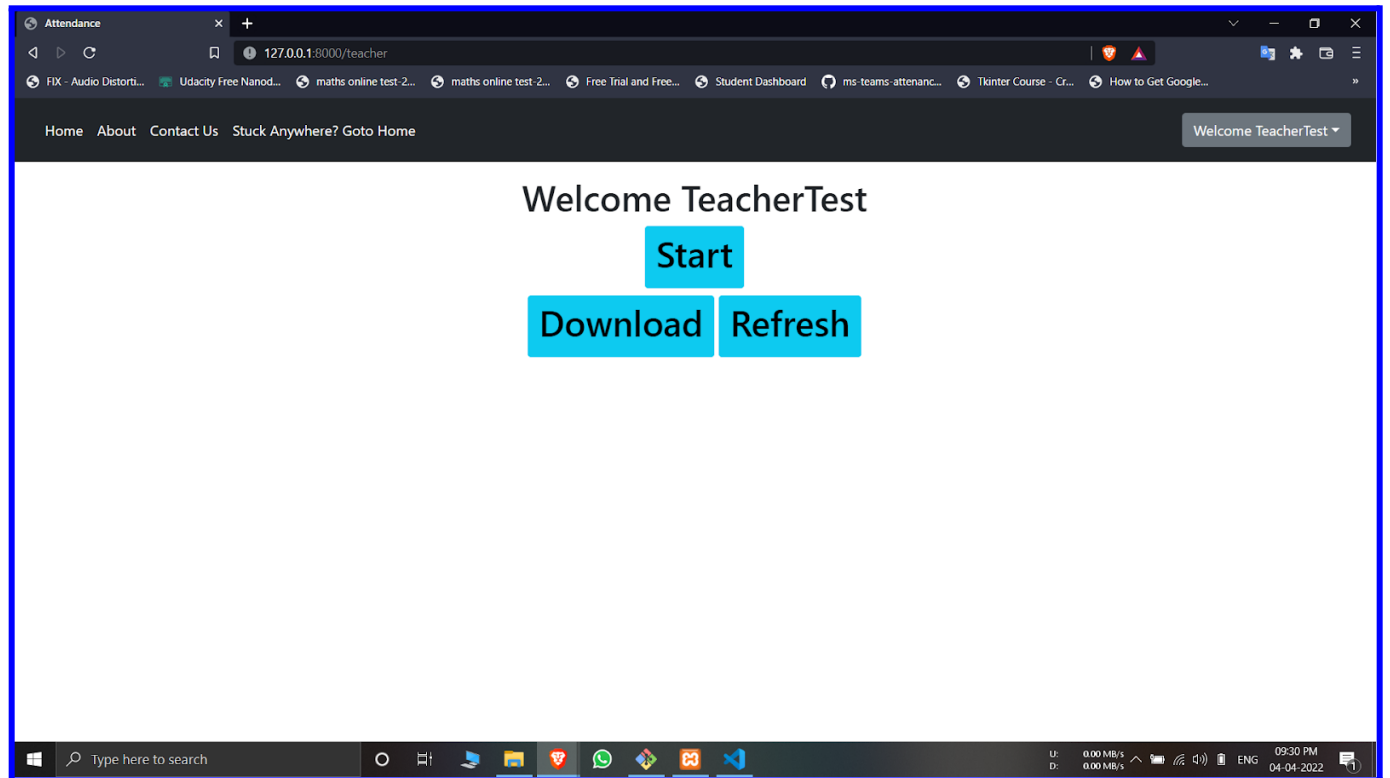
### Enter OTP Screen

The student needs to enter the otp in order to mark their own attendance. One student can't mark attendance for any other student as their ip address is monitored for that particular session.



### Thank you Screen





### Download Screen

After closing the server, the teacher/faculty can download the attendance sheet in excel format.

## **Convince us that you will be a good fit for this project**

I am applying to Sugar Labs for Google Summer of Code 2023, because of the community relations and the work carried out by this organization. Here everyone discusses and develops as a team and everyone's opinion matters. It really makes you feel at the peak when you know that your work is going to contribute to the social cause and will impact society in a positive manner.

The project involves porting Sugar and core activities to Python 3, which would require a strong understanding of Python and the ability to work with a large codebase. My experience with Python and Django would be helpful in understanding the codebase and implementing the necessary changes. Additionally, my experience with web development could be useful in the process of creating a new user interface for the Sugar activities.

The completion of the porting python 2 to python 3 project will remove limitations of the Sugar Labs tool and will allow for future advancements. I want to be a part of this transformation by contributing to it in whatever way possible

## **Prerequisites for the Project:**

As given in the idealist:

- I already have experience in Python 2 and Python 3.
- I have also worked on Linux, so the concepts are familiar to me.
- I am a full-stack MERN developer and also have experience with the Django web framework.

## **Project Details**

### **What are you going to do ?**

As a Python developer with experience in migrating projects to Python 3, I would like to propose my services for this project. I have been working as a Python developer for the past five years. During this time, I have gained significant experience in developing and maintaining Python applications. I have also contributed to several open-source projects on GitHub, including projects related to Python 3 migration.

I have carefully read the project description and I understand that the goal is to ensure that all Sugarlabs code is compatible with Python 3. I have experience in migrating projects to Python 3 and I am familiar with the most common issues that arise during the migration process. I am confident that I can help with the migration process and ensure that all code is tested and regression-free.

I am familiar with Sugar Labs and the work that has been done in previous GSoC projects related to Python 3 migration. I am also familiar with the Sugarlabs codebase and the tools that are used in the development process. I am confident that I can work with the Sugar Labs team to ensure that the migration process is smooth and efficient.

During the GSoC 2023 program, I will be fully dedicated to working on the Python 3 migration project for Sugarlabs. I will provide regular updates on my progress and I will be available for meetings and discussions with the team. I am also committed to writing high-quality code that is well-documented and adheres to best practices.

**Timeline:**

| <b>Week</b> | <b>Task</b>                                       | <b>Hours</b> |
|-------------|---|--------------|
| 1-2         | Setup development environment and tools           | 30           |
| 2-3         | Port Sugar and core activities to Python 3        | 60           |
| 4-5         | Test and debug ported code                        | 40           |
| 6-7         | Refactor and optimize code                        | 40           |
| 8-9         | Add missing features and functionalities          | 60           |
| 10-11       | Integration testing and bug fixing                | 70           |
| 12          | Documentation of the work done during the Project | 30           |
| Misc        | Buffer time                                       | 20           |

**Discuss your post-GSoC plans. Will you continue contributing to Sugar Labs after GSOC ends?**

I am planning to continue working on the project after the program ends. After this project, the Python 3 will help to replace Python 2 in future versions. So, there will still be many files and small UI components to complete. I am amazed by the community relations and the work carried out by this organization. I really want to enhance my skills and put them to use to give back to the community. I aim to develop mentorship skills and the ability to guide others and try to give back to the community by mentoring and guiding others.

I am looking forward to contributing to Sugar Labs this summer season.

Kind Regards.