University College London

Department of Civil, Environmental & Geomatic Engineering

CEGEG077

Web and Mobile GIS

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Option A – Location Based Quiz

Technical report

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Academic Year

2017/2018

Table of Contents

[Quiz 3](#_Toc513575070)

[Function 3](#_Toc513575071)

[Manual 3](#_Toc513575072)

[/quiz/www/index.html 3](#_Toc513575073)

[/quiz/www/user guide.html 3](#_Toc513575074)

[/quiz/www/js/appActivity.js 3](#_Toc513575075)

[/quiz/www/js/uploadData.js 4](#_Toc513575076)

[/quiz/www/js/index.js 4](#_Toc513575077)

[Questions 4](#_Toc513575078)

[Function 4](#_Toc513575079)

[/questions/www/index.html 4](#_Toc513575080)

[/questions/www/user guide.html 5](#_Toc513575081)

[/questions/www/js/appActivity.js 5](#_Toc513575082)

[/questions/www/js/uploadData.js 5](#_Toc513575083)

[Server 5](#_Toc513575084)

[Function 5](#_Toc513575085)

[/server/httpServer.js 5](#_Toc513575086)

# Quiz

## Function

This is an Android app which can track the location of its user in real time when the user is close enough to the question point, there will be a pop-up window to let the user choose from pre-set options to answer the question. After user submitting the answer, the app will determine if it is correct and will show the result in the pop-up window. The user can also access Moodle forum page via this app by clicking Forum on the left side. The manual of this app also comes with the app which is under User Guide on the left side.

## Manual

Firstly, to start the Phone Gap server, "phonegap serve" or "phonegap serve &" under /quiz. Then start communicating with the database by "node httpServer.js" or "node httpServer.js &" under /server After all these steps, the app will be ready to use.

## /quiz/www/index.html

The index.html mainly is the appearance of the app with few scripts which is more detailed in appactivity.js. The index.html has some style settings for the pop-up window, the colour of the font, the button appearance and the map display size. The displaying text, the outside link and the connection to another web page are in there. There is also a pop-up window example in the index.html which can let the future question from the points follow the same style.

TrackLocation is to track the user location in real time which is in /quiz/www/js/appActivity.js

loadQuestions is also in /quiz/www/js/appActivity.js; this is to load the question from server to the phone.

## /quiz/www/user guide.html

The user guide.html is very similar to the index.html; the differences are the contents of the page, it has a manual of the app instead of the tracking map.

## /quiz/www/js/appActivity.js

The code in /quiz/www/js/appActivity.js is a series of procedures which allows the quiz app to be functional. It makes the app capable of doing a series of tasks.

* Load the map
* Tracking user location
* Showing on the map
* Calculate the distance from the user to the question points and determine if the distance satisfies the alert setting
* Get user selected answers
* Cancel selected answer
* Commit answer
* Upload the question to the server
* Close pop-up window
* Disable further action on the pop-up window
* Show result
* Show question and options
* Show/hide element by certain id(question point identification)
* Show marker on the map
* Get questions from the server
* Load all existing questions from server and match with the markers

## /quiz/www/js/uploadData.js

This involves two tasks, get the data from the server and upload the data to the serve, the term data in here is the user selected answer.

## /quiz/www/js/index.js

Apart from app initialise function is in /quiz/www/js/index.js. It also gets an ID of the phone which leaves a track of the person who submitted the answer.

# Questions

## Function

This is an Android app which can allow its user setting question by clicking on the map. The people using Quiz App can receive the question set by this app. The user can set one question at a time, with four options to choose; the user also needs to set which option is correct while setting the question. All the question points shown on the map can be edited, deleted and moved. The user can also access Moodle forum page via this app by clicking Forum on the left side. The manual of this app also comes with the app which is under User Guide on the left side.

## /questions/www/index.html

The /questions/www/index.html also has a decent amount of material design to make the web page more attractive. It also has fair amount of codes to customise the marker, the codes allow the marker can change accordingly to match different scenario when using the app. It also allows adding/editing/deleting questions and other situation can come along with the action.

* New marker setting
* Colour of the marker
* Adding question and create marker
* Editing question
* Deleting question
* Show question element by certain identification
* Hide question element by certain identification
* Show question adding interface
* Cancel edit
* Add question
* Save question
* Update question coordinates
* Show existing question information
* Action when selecting a marker
* Marker dragging event
* Marker respond to clicking
* Load data

getLocation is to get the location coordinates where user click on the map which is in /questions/www/js/appActivity.js

## /questions/www/user guide.html

The user guide.html is almost same the /quiz/www/user guide.html; the differences are the contents of the page change slightly, it has a manual of the app instead of a map user can click on.

## /questions/www/js/appActivity.js

It has the api map and the get location function.

## /questions/www/js/uploadData.js

This involves two tasks, get the data from the server and upload the data to the serve, the term data in here is the user selected answer.

# Server

## Function

This is the bridge connecting web server and the database, it allows the server exchanging information with the database.

## /server/httpServer.js

In detail it has following functions.

* Adding question
* Updating question
* Retrive all question information from database
* Deleting question
* Commit answer
* Insert the phone ID to the database