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# BOOKING CALENDAR RATIONALE

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# Introduction

I am currently the webmaster for the Canberra croquet club website. Having recently finished updating this website and after receiving this assignment, I decided to create a lawn booking system to replace the current one. Club members have continuously been having issues with the current lawn booking calendar, so I suggested I could create a new one. My goal for this assignment was to create an easy to use system that could be integrated into the new website.

## Planning

My first step was to plan the features I wanted. These were based on research on already existing booking calendars, knowledge of issues with the current calendar, and suggestions from club members.

The main feature list I came up with included:

- Independent user logins
- User dependant bookings
- Ability for members to create, edit and delete personal bookings
- Bookings for each lawn
- Ability to change booking colours
- All booking information displayed on calendar page if possible
- Ability to add notes to a booking

## Development Process

### Database Structure

After planning, the next step was to create the database structure. While this was changed several times during development, it was a good starting point to figure out what needed to be received from the user and what needed displaying to the user.

### Calendar

Next, I started working on the calendar to get a base template for all days where the bookings would appear. I wanted the calendar to display times starting and ending at a global, user specified time. This was initially done by variables with user interaction to be added later. Once the calendar template was complete, I started working on navigation between days. This was implemented using a get variable and buttons to change this value and reload the page.

### Logins

The next step was adding bookings, however, before I could add the bookings, I needed to implement the login system. This is because I wanted each booking to be linked to a user. The login system consisted of login, logout, register, and reset password. Once this was in place, I changed the calendar page to require logging in before access.

### Bookings

Now that I had a login system and a way of identifying users, I implemented the ability to create, edit and delete bookings. Along with this I also disabled the editing and deleting of bookings not owned by the user.

## Extras and Formatting

With the main structure of the booking system done, the next step was to clean up the website and make it more user friendly. I started by changing all forms to use bootstrap. I had already been using bootstrap however only in small amounts. Using this I centred the forms and made all the inputs aligned. Another part of improving usability was to add a small selection calendar to the main calendar page, as clicking next multiple times to get to the required date takes too long. Adding this made it possible to select any day in the current month in just 1 click and to easily switch between months. Another extra that I added was settings. This allows the user to change the global start and end times. Finally, popups were added to inform the user if something was either successful or unsuccessful and inform them of any errors.

## Testing

Now that the website was user friendly and working it was time to test. Testing was done to ensure that users would not be able to break the functionality of the website and so that all exceptions would be handled. Some of the tests that were conducted included:

- Trying to access every page while both logged out and in.
- Inserting incorrect values into the inputs.
- Attempting to delete another user's bookings through direct link.
- Updating a booking after it has been deleted.
- Inserting an end time that is before the start time.
- Attempting to make a booking at the same time and location as another.

## Final Changes

The final step was to do a final clean up. This included finding and fixing any small details in the code. This included spelling, comments, and code formatting. After this, a final test was conducted to check that the functionality remained unchanged.

## Future Changes

While working on this assignment ideas of improvements kept popping up. Some of these I implemented but others I decided not to implement as they would take too much time however, they are improvements I do want to make in the future.