Proposal for Orbital 2021

Team Name:
booKING

Proposed Level of Achievement:
Artemis

Motivation

With the limited venues and resources available in School of Computing, students struggle to find a proper venue to study or to work on group projects. Even if a vacant venue is found, students are also uncertain whether the room is currently occupied, or whether it will be occupied halfway during their usage. In addition, if they want to use it for project meetings or discussions, they are also unsure if the venue itself has the relevant infrastructure (such as projectors, computers or seats) to suit their requirements and preferences.

Aim

To maximise the venue and resources usage in School of Computing, we hope to help users find and reserve a venue for their own usage through a simple and user-friendly web application.

Features and Timeline

Setup: (3 weeks)

1. Setup database
2. CRUD for database
3. Basic interface
4. Adding all the venues to the database
5. Design for web application

Core Features: (4 weeks)

1. User authentication
2. Venue reservation
    a. Maximum reservation hours per user
    b. Venue classifications
    c. Resources available in each venue
3. Available venues search function
4. Venue reservation notification
5. Points system
6. User-friendly interface
    a. Dark Mode
    b. Screen size

7. Approval process; we will create an interface for staff in SoC to view and approve venue bookings, this allows them to prioritise SoC users who wants to reserve a venue
8. Editing of reserved venues by staff users to address ad-hoc changes

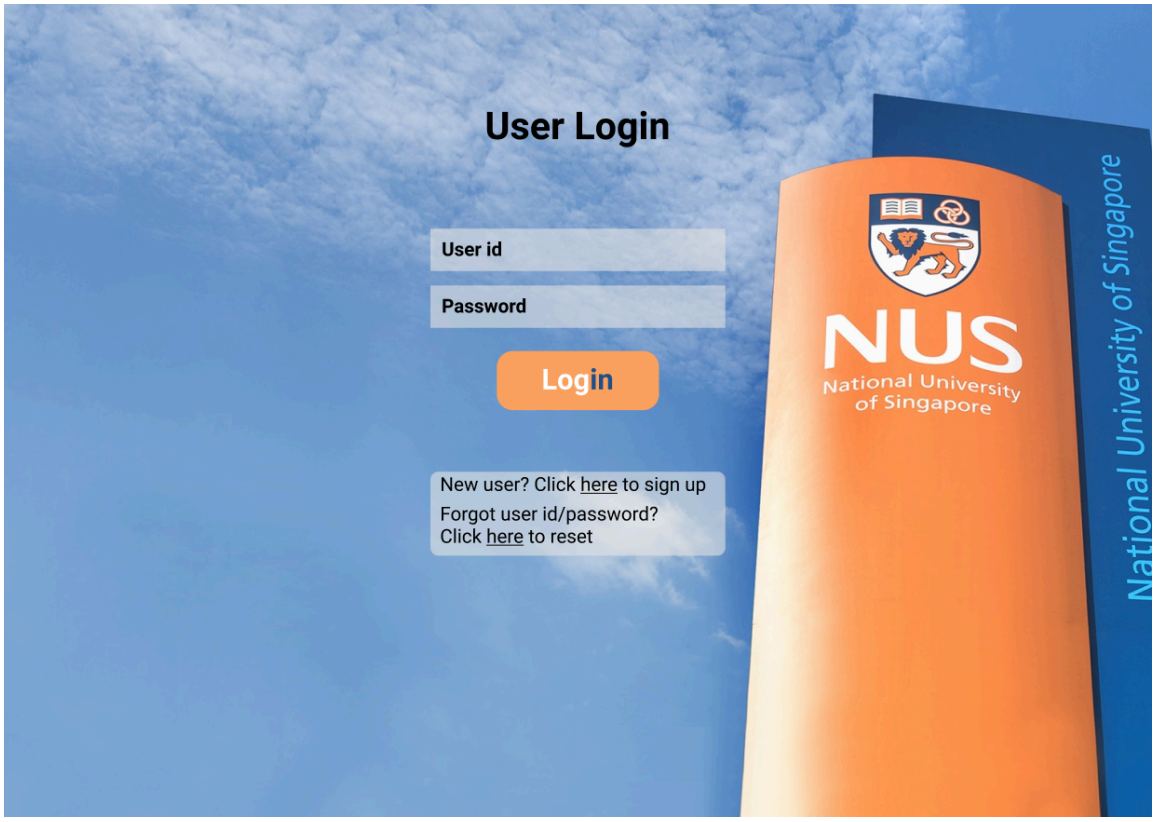
Advanced Features: (4 weeks)

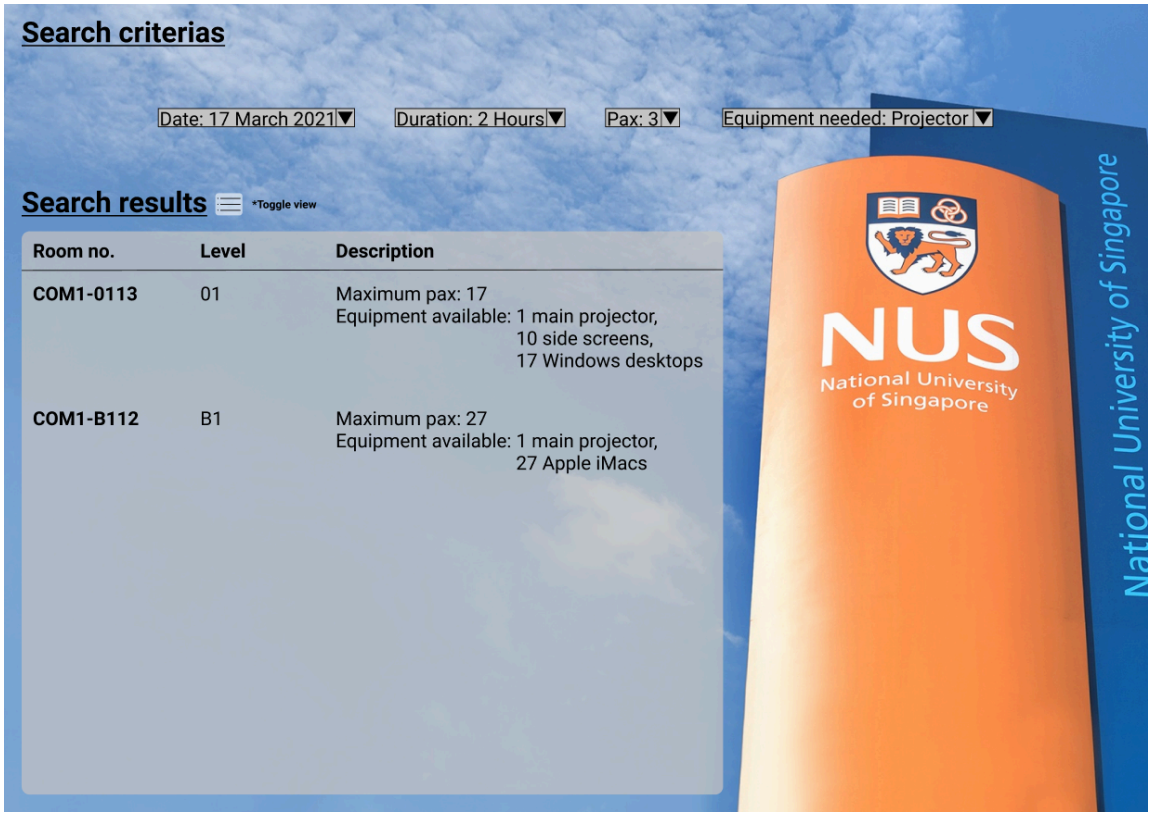
1. Venue sharing system
2. Autocomplete function in venue search bar
3. Automatic categorisation of venue type
4. Priority queue for SoC users to reserve rooms over non-SoC users

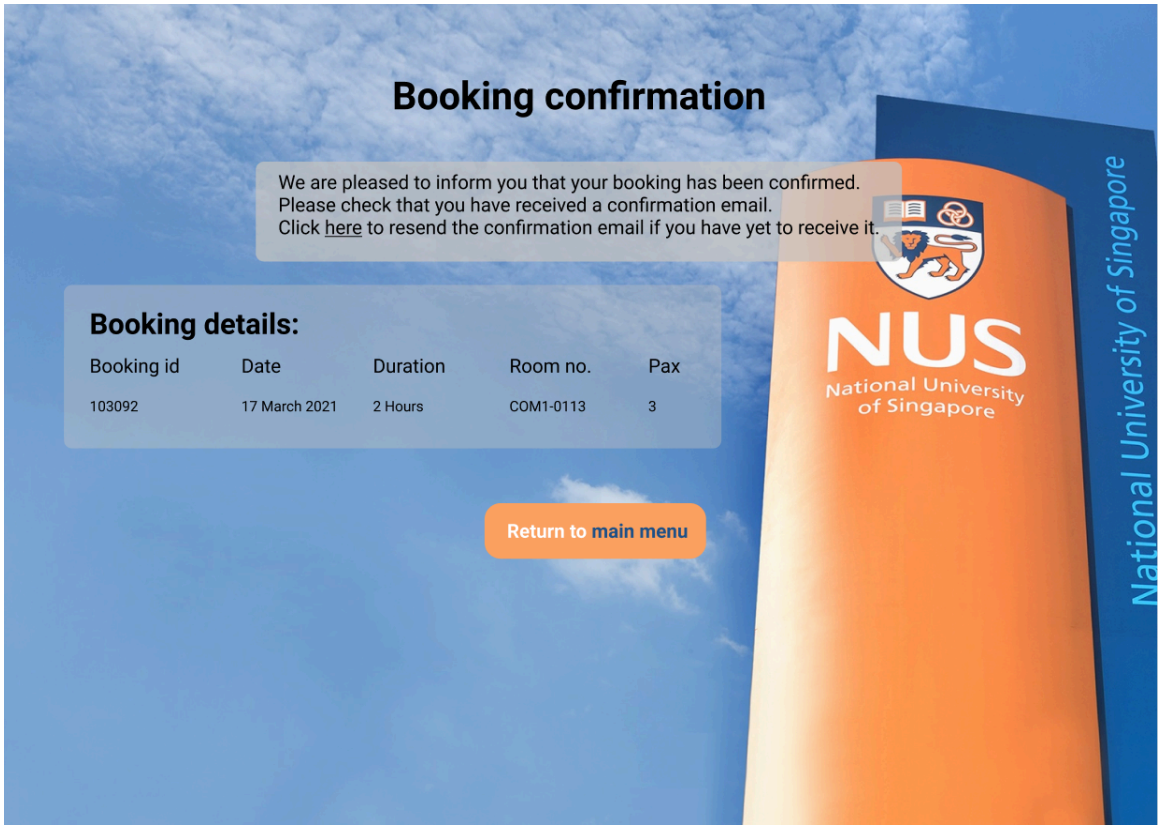
Nice-to-have Features: (2 weeks)

1. Prevent interval bookings (don't let users book 30 mins and leave it empty for 30 mins etc)
2. Lock incorrect attempts out
3. Minimum number of characters for password
4. Responsive design for different screen sizes
5. Statistics displayed for each venue for staff users

Basic Mockup




Search criterias
Date: 17 March 2021▼
Duration: 2 Hours▼
Pax: 3▼
Equipment needed: Projector▼
Search results
*Toggle view
Room no. Level Description
COM1-0113 01 Maximum pax: 17
Equipment available: 1 main projector, 10 side screens, 17 Windows desktops
COM1-B112 B1 Maximum pax: 27
Equipment available: 1 main projector, 27 Apple iMacs
NUS
National University of Singapore
National University of Singapore


Booking confirmation
We are pleased to inform you that your booking has been confirmed.
Please check that you have received a confirmation email.
Click here to resend the confirmation email if you have yet to receive it.
Booking details:
Booking id Date Duration Room no. Pax
103092 17 March 2021 2 Hours COM1-0113 3
Return to main menu
NUS
National University of Singapore
National University of Singapore

Tech Stack

1. ReactJS
2. CSS/HTML
3. PostgreSQL
4. ExpressJS
5. GOLang

Qualifications

Both of us have experience with programming using Java and Python (explored python in our free time and are currently learning Java from CS2030S this semester) hence we are confident that we will be able to utilise GOLang which is similar to both languages.

We also have basic knowledge in CSS and HTML to code and design websites (Jason has experimented with it during the MOOC course CS50 by edX while Jie Wei has designed a webpage for one of his course projects back in Temasek Polytechnic). In the same way, we have also integrated MySQL together with the websites we have designed.

Project log

S/N	Description	Hours spent by Jason	Hours spent by Jie Wei	Time period	Remarks
1	Poster creation for Lift-off	2	2	10/5/2021	Liftoff
2	Video creation for Lift-off	3	3	10/5/2021	Liftoff
3	Team meeting: initial planning	5	5	11/5/2021	1) Layout the full idea for the project and the technology required 2) Delegated roles 3) Asked friends for feedback
4	Project research	4	4	12/5/2021	1) Read up and research on similar products in the market 2) Comparing which software is the best among similar ones
5	Mission control	3	3	13/5/2021	1) Met with mentor Loh Zi Bin Robin to discuss our project ideas and to get feedback on the softwares we intend to use
6	Learn software stack for frontend and backend	10	10		1) Looked at tutorials and guides online to learn about React, PostSQL and Go
7	Programming at home: Frontend & Backend	2	2		1) Set up PostgreSQL and establish a basic connection using Go

					2) Design a simple web application using React
8	Programming at home: Frontend & Backend	3	3		1) Develop API routes for query calls from web application 2) Design the login feature using values stored in React
9	Programming at home: Frontend & Backend	3	3		1) Successfully make query calls with PostgreSQL using Postman application 2) Design the registration and resetting of password features using localhost's local storage
10	Programming at home: Integration	2	2	26/5/2021	1) Successfully connected React frontend with PostgreSQL backend using Go to carry out authentication
11	Documentation at home: User Guide	8	8	27/5/2021	1) Worked on documenting a user guide for Milestone 1
12	Documentation at home: Developer Guide	8	8	28/5/2021	1) Worked on documenting a developer guide for Milestone 1
13	Team meeting: milestone review	2	2	1/6/2021	1) Met with mentor Loh Zi Bin Robin to look through milestone one feedbacks as well as plan out next

					course of action
14	Programming at home: Frontend & Backend	10	10	7/6/2021	1) Obtain venue information from NUS website to populate venue lists to store in database 2) Create API routes to fetch all venues 3) Implement search bar and venue display on react
15	Programming at home: Frontend & Backend	10	10	14/6/2021	1) Implement filters for queries to only display certain venues 2) Create booking page with a calendar for users to select their desired time slots
16	Programming at home: Frontend & Backend	10	10	21/6/2021	1) Create booking services 2) Integration of frontend and backend to test out search features and booking
17	Documentation at home: Frontend & Backend tests	8	8	25/6/2021	1) Create test files to conduct testing of backend code 2) Qualitative evaluation of application (heuristics evaluation and cognitive walkthrough)
Total hours spent		**53**	**53**		