EUROPEAN UNIVERSITY OF LEFKE

FACULTY OF ENGINEERING

Graduation Project I

Real Estate Automation

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When we look at real estate companies today, we see that they usually keep the data they have manually either in excel or similar applications. This method is both slow and time consuming. The main idea and purpose of my project is to collect this system under a single roof as organized as possible and to prepare an application that is easy, usable and equipped with new technologies. One of the goals of this project is to leave a mark in the real estate world and to ensure that it is an application that can be developed against all kinds of innovations.

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1.Introduction

1.1 Problem definition

When we look at today's real estate offices, we can see that there is a complexity and disorganization. For example, while keeping the lands, fields and houses in their hands as data, they keep records on paper or excel-like applications. I have observed many times that this registration process is both tiring and time consuming. Thanks to this project, these problems will be minimized to the lowest level, saving time for the employee and the boss in every subject, it will be a more useful system and efficiency will increase to the highest levels

Problems in the current system:

- Recording the immovables in the book leads to disorganization and complexity.
- It is very difficult to keep track of land, fields and houses, and in any case, it is very likely that you will get lost in the files.
- Tracking other expenditures and similar transactions is also difficult and time consuming.
- It is time-consuming to find some incoming customers or the customer's information is lost.

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1.2 Goals

The aim of this project is to digitize data to reduce complexity and increase concentration. This will make data more organized and secure. At the same time, work tracking will become easier, productivity and speed will increase. Employees will be able to add information to the system more easily and the boss will be able to view it. Thanks to this project, transactions on the accounting side will also be easy and income and expense tracking will be very fast. In general, the project will be prepared in a way equipped with new technologies and new additions, subtractions and updates can be made in a developable way.

- When it is necessary to access old data (Deeds, Lands and Houses), it provides easy and fast access without getting lost in the documents.
- It allows the boss to access the data easily and quickly.
- Provides quick access to customer information when requested.
- Optionally, it presents the data to the user as a report.

2. Literature Survey

Existing systems also used manual processes for tasks such as Property management and customer support. This can lead to problems such as paper records or irregularly piling up invoices to keep track of real estate. This project, on the other hand, facilitates these processes in the shortest time possible with its efficient, fast, safe and easy use. When we look at the applications used today, although there are advanced applications in general, we aim to collect the deficiencies in all of them and reveal a unity with this application. In today's applications, it can take time for the user to understand the application, and this causes these applications not to be used. In this project, usability is at a high level and an easy and simple use is aimed for the user. The user will happily use an application prepared in this way, which will create trust in terms of the application. Keeping up with the developing technologies of the application creates an attraction for the user. It also includes the wishes of the user, which develops with the developing technologies, and special innovations can be brought to each user. In this way, a program prepared according to the user's request will see a lot of demand in the real estate sector. As someone who has been in the real estate sector for more than 10 years, I have observed these shortcomings well, and considering these shortcomings, I am developing a useful application for this sector.

Features 1:

Usability plays a very important role in marketing the app. An application that is simple and easy to use for customers will be effective for users.

Features 2 :

Adding, removing and updating the features that may vary from user to user according to the user's wishes. (For example: integration of a newly released system into the program.)

Features 3 :

In the system, it is a desired feature for this user to allow the user to follow up their income and expenses, and they will be able to both track their data and handle accounting transactions easily.

Features 4 :

In the project, a design that has been carefully chosen for the user in terms of design and that gives pleasure to the users without tiring the eyes has been realized.

Features 5: It provides more convenience to the user in terms of cost and appeals to users from all walks of life. Optionally, there is the option of renting or purchasing.

3. Background Information

3.1 Required software

1. **C# Form Application (.NET Framework):**

I chose this language because I wanted to design a good and quality project and because it is suitable for Windows application format.

2. **Visual Studio:**

Editor for coding.

3. **SQL server:**

To hold the database.

4. **DevExpress:**

A tool app to design tools in my project more modern.

3.2 Other software

5. **Adobe Illustrator:**

Design icons, logo, etc. for.

6. **Adobe XD:**

For the design poster.

7. **Git:**

Used for repository.

4. Modules

4.1 Login Screen

A screen where employees and bosses can log in to the system. Authorization control will be provided on the system and progress will be made according to the user's authorization. If there is no registration, the user will register to the system and continue the process. It is possible to add new operations according to the user's request.

4.2 Home Screen

On this page, the user will see the graphical details of the goods in his/her possession and the graphical details of the income and expenditure statements. Additions and subtractions can be made according to the user's request. It is possible to add new operations according to the user's request.

4.3 Customers Screen

It allows you to easily track customer information from this screen and access it quickly when needed. The user will be able to add, delete and update new customers from this area at any time. It is possible to add new operations according to the user's request.

4.4 Plots Screen

On this page the user will be able to view the available land plots. They can add, delete and update(CRUD) their plots. It is possible to add new operations according to the user's request.

4.5 Fields screen

On this page, the user will be able to view the available plots. He/she can perform add, delete, update (CRUD) operations on fields. It is possible to add new operations according to the user's request.

4.6 Houses screen

On this page, the user will be able to list the Evs they have. Add, delete and update (CRUD) operations will also be available for the Houses. It is possible to add new operations according to the user's request.

4.7 Shops display

On this page, the user will see their Shops. The user will be able to add, delete and update (CRUD) shop operations. It is possible to add new operations according to the user's request.

4.8 Incomes screen

This page is designed for the user to track the money coming into the office. On this screen, the user will find answers to questions such as how much income they have, where it came from, who it came from, when it came from, and control their income. New additions and subtractions can be made according to the user's request.

4.9 Expenses screen

This page is designed for the user to track the money outflow from the office. On this screen, the user will be able to find answers to questions such as how much expenses, where it went, to whom it went, when it went and control the money outflows. Additions and subtractions can be made according to the user's request.

4.10 Employees screen

In this screen, the boss will display his employees. Here, he will be able to access all kinds of employee information and perform operations such as adding, removing and updating new employees. This screen will only be visible for Admin (Boss) and only admin will be able to perform operations. Additions and removals can be made according to the user's request.

4.11 Admins screen

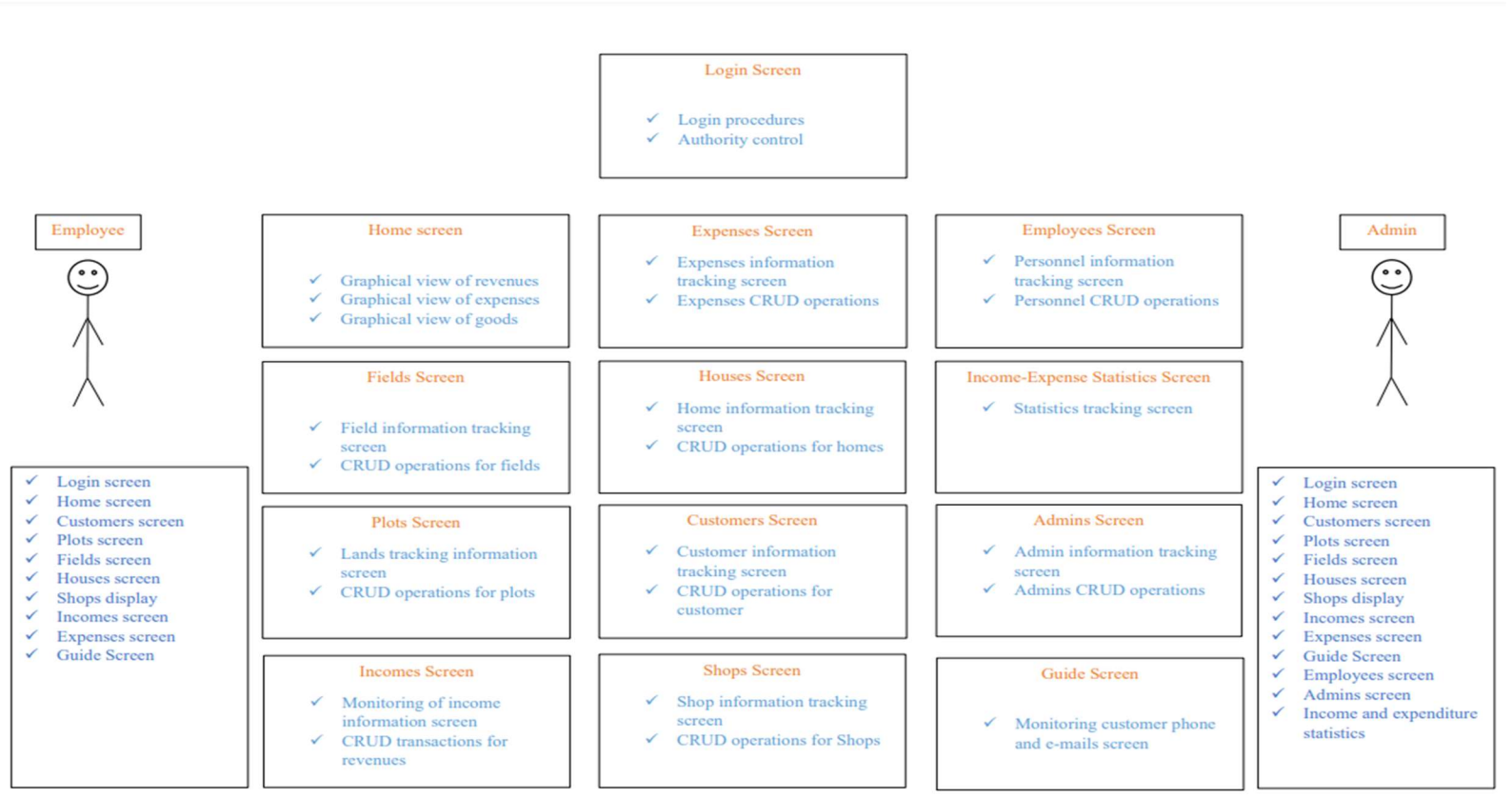
In this screen, Admins (Bosses) will be displayed. Admin addition, deletion and update (CRUD) operations can be done. Only administrators will have access to this screen. Additions and deletions can be made according to the user's request.

4.12 Income – Expense Statistics Screen

This page will prepare graphs of income and expenditures. This screen is a screen that only Admin can see, so it will display regular tracking and review of income and expenses. Additions and subtractions can be made according to the user's request.

4.13 Guide screen

On this page, the phone numbers and e-mail addresses of the Customers will be displayed. It has been prepared in order to provide quick access in an ordinary situation. Additions and subtractions can be made according to the user's request.



5. Risk Analysis

5.1 Risk of Delay

8. Risk: Unexpected delays in the project process.
9. Prevention: Establishing detailed timelines

5.2 Data Security Risk

10. Risk: Loss of sensitive data, unauthorised access or exposure to malicious attacks.
11. Prevention: Use strong authorisation and authentication.

5.3 Availability Risk

12. Risk: Users have difficulty in understanding the application or the ease of use is insufficient.
13. Prevention: User-friendly interface design, user feedback and testing, prioritising user training.

5.4 Third Party Dependency Risk

14. Risk: Unreliability of third-party sources or problems with their services.
15. Precautions: Selection of reliable third-party sources

5.5 Risk of Performance Issues

16. Risk: Inadequacies in system performance or performance problems.
17. Prevention: Prevention: Performance testing, requirement to write optimised code. When these processes are done by controlling, there is no problem.

5.6 Risk of Incomplete or Incorrect Data Entry

18. Risk: Incomplete or incorrect data entry by users.
19. Prevention: Prevention: Data entry controls and limitations, and sending a message to the user in case of incorrect data entry.

6. Ethics

6.1 Product Principle

20. The project aims to ensure full compliance with privacy standards and protect users' personal information from unauthorized access. Security measures are monitored and updated to ensure data security and unauthorized access protection.

6.2 Human Principle

21. The software used in the project aims to provide a fair and equitable experience for all users, and a user-friendly user interface is designed to make it easy to use.

6.3 Judgment Principle

22. The project team is committed to complying with legal regulations and data privacy principles, and to act in accordance with ethical codes during the software development process. Continuous review and evaluation is conducted to ensure compliance.

6.4 Customer and Employer Principle

23. The Project aims to maximize customer satisfaction by taking customer requests and feedbacks into account.

6.5 Management Principle

24. The project team assesses risks and creates an effective risk management plan, and regular risk analysis is conducted to detect and prevent risks. Regular monitoring and control mechanisms are established to ensure efficient use of resources.

6.6 Professional Principle

25. The project team adheres to continuous development and quality standards to ensure accuracy, reliability and performance of the software, through testing processes and quality control mechanisms.

6.7 My Self

26. Self-confidence: The project team maintains faith in its own abilities and in the success of the project. Each project team member strives to perform their tasks to the best of their ability and works on continuous self-improvement.

7. Conclusion

7.1 Benefits

a. Benefits to users :

1. In this system, while the user used to use old systems to record business data, now the registration process will be very easy thanks to Real Estate automation.

2. In this way, the user will be able to save time in processes such as data recording, data viewing, data control and access information quickly and accurately.

3. Thanks to the new and usable screens prepared for the user, using the program will be much more comfortable and easier than other projects.

4. This project will make you different from other companies in the real estate world and you will have the opportunity to clearly and clearly examine the management of your company and the control of your business through income and expense analysis.

b. Benefits to me :

1. I think this project will give me a great progress in my career. Thanks to this project, I will learn a lot of new things about software development, C# language, Entity Framework, DevExpress and Sql.

2. The fact that I will use this project in my office will give me the opportunity to see the usage part of the project and update and renew the project in case of any deficiencies and errors. In this way, it will be very easy to see the shortcomings and I will see the use of the project.

3. This project will help me to gain knowledge for other projects. In this way, it will support me to take projects in the business world in the future.

4. This project will help me gain trust with customers in the software world and keep me in the industry.

Why did I choose this project?

One of the biggest reasons why I chose this project is that I am on both the client and the engineer side of the business and I will actually use the project in my own Real Estate office on a continuous basis. I have been in the real estate sector for more than 10 years. I have observed where there are deficiencies, mistakes and problems. Considering these, I chose to develop such a project. Thus, I can make the development and maintenance I want at any time.

7.2 Future Works

In the future, I plan to develop a system between the client and the office by preparing an integrated web application for my project, allowing them to view the goods in the hands of the real estate company, and providing direct communication with the specified numbers. Thus, a fast transportation will be provided to the customer. For this development, I plan to design my project on a layered architecture and integrate it easily in the future.

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