



<b>Course Title and Code</b>	<b>Introduction to Database Systems IS211</b>
<b>Instructor(s)</b>	Dr. Iman Hassan & Dr. Amani Hassan
<b>Assessment Type</b>	<b>Project Report</b>
<b>General Instructions</b>	1- Choose only <b>ONE</b> project 2- Choose your team (groups of 5 students max) or do it <i>individually</i>
<b>General Requirements</b>	For <b>BOTH</b> projects you need to: 1. Draw the corresponding ERD for this project in a way that answers the corresponding inquiries stated in the project. 3. Convert the ERD to Physical model ( <b>DDL scripts</b> ) 4. Write SQL statements corresponding to the queries
<b>Deliverables and Grading</b>	1. Conceptual Model (ERD) ( <b>30 marks</b> ) 2. Physical model ( <b>20 marks</b> ) 3. Set of SQL statements + Snapshot of the results ( <b>40 marks</b> ) 4. Project report containing all deliverables ( <b>10 marks</b> )

### Project1. Online Recruitment Project

(Ex. <https://wuzzuf.net/a/Online-Recruitment-Jobs-in-Egypt>)

<b>Project 1 Description</b>	<p>An online recruitment system is a service that automates company's recruiting needs by getting volumes of employment applications over the internet. The beauty of online recruitment solutions lies in its accessibility and ease of use. Anywhere on the globe, designated individuals are able to receive process and keep a record of CV's within a web-based information power house. Online recruitment benefits both job seekers and employers. Applicants have a simpler, more efficient application process, while employers are able to manage all applications in an efficient manner.</p> <p>An online recruitment system can include the following functionalities:</p> <ul style="list-style-type: none"> <li>● Signing up a new user (e.g. job seeker, employer)</li> <li>● Updating user details</li> <li>● Adding/updating a vacancy (by employer)</li> <li>● Showing a list of vacancies that satisfy certain criteria (e.g. industry, location, required experience...)</li> <li>● Showing a list of job seekers that satisfy certain criteria (e.g. industry, location, experience...)</li> <li>● Performing operations on vacancies: apply and save (by job seeker)</li> <li>● Performing operations on vacancies: hide (by employer)</li> </ul>
<b>Project 1 Queries</b>	<p>a. What was the most interesting job "title" that had maximum number of applicants?</p> <p>b. What was the announced job "title" that hadn't any applicants last month?</p> <p>c. Who was the employer with the maximum announcements last month?</p> <p>d. Who were the employers didn't announce any job last month?</p> <p>e. What were the available positions at each employer last month?</p> <p>f. For each seeker, retrieve all his/her information and the number of jobs he applied for</p>



## **Project2. Transportation System Project (Ex. Uber/Careem/SWVL)**

### **Project2 Description**

The term “transportation system” is used to refer to the equipment and logistics of transporting passengers and goods. It covers movement by all forms of transport, from cars, bikes, scooters and buses to boats, aircraft and even space travel. The purpose of a transportation system is to coordinate the movement of people, goods and vehicles in order to utilize routes most efficiently. When implemented, transportation systems seek to reduce transport costs and improve delivery times through effective timetabling and route management. Periodic re-evaluations and the development of alternative routes allow for timely changes to the transportation system in order to maintain efficiency.

A transportation system can include the following functionalities:

1. Signing up a new user.
2. Updating a user details.
3. Provide driver details.
4. Adding/updating ways of a ride payment (Cash / Visa / MasterCard).
5. Showing a list of vehicle types (e.g. bus/car/scooter).
6. Provide trip details (driver name, license plate no, car type, contact number, ride time, ride fees, ...).
7. Provide ride ratings (Allow feedbacks).
8. Provide ride history (All the rides for a certain user).
9. Allow to enter promo codes.
10. Provide booking service for the ride.

### **Project 2 Queries**

- a. What was the area that had the most/least ride requests last month?
- b. Who were the drivers with the maximum number of rides last month?
- c. For each driver, retrieve all his/her information and the number of rides he/she had.
- d. Which driver got at least 4.5 out of 5 on every user rating he/she got?
- e. Who were the drivers that didn't have any ride last month?
- f. What is the most type of vehicle (car, bus, and scooter) requested last month?