Planning

Client Name: Mr. Unal

Designation: IT Specialist

First Interview Date: 31 December 2021

Defining the Problem

The client, Mr. Unal, is an IT specialist at a school. He is tracking the technological devices that the company buys. In that school, approximately 200 teachers work, and the school's inventory has about 350 technological devices. He has to track all of these devices categorically. This is essential work for a specialist.

Currently, he is tracking these devices using a spreadsheet, and he struggles while monitoring the warranty or the borrower teachers who borrowed an item. Also, they have to register new devices that the company buys with serial numbers and register the warranty date of the devices in Excel. He uses this prolonged process of inserting a new device on excel, then matching it with the borrower and giving a serial number to each of them.

This process is very insufficient, as it means that while tracking all of the devices on spreadsheet, he might miss out on an item and cannot follow that device's warranty, or he might miss out on the credit period of a teacher. These problems prevent the workflow, and a financial problem may occur. So, when I talked to him, we discussed to develop a solution like:

- A database
- A website
- A desktop application

Then, we decided to develop an application which will allow him to track all of the technological devices.

Stating success criteria

1. A log in system with a nickname and a password.
2. A method to show all the accounts registered for this program which can be used just by the Main Admin.
3. Different methods for creating and editing an account for the program.
4. A hierarchical permission system for the program, including Main Admin, Admin and Observer.
5. An output warns the user 60 days before a device's warranty expires.

6. A method for the main admin, which will send a mail to main admin's e-mail to verify the permission required functions (creating an account or editing an account).

7. Three different windows to see all inventory details, profiles and categories.

8. An output allows the user to see the device inventory and borrowed devices with the name, borrower, status, properties, remaining warranty date, and remaining warranty.

9. A method for searching the devices according to their properties mentioned in criterion 8 with filters.

10. A method to display the profiles and categories with respective properties in a table as explained in criterion 8.

11. An input allows users to add new devices with their components, categories, properties, serial numbers and warranty dates.

12. A method to show the history (log) of the devices and profiles.

13. An input which allows the user to add new device categories.

14. A method which allows the user to add new borrower profiles consisting of their credentials.

15. A method to assign the devices to borrowers and to remove existing assignments.

16. A method allows the user to export the inventory, profiles, categories or accounts by selecting the elements in the table to be exported in the same window where each table is located.

17. A method allows the user to import a bulk of prepared borrower profiles with a CSV file.

18. A method allows the user to import a bulk of prepared devices with a CSV file.

19. Creation of a database that stores (add, update and delete functions) all the items (laptops, computers, monitors, printers, etc.) added with the borrower's information, the borrowers (profiles), and the categories for devices.

The rationale for the proposed solution

I decided that choosing OOP would be the best solution for Mr. Ünal because of the complexity of the problem and the amount of interactivity required between the graphical user interface and the functionality. I decided to use MySQL as an online database to access the data from different devices. Also, according to their usage of their laptops in this work, I decided to create a desktop application instead of a mobile one.

On second thought and after the second interview, I realized that using MySQL would be better because of its free and open source, which is very similar to MSSQL in terms of its functionality. Also, the program can easily access data stored in the database from different computers. So, my client can change his laptop while working without missing any data. While using the program on another computer, he can log in with his account. Thereby, there won't be a problem in terms of security. In this program, they can add new borrower profiles, device categories and new devices with those categories they created.

Also, borrowed profiles will be open to updating, tracking, and assigning a device. According to the notes I wrote in the second interview, I added new bullet points to my list according to my client's requests. (Appendix 1) For example, he wanted me to create a method to record a device's history (log) to keep track of it and another method to export the database according to the number of elements selected.

Java was chosen as the medium for these because it is platform-independent, accessible and user-friendly. Also, the GUI components can be more user-friendly with an external library in Swing.