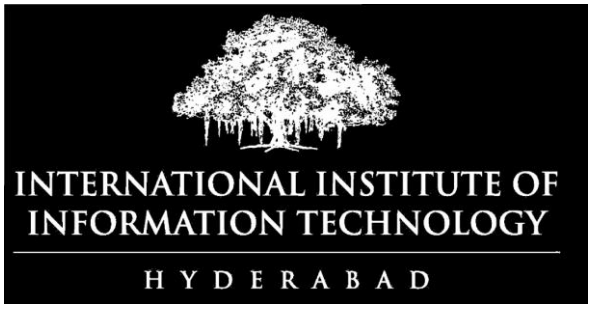
SCHEDULE CREATOR



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Introduction

Scheduling your day gives you an action plan. This action plan lets you move forward with the right amount of energy, time, and availability to match what you have for the day. Creating a schedule lets you prioritize items as they come along. You can also match these items with your day's plan and amend them accordingly. With a schedule laid out in front of you, you will be able to evaluate if you are meeting your goals, and what activities take up too much of your time.

A schedule creator is a tool which schedules events efficiently and displays them in the calendar.

We made a schedule creator website which takes input from a form filled in by the user. The input consists of events and activities, where activities are sub-parts of events. The input is stored in the database. The events are scheduled and stored in the database. The schedule is displayed to the user on request.

Features Implemented

- New user registration and existing user authentication
- Addition and deletion of multiple events and activities
- Single-day and multi-day events
- Display of previously created events
- Display of the created schedule in the calendar in daily, weekly, work-weekly, and monthly formats

Tools used

(A) MongoDB for storing data
(B) ReactJS for writing the scheduling logic and the front-end part
(C) NodeJS for connecting ReactJS and MongoDB
(D) Bootstrap library for styling

Approach and Description

Firstly, a new user registers onto the website by creating an account using username and password. These details are stored in the database. Then, they login by entering their credentials. After successfully logging in, the user can view their homepage. In the homepage, there will be a form which can be filled in to give input for new events. The user fills in this form. The data from the form is stored in the database. Each event is stored as an array in which each element is an activity in JSON format. Multi-day events are stored using a 2D-array, where each row represents a day, and each index represents a 30-minute slot. The scheduler finds an empty slot of the required duration and allocates the slot to the activity according to our scheduling logic. If the scheduler cannot find a slot, it gives an alert.

In the homepage, the user can view their previously scheduled events as well.

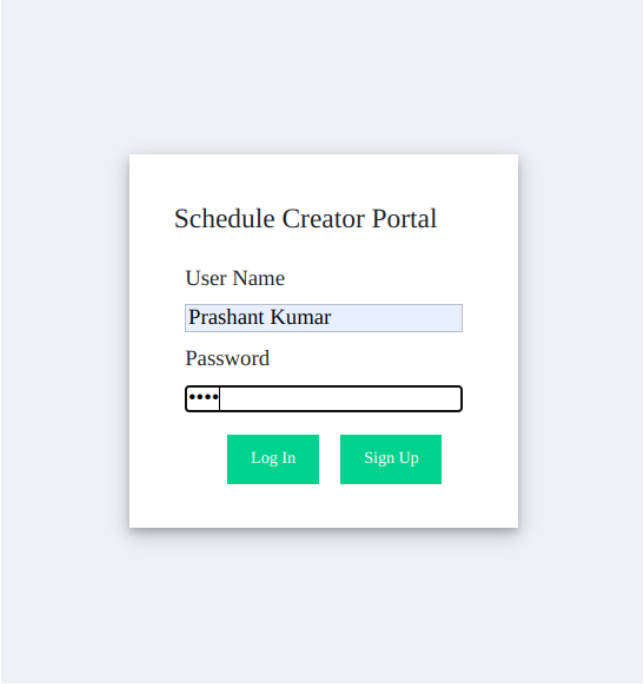
Assumptions

- The user must convert the duration of an activity into the number of slots while giving input
- Each time slot is of 30 minutes
- No two activities will be scheduled in the same slot
- A user must login to create a schedule
- For a multi-day event, the day-start time and day-end time are same for all the days

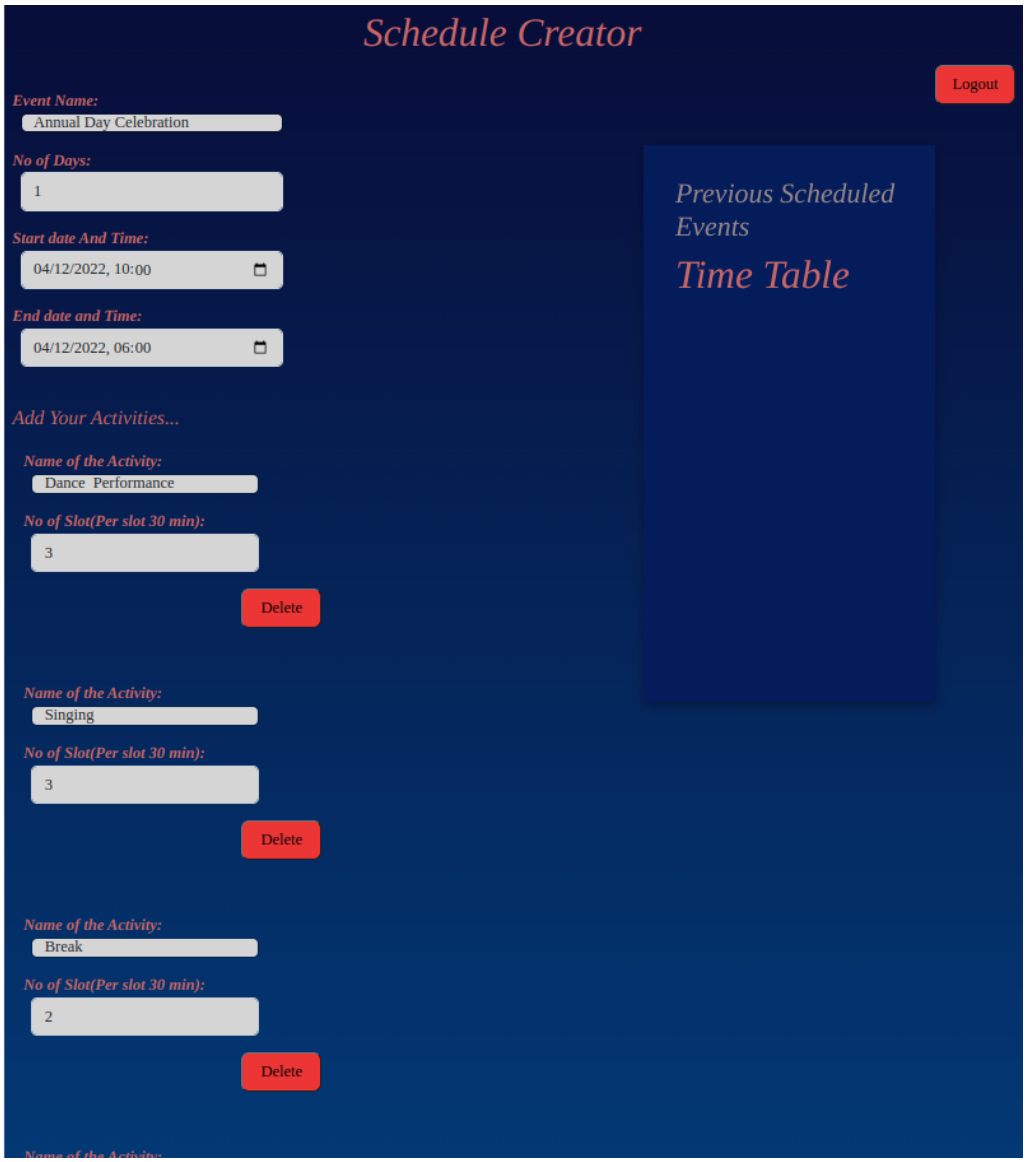
Use-cases

1. Annual Day Celebrations

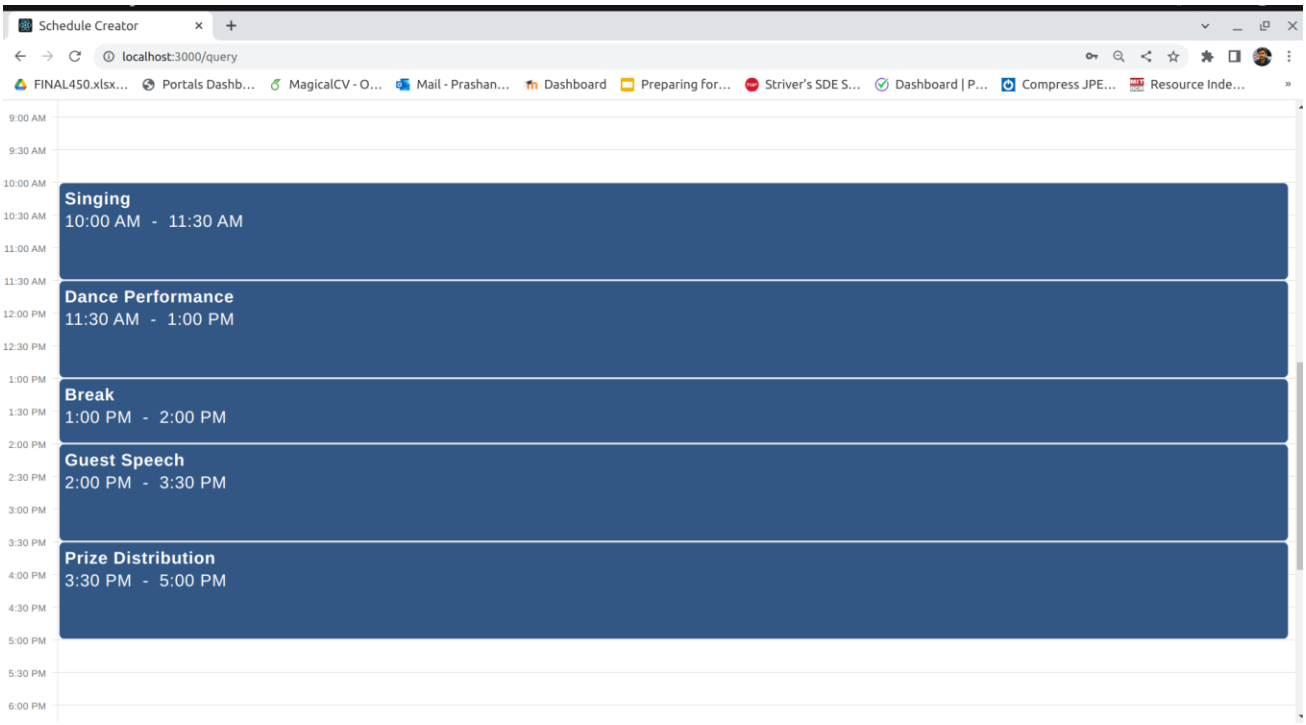
Login page



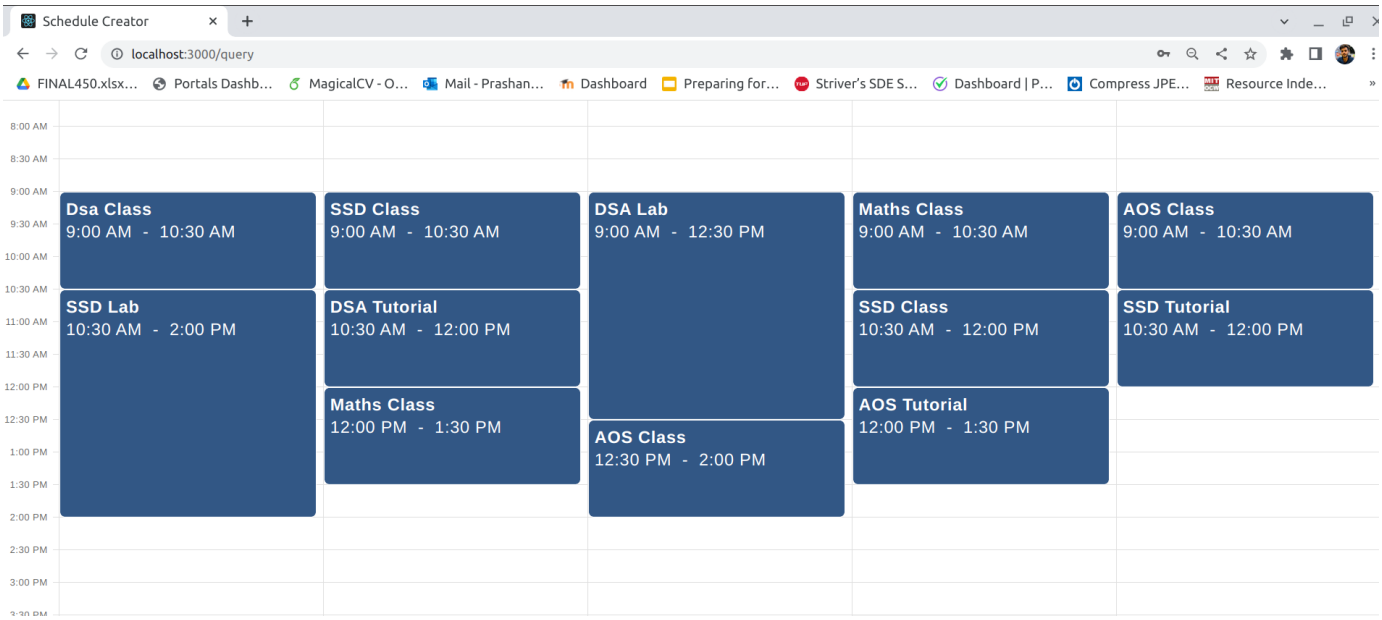
Homepage


Schedule Creator
Logout
Event Name:
Annual Day Celebration
No of Days:
1
Start date And Time:
04/12/2022, 10:00
End date and Time:
04/12/2022, 06:00
Add Your Activities...
Name of the Activity:
Dance Performance
No of Slot(Per slot 30 min):
3
Delete
Name of the Activity:
Singing
No of Slot(Per slot 30 min):
3
Delete
Name of the Activity:
Break
No of Slot(Per slot 30 min):
2
Delete
Previous Scheduled Events
Time Table

Schedule


Schedule Creator
localhost:3000/query
FINAL450.xlsx...
Portals Dashb...
MagicalCV - O...
Mail - Prashan...
Dashboard
Preparing for...
Striver's SDE S...
Dashboard | P...
Compress JPE...
Resource Inde...
9:00 AM
9:30 AM
10:00 AM
10:30 AM
11:00 AM
11:30 AM
12:00 PM
12:30 PM
1:00 PM
1:30 PM
2:00 PM
2:30 PM
3:00 PM
3:30 PM
4:00 PM
4:30 PM
5:00 PM
5:30 PM
6:00 PM
Singing
10:00 AM - 11:30 AM
Dance Performance
11:30 AM - 1:00 PM
Break
1:00 PM - 2:00 PM
Guest Speech
2:00 PM - 3:30 PM
Prize Distribution
3:30 PM - 5:00 PM

2. Timetable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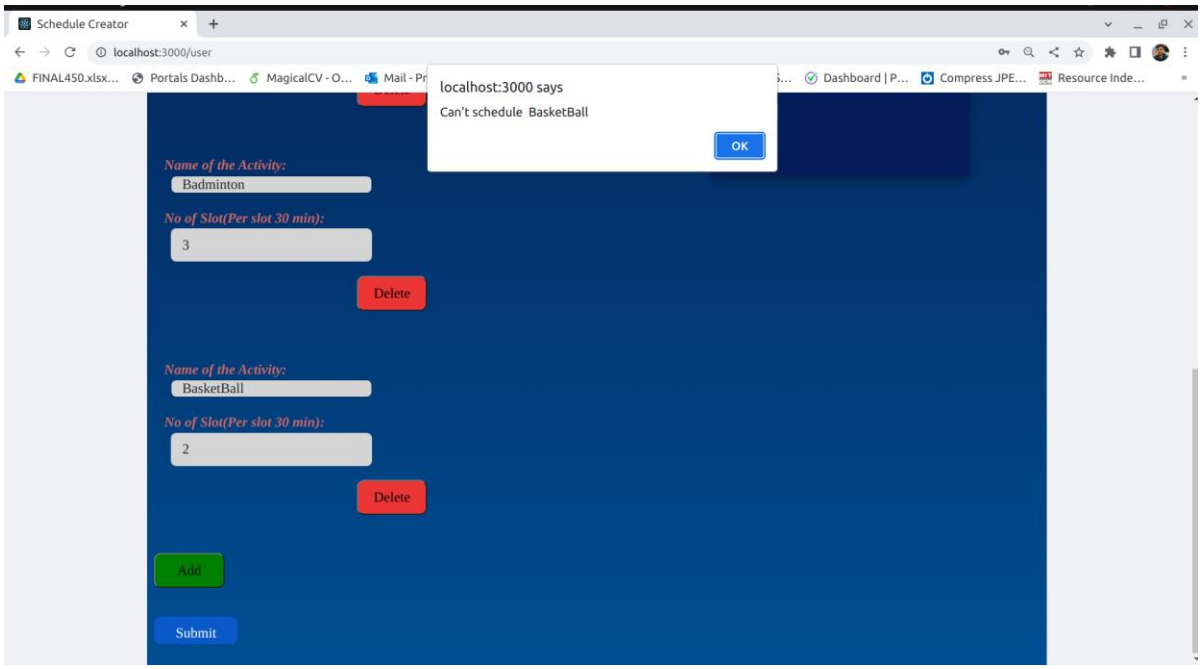
9:00 AM
9:30 AM
10:00 AM
10:30 AM
11:00 AM
11:30 AM
12:00 PM
12:30 PM
1:00 PM
1:30 PM
2:00 PM
2:30 PM
3:00 PM
Dsa Class
9:00 AM - 10:30 AM
SSD Lab
10:30 AM - 2:00 PM
SSD Class
9:00 AM - 10:30 AM
DSA Tutorial
10:30 AM - 12:00 PM
Maths Class
12:00 PM - 1:30 PM
DSA Lab
9:00 AM - 12:30 PM
AOS Class
12:30 PM - 2:00 PM
Maths Class
9:00 AM - 10:30 AM
SSD Class
10:30 AM - 12:00 PM
AOS Tutorial
12:00 PM - 1:30 PM
AOS Class
9:00 AM - 10:30 AM
SSD Tutorial
10:30 AM - 12:00 PM

Slot unavailable



Problems faced and solutions

- Initially, we tried to schedule one activity a day and move on to the next day. This sometimes leads to non-allocation of slot even when the previous day has a slot. We solved it by taking an extra variable to check every day for the empty slots using the modulus operator

Learnings

- User authentication using jwt token
- Using MongoDB, ReactJS, NodeJS to build a website
- Using devexpress/dx-react-scheduler to show a schedule in a calendar format

Future Improvements

- Type checking for password
- Variable time slot duration
- Different day-start and day-end times for different days in multi-day events

Conclusion

We developed a functional schedule creator website which takes input from a form and displays the schedule in a calendar.