Prototype Overview

Group K

Core functions

1. Display the current noise level and capacity of UniMelb Buildings.
2. Display the current noise level and capacity of each building level.
3. Display the 24-hour noise level and capacity forecasting graph of the selected building.
4. A floor plan map can show the positions of chargers, lecture theatres, tutorials, and project rooms.
5. The floor plan map can show the occupation status of rooms in different colours. If the room is in red, it indicates it is being used, if it's green, the room is available now.
6. Click the room on the map to see the occupation details, if the room is available, and when it will be available.
7. Check-in the project room. The project room must be checked in through the interactive screen outside the room within 15 minutes of the booking start time, otherwise, the room will be freed.

User needs

1. Easily check the study space status to help find study space.
2. Find a quiet study space.
3. Planning their study time through noise/capacity forecasting.
4. Have a comprehensive system for campus library service.

Values

1. Real-time noise and capacity monitoring systems can inform users to find a study space wisely. Users can avoid busy and noisy areas in time.
2. 24-hour noise and capacity forecasting help users schedule their study time to avoid busy and noisy periods.
3. The interactive floor plan map shows the actual layout of the floor and the positions of the facilities. Users can easily locate and access the necessary facilities without

spending too much time searching. For example, they can find a seat with a charger or a project room that is large enough for eight students.

4. The interactive floor plan map lets users click on a room area to check its occupation status. Without our application, users would have to check the occupation status on the university's official library booking system, find the building, and locate the specific room number. When a user finds the desired room on the map, our application provides a link to the library booking system, making it convenient for the user to book the room. Alternatively, the user can simply check the room's occupation schedule without switching to other platforms.
5. The interactive floor plan map also allows users to check the lecture theatres' and tutorial rooms' occupation schedules. During peak times, when students struggle to find appropriate study spaces, they can use our application to locate unoccupied lecture theatres and tutorial rooms for studying. This helps the university manage peak-time crowding and assists students in finding study spaces during busy periods.
6. The project room check-in system ensures that all rooms are used efficiently and fairly. Some students may book a room but not actually use it, leaving the room occupied but empty. Our product can mitigate this problem by freeing up rooms that are not in use, allowing other students to book them and increasing room utilisation.

Prototype

Our prototype is made by Figma and here is the link to our prototype.

Prototype Link:
https://www.figma.com/design/O4ptS4K6V1g680c7XCGliT/INFO90010-Project-Prototype?node-id=0%3A1&t=cR5fEKrwgyT59NAC-1

Video Link: https://youtu.be/RizqzxgVygQ

Testing Steps

All prototype interactions will be displayed by clicking the present button on the right corner of the Figma page. In the prototype, we use the “ERC Library” as an example, and all interactions are related to the ERC Library. On the **‘Building Details’ page**, use “Level 1” for testing.

Case 1: Find a Study Seat on Campus

1. Starting from **page ‘Building Display’**, all buildings on the page can be clicked.
2. After clicking a specific building, each level of that building will display on the page, at the bottom, the corresponding capacity and noise level of that level will be shown.
3. A floor plan will demonstrate the locations of individual seats, project rooms, lecture theatres, tutorial rooms and school infrastructure (e.g. charger). The project room and lecture theatres can be clicked to show their occupation status.

Case 2: Find a Quiet Place on Campus

1. Starting from **page ‘Building Display’**, check the Noise Level button to see the noise level of each building.
2. After clicking on the specific building, the user can see each level's specific noise level and capacity by clicking on each level's box.
3. The Tab Bar on this page demonstrates the Information Card about the noise level and the Forecasting of the noise level. The information Card matches the decibel level and the real-life situation. “Forecast” displays the noise level and capacity today and the prediction for the rest of the days.

Case 3: Integrate Current Campus Websites

Case 3.1 Navigation

1. Starting from **‘Building Display’**, the user can click the distance shown under the building icon to get the navigation directly. For testing, use the ERC Library.
2. Then, the user could get the navigation from Google Maps directly.
3. On the **‘Building Details’ page**, the distance under each building icon can be clicked to link to Google Maps.

Case 3.2 Building Inquiry

1. Starting from **‘Building Display’,** click the Dropdown Menu on the upper right side.

2. Clicking Building Inquiry to navigate to the Student Service website of the University of Melbourne

Case 3.3 Booking System

1. Same as Case 1, follow all the steps to **page 'Building Plan Map'**.
2. The Popup Window will show by clicking the Project Room and then clicking the “BOOK!” button. It will navigate to the DiBS System of the University of Melbourne for booking.

Case 4: Project Room Check-In

1. After receiving the booking confirmation, it will verify that room 0325 is booked in the library system for the current time.
2. Check-in using a student Card on the interaction screen in front of room 0325
3. Verify room status update in the library system
4. If not using the student card, the user enters their student ID (123456) at the room 101 check-in terminal.
5. The user neither swipes their student card nor enters their student ID
6. The room status will display the unoccupied after 15 minutes and update the latest information on the library system.