



## **Part I**

The purpose of this task is to create a method of examining a social network. You are given data (socialGraph.php) representing a group of people, in the form of a social graph. Each person listed has one or more connections to the group.

Come up with a database structure to store the information found in socialGraph.php.

You must then create a page and PHP API which provides functionality to choose a person within the group stored in the database and display the following information about this person:

- Direct friends: those people who are directly connected to the chosen user
- Friends of friends: those who are two steps away from the chosen user but not directly connected to the chosen user
- Suggested friends: people in the group who know 2 or more direct friends of the chosen user but are not directly connected to the chosen user

## **Part II**

Each user has also visited 0 or more cities and has a % rating for each city visited. Implement an algorithm which recommends cities to a user based on the social graph. The user must not have visited any city which is recommended to them.

### **Requirements**

- Use OO PHP5 and any software design patterns you think are appropriate for the implementation.
- You may use 3rd party PHP frameworks for database interaction.
- You may also use javascript libraries if you wish.
- Your implementation must work with any person within the group, and not a hardcoded group member.

### **What we look for**

This task is designed to give us an idea of how you approach programming problems. We will look at the structure of any database tables you create, as well as the structure of your code and whether or not the solution you create is extendable. We are looking at how efficient your algorithms are and also how you design the html and/or any javascript you may use.