

Databases I, Winter term 2017-2018
Project Description
“iWork”

Companies nowadays create their own applications to display information about them for more exposure. These applications are intended to be always updated with recent job vacancies, which makes it easier to attract qualified job seekers. In addition, every company owns an internal system to facilitate the working process and eliminate the hassle of paperwork.

In this project, you are required to implement an application for the ministry of labor, iWork, that provides the above mentioned features for work institutes e.g. governments, companies. and for job seekers and employees. It will act as a portal where all groups can interact with each other to facilitate the working process.

iWork has two purposes. It serves as a gateway where job seekers can look for appropriate jobs offered by companies and apply for them. Then once they get accepted and start working in a company, it acts as an internal system that connects the hierarchy of the company's employees together.

Project Specifications

Companies have profiles on the system that display important information about the company such as: company name, address, phone number(s), email, vision, type (national, international), domain name, and field of specialization. Moreover, every company profile displays the available departments along with jobs that it offers. Every department has a name and a code that uniquely identifies it.

Users of the website can be categorized as follows: job seekers, and staff members. Staff members include HR employees, managers and regular employees, among other types such as public relations, secretaries. Every staff member has one role and works for one department only. The following sections describe the responsibilities of the first three types only (HR employees, managers and regular employees).

Job Seeker

A job seeker (applicant) can open the website to browse the available company profiles and the jobs offered by them. Any applicant has to register in the website with a unique username and a password, along with some other information including his/her full name (first name, middle name, last name), birthdate, age, personal email, years of experience and previous job(s) titles.

After completing all the required info, the applicant can check the different jobs offered by the companies he/she is interested in. Then he/she can apply for any job under the condition that he/she registered to the system. While applying for a job, the applicant is asked to answer some interview questions related to the job he/she is applying for. The system should keep track of the score only he/she gets, will affect his/her application status. The applicant can also track the status of all jobs he/she applied to. The status is either pending, accepted or rejected. Once the applicant is hired by a company, he/she is considered to be a staff member for the company.

Staff members

Staff members are the second type of users on the system. The system should keep track of each staff member's full name (first name, middle name, last name), birthdate, age, personal email, years of experience, salary, previous job(s) titles, day-off, total number of annual leaves, and unique username and

password (the same ones used while registering for the website). The company also provides staff members with a company email, that is formed by appending his username to the domain name of the company, like for example: username@guc.edu.eg.

The system should track every member's attendance as it will be checked by the HR. This can be simply done by tracking the time he/she starts working, and the time he/she leaves the company for every working day.

Staff members can apply for requests. Requests can be either leave requests or business trip requests. The system should keep track of every request applied for, through saving details about it like request date. In addition, for each request, the staff member should specify who is replacing him/her during the leave, under the condition that the replacement should be of the same type (e.g.: managers can replace managers only). In case of leave requests, the system should save the starting date of the leave request, end date, total number of leave days needed for the request, and type of the leave request (sick leave, accidental leave or annual leave).

In case of business trip requests, the system should save the starting date of the trip, end date, total number of leave days needed for the request, trip destination, and purpose of the trip.

Moreover, to facilitate the communication, staff members send emails to each other. System keeps track of those emails in terms of sender, recipient, subject, body and time stamp.

HR Employees

The first type of staff members are HR employees. They have many roles on the system. First, they are responsible for creating new jobs according to their department needs. When the HR person adds a new job, this job is associated with his/her department only. The system should keep track of the job's title, working hours, minimum years of experience, salary, a short description for the job, a detailed description, number of vacancies, and a deadline for applications. Moreover, he/she adds some interview questions that the applicant will have to answer. He/she should also provide the model answer for the question to be saved in the system. For simplicity, we will consider all questions to be True and False.

Afterwards, when applicants apply to the corresponding job, the HR employee has to check the applications and either accept or reject them. Accepted applications only are viewed later by the manager responsible for the department.

The HR employee is also responsible for posting new announcements. Announcements appear on the company's profile to inform employees about any new updates. They have a date, title, description and type (events, news, trips, ...). In addition, HR employees are also responsible for checking requests of employees in their same department that were approved by the managers and either accept or reject them. The system should also keep track of the HR employee that reviewed the request.

Regular Employees

A regular employee should be working in one or more projects in his/her company. A project is defined on the system by one of the managers of the department. It can have many employees working on it. Employees working on this project are assigned by this same manager who defined it or another manager working in the same department. The project has information such as: project name, which uniquely identifies it, start date and end date. The project is composed of tasks. A task has a name, description, deadline, status and comments. The manager is the one responsible for creating the tasks. Once the task is created, it's status is "Open". The same manager then assigns every task to one employee to work on, then it has status "Assigned". The employee should work on the task and finalize it before the deadline. When the employee finalizes working on the task, he/she changes it's status to "Fixed". Finally, the manager has to review the task; if he/she accepts it, he/she changes it's status to "Closed", otherwise, he/she changes it to "Assigned" and this means the employee has to work on it again.

Managers

Managers have an extra property, which is his/her type (e.g. HR, technical, ...). In addition, they have different responsibilities, one of them is approving/rejecting requests. The manager can view requests applied by staff members in his department and either accepts or rejects it. The system needs to keep track of the manager's approval/disapproval, and in case of disapproval, the manager has to provide a reason for that. It also should keep track of the manager that reviewed the request. Final decisions regarding the requests are taken by the HR employee responsible for the department (as will be explained later). Moreover, the manager should view the job applications for the department he/she is responsible for, after they pass by the HR employee (as will be explained later), and either accept or reject the application finally. The system should keep track of the manager's response on every application.

Note that:

You can add any attributes that you may consider needed for your project without changing the provided description.