USER MANUAL

Smart City

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System Overview

Smart City is an application based around the tourism industry. The smartphone based application can operate on both Android and iOS systems with the use of expo, this is a clear advantage in the current technology climate. The application has several features to allow a person to explore a new city. One feature allows a user to submit a photo and have the system automatically predict what landmark it is, the app will then return the name, a description and links to relevant websites relating to the landmark.

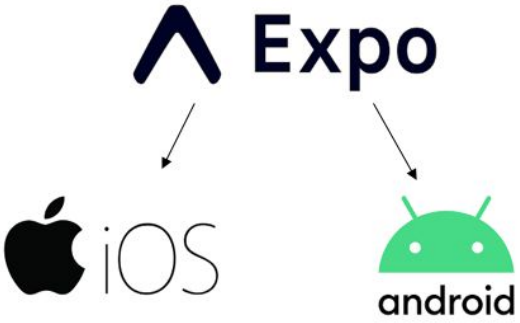
The app also has several predesigned routes in which the user can choose between and have this route mapped out on google maps.
The last feature is a built in map which displays all the landmarks compatible with the app along with the users location. The user can use this map to see where they are in relation to landmarks nearby.

Installation

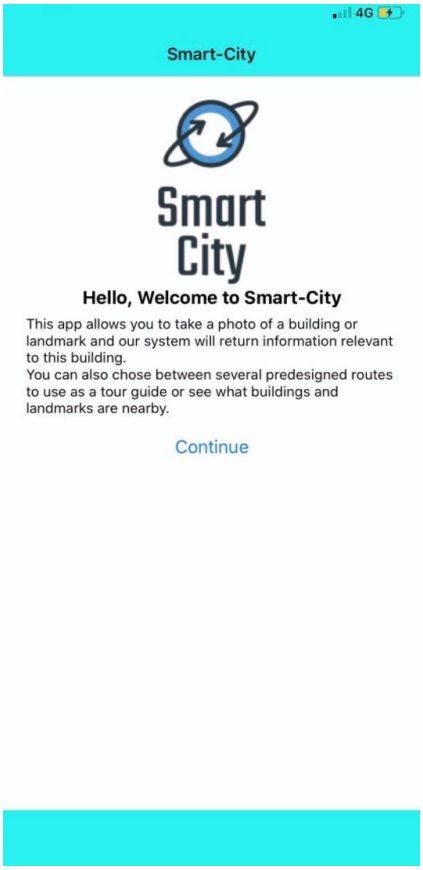
The application is not live on the Android or iOS store, to download the full version including servers and backend devices, a user will need to clone the GitLab Repo and run the system remotely.

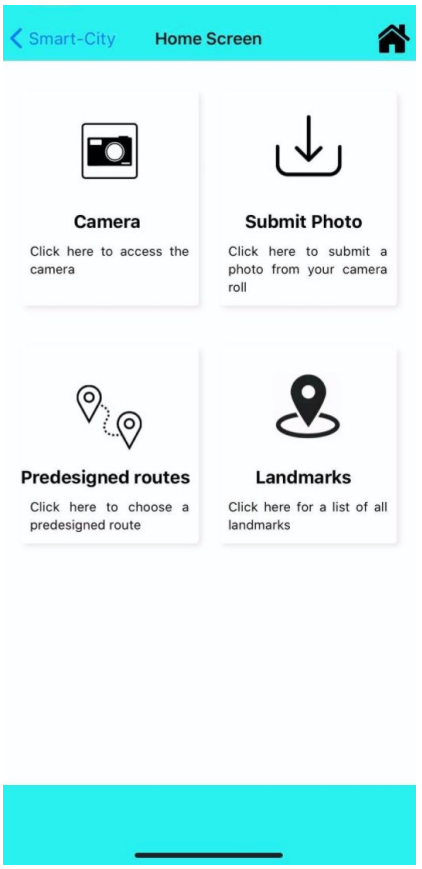
However, given the project is accompanied with “Expo”, an application that allows for hosting of other applications that are unpublished. To run the app in expo the user can follow the steps on https://expo.io/learn.

These are to download the latest version of node.js and to run ‘npm install expo-cli --global’ in the terminal. Once these are installed, the user must use the terminal to navigate into the directory where the project and run ‘expo start’. They will then be given a personal QR code that is scannable to open the application once a user has downloaded Expo from their app store.



Welcome Screen

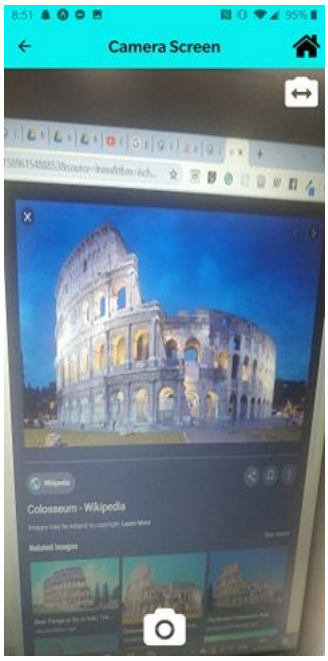


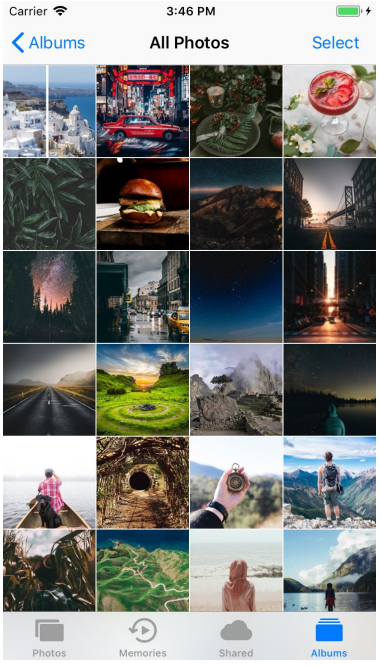


On every opening of the application, a user will be met with a welcome screen. On this welcome screen there is information regarding to the overall functions of the application and one option button, allowing a user to continue to the “Home Screen”

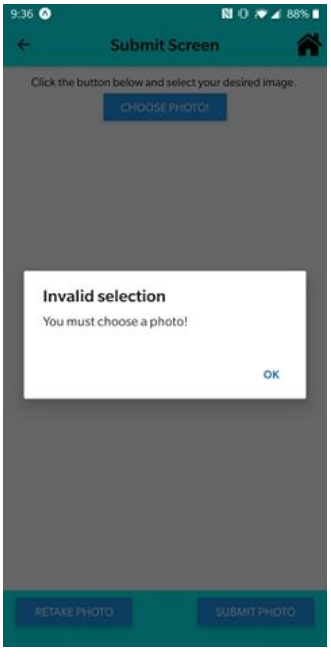
The Home Screen contains many different options allowing the user to choose between the many features available on the application. These features include, Camera, Submit Photo, Predesigned Routes and Landmarks. Each feature is designed to help a user navigate new cities and gain a better understanding of their surroundings.

Taking/Uploading an Image

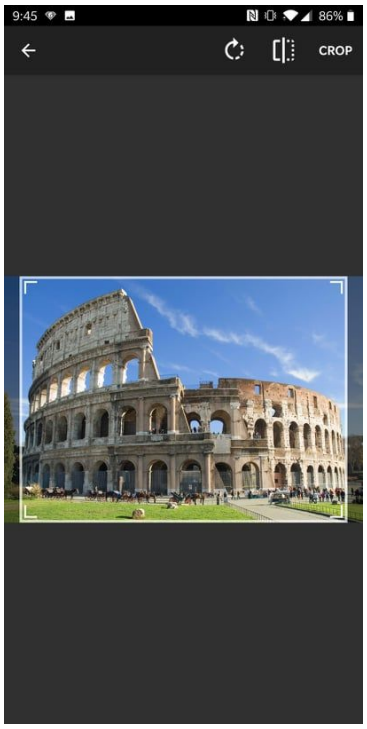




After entering the Camera section the user will be offered a place to take a photo directly from their camera of the landmark in question.
After the user takes a photo, it will be automatically saved to their camera roll and the user will be brought to the submit photo screen. Here the user can access their camera roll and choose a photo that they wish to submit. This photo can be the one just taken by the user or any other photo in their camera roll. If the user is not happy with any of the photos they have then they have the option to retake the photo and will be directed back to the camera screen.
If the user does not select a photo and presses submit an alert will pop up telling them they must select a photo.

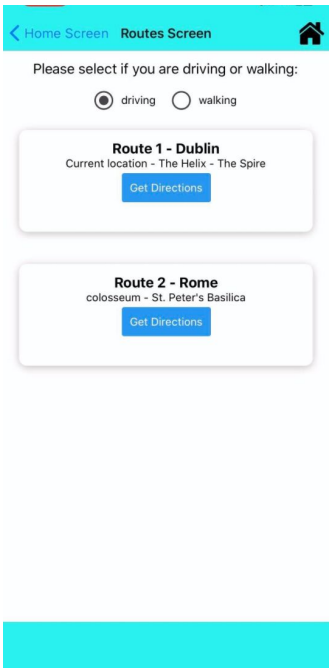


When the user selects their desired photo they will be required to crop the image to ensure there is no unnecessary whitespace in the image.
Once this is complete the image will appear on the submit screen where the user can then submit the photo to be queried against the database.

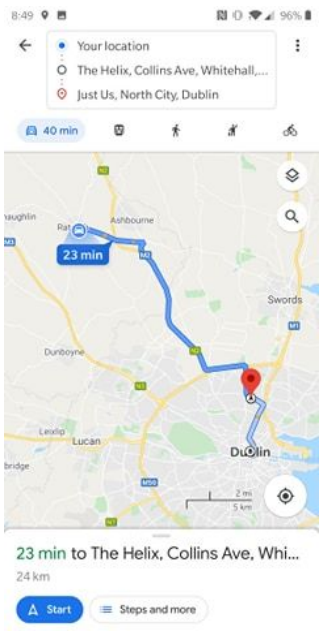


When the database finds a match the user is brought to the display screen where the app displays the name and a brief description of the building which was returned as a response to the database. The user can also click on the content box to be brought to a wikipedia page related to the building.

Routes Screen

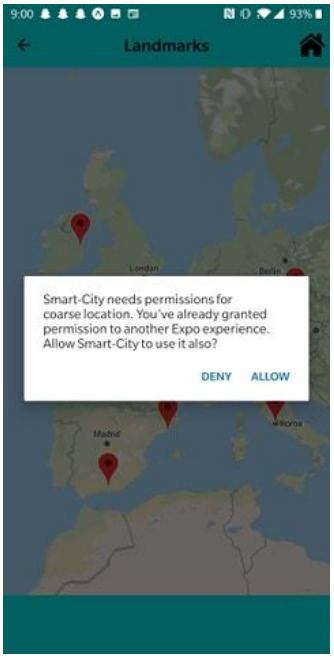


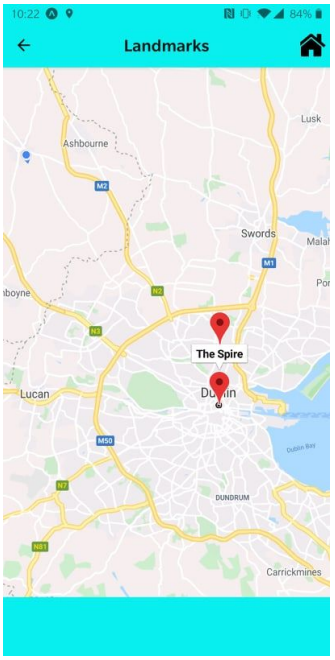
On the routes screen the user has the option to select from two predesigned routes. The user also must select if they are driving or walking and the route displayed will be created based on this selection.
When a mode of transport is selected the user can then choose which is their desired route and press the ‘get directions’ button associated with that route.
Route 1 is from the current location of the user to The Helix and then continues on to The Spire.
Route 2 goes from the Colosseum to St.Peter's Basilica.
When a route is selected the user is brought to Google maps where this route has been created.



Landmarks Screen

The landmark screen displays all the buildings locations that are compatible with the app. Once the user gives permission for the app to use their location, the user will then be able to see themselves on the map and where the closest landmark is to them.





If the user clicks on any of the markers, it will be centered on screen and the name of the building it is associated with will appear above.