

## **Criterion A: Planning**

Client: Adrian Brcic

Adviser: Alisia Habibi

### **Current problem:**

Mr. Adrian Brcic and Elizabeth Sutton are owners of a software service-providing multinational business named UNIGIS. UNIGIS provides a TMS platform with all the applications to achieve intelligent, efficient, and collaborative transport distribution and management between suppliers and customers. However, they are currently facing challenges with regard to organising requests they receive from their clients. In January of 2022, I had an interview with Adrian Brcic. He mentioned that he wanted a concise and user-friendly software that could organise his business (UNIGIS) tasks so that customers would be happy.

Adrian Brcic explained that they are using emails as their main communication tool to receive, accept or reject, and respond to clients' necessities that relate to the product they are selling to them. However, due to the exorbitant amount of mails being received from all the different clients, UNIGIS is not able to read all the requirements from each customer, nor to successfully fulfil the client's requests within the time frame given by the clientele. Furthermore, when I consulted with Mr. Adrian Brcic about the issues he was facing, he mentioned that since the requests from every client aren't being sent to UNIGIS on a scale of preference, it is almost impossible for the company to decide on whether a task is urgent or not to be completed. It is evident that the customers are unhappy as well as unsatisfied with UNIGIS's current level of organisation and customer service because of the inefficient method of communication between the firm and its clients. After having this meeting, I was able to come up with a solution to solve the challenges that the company currently faces.

### **The rationale for the proposed solution:**

The proposed product solution would enable UNIGIS to not only communicate efficiently with their clients, but it will also serve as a functional and effective tool for employees in the firm. Through this simple and easy-to-use system, workers will be able to know exactly what tasks to do and when to complete them, avoiding misunderstandings and at the same time fulfilling customers' requirements. Furthermore, authorised personnel would be allowed to respond to certain tasks by accepting or declining the requests clients would send. In addition to that, every worker will be able to see their assigned tasks that need to be completed by every customer in a timely fashion following the client's requirements.

On the other hand, customers would be able to send their requests including details of what they want and the level of urgency indicating the time required to complete each request using a number scale rating, (from 1-5), 1 being the least urgent, and 5 being urgent.

I decided to use Java programming language and object-oriented programming concepts such as encapsulation and inheritance to solve this problem because:

- I am familiar with using the high-level programming language from my computer science class.

- The use of JFrame from the Javaw Swing Interface would enable me to develop appropriate and interactive user-friendly interfaces, to appeal to the client's needs, thus making the company's system interface functional.
- With the use of data structures like arrays, hash tables, etc in java programming language, I will be able to temporarily store required data while data is fetched which will, later on, be sent to the back-end database.
- The object-oriented programming concept of encapsulation will help in granting the appropriate access rights to different administrative levels accordingly.
- Java is a scalable and portable programming language that will enable the new company's system to be run on different software platforms efficiently.

Besides, I decided to use SQLite as my database because:

- I am familiar with using its software from my computer science class.
- It will act as back-end storage that will allow me to successfully connect it to the front-end.
- It will allow an appropriate linkage between the database tables.

### **Success Criteria:**

1. The program will have a login interface for the internal and external stakeholders of the company (this includes the different administrative personnel: employees, administrators, and customers respectively).
2. The program will contain an administrator's menu that will have five buttons namely: "employees accounts", "administrators accounts", "clients accounts", "view tasks", and "exit" which all individually link to different e-platforms on the company's system.
3. The administrator portal on the program will also contain buttons and checkbox features alike which are:- to accept, reject, assign, edit, and view sent requirements.
4. The program will also allow the administrators to add, remove, view, or edit the clientele, workforce, and other administrators' accounts.
5. The program will allow administrators to generate a random password for every account they create.
6. The program will contain the client's portal which allows clients to create or delete a task and also edit its information.
7. The program will generate a unique task ID for every task by the auto incrementation SQLite feature.
8. Clients will be able to assign a level of priority following a set of numbers ranging from 1-5 (from least to most urgent) using a combo box, as well as include a short description and a due date for each task.
9. The program will display in the employees' interfaces a list of all the tasks being sent by clients that were assigned to them.
10. The employee's portal also has a combo box to update the status of the task based on the assigned client's request by selecting from: "completed" or "in progress" remarks for the task completion status. Furthermore, employees are allowed to write comments on every task.
11. The program will allow all users to filter and search for their corresponding and authorised data from the database.