User Guide: Location Based Quiz - User Interface App

The figures within this guide are screenshots of the user interface mobile application taken by an android phone. They will be numbered starting from Figure 1.

Note: A more technical guide can be found in the server repository of this github account.

Getting Started

The app can be used on any android phone. It can be installed via Phonegap using the following QR code:

In order for the webpage to load the questions from the database, and then upload the user answers the httpServer must be running. The httpServer.js server can be found in the server repository, and is run using the command:

```
node httpServer.js &
```

After the app has installed, an icon will appear representing it (Figure 1). Click this to open the app.

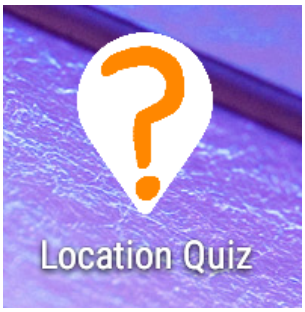


Figure 1: The icon that represents the app

When the app has opened, the following interface will be seen (Figure 2a). The app will automatically then pan to your current location (Figure 2b). Here you can track your location, view the questions on the map, and answer any questions within 20 metres of your current location. All of the options can be seen in the menu bar on the left-hand side of the app (Figure 2c).

The menu features three options:

- **1 Track Location**
- **2 Get Questions**
- **3 Find Nearby Questions**

These options must be clicked in order (1,2,3) for the app to work correctly.

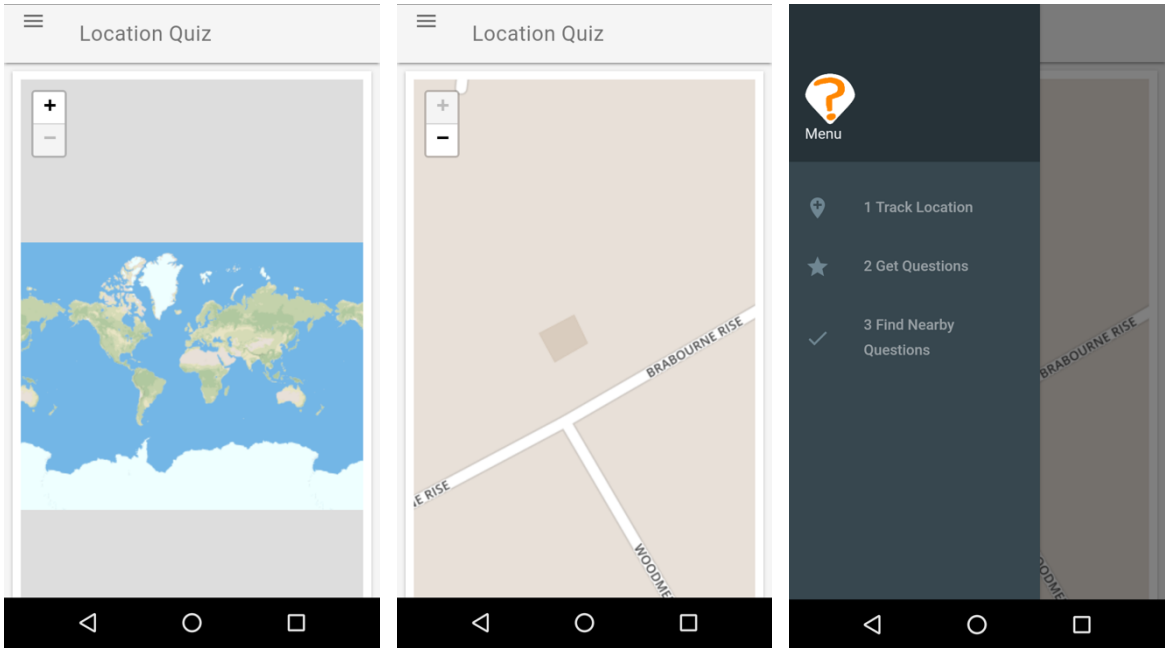
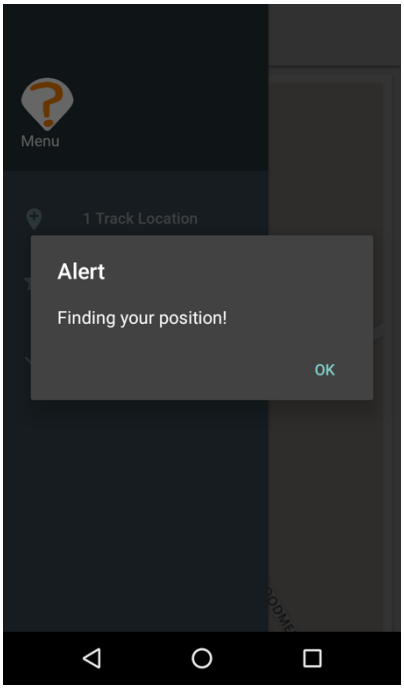


Figure 2a: The interface that can be seen upon opening the app (left). Figure 2b: The map after the app has panned to your current location (centre). Figure 2c: The menu bar with the three menu options (right).

Tracking Your Current Location

By clicking the '1 Track Location' menu option, an alert will first appear informing you that the app is finding your location (Figure 4a) and then an orange marker will appear on the map representing your current location (Figure 4b). This marker will now continually refresh to show your position as you move. The orange circle that is shown around the marker represents a 20m radius in which questions may be answered.

Note: This marker may be slightly inaccurate depending on the geolocation.



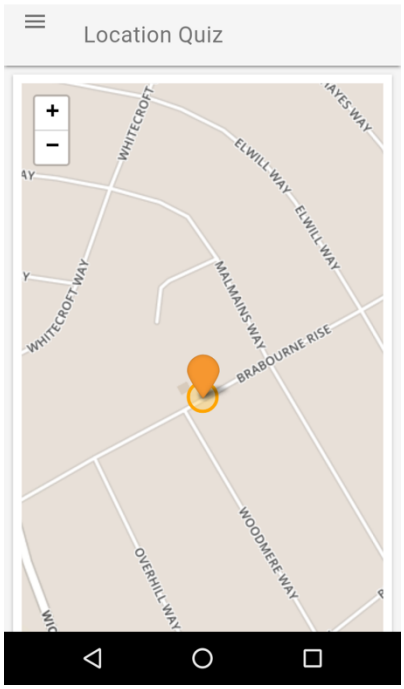


Figure 4a: The alert that is presented after clicking the '1 Track Location' menu option (left) Figure 4b: The marker that is added to the map showing your current location (right)

Using menu option '2 Get Questions' downloads all of the available questions from the database and shows them as blue markers on the map (Figure 5). The map will automatically pan to a view that shows all of the question markers.

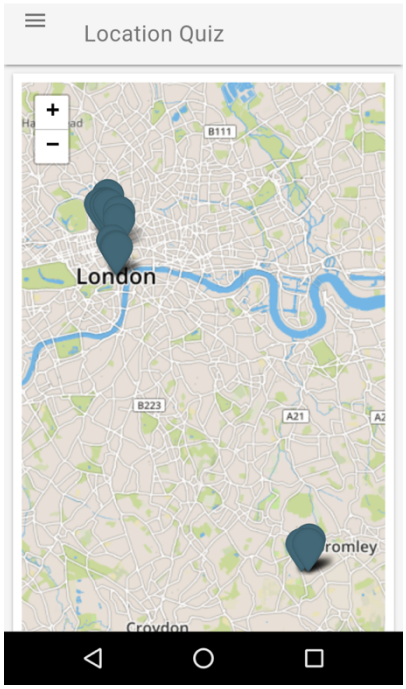


Figure 5: The question markers that appear after clicking the '2 Get Questions' menu option.

Next, the ‘3 Find Nearby Questions’ option can be clicked to assess the location of each question and determine which questions are within 20m of your current location. The questions that are within 20m will now be represented as a purple marker and the map will zoom in to show only the markers within the vicinity (Figure 6a and Figure 6b).

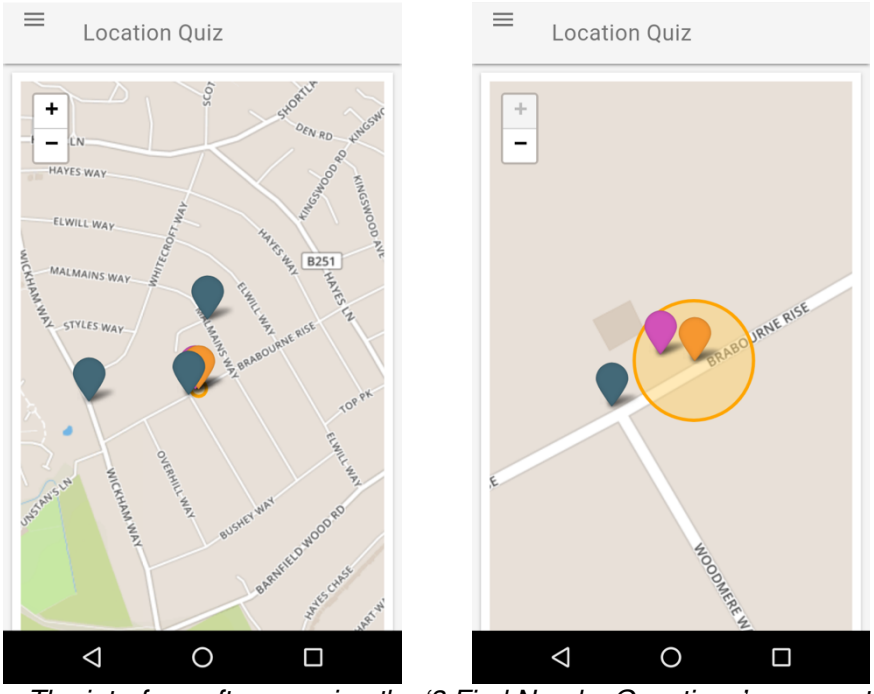


Figure 6a: The interface after pressing the ‘3 Find Nearby Questions’ menu option (left). Figure 6b: The interfacing after manually zooming into the user current location maker. It can be seen that only the purple marker is within 20m (right).

As only the purple markers have questions that can be answered (as they are within 20m), clicking on any blue marker will show a pop-up that states, ‘Can’t Answer. This question is too far away.’ (Figure 7).

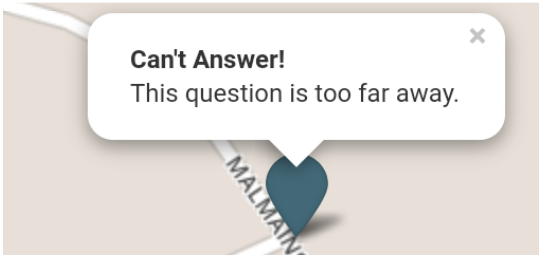
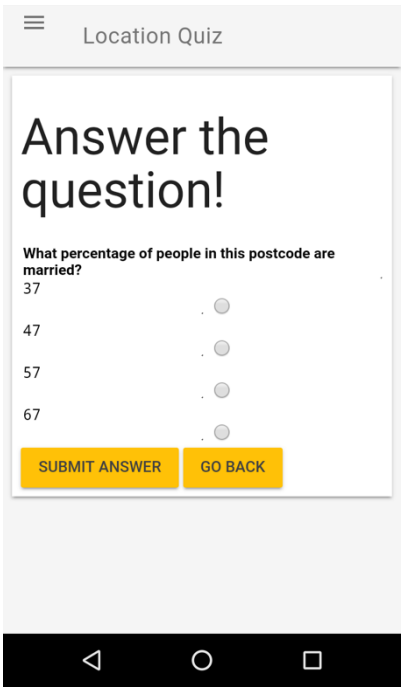


Figure 7: The pop-up that is shown when clicking on question markers further than 20m away from the user’s current location.

Clicking on a purple marker, will change the screen to bring up the question interface. Here, you will see the question and four possible answers (Figure 8a). Once you have selected your answer, click the ‘Submit Answer’ button. If no answer has been selected, an alert will show reminding you to make a choice (Figure 8b).

Note: If you do not wish to answer the question press the ‘Go Back’ button and the map will reappear.



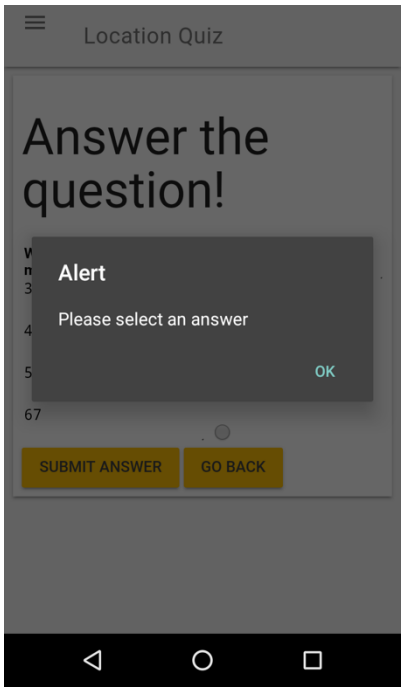
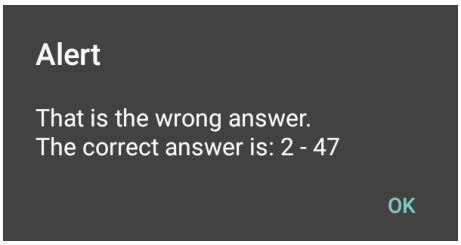
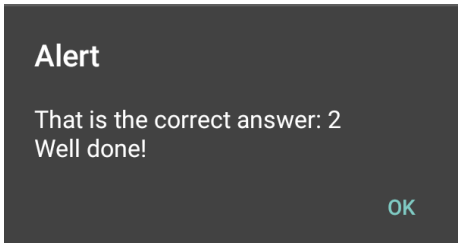


Figure 8a: The question response interface for the marker that has been clicked on (left). Figure 8b: The alert that is shown if no answer has been selected (right).

Once you submit your answer, two alerts will show. The first alert informs you if the answer was correct, and if it was incorrect, the correct answer is presented (Figure 9a and 9b). The second alert is to provide confirmation that your answer has been successfully sent to the database (Figure 9c).





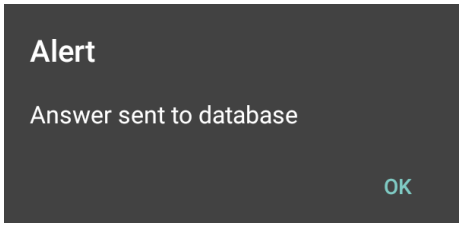


Figure 9a: The alert that is shown if you get the answer correct (top left). Figure 9b: The alert that is shown if you get the answer incorrect (top right). Figure 9c: The alert that is shown confirming the answer data has been sent to the database (bottom).

The question markers will now change colour depending on whether the question was answered correctly or not (Figure 11a and Figure 11b).

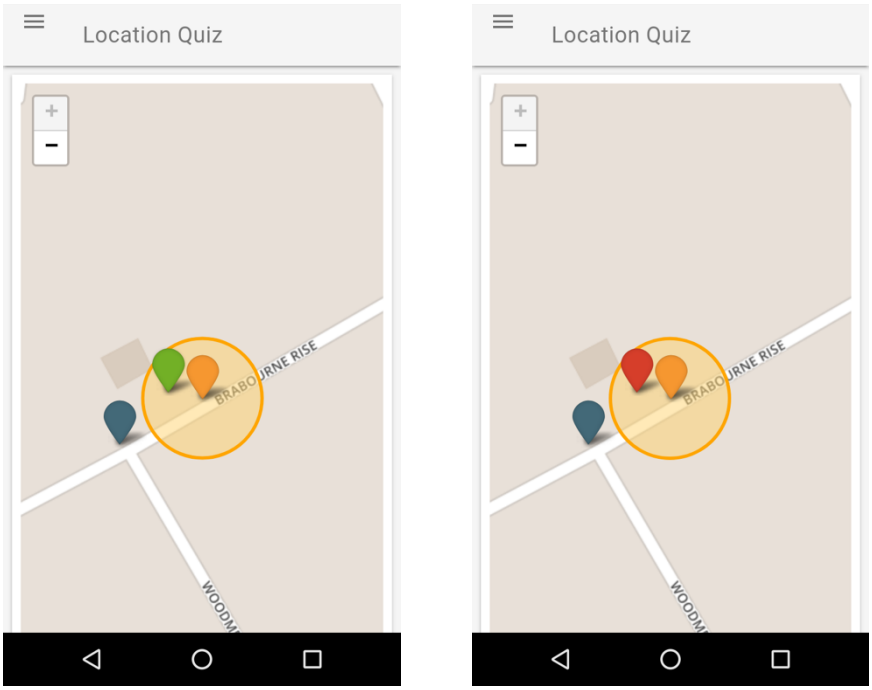


Figure 11a: The question marker after getting the answer correct (left). Figure 11b: The question marker after getting the answer incorrect (right).

Note: If your current location significantly moves and you wish to recheck for answerable questions, the '3 Find Nearby Questions' option will need to be clicked again. This will reassess the locations of each marker and change them to either blue or purple again.

Note: In order to load any questions that have been added to the database during the playing session, the app should be closed and restarted.

Troubleshooting

- If the questions are not loading after pressing the '2 Get Questions' menu option, then the httpServer may not be running.
- If the answer is not successfully sent to the database after clicking the 'Submit Answer' button, then the httpServer may not be running.
- If the current location marker does not immediately appear after pressing the '1 Track Location' menu option, wait a few seconds as sometimes the geolocation can take longer than expected.