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Kravspecs:

Room Booking System, is a system designed to make it easy for students to find the correct class room, and to make it easy for teachers to book rooms.

Functional requirements:

User roles:

System admin:

- Can create admin users
- Requires login.

Admin:

- Can do everything a teacher can do.
- Can create new users.
 - assign either admin or teacher role to user.
- Can update users.
- Can delete users.
 - Can't delete system admin.
 - Can't delete the current user.
- Can disable users.
 - Can disable the system admin user.
 - Can't disable the current user.
 - This only disables the users login, and de authorize them.
- Can re enable users.
 - Can re enable the system admin user.
- Can create rooms.
- Can update rooms.
- Can delete rooms.
- Can create room groups.
- Can update room groups.
- Can delete room groups.
- Can update and delete all bookings.

- Requires login.

Teacher:

- Can do everything a student can do.
- Can update own user profile.
 - Change username.
 - Change password.
- Can create bookings.
- Can update bookings.
 - Only bookings that they have created.
- Can delete bookings.
 - Only bookings that they have created.
- Requires login.

Student (Guest):

- Can view bookings
- Doesn't need login.
- Can request room booking.

User management:

- Profile view:
 - Option for changing username.
 - Option for changing password.
- User management view:
 - Only visible to admins.
 - Option to create new users.
 - * users can have either admin, or teacher role.
 - Option to update user roles.
 - * Can't update current user role.
 - * Can't update system admin user.
 - Option to delete users.
 - * Can't delete current user.
 - * Can't delete system admin user.
 - Option to disable users.
 - * Can disable the system admin user.
 - * Can't disable the current user.
 - * This only disables the users login, and de authorize them.
 - Option to re enable users.
 - * Can re enable the system admin user.

Rooms:

- Room management view:
 - Contains a list of all rooms.
 - Should have options for admin users to:

- * Create rooms, must include the following:
 - Name.
 - Room id. This is used on the bookings.
 - Description.
 - Size.
 - * Update rooms.
 - * Delete rooms.
- Group management view:
 - Groups are only to sort rooms.
 - Contains a list of all room groups.
 - Should have options for admin users to:
 - * Create groups.
 - * Update groups.
 - * Delete groups.
 - * Add rooms to a group.

Bookings:

- Templates for default page design.
- Day view:
 - Shows all rooms and their bookings.
- Week view:
 - Shows all bookings in the current week for a specific room.
- Custom time duration view:
 - Shows all bookings in the time duration for a single room.
- Bookings should have custom booking durations.
 - The min. duration is 5 minutes.
 - The max. duration is to the end of the current day.
- Create booking view:
 - A booking must include:
 - * A title.
 - * Who created it.
 - * Which room it is for.
 - * start time.
 - A booking can include:
 - * recurring interval.
 - * A description.
 - * end time, if it's not provided then it goes to the end of the current day.
- Details view:
 - When a user clicks on a booking, it opens the details view.
 - Contains all info that have been entered during creation.
 - If the teacher who created it, or an admin opens the details view, then there should be an edit icon to allow updating the booking.

Web page:

- Should only contain views relevant for students/guests.

App:

- Should contain views relevant for students/guests.
- Should contain a login page for teachers and admins.
- Should contain pages for teachers and admins to easily manage bookings and other parts of the room booking system.

Nice to have features:

- Websocket communication, so that when a change is made, then all devices are notified about the change and can refresh

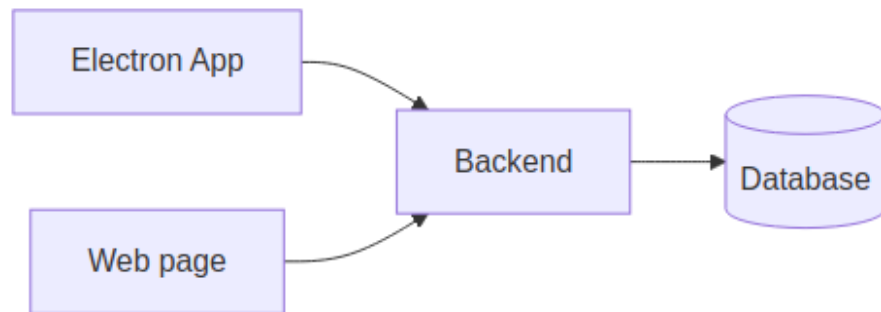
Domain model:

Figure 1: diagram

Database model: