



# King Fahd University of Petroleum & Minerals

## College of Computer Sciences and Engineering

Information and Computer Science Department

### SWE 206: Introduction to Software Engineering (2-3-3)

**Second Semester 2021-2022 (212)**

#### **Term Project**

---

### Problem Statement:

Hi, My name is Ahmad and I work at the Talent Acquisition (TA) department at xyzSoft company. In the TA department, we are responsible for hiring people to serve in the various departments. However, we need to automate a lot of our daily procedures since most of them are repeated. Anyway, xyzSoft has a hierarchy composed of multiple divisions; each division is composed of many directorates; and each directorate consists of many departments. Whenever we hire someone, he/she should be linked to one of the units in this hierarchy. Each unit is different in its nature and thus has different jobs. We call these “Job Bands”. For example, if a unit has a “Project Management” band, then it should include several jobs such as “Program Manager” and “Product Manager”. Similarly, if a unit has an “Engineering Band”, then it should include several jobs such as “Lead Engineer”, “Senior Engineer” and “Engineer”. Nothing prevents a unit from having multiple bands if applicable. The company goes in a hierarchy review every 6 months or a year. For this reason, we would like to have a way to generate the proper jobs for each unit based on the bands associated to it. I used to do this manually periodically, but I am sure that you can find a way to generate the jobs automatically.

Another issue, we need a system that takes care of the candidates that we process in our system. Each candidate has name, national id (10 digits), and gender. Also, we need to capture more info such as years of experience, education level, and the candidate’s CV. As part of our usual recruitment process, each new candidate should go through a clear process or set of recruitment stages. We would like to keep a clear record of all candidates and the results of their interviews. Some candidates go through a single interview while some go through 3 interviews. Each interview logs the basic info such date, time and the people who were interviewing the candidate. The outcome of each interview could be one of the following: pass, fail, or hold. Once a candidate passes the interview, we can move him to the offering stage. In this case we create a job offer for the candidate by filling many fields including his/her position, salary breakdown, and other benefits. I really hate this part. I have to copy a lot of data from the excel sheet and do some calculation in a different sheet and then fill this job offer. I even timed it and usually it takes 15 to 20 minutes for each offer. I really need a faster way to do this.

By the way, I just remembered, arranging interviews also takes a lot of time as I have to search for appropriate interviewers for each candidate based on job. Once I decide the interviewers, I have to find a free time in his calendar.

I wanted to tell you more about my daily tasks, but I have to go now. They told me you are a KFUPM ICS students. My hopes are high, and I know you can do it.

Regards, Ahmad (from the TA team)

---

## Deliverables and due dates:

The project consists of three phases Requirement, Design, and implementation followed by a demo. The deliverables and the deadline of each phase is the following

	Deliverables	Deadline	Weight
Phase One	<ul style="list-style-type: none"><li>Detailed requirement list<ul style="list-style-type: none"><li>Functional requirement list</li><li>Non-Functional requirement list</li></ul></li><li>Use Case Diagram</li><li>Use Case Description</li></ul>	Week 10 26 <sup>th</sup> /March/2022	25
Phase Two	<ul style="list-style-type: none"><li>Class Diagram of the system</li><li>Activity Diagram for the main operations from the class diagram</li><li>Sequence Diagram of the main flows of the system</li></ul>	Week12 9 <sup>th</sup> /April/2022	35
Phase Three	The implemented Code	Week 15	25
Demo	15 min demos with the instructor	8 <sup>th</sup> -12 <sup>th</sup> /May/2022 Lab of Week 15.	15

The submission for each phase should be a report that has the following:

- Cover page has the course name, lab number, lab topic, group section and number, students' names, and IDs.
- Page listing each member contributed tasks.
- Your work in the previous phases
- Followed by pages of the deliverable of current phase