airelogic

Technical Test
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MyBugTracker

This is a coding challenge that involves designing, developing, and testing code to match the following requirements:

- Bugs can be added and removed from the board
- Once added, bugs can be edited or resolved
- Bugs can be assigned to existing users on the system
- Staff members can be added, edited, and deleted from the system
- All input fields are required
- All data is managed using a database

Assumptions

- The user can have access to staff details

Development and Testing

I used decomposition and the agile methodology to help me complete this code. I started by creating the staff board. I tested to ensure that the correct information was being displayed when;

- Loading from the SQL database
- Editing an existing staff member
- Deleting them from the database.

I used what I learnt to create a similar board for the bugs. At which point, I ran all the same tests. Additionally, I tested to ensure that the dropdown had the right values from the database and the selected value was being saved and displayed accordingly.

I ran into several issues during development. Following is a small insight into some of them.

Issue	Approach	Resolve
Empty razor page was unavailable on my version of visual studio	Online research – YouTube videos	Add Web Development package
Database was not connected to the project	Check the connection string	Syntax error where an additional slash was need
Various NuGet packages needed downloading but weren't compatible	Online research – found out which version of the NuGet packages was compatible with my framework	Download older versions
Didn't know how to bind the dropdown to the SQL data	Online research – YouTube video	Use a mixture of classes and IEnumerable to access the SQL data from the cshtml and cshtml.cs files
Error message was showing on the create and edit pages, but the success message wasn't	Online research was too time consuming	Abandoned this feature for the sake of time
Dropdown was not loading existing data from the database on the edit bug page	Trial and error using what I already know about this project and the access rights	Access the selected value, the same way it gets assigned

I followed the agile methodology to ensure my development was focused. . I although I did not use git, the figure below gives us an idea of what my commits would look like. The colours also group the commits by each sprint.

🔵	1 day (14 Dec)
🟢	1 day (13 Dec
🟣	3 Afternoons (10, 11 and 12 Dec)

- 🔵 Show chosen dropdown value in edit bug page
- 🔵 Bind sql data to new dropdown
- 🔵 Set up resolve button to remove record from db
- 🔵 Create bug edit page based off create bug page
- 🔵 Link create bug page to 'New bug' button
- 🔵 Build create bug page with input fields (no dropdown)
- 🔵 Bugs index page shows data from SQL table
- 🔵 Download older versions of Nuget Packages
- 🔵 Add values to bugs table using sql query
- 🔵 Create bugs table
- 🔵 Set up delete button to remove record from db
- 🟢 Create staff edit page based off create staff page
- 🟢 Create staff input fields are getting saved to the db
- 🟢 Link create staff page to 'New staff' button
- 🟢 Build create staff member page with input fields
- 🟢 Staff index page shows data from SQL table
- 🟢 Staff index page creates the table with the correct headers
- 🟢 Download Nuget Packages
- 🟢 Add values to staff table using sql query
- 🟣 Create staff table
- 🟣 Connect to database

Design Notes

I chose to do this as a WebApp with Razor pages as it is beginner friendly. I also considered Blazor as it also provides a professional looking front-end. Ultimately, I went with Razor as I was more comfortable with it.

Below I have listed some suggestions which could raise the quality/functionality of the project.

Possible improvements:

- Set-up a success message on the Edit and Create forms. This will notify the user that the record has been updated or added successfully, before moving to the main page.
- Neaten the 'Assign To' dropdown on the edit form. Currently, it displays the chosen staff member followed by all staff members – thus creating duplicates in the dropdown. I would like the dropdown to choose the correct staff member from the dropdown and show it as chosen.
- Create a warning message which asks the user if they are sure that they want to delete a staff member.
- When trying to resolve a ticket, a pop up informs the user that the bug has now been sent to a senior member or client member to approve that the ticket can be resolved.
- Have a table for client users
- On the bug page: add a section for screenshots, priority, comments, ability to @ a staff member in the comments
- Have security by having log-ins and user permissions. Admins can access and edit the staff table. Clients can see public comments but private comments stay between staff members.
- Ability to filter the tables using the headings
- Better landing pages
- Add comments to the code to help with readability and scalability
- Remove any excess code/whitespace

As of right now, the project meets all stated requirements and can be marked as complete.