

Emlak Otomasyon Projesi

Duran Can Demirezen
Teknoloji Fakültesi
Kocaeli Üniversitesi
Bilişim Sistemleri Mühendisliği
Kocaeli, Türkiye
211307037@kocaeli.edu.tr

Yusuf Yıldırım
Teknoloji Fakültesi
Kocaeli Üniversitesi
Bilişim Sistemleri Mühendisliği
Kocaeli, Türkiye
201307082@kocaeli.edu.tr

İbrahim Emir Yıldız
Teknoloji Fakültesi
Kocaeli Üniversitesi
Bilişim Sistemleri Mühendisliği
Kocaeli, Türkiye
231307068@kocaeli.edu.tr

Abstract— In this project, a real estate automation system has been developed using C# and SQL Server. The system aims to facilitate real estate agents in managing property sales and rentals efficiently through a user-friendly interface. Features such as adding/editing properties, filtering by location and property type, and handling customer transactions are included.

Keywords— C#, Real Estate Automation, Entity Framework, SQL Server, Windows Forms

I. INTRODUCTION

The real estate sector often deals with large amounts of property data and customer information. Manual handling of these processes can lead to inefficiencies and human error. Therefore, an automation system has been designed to streamline property listing, customer interaction, and transaction tracking within real estate offices.

II. TECHNOLOGIES USED

- A. *Programming Language: C#*
- B. *Development Environment: Visual Studio*
- C. *Database: SQL Server*
- D. *ORM: Entity Framework*
- E. *Framework: .NET Framework (WinForms)*

III. SYSTEM DESIGN AND FEATURES

A. Login System

The application includes a basic login screen. The default administrator account uses the credentials: username = "admin", password = "123".

B. Property Management / Users Can:

- Add new properties by entering details like address, price, property type, and build date.
- Select a city to dynamically load corresponding districts.
- Automatically calculate the property's age based on the construction year.

C. Property Search and Filtering

Properties can be filtered by city, district, number of rooms, type (sale or rent), etc. the equation as a graphic and insert it into the text after your paper is styled.

Filtered results are shown in a list and can be printed.

Each record is editable or can be marked as sold/rented.

D. Sales and Rental Module

- Users can finalize transactions by selecting a property and entering customer details.
- Sold or rented properties are marked accordingly and displayed in a separate listing.

IV. DATABASE DESIGN

The system uses a SQL Server database, where tables such as `tbl_Ev`, `tbl_Kullanici`, and `tbl_Musteri` are used. The relationships between tables are managed using Entity Framework. All CRUD operations are handled efficiently using LINQ.

V. RESULTS AND EVALUATION

This project successfully delivers a desktop-based automation tool for real estate businesses. It simplifies property tracking, reduces manual workload, and provides essential features for customer interaction. Future improvements can include online listing integration, reporting features, and multi-user support.

VI. CONCLUSION

This project demonstrates how desktop-based automation can improve the productivity of small-scale real estate offices. By using modern tools such as Entity Framework and C#, the system ensures maintainability, scalability, and ease of use.

REFERENCES

- [1] Andrew Troelsen & Phil Japikse, *Pro C# 10 with .NET 6*, Apress Yayınları, 2022
- [2] Jeffrey Richter, *CLR via C#*, Microsoft Press, 2012.
- [3] Stack Overflow, "How to Use Entity Framework in C# Desktop App",
- [4] Microsoft Docs, "Entity Framework Nedir ve Nasıl Kullanılır", 2023.
- [5] GitHub, "C# Real Estate Automation Sample Projects",