

# Bokaenkelt

## 1. Introduction

Bokaenkelt is a web-based booking system designed to manage room reservations for businesses. The platform caters to a multi-building setup, allowing admins and users to efficiently book, manage, and track resources (rooms). The target audience includes business professionals and organizations seeking a streamlined solution for managing meeting room reservations.

## 2. Technologies and Tools

- Frontend: React.js
- Back-end: .NET Core Web APIs
- Database: SQL Server
- Authentication and Authorization: JWT (JSON Web Tokens)
- Third-Party Libraries/Integration: React Big Calendar (for calendar interface with drag-and-drop support)
- Mail-gun (for email notifications)

## 3. Features and Functionality

- **User Roles**

1. Admin:

- Full access to manage users and resources.
- Ability to add, edit, or delete users and resources.
- Manage multiple buildings and switch between them.
- View all reservations for all resources in all buildings.
- Assign specific resources to individual users

2. Users Normal Users:

- Limited access to view only assigned resources.
- Ability to create, edit, and cancel their own reservations.
- View details of other users' reservations (read-only).

- **Core Functionalities**

1. Booking System:

- Drag-and-drop calendar interface to select and reserve meeting rooms.
- Users can view the availability of resources directly on the calendar.

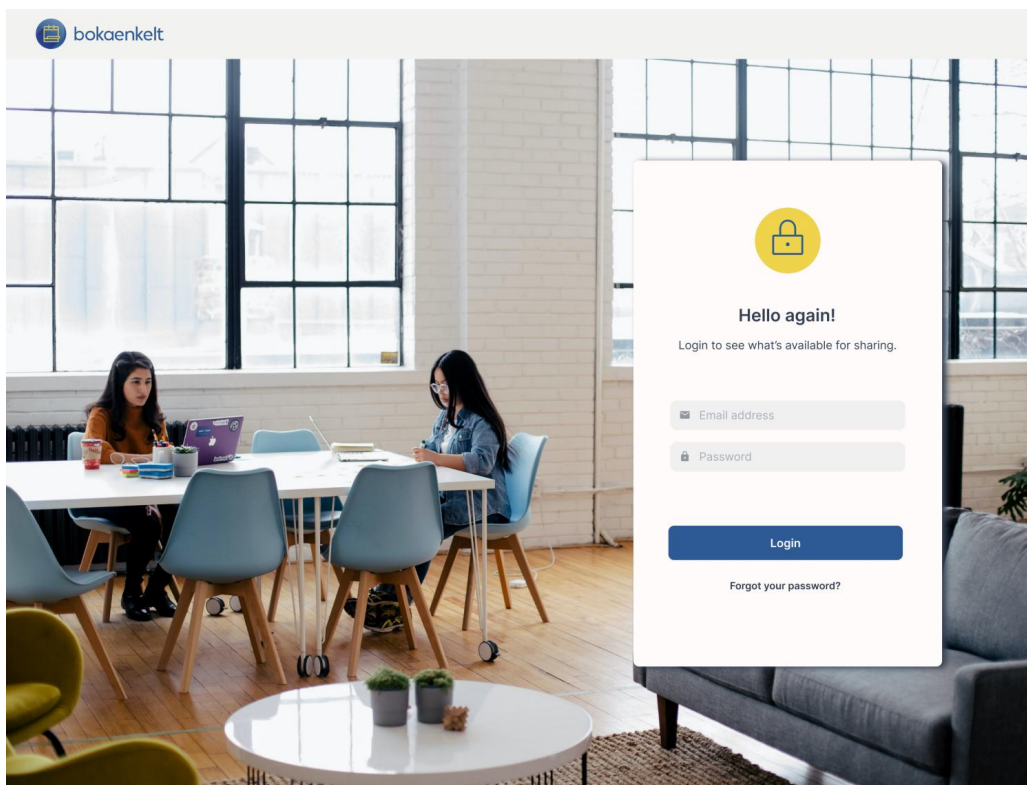
- Handles booking conflicts by visually displaying existing reservations.
- Supports editing and canceling reservations.
- **Email Notifications**
  - Emails sent to invitees for new bookings, updates, and cancellations.
- **Admin-Specific Features**
  - CRUD operations on users and resources.
  - Ability to assign specific resources to users.
  - View Analytics and reports on resource usage and meetings.
- **Scalability and Performance**
  - Pagination for managing large datasets of users and reservations.

#### 4. Design and Usability

1. **Color Scheme:** Subtle, professional, and business-friendly.
2. **Responsive Design:** Optimized for mobile, tablet, and desktop devices.
3. **Calendar Functionality:**
  - Time slots displayed based on resource-specific hours.
  - Interactive UI with drag-and-drop support for quick bookings.

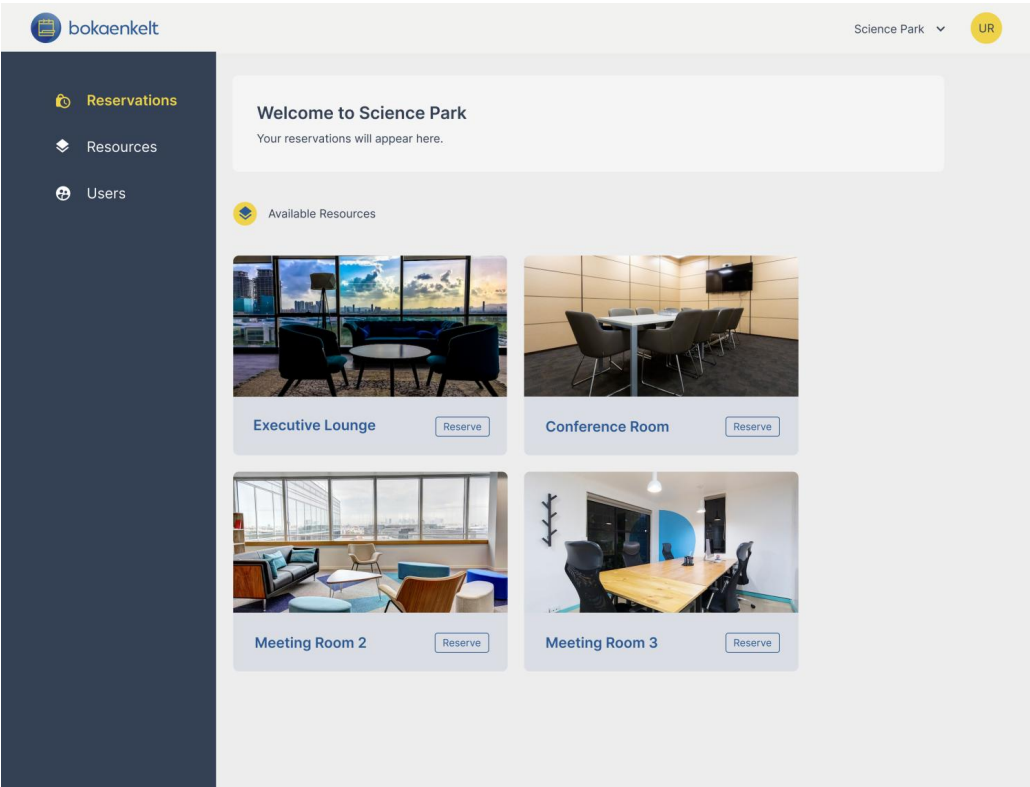
#### 5. Screenshots

##### 1. Login Page

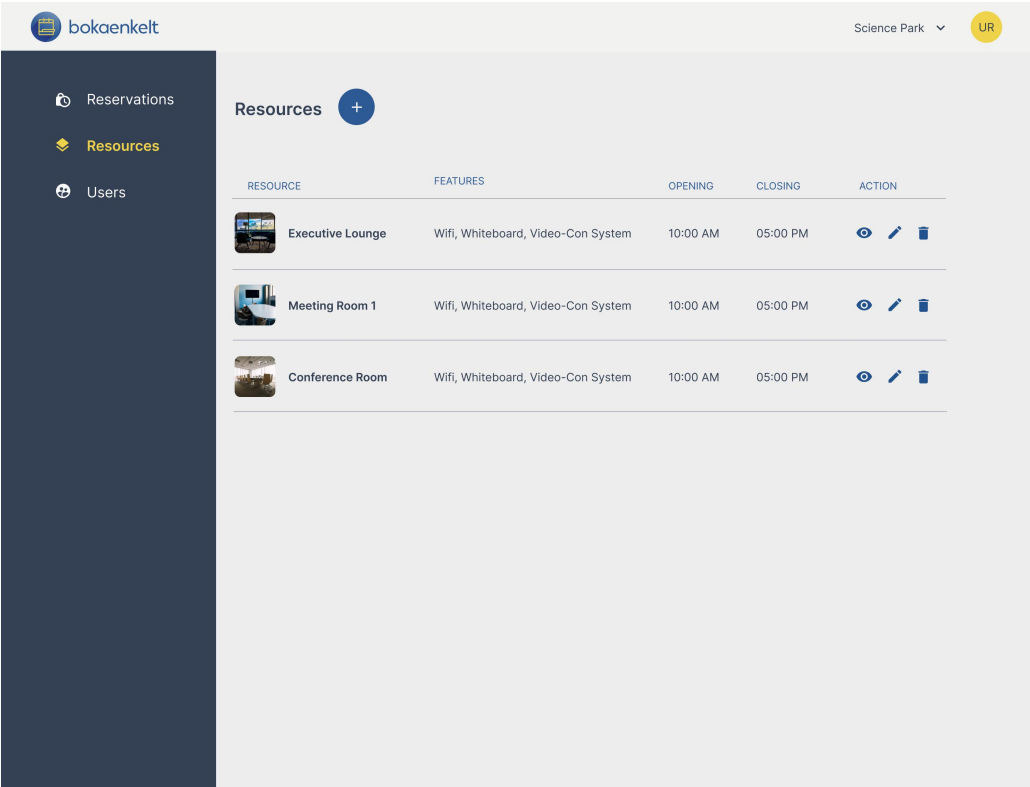


## 2. Admin Pages

- Reservations



- Resources



- Add a Resource

The screenshot shows the 'Add a Resource' modal form. The form has the following sections:

- Resource name:** A text input field with the placeholder 'Add name'.
- Description:** A text area with the placeholder 'Add description'.
- Features:** A set of toggle buttons for 'Wi-Fi', 'Video-Con System' (which is selected), 'Whiteboard', 'Projector', 'Refreshments', 'Office Supplies', 'Smart Board', and 'Audio System'.
- Timings:** Two time pickers for 'Opening time' and 'Closing time', both set to '09:00 AM'.
- Upload images:** A 'Choose file' button and the text 'No file chosen'.
- Add:** A blue button at the bottom to submit the form.

The background shows the application interface with a sidebar containing 'Reservations', 'Resources', and 'Users'. The top right shows 'Science Park' and a user profile 'UR'.

- Users

The screenshot shows the 'Users' management page. The page has a sidebar with 'Reservations', 'Resources', and 'Users' (which is highlighted). The main content area shows a table of users with the following columns: USER NAME, EMAIL, ROLE, RESOURCES ALLOWED, and ACTION.

USER NAME	EMAIL	ROLE	RESOURCES ALLOWED	ACTION
Waqar Ali	waqar.ali@redapes.se	Admin	All	
Mahreen Rashid	mahreen.rashid@redapes.se	User	Conference Room, +2 more	
Bilal Hassan	bilal.hassan@redapes.se	User	Executive Lounge, +1 more	

The top right of the page shows 'Science Park' and a user profile 'UR'.

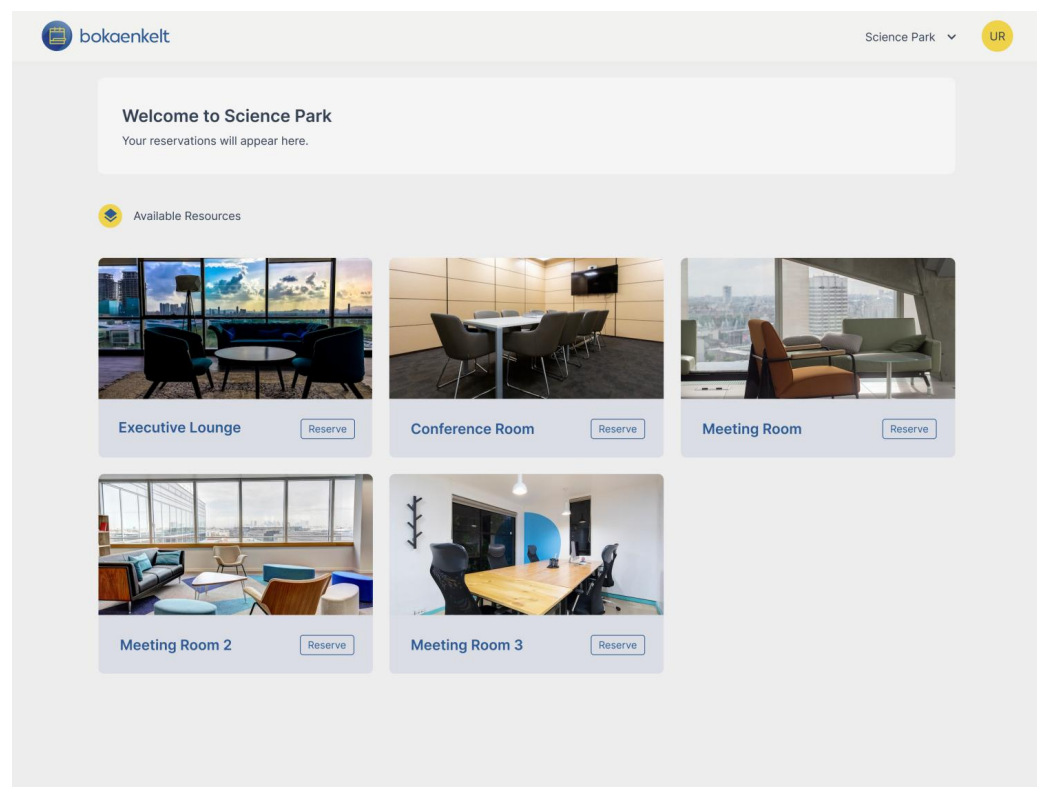
- Add aUsers

The screenshot shows the 'Add a User' modal form in the bokaenkelt application. The form is overlaid on a background showing the 'Users' management page. The modal contains the following fields and options:

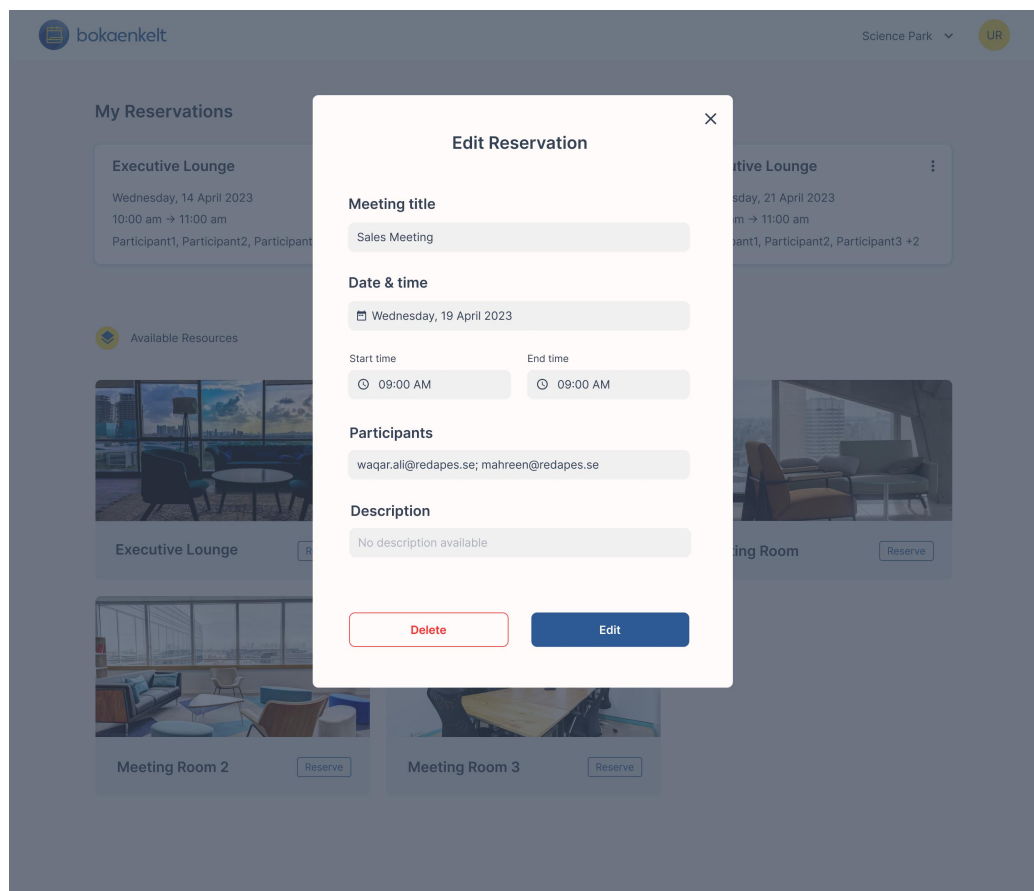
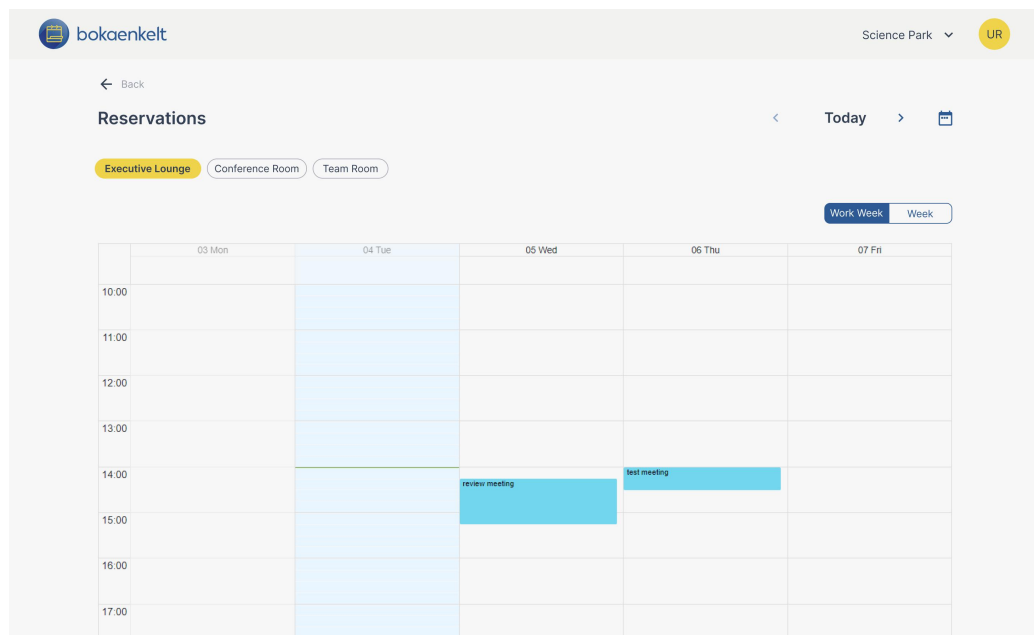
- Full Name:** A text input field with the placeholder 'Add fullname'.
- Username:** A text input field with the placeholder 'Add username'.
- Email:** A text input field with the placeholder 'Add email address'.
- Password:** A text input field with the placeholder 'Type password'.
- Confirm Password:** A text input field with the placeholder 'Retype your password'.
- Time Zone:** A dropdown menu currently set to 'Eastern Time UTC'.
- User Role:** A dropdown menu currently set to 'User'.
- Resources Allowed:** A section with a 'Select All' button and several resource names: 'Conference Room', 'Meeting Room # 1', and 'Executive Lounge'.
- Add:** A blue button at the bottom of the modal to submit the form.

### 3. User Pages

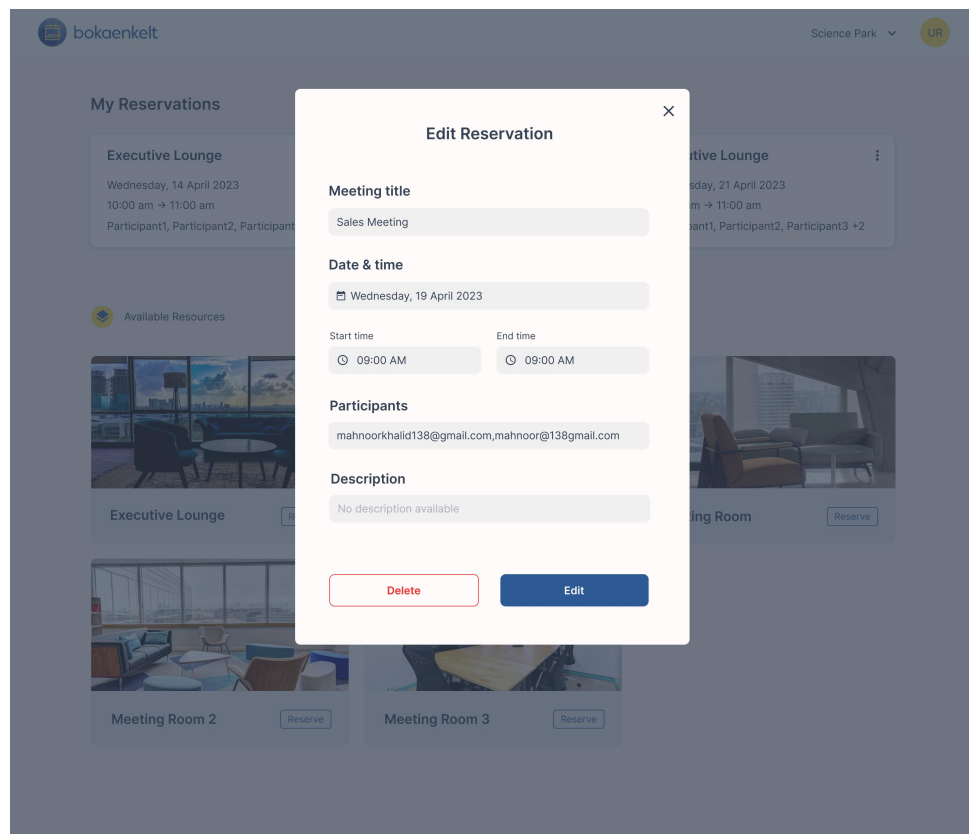
- Reservations



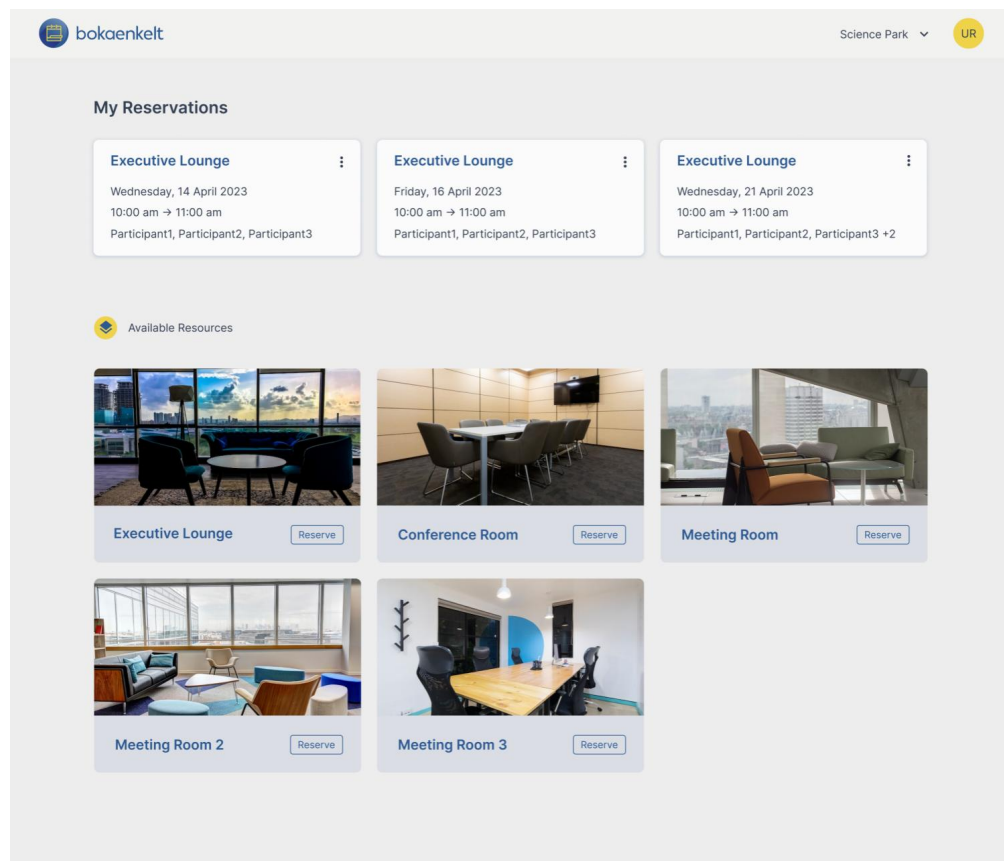
- Add Meeting/Reservation



- Edit Meeting/Reservation



- View all Meetings/Reservations



## **6. Challenges and Solutions**

### **1. Conflict Handling in Reservations:**

- Ensured the calendar displays existing reservations to prevent double bookings.

### **2. Multi-Building Management:**

- Designed a seamless interface for admins to switch between multiple buildings.

### **3. Conflict Handling in Reservations:**

- Ensured the calendar displays existing reservations to prevent double bookings.

### **4. Email Notification Integration:**

- Used Mailgun API to implement reliable and scalable email notifications for booking updates.

## **7. Outcome and Impact**

- Improved resource management efficiency for businesses.
- Streamlined room reservation processes with a user-friendly interface.
- Enhanced collaboration through email notifications and invite functionalities.
- Successfully met the client's requirements for a robust booking system.

## **8. Future Enhancements**

- Integration of advanced reporting and Analytics for admins.
- Mobile app development for on-the-go reservations.
- Real-time chat feature for better collaboration among users.
- Enhanced security features like two-factor authentication



