Logo, company name

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School of Computing, Engineering and Built Environment

Department of Computing

**Client Side Web Development**

**Session 2021-22**

**Coursework 1**

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“I declare that all work submitted for this coursework is the work of Alexandra Neal alone unless stated otherwise”

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# Description of Functionality

This application has been developed for the purpose of displaying hostel information from the provided API in different formats. Users have access to two different pages within the application named Home and View Hostels.

## Home

This page welcomes users to the application and provides information about it’s purpose and functionality. Included is the navigation bar, text content and additionally a slideshow of images featuring backpackers in different locations in Scotland.

## View Hostels

This page features the navigation as well as a list of all hostels gathered from the API. A search bar has been implemented to allow users to search for a specific hostel. Each hostel is listed with their rating and also the function to click for more information.

## View Individual Hostel

If a user selects a specific hostel more information is displayed for the hostel chosen including the description, contact details, location, amenities, ratings and reviews. Also included is an interactive map from Google Maps set to the location of the hostel.

The API provided was altered to include additional information listed below:

|  |  |  |
| --- | --- | --- |
| **Data added** | **Type** | **Description** |
| “private” | Boolean | Indicates if private rooms are available |
| “laundry” | Boolean | Indicates if laundry facilities are available |
| “kitchen” | Boolean | Indicates if there are kitchen facilities |
| “wifi” | Boolean | Indicates if Wi-Fi is available at the hostel |
| “breakfast” | Boolean | Indicates if free breakfast is provided |
| “curfew” | String | Displays the curfew time, or ‘None’ |

The reason for this was to provide additional information for each hostel other than just if there was a café on site. This allowed for the ‘Amenities’ section to be created on the hostel specific page as there was enough options to populate it (See Figure 1). An updated view of a record in the API can be found at Appendix 1.

A picture containing chart

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Figure 1 - Screenshot from Hostels

# Libraries or Frameworks

This application was written using the JavaScript library React. React.js uses a virtual DOM based on JavaScript components that mimics a DOM tree (Hutsulyak, 2022).

The React-Bootstrap library provides Bootstrap components as React components. This was used to import features such as InputGroup, FormControl, ListGroup, Col, Container and Row.

Graphical user interface, application

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Figure 2 - Screenshot from Hostels

An example of using InputGroup in this application is for the search bar which narrows down the list of hostels for the user. This was used alongside FormControl which changes the output based on what has been entered by the user (See Figure 2). ListGroup was then used to display the output in a user friendly format (See Figure 3).

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Figure 3 - Code Example of InputGroup & FormControl

The fact that React-Bootstrap is compatible with multiple Bootstrap themes ensures that the appearance is consistent. It also doesn’t rely on dependencies such as jQuery in order to work (Bouchefra, 2019).

The navigation bar used throughout the application was created using Bootstrap. The styles utilised within the class of the different tags allowed the navigation to be responsible and collapse from a full navigation to a smaller dropdown option dependant on the screen size. This ensures that regardless of the device a user is accessing the application on the navigation will work as intended. Using Bootstrap this can be set to different breakpoints through different style referenced.

The library React Router was installed and used for routing in this application to allow for navigation across the two components: Home and View Hostels. In particular BrowserRouter was used to wrap the components Routes and Route where the different paths were stored with the component to render attached to it.

# Architecture of the SPA

Text

Description automatically generatedWhen the application was initially created using create-react-app a file structure was created as standard splitting the application into ‘public’ and ‘src’ and including files such as a README and package.json to view important metadata about the project and define functional attributes such as dependencies, scripts and the entry point of the application. A folder called ‘node\_modules’ is also created and is a directory that tracks all of the packages that are installed locally (See Figure 4). Through the process of developing the application the structure changed dependent on different sections of the website and components imported within these. Within the ‘src’ folder individual folders were created to hold a different section of the application and then these were imported into the relevant file as required. This separation allowed for components to only be called when they were being used and also kept the code clean and easy to understand.

Figure 4 - Initial File Structure

# Viewing the Application

Both the altered Node/Express API and the completed application have been hosted through Heroku at the links/URLs provided below. I have also provided the links/URLs for each of GitHub repositories used throughout the development of the application.

|  |  |  |
| --- | --- | --- |
|  | **Link** | **URL** |
| **Application GitHub** | [Click Here](https://github.com/lexieneal/cswd-cw1-ln) | https://github.com/lexieneal/cswd-cw1-ln |
| **Application Website** | [Click Here](https://cswd-cw1-ln.herokuapp.com/) | https://cswd-cw1-ln.herokuapp.com/ |
| **API GitHub** | [Click Here](https://github.com/lexieneal/cswd1-cw1-api1-ln) | https://github.com/lexieneal/cswd1-cw1-api1-ln |
| **API Website** | [Click Here](https://cswd-cw1-api-ln.herokuapp.com/) | https://cswd-cw1-api-ln.herokuapp.com/ |

If downloading or pulling from the GitHub repository the application should run simply by executing npm install and then npm start.

# Evaluation

Brief report which evaluates the design and implementation

Talk about what I was not able to achieve here

Overall the features included in the application work as intended. The application is simple and easy to use and

# References

Hutsulyak, O. (2022). *10 Key Reasons Why You Should Use React for Web Development*. [online] Available at: https://www.techmagic.co/blog/why-we-use-react-js-in-the-development/.

Singhal, G. (2020.). *How to Set up a React Bootstrap App | Pluralsight*. [online] Available at: https://www.pluralsight.com/guides/how-to-set-up-a-react-bootstrap-app

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# Appendices

Appendix 1

Graphical user interface, text, application, email

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