German University in Cairo - GUC
Faculty of Media Engineering and Technology - MET
Department of Digital Media Engineering and Technology
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DMET601 Web Technologies and Usability
Project Guidelines

Posted: Wednesday, April 16th, 2014
Due: Thursday, May 15th, 2014, at 5:00 PM

Project Description

Google Maps JavaScript API Directions Service can be used to specify directions from a source location to another destination location on Google maps. Locations may be specified as text or as longitude-latitude pairs. The suggested route can then be displayed as a thick polyline connecting the source to the destination. More on this Google Directions Service can be found at
https://developers.google.com/maps/documentation/javascript/directions

In our project, we want to build our own direction service within a specified area (e.g., New Cairo City) utilizing Google maps. The user may specify two points (i.e., a source and a destination) on the map and requests to get the shortest driving route between these two points and the directions (e.g., turn left after 300 meters, etc.). The route should be displayed on the map and the directions (as text) should be provided as well as list items. In addition, two files, in XML and JSON formats, detailing the directions should be returned back to the requestor if he/she is interested to save any of them.

You will build a directed graph (as some streets may be one-way streets) for the area of interest and implement a shortest path algorithm to find the shortest path between two points specified by the user. (Many algorithms are available to solve this problem; choose one of them.) Notice that a user may choose a point that is not exactly on a street (e.g., within a building). In this case, your implementation should pick up the nearest street point.

Information about streets should be stored in a MySQL database, which can be accessed through PHP while maps can be accessed through JavaScript and HTML5.

Your work should be styled using CSS/CSS3.

N.B. Some students may hear some terms (e.g., directed graph) for the first time. If this is the case, it is recommended that they search for information before requesting clarifications.

Teams

- The project should be implemented by teams of up to 4 students. Teams consisting of 1, 2 or 3 students will be accepted; however, the work expected is the work of 4 students. No bonus will be awarded to small groups. Thus, it is a good idea to build teams of 4.
- E-mail the names and IDs of team members to your TA by **Wednesday, April 30th, 2014**.

Submission/Evaluation

- The deadline for submitting the project is **Thursday, May 15th, 2014 at 5:00 PM**.
- By that deadline, each team should submit to the TA a **sealed envelope** containing:
  1. A **hard copy** of a 2-/3-page report summarizing the project, team members, the contribution of each member, etc.
  2. A **CD/DVD** containing all the files of the project including the report. If there is any unusual configuration used, it should be submitted as well (e.g., **`php.ini`**, etc.).
- Member names and numbers should be written clearly on the envelope, the report and the CD/DVD.
- Evaluation will be conducted during the following week (i.e., the revision week).