Real Investment

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Date:

Final Approval

This is to certify that we have read the report submitted by Furqan Musawar (36554), Bilal Ahmed(37518) and Muhammad Hamza(36504) for the partial fulfillment of the requirements for the degree of the Bachelors of Science in Software Engineering (BSSE). It is our judgment that this report is of sufficient standard to warrant its acceptance by Riphah International University, Islamabad for the degree of Bachelors of Science in Software Engineering (BSSE).

Committee:

1 _____
Mr Nadeem Khan (Supervisor)

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Dr. Musharraf Ahmed
(Head of Department/chairman)

Declaration

We hereby declare that the document, "Real Investment," is the result of our collective efforts and represents our original work. Every aspect of this project, including the design, development, and documentation, has been created by us, with guidance from our supervisor, Syed Nadeem khan.

We affirm that no part of this system or documentation has been copied from any other source or project. If it is found otherwise, and any content is proven to be a reproduction of another's work, we accept full responsibility for the consequences. This declaration underscores our dedication to integrity, transparency, and accountability in our academic work.

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Bilal Ahmed

37518

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Dedication

We sincerely dedicate this project, Real Investment, to the pillars of our success – our loving family, supportive friends, and dedicated teachers. Their unwavering encouragement and constant support have been instrumental in bringing this project to fruition.Our deepest gratitude goes to our parents, whose endless support and belief in our abilities have been the foundation of our journey. We also thank our teachers, whose guidance and wisdom have been invaluable throughout this academic endeavor.A special dedication goes to our respected supervisor *Sir Nadeem Khan*, whose steadfast mentorship, insightful guidance, and unwavering commitment have played a pivotal role in shaping our ideas into a tangible outcome. This work is a testament to the collective efforts of those who have supported us, inspiring us to strive for excellence and achieve our goals.

Acknowledgement

Foremost, we extend our deepest gratitude to **Allah Almighty**, the Most Merciful and the source of all wisdom, for granting us the strength, perseverance, and insight to successfully complete this project. His divine guidance has been the cornerstone of our journey. We are profoundly thankful to our parents and family for their unwavering support, prayers, and encouragement throughout this endeavor. Their belief in us has been our driving force. We also express our sincere appreciation to our teachers for their valuable insights and dedication to our academic growth. Special thanks to our supervisor, **Sir Nadeem Khan**, whose mentorship and guidance have been instrumental in shaping this project into its final form. Lastly, we acknowledge the support and inspiration of our friends and peers, whose encouragement has made this experience meaningful and fulfilling. This project is a reflection of the collective efforts and blessings of everyone who contributed to our journey.

Abstract

Real Investment is a new age solution for real estate investment which encourages investors to invest for property tokens and digital fractional ownership. Users are able to buy shares of real estate assets with an expected return on investment of 8 -10% annually from the rental income of the assets. A simple and clear body of ownership division for real estate makes Real Investment more user friendly as it offers to invest in a fraction of expensive properties. Earnings from investment, portfolio management and comprehensive information about the properties held is made available to the clients. The platform utilizes Laravel technology to ensure fast performance and smooth interaction between users and the system, thus bringing real estate investment to a wider range of people and making it more effective.

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Chapter 1:
Introduction

Chapter 1 :

1.1   Overview

Real Investment is a web-based platform which enables people to invest in real estate through purchasing shares of a property, in an easy and cheap way. Cash flowing Rental properties are divided into smaller manageable shares that investors can buy, sell, & hold earning up to 8–10% annual return per share on the rental income of the property. Real Investment platform is in a special position to make real estate fractional ownership accessible to all, enabling people to digitally co-own properties. Additionally the biding platform is available for those who want to sell their digital shares or tokens. Real Investment will make it unique for user and also a point of attraction to our system.

1.2   Opportunity & Stakeholders

The purpose of introducing this product in market is to facilitate investor who are looking for investment in some asset, we are exclusively taking those investment to the houses that are generating some revenue. From the platform user will be able to invest and take the digital share for that asset and after that he/she can become a fractional owner of that asset. On that share user can expect the return of 8-10% per share yearly. Additionally for those who are eager to invest in specific asset and found that already all shares are sold out of that asset, we are introducing a biding platform in our site. On that, those who want to buy will list themselves to show their interest in investing in particular asset. And those who would sell some shares can also list those shares and will ask for biding. And definitely the one who will make the highest bid will take the shares. Our responsibility is to make sure that the asset that is going to list on platform is a profitable asset and we are responsible of distributing the profits to owners of shares and also responsible of verifying users and making secure transactions.

1.2.1 Stakeholders

- Admin
- Investors
- Banks
- Development Team

1.3 Motivation & Challenges

As Real Investment will be a new thing in real estate market. There are definitely motivations and challenges behind the product. As follows,

1.3.1 Motivation

1. **Broad Market Accessibility:** Through digitization, Real investment can achieve broader access to Real Estate investments, which makes individuals to participate easily who might not typically engage in property investments, makes easy to track their profit and manage shares online.

2. **Reducing Risks in Real Estate Investment:** Traditional real estate investments involve significant risks, especially when investing in a single property. By enabling fractional ownership, Real Investment allows investors to diversify their investments across multiple properties, reducing the risk that comes from investing in one asset alone.

3. **Creating a Liquid Real Estate Market:** Real estate is traditionally an illiquid asset, meaning it can take time to sell property and free up capital. Real Investment enhances liquidity by enabling users to trade or sell their property shares more easily compared to selling an entire property. This flexibility makes real estate a more dynamic and accessible .

4. **Digitizing Traditional Fractional Ownership:** While fractional ownership of real estate is already a practice in Pakistan, it typically occurs through informal or paper-based agreements. Real Investment seeks to modernize this process by digitizing it, making the experience more efficient, transparent, and accessible to a wider audience.

1.3.2 Challenges

1. **Digitization of an Informal Market:** Moving an existing but informal system of fractional ownership into a digital platform may face resistance from users accustomed to traditional methods. Convincing people to adopt the digital system and trust this technology is a key challenge.

2. **Profit and Return Fluctuations:** Introducing a profit-sharing model linked to rental income means that fluctuations in rental markets, tenant turnover, or property management issues can effect returns. Managing investor expectations while ensuring steady returns is crucial.

3. **Data Security and Ownership Documentation:** Real estate investments involve sensitive legal documentation and financial data. Protecting this data, ensuring its accuracy, and preventing any manipulation or fraud is a significant technical challenge.

4. **User Education and Adoption:** Even though fractional ownership is familiar to many peoples, many potential users may be unfamiliar with using a digital platform for property investment. Properly educating the market on how to navigate the system and reap its benefits is an important challenge.

1.4 Goals & Objectives

RealIvestment goals and objectives can be to:

1.4.1 Digital Transformation of Real Estate Investment

To digitize the traditional fractional ownership system in Pakistan and provide a seamless online platform where investors can easily buy, sell, and manage shares of real estate assets.

1.4.2 Financial Inclusion and Accessibility

To make real estate investment accessible to a wider range of people, especially those who cannot afford to buy entire properties, by lowering the financial barriers and enabling micro-investments in real estate.

1.4.3 Maximizing Investor Returns

To provide investors with a reliable platform that offers annual returns of 8-10% based on rental income from properties, ensuring a consistent profit-sharing model for fractional property ownership.

1.4.4 Enhanced Liquidity of Real Estate Assets

To create a more liquid market for real estate shares, allowing investors to easily trade or sell their shares without the lengthy and complex processes typically associated with property sales.

1.5 Solution Overview

Real Investment is a comprehensive digital platform that provides a safe, transparent, and easy-to-use way for people to invest in real estate, revolutionizing the conventional fractional ownership model in Pakistan. Without having to buy entire properties, the platform lets people invest in real estate by letting them buy fractional shares, which enables them to share in the profits and earn steady rental income.

1.5.1 Scope of the Project

- User Management & Authentication
- Investment Management
- Share Management
- Profit Distribution
- Biding Module
- Payment Integration
- Property Management
- Notification Module
- User Support
- Blogs Management

1.6 Report Outline

Chapter 1 mentions the workflow, objectives and goals, scope and outline for our system and how they all will be achieved. Also, this chapter explains the opportunities Real-Investment is providing and needs that are fulfilled. This chapter

defines the opportunity and the gap in existing system and how we are going to fulfill and achieve that.The scope is clearly mentioned in the form of modules. All functional aspects are covered in this chapter.

Chapter 2:
Market Survey

Chapter 2:

2.1   Introduction

Market Study and Survey plays a very crucial and important role for making a new system, as it help a a lot in gaining knowledge of that particular domain. To gather information in this domain we visited some domain experts which includes Real Estate agents and lawyers. From this, we got to know detailed information about the manual system working in Pakistan and what things can be improved and what can be introduced. In existing or manual system if you want to invest in any profitable asset you have to go to agent or owner physically and deal all kind of matters. Traditional system provides co-ownership/fractional ownership but accessibility to this work is minimal due to unawareness to most people. If fractional ownership is digitized and we list those assets to a digital marketplace where assets are visible to investors and expected profit per share is mentioned there, it would be more clear to investor and more accessible to many people because of digitization. Also in existing system if we to sell that share we own, it takes time and effort. So this gap can be filled by making a marketplace in system where seller can not just list but ask for biding for that share and those who are interested to buy will make a bid and the one who will make higher will get it. This was the existing system we studied and gathered information, which helped us a lot in understanding of what's going on and what could be done to make it better.

2.2   Literature Review

Globally, fractional ownership of real estate has gained popularity as a way to reduce the obstacles to real estate investment. Platforms like Fundrise and RealtyMogul have democratized access to the real estate markets in the US and Europe by enabling small-scale investors to own shares in properties. Studies show that fractional ownership provides liquidity through secondary markets and improves diversification, lowering the risks involved with single-property investments.

Although shared ownership has existed informally in Pakistan within families or small groups, it lacks a formal structure that can guarantee legal security and

transparency. When combined with appropriate legal frameworks, the digitization of fractional ownership has the power to completely change how real estate investments are made. Even though, hurdles like denial, unclear laws, and opposition to change continue to be major roadblocks. To make this model work in Pakistan, regulatory changes and the creation of investor protection measures are required, according to an analysis of global models and regional practices.

Table 2.1   Analysis/Study on Traditional/Existing System

Survey	Location	Year	Key Findings	Relevancy to Fractional ownership
Pakistan Real Estate Outlook	Pakistan	2022	Highlighted a 30% annual growth in real estate but noted barriers due to high investment thresholds.	Indicates potential for fractional ownership to lower entry barriers.
Informal Joint Ownership Study	Pakistan	2019	Found that informal shared property ownership exists but lacks legal backing and transparency.	Demonstrates the need for digitized, formalized fractional ownership systems.
Local Property Investment Survey	Pakistan	2023	70% of investors expressed concerns over liquidity and	Suggests that fractional ownership could address liquidity

			legal complexities in real estate investment.	issues.

2.3   Summary

The market study offers a thorough analysis of Pakistan's real estate investment environment with an emphasis on fractional ownership. Speaking with professionals in the field, it seems that interest in alternative investment models is rising; however, in order to guarantee their widespread adoption, legal and regulatory obstacles need to be removed. Reviewing global trends reveals fractional ownership models' success in other markets, indicating that a framework related to this one, when customized to local circumstances, could have a major positive impact on investors and the economy as a whole.

The purpose of the Real Investment project is to address existing market inefficiencies and create new opportunities for small-scale investors in Pakistan's real estate market. This chapter lays the groundwork for developing a fractional ownership model for the project.

Chapter 3:
Requirement
Engineering

3.1   Introduction:

In this chapter, we will be concluding all functional and non-functional requirements for Real-Investment. Also we will discuss the needs and problem statements for which we are developing this system.

3.2   Problem Scenarios

Table 3.1 Problem Statement 1

The Problem of	High entry barriers for Real Estate investments
Affects	(Small)Investors
The Result of which	Limited access to real estate opportunities for individuals with limited capital
Benefits of	A fractional ownership system that lowers the enrty Cost, enabling small investors to participate in profitable assets.

Table 3.2 Problem Statement 2

The Problem of	Lack of awareness and knowledge about fractional ownership among potential investors
Affects	Investor
The Result of which	Limits adoption and growth of alternative investment models in the real estate sector
Benefits of	A platform that educates and engages investors, making it easier for them to understand and participate in fractional ownership

Table 3.3 Problem Statement 3

The Problem of	Lack of liquidity in traditional real estate investments
Affects	Investor, Buyer
The Result of which	Real estate assets become difficult to liquidate, reducing attractiveness for small investors
Benefits of	A fractional ownership system with secondary market options to improve liquidity

3.3   Functional Requirements:

3.3.1   User Registration and Authentication

1. The system should be able to allow users to register an account with their personal details.
2. The system should be able to enable users to authenticate via email and password.
3. The system should be able to support password recovery functionality.
4. System should be able to allow customer to sign in with google.

3.3.2 Admin Panel

1. Admin should be able to verify users and approve or reject verofication proposal based on documents and information provided.

2. Admin should be able to list any property on the system.

3. Admin should be able to view investors profile and transaction history of each investor.

3.3.3   Investor Dashboard

1. The system should be able to provide each investor with a personalized dashboard.
2. The dashboard should be able to display investment details, shares owned, earnings, and transaction history.
3. The system should be able to allow investors to view the performance and ROI (Return on Investment) of their shares.

3.3.4   Property Listing and Information

1. The system should be able to display available properties for investment with key details (e.g., location, price per share, total shares, expected return).

2. The system should be able to provide property-specific details, including images, descriptions, legal documents, and estimated rental income.

3. The system should be able to categorize properties for easier browsing by potential investors (e.g., residential, commercial).

3.3.5   Investment Transactions

1. The system should be able to enable users to purchase shares in available properties.

2. The system should be able to allow users to sell shares back to the platform on a secondary market .

3. The system should be able to handle all payment transactions securely and provide confirmations.

3.3.6   Profit Distribution and Dividends

1. The system should be able to calculate and distribute rental income dividends to investors based on their shareholding.

2. The system should be able to provide notifications and transaction history for all dividend payments.

3.3.7   Legal Documentation and Compliance

1. The system should be able to provide downloadable legal agreements for each property investment.

2. The system should be able to require user consent for compliance-related documentation before allowing investments.

3. The system should be able to maintain an audit trail for all user transactions and document exchanges.

3.3.8   Secondary Market for Share Trading with Bidding

1. The system should be able to offer a secondary market for users to buy and sell shares through a bidding process among other investors.

2. The system should be able to display current share prices and allow users to set buy/sell offers by listing shares for bidding, where interested buyers can place bids within a specified time-frame. The highest bid at the end of the bidding period will complete the transaction.

3.3.9 Customer Support and FAQs

1. The system should be able to provide a customer support section, including FAQs, contact forms, and help articles.
2. The system should be able to allow users to submit support tickets and receive status updates.

3.3.10 Reporting and Analytic

1. The system should be able to generate reports for users, showing the overall performance of their investments.
2. The system should be able to provide property performance analytics for properties, including rental yield and occupancy rates.

3.3.11 Notifications

1. The system should be able to notify users of important events (e.g., dividend payments, new property listings, new transaction).
2. The system should be able to provide customizable notification settings for users.
3. The system should be able to notify Admin about any bid placed by investor.
4. The system should notify investor about approval or rejection of bid placed.
5. System should notify admin about any verification profile request generated by users.

3.3.12 Blogs

1. Sytem should allow user to create blog.

2. System Should Allow Admin to delete blog.

3. System should Allow User to comment on Blog.

4. System should Allow user to Reply on Blog

3.4   Non-Functional Requirements

3.4.1   Performance

1. The system should be able to load the dashboard and property listings within 3-5 seconds under normal server load.
2. The system should be able to support up to 4000 concurrent users without performance degradation.

3.4.2   Scalability

1. The system should be able to scale to accommodate an increasing number of users, properties, and transactions.
2. The system architecture should be able to support easy addition of new features without major changes.

3.4.3   Security

1. The system should be able to use HTTPS for all communications to protect data in transit.
2. The system should be able to encrypt sensitive user data, including passwords and payment details.
3. The system should be able to implement user role-based access control to restrict sensitive operations to authorized users only.

3.4.4   Usability

1. The system should be able to provide a user-friendly interface for users of all technical levels.
2. The system should be able to be responsive, allowing access from mobile, tablet and desktop devices.

3. The system should be able to offer in-app guidance and tool-tips to help users understand features.

3.4.5 Maintainability

1. The system should be able to use modular code to facilitate easy updates and maintenance.
2. The system should be able to include comprehensive documentation for developers and administrators.

3.4.6 Compliance

1. The system should be able to comply with local laws and regulations regarding investment and data protection.
2. **The system should be able to keep an audit trail of all transactions to meet legal and regulatory requirements.**

3.5 SQA Activities

Blackbox Testing has been done for our system. The test cases are as folows:

3.5.1 Test Case Design

Test cases for functional requirements.

3.5.1.1 User Registration Valid & Invalid

Table 3.4 User Registration Valid and Invalid class

Input	Valid Class	Invalid Class
Username	{aA,bB,….,zZ} {0,1,2,…,9}	Out of valid class
Email	{aA,bB,….,zZ} {0,1,2,…,9} {@}	Out of valid class
Password	{aA,bB,….,zZ} {0,1,2,…,9} {!,@,#…}	Out of valid class
Confirm Password	{aA,bB,….,zZ} {0,1,2,…,9} {!,@,#…}	Out of valid class

Table 3.5 User Registration Valid & Invalid

Test Case ID	Scenario	Username	Email	Password	Expected Output
TC001	Scenario 1	Furqanmusawar24	furqanmusawar0024@gmail.com	12345678	Registered successfuly
TC002	Scenario 2	Furqan.123	furqanmusawar0024@gmail.com	12345678	Enter valid username
TC003	Scenario 3	Furqanmusawar24	Furqanmusawar0024@gmail	12345678	Enter valid Email
TC004	Scenario 4	FurqanMusawar	furqanmusawar0024@gmail.com	1234	Password too short Enter min 8 digits.

3.5.1.2 Login Valid & Invalid

Table 3.6 Login Valid & Invalid class

Input	Valid Class	Invalid Class
Username	{aA,bB,….,zZ} {0,1,2,…,9}	Out of valid class
Email	{aA,bB,….,zZ} {0,1,2,…,9} {@}	Out of valid class
Password	{aA,bB,….,zZ} {0,1,2,…,9} {!,@,#…}	Out of valid class
Confirm Password	{aA,bB,….,zZ} {0,1,2,…,9} {!,@,#…}	Out of valid class

Table 3.7 LogIn Valid & Invalid

Test Case ID	Scenario	Username	Email	Password	Expected Output
TC005	Scenario 1	Furqanmusawar24	furqanmusawar0024@gmail.com	12345678	Login successful
TC006	Scenario 2	Furqan.123	furqanmusawar0024@gmail.com	12345678	Username not correct
TC007	Scenario 3	Furqanmusawar24	Furqanmusawar0024@gmail	12345678	Please Enter correct Email
TC008	Scenario	FurqanMusa	furqanmusawar0024@g	1234	Password Incorrect

	4	war	mail.com		

3.5.1.3 Sell Shares

Table 3.8 Sell Shares

Test Case ID	Scenario	Price per share	Number of shares	Confirmation	Expected Output
TC009	Scenario 1	12000	3	yes	Shares listed for selling
TC010	Scenario 2	-15000	2	yes	System will not allow user to select price in negative
TC011	Scenario 3	19999	5	yes	System will not allow to select share more than owned for selling
TC012	Scenario 4	200000	1	no	Please confirm that you want to sell these shares.

3.5.1.4 Create Auction

Table 3.9 Create Auction

Test Case ID	Scenario	Price per share	Number of shares	Confirmation	Expected Output
TC013	Scenario 1	12000	3	yes	Auction created
TC014	Scenario 2	-15000	2	yes	System will not allow user to select price in negative
TC015	Scenario 3	19999	5	yes	System will not allow to select share more than owned for selling

Test Case ID	Scenario	Price per share	Number of shares	Confirmation	Expected Output
TC016	Scenario 4	200000	1	no	Please confirm.

3.5.1.5 Place Bid

Table 3.10 Place Bid

Test Case ID	Scenario	Price per share	Number of shares	Confirmation	Expected Output
TC017	Scenario 1	12000	3	yes	Bid Placed
TC018	Scenario 2	-15000	2	yes	System will not allow user to select price in negative
TC019	Scenario 3	19999	5	yes	System will not allow to select more than the shares listed for biding.
TC020	Scenario 4	200000	1	no	Please confirm that you want to place the bid.

Table 3.11 Contact Us

Test Case ID	Scenario	Name	Email	Message	Expected Output
TC021	Scenario 1	Furqan	Furqan22	Okay	Please include an @ in Email Address
TC022	Scenario 2	111	furqan@gmail.com	Yes23	Enter a Valid name.
TC023	Scenario	Furqan	Furqan@gmail.com	(Empty)	Message Field is required

Table 3.12 Card Payment

Test Case ID	Scenario	Card Holder Name	Card Number	Exp.Date	CVC	Zip Code	Expected Output
TC024	Scenario 1	Bilal	12 digit	3/24	094	46000	Mark error on Exp Date.
TC025	Scenario 2	Furqan	10 digit	6/25	666	46000	Mark Red Error on Card Number
TC025	Scenario 3	1123	12digit	7/25	098	46000	The name field format is invalid.
TC027	Scenario 4	furqan	12 didit	7/25	096	46	Mark Red Error on zip code
TC028	Scenario 5	Furqan	12 digit	7/25	0	46000	Mark Red Error on CVC

Table 3.13 Property Management

Test Case ID	Scenario	Name	Description	Reg. NO	Address	Proprty Price	Property Rent	Property Images	Expected Output
TC029	Scenario 1	11	House	8digit	Rawalpindi	>0	100000	1image	The name field format is invalid

TC0 30	Scenario 2	Gulb erg	Plot	5digit	Rawalpindi	>0	12312412	3images	Shows error on Reg. No
TC0 31	Scenario 3	Com merc ial	Rental Propert y	(Empty)	Rawalpindi	>0	3123	4images	Registrati on no cannot be empty
TC0 32	Scenario 4	Resi denci a	Hotel	8digit	Murree	>0	3134	11images	You can upload 10 images max

Table 3.14 Create Advertisement

| Test Case ID	Scenario	Price per share	Number of shares	Confirmation	Expected Output
TC013	Scenario 1	1777676	3	yes	Auction created
TC014	Scenario 2	-87	2	yes	System will not allow user to select price in negative
TC015	Scenario 3	52454	5	yes	System will not allow to select share more than owned for selling
TC016	Scenario 4	9876544	1	no	Please confirm.

Chapter 4: System Design

4.1 Introduction

System Design is very important in order to make a good system according to the requirements. So analyzing all the requirements for our system and needs, this chapter will cover the design part for the implementation of the system. All diagrams like use case diagrams, Activity diagrams, Architecture diagram and use case descriptive tables are here in this chapter. This will definitely work for the implementation part as each thing like the actor's interaction with the system with different functionalities are given and also the flow of each working module and functions are given in the form of activity diagrams.

4.2 Architecture Design

Figure 4.1 Architecture Diagram
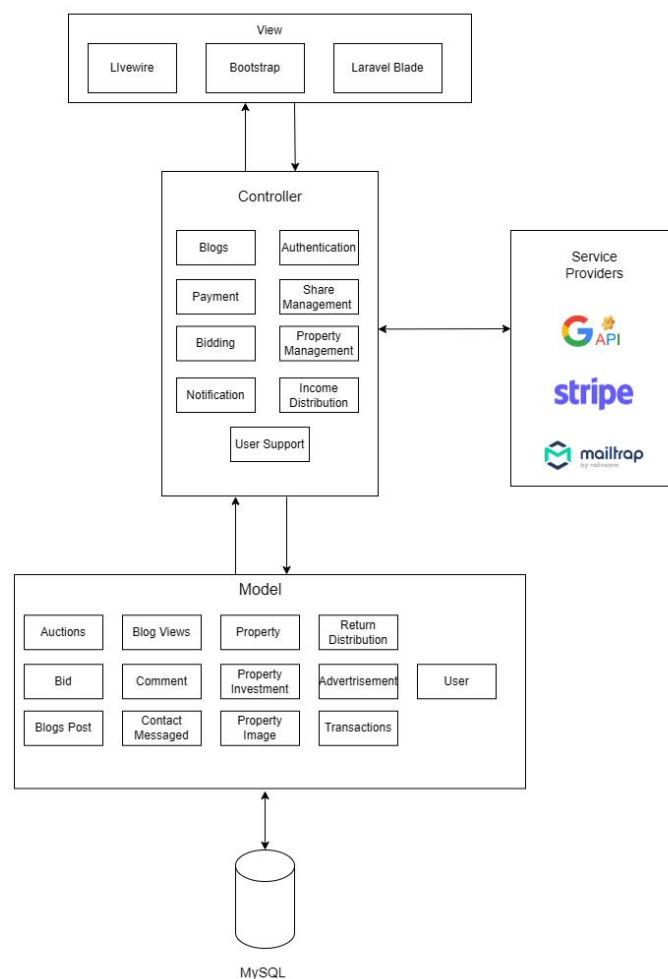
4.3 Activity Diagram

4.3.1 Property Listing Module

Figure 4.2 Property Listing Module
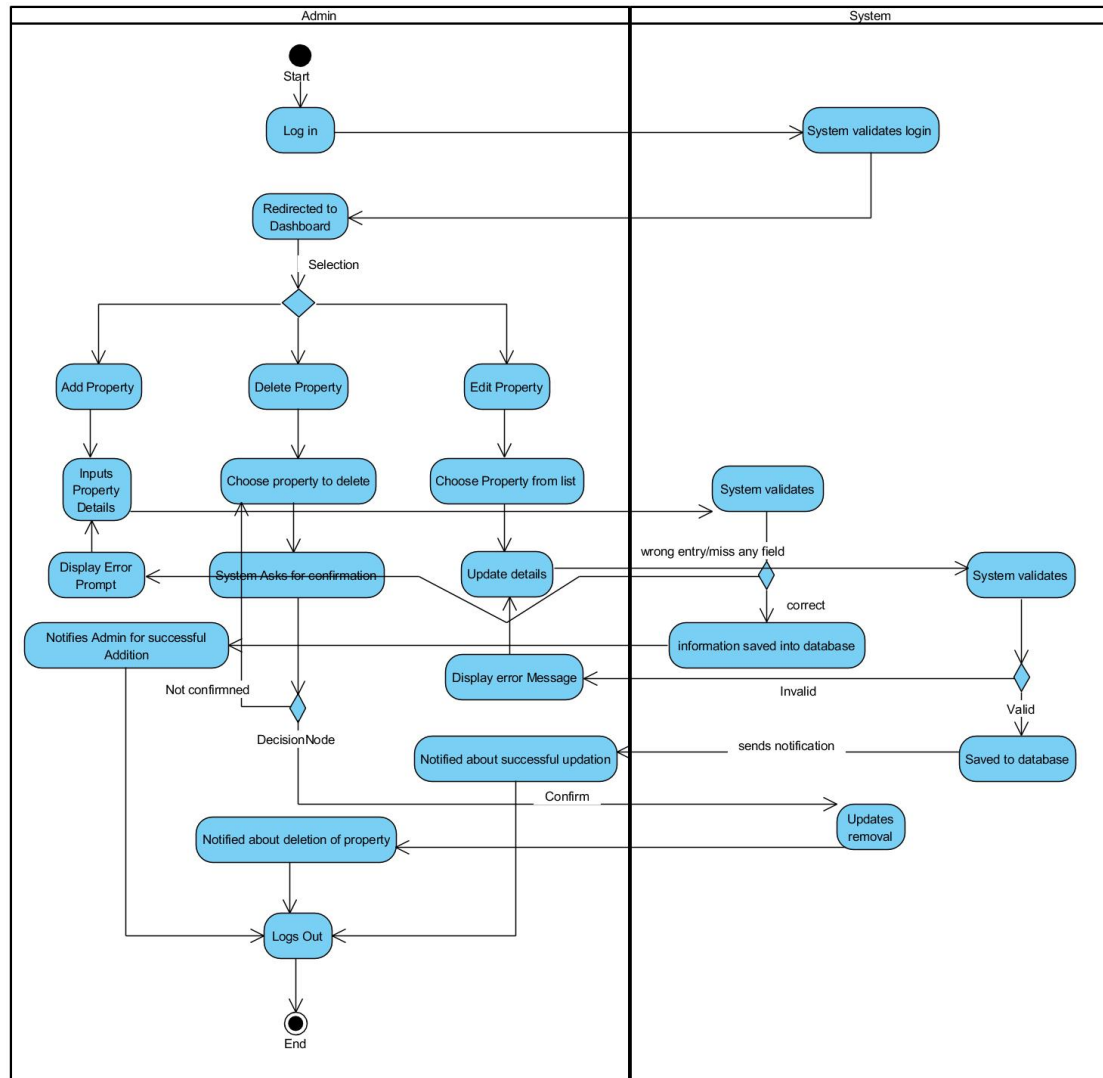
4.3.3 Biding Module

Figure 4.3 Biding Module
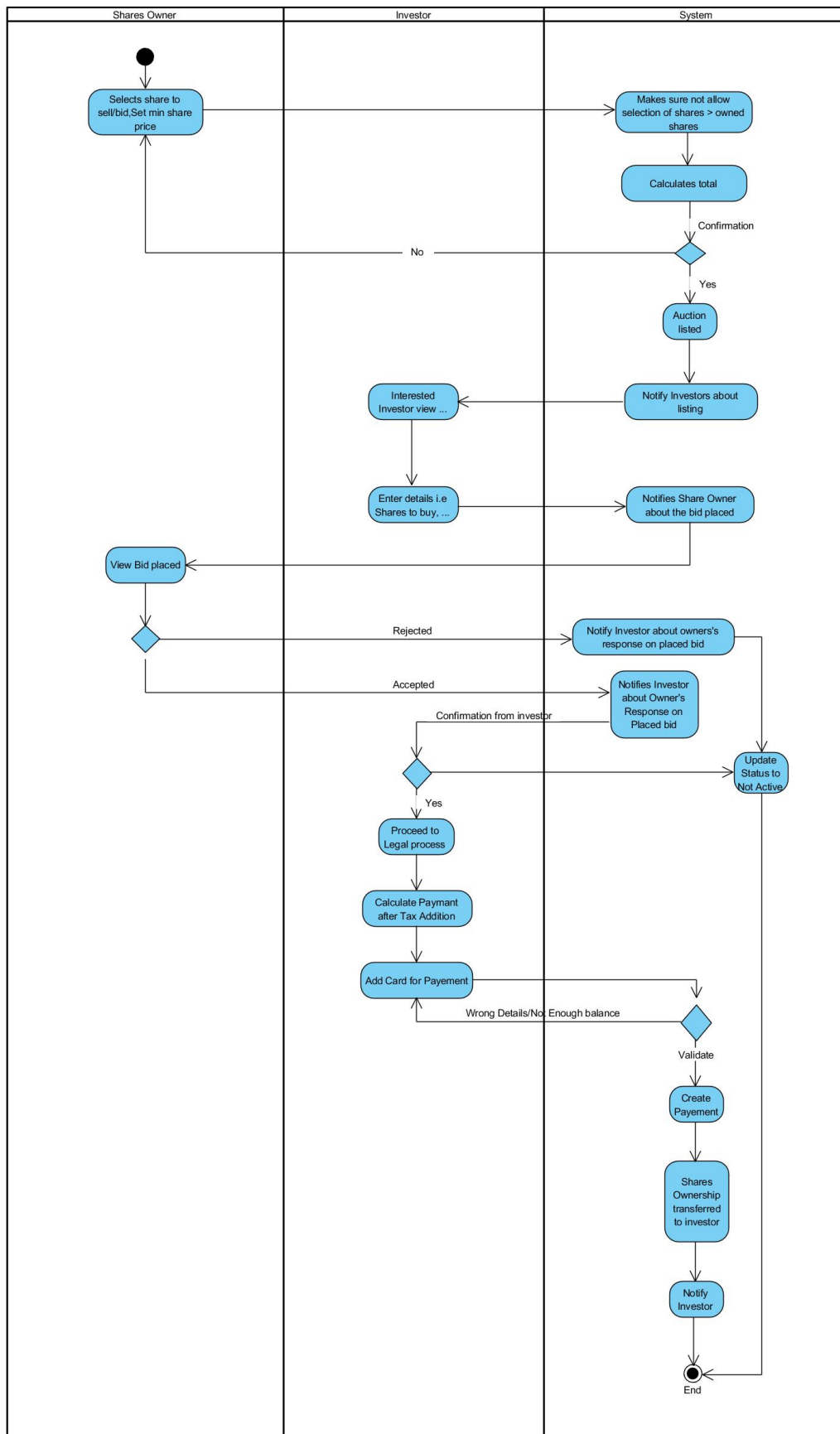
4.3.4 Share Management Module

Figure 4.4 Share Management Module
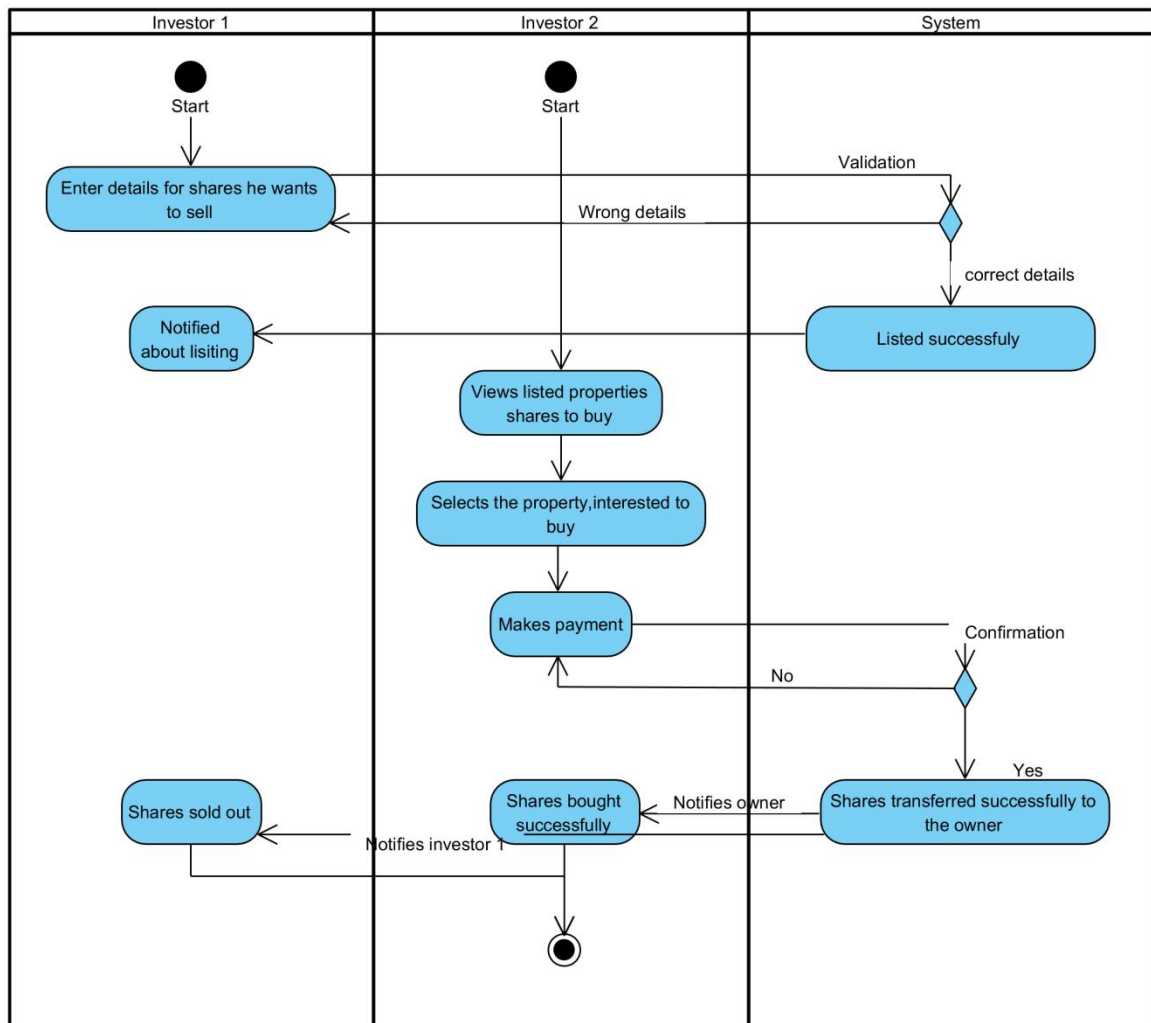
4.3.5 Profit Distribution Module

Figure 4.5 Profit Distribution Module
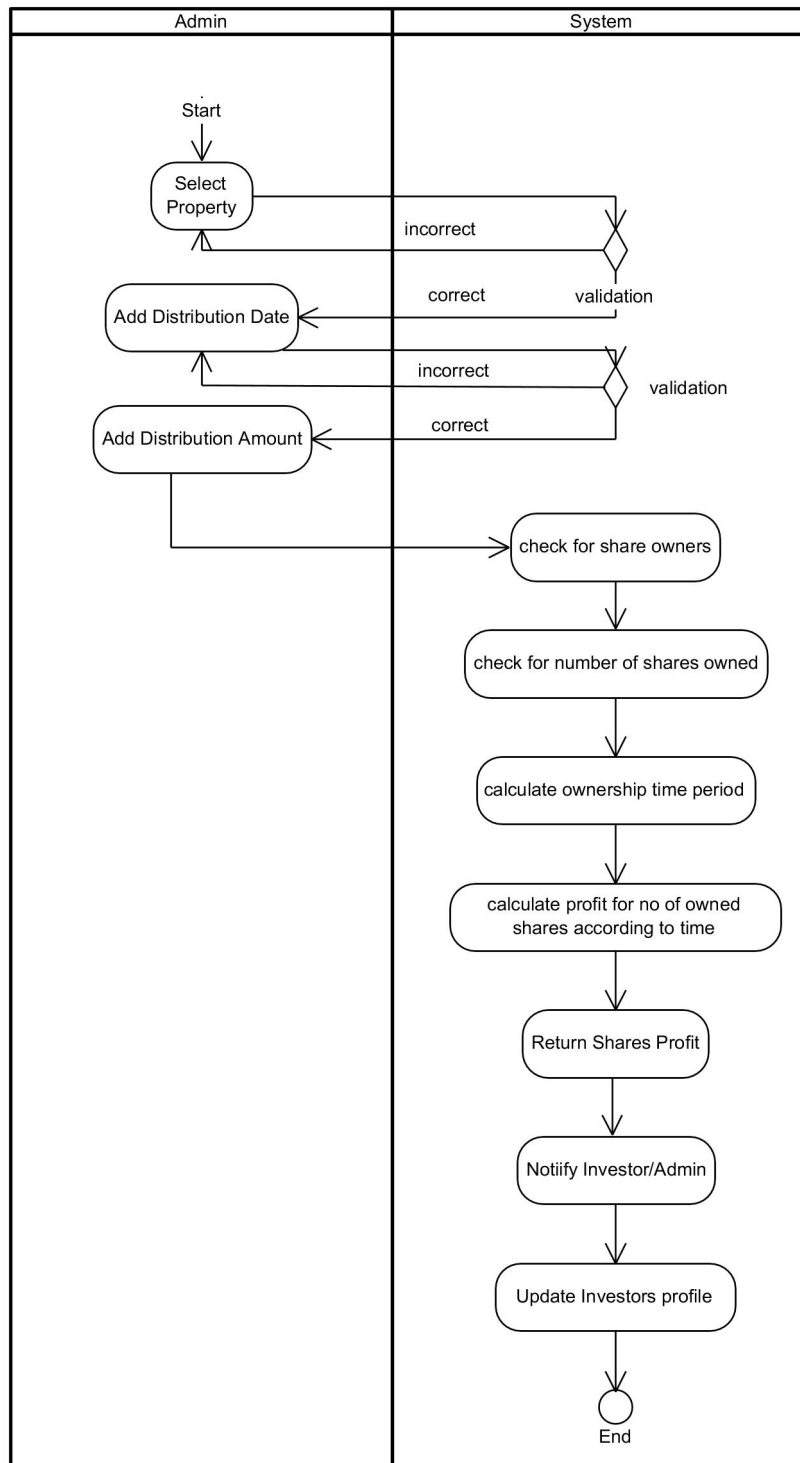
4.4 Use case Diagrams

4.4.1 Property Listing Module

Figure 4.6 Property Listing Module
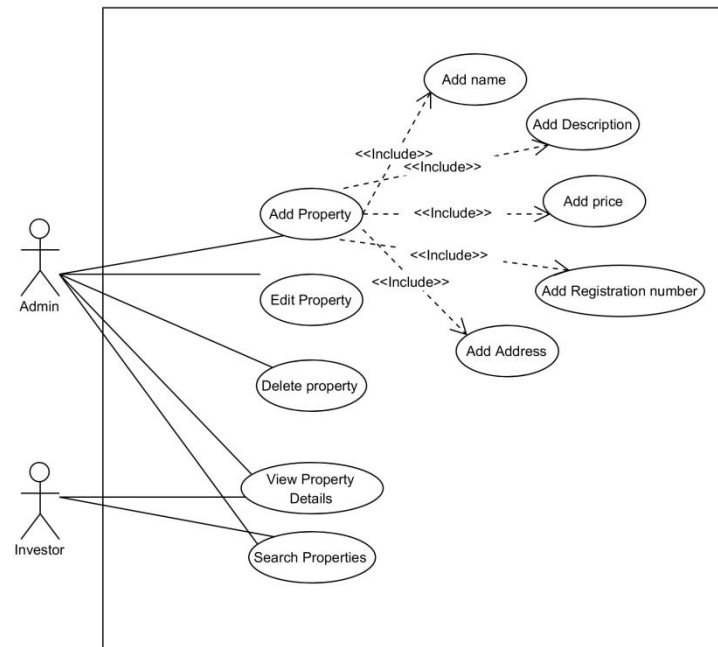
4.4.2 Share Management Module

Figure 4.7 Share Management Module
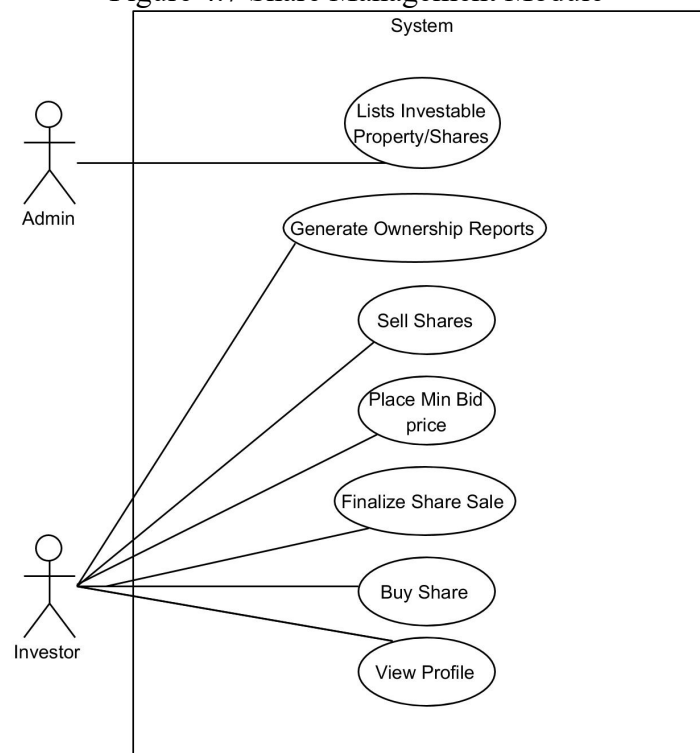
4.4.3 User Management Module

Figure 4.8 User Management Module
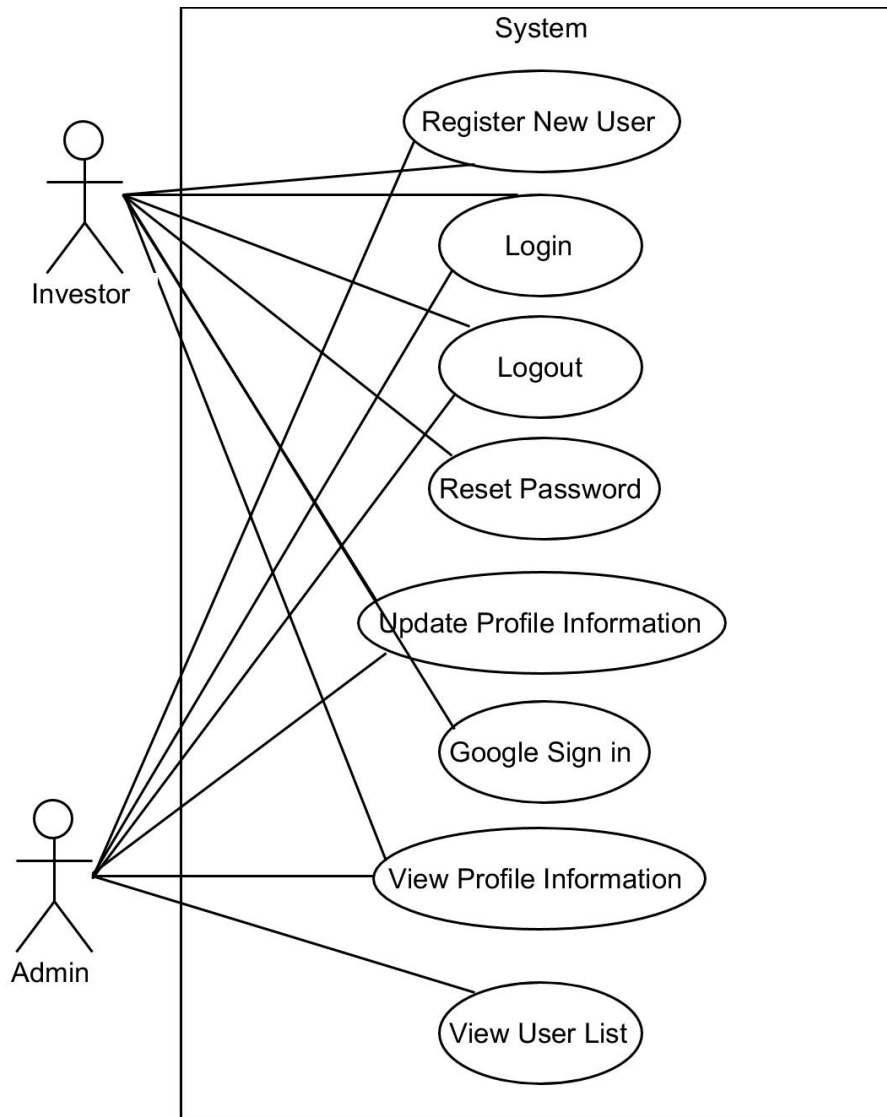
4.4.4 Biding Module

Figure 4.9 Biding Module

4.4.4 Investment Management Module

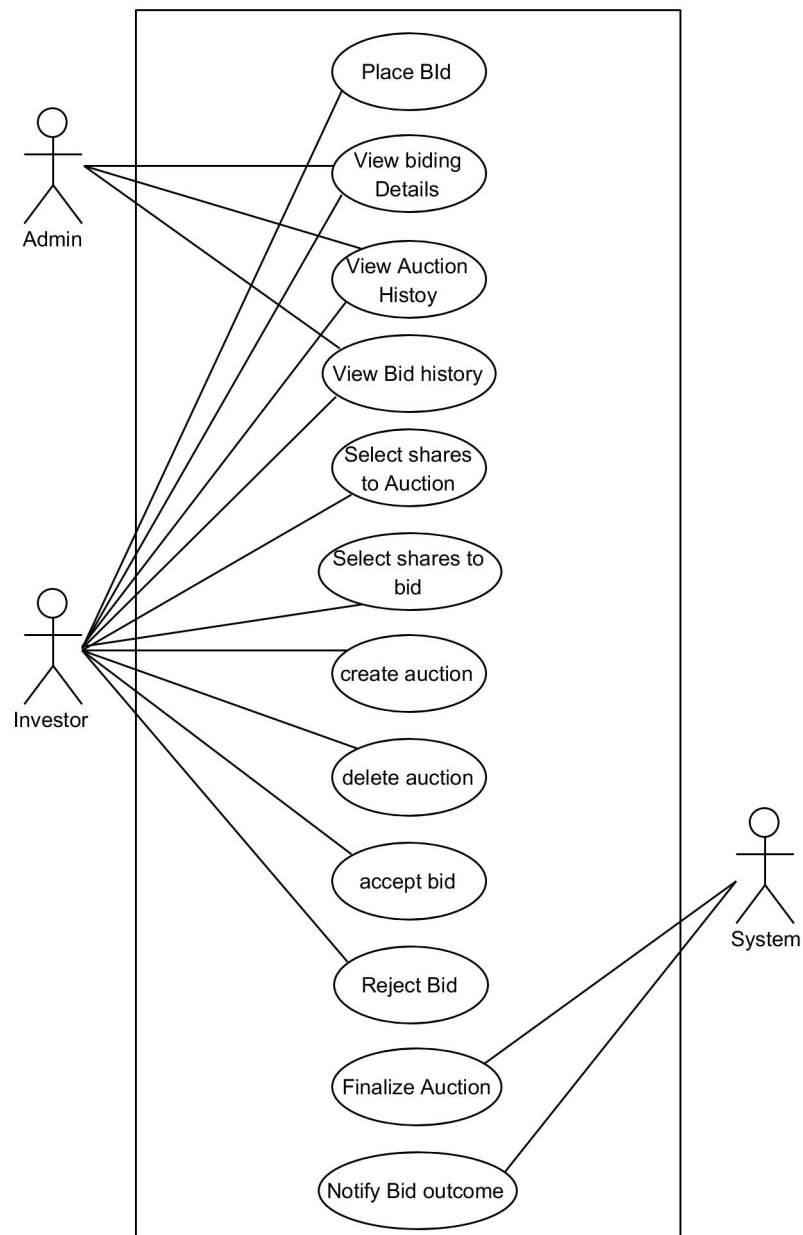Figure 4.10 Investment Management Module
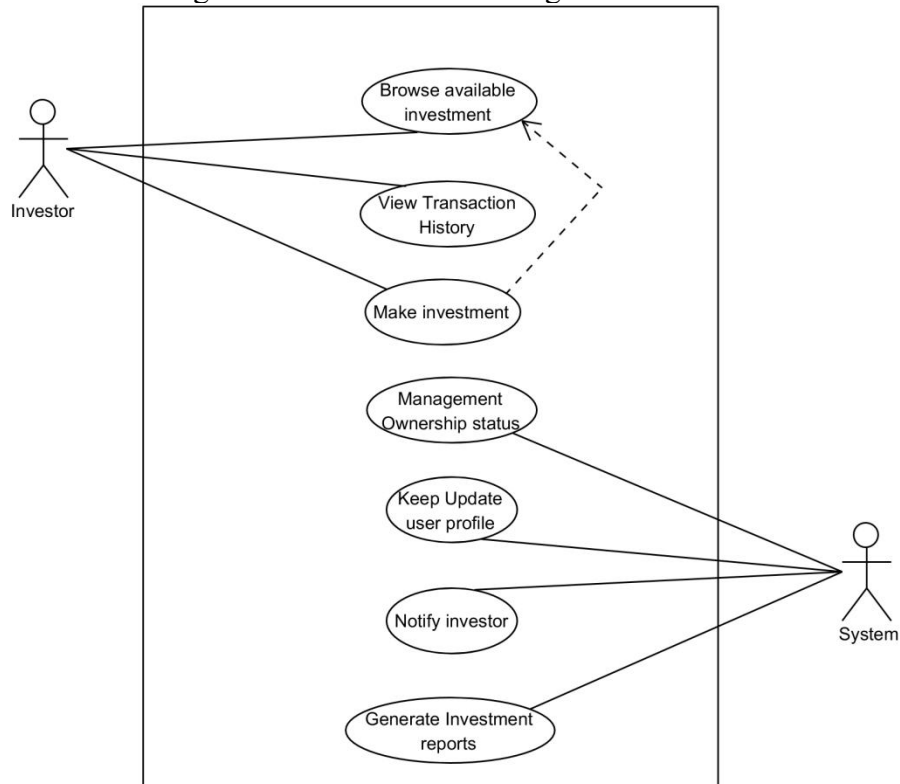
4.4.5 Contact Us

Figure 4.11 Contact Us
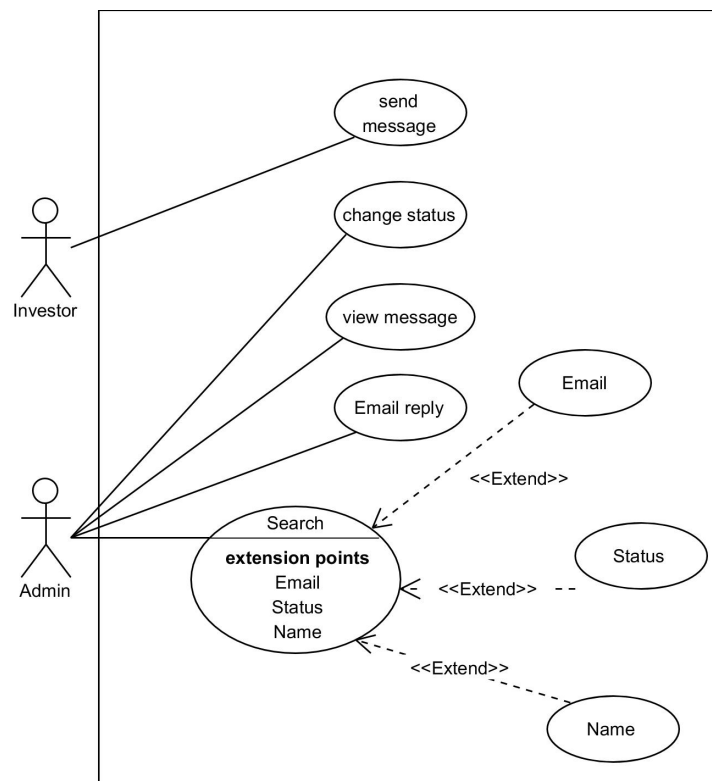
4.4.6 User Profile

Figure 4.12 User Profile
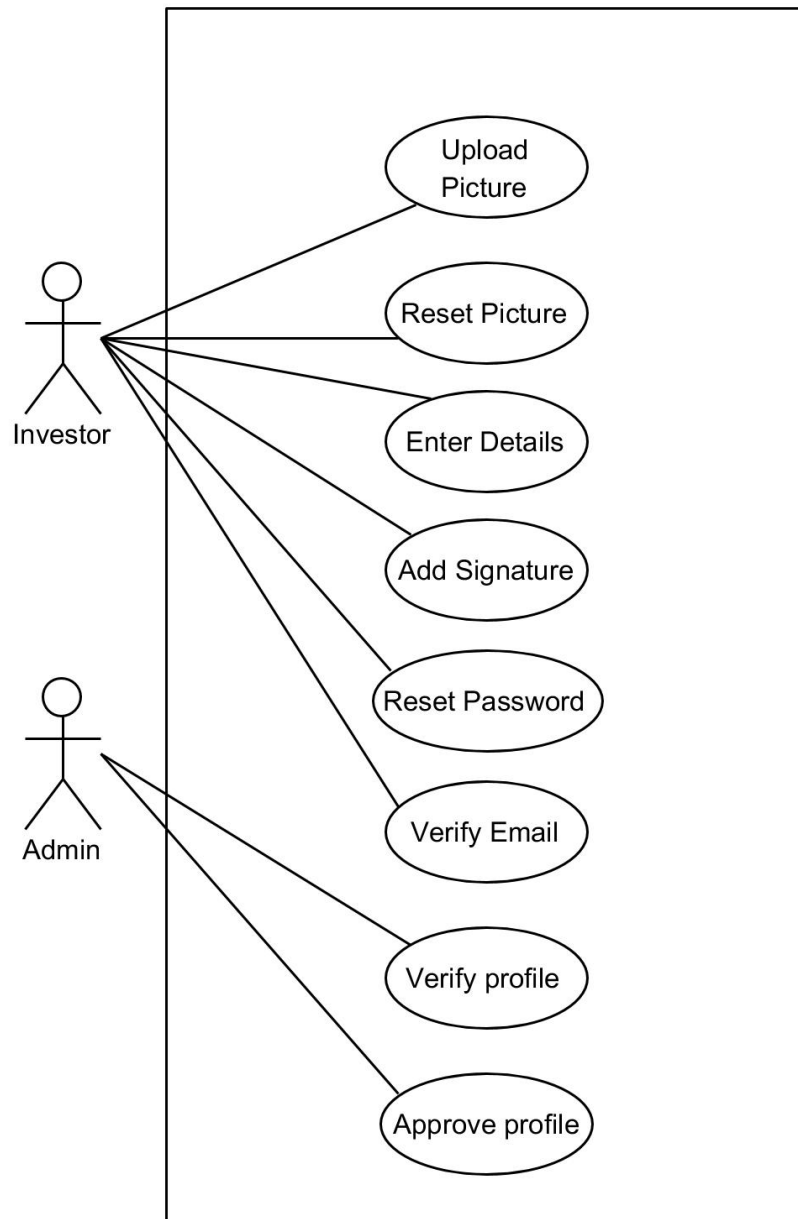
4.4.7 Blogs Management

Figure 4.13 Blogs Management Module
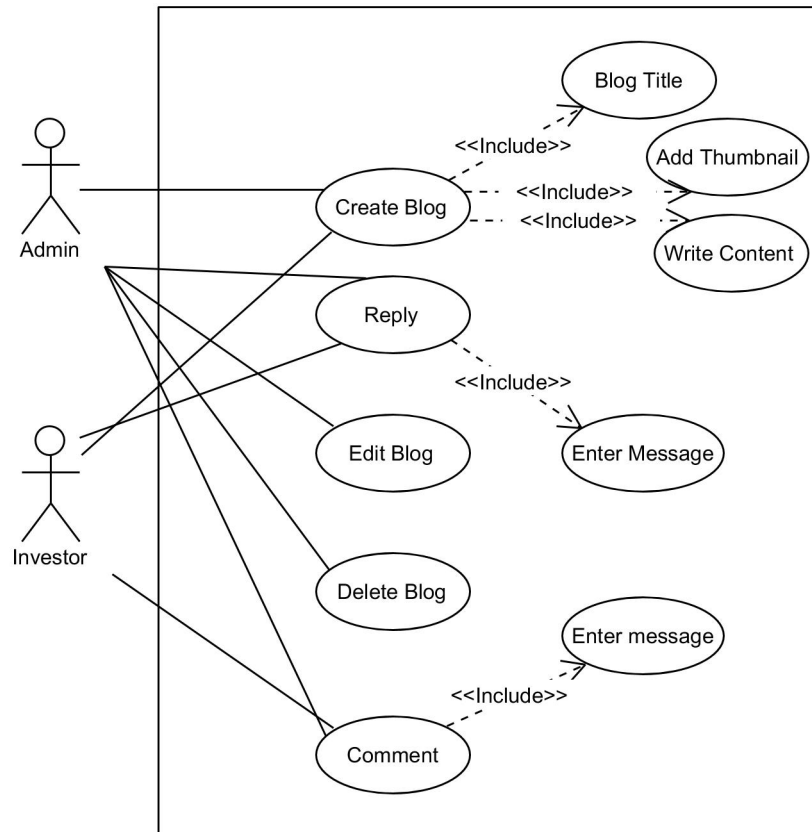
4.5 ERD

Figure 4.14 ERD
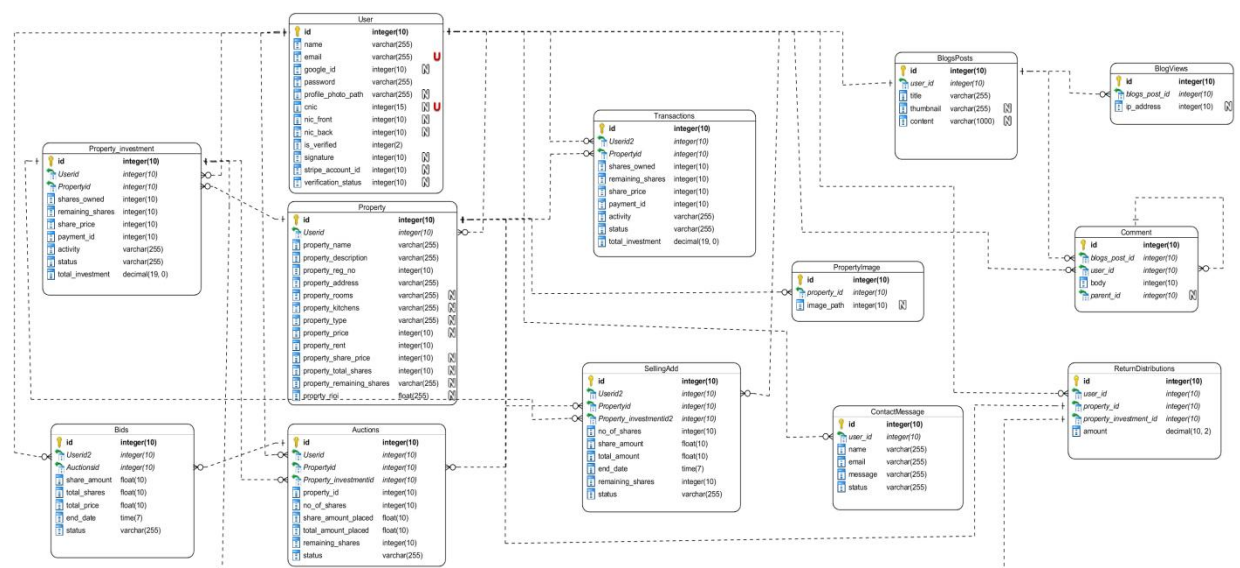
4.6　Fully Address Use Cases

Table 4.1 Buy Shares

Use Case Id	UC001
Use Case Name	Buy Shares
Primary Actor	Investor
Pre-condition	1. Investor must be logged in to the system. 2. Shares must be available for purchasing.
Post-condition	1. Investment is recorded. 2. Payment confirmation is generated.
Main scenario	1. Investor navigates to the "Available Properties" page. 2. Investor selects a property to view details. 3. Investor clicks on "Invest Now" and selects the number of shares to purchase. 4. System calculates total investment amount and prompts Investor for payment. 5. Investor confirms and completes the payment through a payment gateway. 6. System records the share purchase and updates Investor's portfolio.
Alternative	1. If payment fails, system displays an error message and provides options to retry or use a different payment method.

Table 4.2 View Investment Dashboard

Use Case Id	UC002
Use Case Name	View Investment Dashboard
Primary Actor	Investor
Pre-condition	Investor must be logged in to the system.
Post-condition	Investor's investment portfolio and details are displayed.
Main scenario	1. Investor navigates to the "Investment Dashboard" page. 2. System retrieves the investor's profile details from the database.

	3. System displays shares owned, rental income.
Alternative	**2a**. If there is a delay in retrieving data, the system displays a loading prompt message to investor.

Table 4.3 Track Investment Record

Use Case Id	UC003
Use Case Name	Track Investment Record
Primary Actor	Investor
Pre-condition	Investor is logged into the system. Investor has one or more active investments on the platform.
Post-condition	System displays the calculated ROI and other relevant metrics for the Investor's investments.
Main scenario	**1.** Investor navigates to the "Track Investment Returns" section. **2.** System retrieves data on the investor's investments, including purchase price, current value, and any accumulated profits. **3.** System calculates the return on investment (ROI) and other relevant metrics (e.g., yearly returns, profit percentage). **4.** System displays a summary of the metrics to the Investor.
Alternative	**3a**. If certain data is not available (e.g., missing values for profit calculation): 1. System displays an error message or a partial result.

Table 4.4 Sell Investment Shares

Use Case Id	UC004
Use Case Name	Sell Investment Shares
Primary Actor	Investor

Pre-condition	Investor is logged into the system. Investor owns shares in an investment that are eligible for sale.
Post-condition	The Investor's shares are successfully Sold to buyer.
Main scenario	**1.** Investor accesses the "Sell Shares" option for a specific investment. **2.** System displays the current price. **3.** Investor specifies the number of shares to sell. **4.** System lists the shares on the platform, allowing other investors to view. **5.** Interested Buyer views the listed shares for sale. **6.** Makes Payment **7.** System checks the payment and make confirmation. **8.** System transfers the shares bought to the owner.
Alternative	

Table 4.5 Withdraw Investment Profits

Use Case Id	UC005
Use Case Name	Withdraw Investment Profits
Primary Actor	Investor
Pre-condition	Investor is logged into the system. Investor has accumulated profits in their account that are eligible for withdrawal.
Post-condition	Profits are withdrawn from the Investor's account and transferred to their designated bank account or digital wallet.

Main scenario	1. Investor selects the "Withdraw Profits" option from their account.
	2. System displays the available balance for withdrawal.
	3. Investor enters the amount to withdraw and confirms the transaction.
	4. System verifies the amount, processes the withdrawal, and transfers the funds to the designated payment method.
	5. System confirms the withdrawal and updates the balance in the Investor's account.
Alternative	3a. Investor enters an amount exceeding the available balance:
	1. System displays an error message and prompts the Investor to enter a valid amount.

Table 4.6 Register

Use Case Id	UC006
Use Case Name	Register
Primary Actor	Investor
Pre-condition	Investor must be on the register account page
Post-condition	Successfully registered as the investor.
Main scenario	1. Investor navigates to the registration page.
	2. Investor enters required information
	3. Investor submits the registration form.
	4. System/Admin validates input data and creates a new account.
	5. System sends a confirmation email to the investor.
Alternative	4a. If email is already in use, system displays an error message instructing Investor to log in or reset password.

Table 4.7 Login

Use Case Id	UC007
Use Case Name	Login
Primary Actor	Investor, Admin

Pre-condition	User must have registered and have id.
Post-condition	Successfully logged in as the investor/admin
Main scenario	1. User navigates to the login page. 2. User enters email and password. 3. System verifies credentials and grants access.
Alternative	4a. If login fails due to incorrect credentials, system displays an error message..

Table 4.8 Reset Password

Use Case Id	UC008
Use Case Name	Reset password
Primary Actor	Investor, Admin
Pre-condition	User must have registered email.
Post-condition	Password reset done.
Main scenario	1. User navigates to the "Forgot Password" page. 2. User enters registered email address. 3. System verifies email and sends reset link.
Alternative	2a. If email is not found in the system, an error message is displayed to the user

Table 4.9 View Property Details

Use Case Id	UC009
Use Case Name	View Property Details
Primary Actor	Investor
Pre-condition	Property must be listed.
Post-condition	Investor is able to view property details.
Main scenario	1. Investor navigates to property listings page. 2. Investor selects a property to view details. 3. System displays details, including images, price, location, etc.
Alternative	

Table 4.10 List Property

Use Case Id	UC010
Use Case Name	List property
Primary Actor	Admin
Pre-condition	Admin must be logged in to the system.
Post-condition	Property is listed on the platform and visible to investors.
Main scenario	1. Admin navigates to the "Create Property Listing" page. 2. Admin enters the required property details (e.g., location, price per share, description). 3. Admin submits the listing information. 4. System validates inputs and saves the listing details to the database. 5. System displays a confirmation message and makes the listing available for investors.
Alternative	4a. If validation fails due to missing fields, the system highlights the missing information and prompts Admin to complete it.

Table 4.11 Edit Property Listing

Use Case Id	UC011
Use Case Name	Edit Property Listing
Primary Actor	Admin
Pre-condition	Admin must be logged in. Property must be already listed on the platform.
Post-condition	Property listed is updated with changes or modifications

Main scenario	1. Admin selects the "Edit Property" option from the list of property listings
	2. System displays the editable details of the selected property.
	3. Admin modifies the necessary fields (e.g., property description, location, price).
	4. Admin submits the changes.
	5. System validates the inputs and updates the property information in the database.
	6. System confirms the update and displays the updated property listing.
Alternative	3a. Admin tries to enter invalid data (e.g., empty required fields):
	• System displays an error message and prompts the Admin to correct the inputs.

Table 4.12 Delete Property Listing

Use Case Id	UC012
Use Case Name	Delete Property Listing
Primary Actor	Admin
Pre-condition	Admin must be logged in.
	Property must be already listed on the platform.
Post-condition	The selected property listing is removed from the system.
Main scenario	1. Admin selects the "Delete Property" option for a specific property listing.
	2. System displays a confirmation message to ensure deletion.
	3. Admin confirms the deletion.
	4. System removes the property listing from the database.
	5. System confirms the deletion and updates the list of properties.

Alternative	**2a**. Admin cancels the deletion:
	1. System retains the property listing without changes.

Table 4.13 Search Properties

Use Case Id	UC013
Use Case Name	Search Property Listing
Primary Actor	Admin/Investor
Pre-condition	The system contains property listings with searchable attributes like location, price, and type.
Post-condition	System displays a list of properties that match the search criteria.
Main scenario	1. User accesses the search functionality.
	2. System presents various filters (e.g., location, price range, property type) to refine the search.
	3. User enters desired filters and initiates the search.
	4. System retrieves and displays a list of properties that meet the specified criteria.
Alternative	**4a**. User inputs no filters:
	1. System returns a list of all properties.

Table 4.14 Create Auction

Use Case Id	UC014
Use Case Name	Create Auction
Primary Actor	Investor
Pre-condition	Investor must be logged into the system
	Investor must have owned some shares for selling
Post-condition	Auction is listed and created.

Main scenario	1. Investor selects the Create Auction option.
	2. System pop ups the form to enter details for auction.
	3. Fills the form and submits details.
	4. System validates inputs and create an auction.
	5. Auction and listed and visible to other investors
	6. System notifies the investor for successful creation of auction
Alternative	

Table 4.15 Create Bid

Use Case Id	UC015
Use Case Name	Create Bid
Primary Actor	Investor
Pre-condition	Investor must be logged into system. There must be auction created for biding.
Post-condition	Bid is created successfuly
Main scenario	1. Investor selects the auction for biding
	2. System shows auction details.
	3. Investor places bid price.
	4. System validates not to buy more shares than listed.
	5. Bid is created.
	6. System notifies investor that has created acution about placed bid.
Alternative	

Table 4.16 View Auction

Use Case Id	UC016
Use Case Name	View Auction
Primary Actor	Investor
Pre-condition	Investor must be logged into system. There must be auctions listed on the page

Post-condition	Details are visible to investor
Main scenario	1. Investors goes on the page where auctions are listed. 2. System displays the auctions listed 3. Investor clicks on any auction listed. 4. System displays the details for the selected auction.
Alternative	

Table 4.17 Response on Bid

Use Case Id	UC017
Use Case Name	Response on Bid
Primary Actor	Investor
Pre-condition	Investor must be logged into system. Bid must be placed in order to make a respond
Post-condition	If accept, then share is transferred. If reject, the bid is removed.
Main scenario	1. If auction creator accepts the bid, system transfers the shares to bid placer. 2. If rejects, system deletes the placed bid and notify in both cases.
Alternative	

Table 4.18 Delete Auction

Use Case Id	UC018
Use Case Name	Delete Auction
Primary Actor	Investor
Pre-condition	● Investor must be logged into system. ● There must be auction placed
Post-condition	Auction successfully deleted.

Main scenario	1. Investor visited the page where auctions are listed.
	2. Selects the auction intended to be deleted.
	3. Selects delete option.
	4. System deletes the auction.
Alternative	

Table 4.19 Delete bid

Use Case Id	UC019
Use Case Name	Delete Bid
Primary Actor	Investor
Pre-condition	● Investor must be logged into system.
	● There must be Bid placed in order to delete it.
Post-condition	Bid successfully deleted.
Main scenario	1. Investor moves to the portion where placed bids are shown.
	2. Selects the bid and delete option.
	3. System removed the Bid.
Alternative	

Table 4.20 User account verification

Use Case Id	UC020
Use Case Name	Approve Account
Primary Actor	Admin
Pre-condition	● User must have an account to be verified
Post-condition	Account verified successfully.
Main scenario	1. Admin views the acoounts to be verified for approval or rejection.
	2. Admin checks the document.
	3. Admin approves the account for making any investment after viewing the documents provided.
Alternative	

Table 4.21 Create Blog

Use Case Id	UC021
Use Case Name	Create blog
Primary Actor	Admin, Investor
Pre-condition	● Admin/investor must be logged in to the system
Post-condition	Blog created Successfully
Main scenario	1. User logs into the system 2. User navigates to Blog manager page 3. User Enter details for blog(Selects category, Enters Title, choose thumbnail, Writes blog) 4. User clicks on create blog.
Alternative	**3a.** If user doesn't enter title blog will not posted and system will show error to user.

Table 4.22 Comment on blog

Use Case Id	UC022
Use Case Name	Comment on blog
Primary Actor	Admin, Investor
Pre-condition	● Blog must be posted in order to make a response.
Post-condition	Commented successfully.
Main scenario	1. User navigates to blogs page 2. User clicks the comment dialog box under the blog. 3. User inputs some reponse. 4. User clicks comment button.
Alternative	**3a.** If the dialog box is empty the response will not be uploaded and system will ask to enter some response.

Table 4.23 Edit Blog

Use Case Id	UC023
Use Case Name	Edit Blog
Primary Actor	Admin
Pre-condition	● Blog must be posted in order to Edit
Post-condition	Updated
Main scenario	1. Admin selects the blog intended to be edited.

	2. Admin makes changes
	3. Admin clicks update now button.
Alternative	**3a.** If the title box is empty the changes will not be uploaded and system will ask to enter Title.

Table 4.23 Delete Blog

Use Case Id	UC024
Use Case Name	Delete Blog
Primary Actor	Admin
Pre-condition	● Blog must be posted in order to Delete it.
Post-condition	Deleted successfully.
Main scenario	1. Admin visits blogs manager page.
	2. Admin navigates to the blog which is to be deleted.
	3. Admin clicks on delete button.
	4. The blog is deleted.
Alternative	

Table 4.25 Create Blog Category

Use Case Id	UC025
Use Case Name	Create Blog Category
Primary Actor	Admin
Pre-condition	● Admin must be logged into the system.
Post-condition	Category Created Successfully.
Main scenario	1. Admin visits dashboard
	2. Admin navigates to blog category page
	3. Admin clicks create blog category.
	4. Admin enter category title.
	5. Admin creates blog category.
Alternative	

Table 4.26 Delete Blog Category

Use Case Id	UC026
Use Case Name	Delete Blog category
Primary Actor	Admin

Pre-condition	● Category must be created in order to delete it.
Post-condition	Category deleted Successfully.
Main scenario	1. Admin vistis dashboard 2. Admin visits blogs category page. 3. Admin navigates to category which is to be deleted. 4. Admin clicks delete button.
Alternative	

Table 4.27 Reply on Comment

Use Case Id	UC027
Use Case Name	Reply on Comment
Primary Actor	Admin
Pre-condition	● Comment must be made in order to reply
Post-condition	Response created
Main scenario	1. User visits blogs page 2. User click on response button under comment 3. User enters Response. 4. User Click reply to post it.
Alternative	

Table 4.28 Singin With Google

Use Case Id	UC028
Use Case Name	Sign In With Google
Primary Actor	Investor
Pre-condition	● Logged in Successfully
Post-condition	Response created
Main scenario	1. User visits sign in Page 2. User clicks on sign in with google. 3. User selects google account
Alternative	

Table 4.29 Upload Picture

Use Case Id	UC029
Use Case Name	Upload Picture
Primary Actor	Investor
Pre-condition	● Must me logged in to the system.
Post-condition	Picturfe Uploaded successfully.
Main scenario	1. User visits user profile. 2. User moves to profile picture update section. 3. User selects the picture. 4. User uploads the picture.
Alternative	

Table 4.30 Reset Picture

Use Case Id	UC030
Use Case Name	Reset Picture
Primary Actor	Investor
Pre-condition	● Profile photo must be uploaded to reset it.
Post-condition	Picture Uploaded successfully.
Main scenario	1. User moves to user profile section. 2. User clicks on Reset picture. 3. The default picture is setted.
Alternative	

Table 4.31 Add Signature

Use Case Id	UC031
Use Case Name	Add Signature
Primary Actor	Investor
Pre-condition	● Investor must have a profile.
Post-condition	Signature Added.
Main scenario	1. User visits user profile. 2. User goes to signature section. 3. User Adds his/her signature.
Alternative	

Table 4.32 Reset Password

Use Case Id	UC032
Use Case Name	Reset Password
Primary Actor	Investor
Pre-condition	● Investor must have a profile.
Post-condition	Password Reset successfully.
Main scenario	1. User clicks on reset password. 2. User enters the email for password reset email. 3. User enters new password. 4. Password reset successfully.
Alternative	2a.1 If email is not registered, system will notify user with an error.

Table 4.33 Verify Email

Use Case Id	UC033
Use Case Name	Verify Email
Primary Actor	Investor
Pre-condition	● Investor must have an email account.
Post-condition	Email verified successfully.
Main scenario	1. User Enters Email to verify. 2. User selects an coount to verify. 3. User gets email verification code. 4. The email verfied Successfully.
Alternative	.

Table 4.34 Approve Verification

Use Case Id	UC034
Use Case Name	Approve profile
Primary Actor	Admin
Pre-condition	● Verification request must be generated from user.
Post-condition	Approved or Rejected.
Main scenario	1. Admin clicks on request made by user. 2. Admin checks for all the details provided by user. 3. Admin Approves or reject the profile on the basis of

	data provided by user.
Alternative	

Table 4.35 Contact Us

Use Case Id	UC035
Use Case Name	Contact Us
Primary Actor	Investor
Pre-condition	● User Must have an email id to contact
Post-condition	Message sent successfuly
Main scenario	1. Investor visits to contact us section 2. Investor enters details and message. 3. Invesrtor sends message.
Alternative	

Table 4.36 View User Profile

Use Case Id	UC036
Use Case Name	View User Profile
Primary Actor	Investor
Pre-condition	● Investor must be logged in to the system
Post-condition	Profile viewed
Main scenario	1. User goes to the menu bar 2. User clicks on user profile button 3. User visits user profile.
Alternative	

Table 4.37 Direct Sell

Use Case Id	UC037
Use Case Name	Direct Sell
Primary Actor	Investor
Pre-condition	● Investor must owned some shares to sell it directly without using the biding system
Post-condition	Shares added for selling directly.

Main scenario	1. User moves to advertisement page
	2. User add the shares to sell.
Alternative	

Table 4.38 View Bidding Results

Use Case Id	UC038
Use Case Name	View Bidding Results
Primary Actor	Investor
Pre-condition	● Bidding session has ended
Post-condition	Results are displayed.
Main scenario	1. User checks notification.
	2. System shows outcome in form of message.
Alternative	

Table 4.39 View Investment History

Use Case Id	UC039
Use Case Name	View Investment History
Primary Actor	Investor
Pre-condition	● Invcstor is logged in
Post-condition	List of past investment is shown
Main scenario	1. User navigates to investment history
	2. System fetches user investments
	3. Records are shown in table
Alternative	3a.1 No past investments shows "no data" message

Table 4.40 Google LogIn

Use Case Id	UC040
Use Case Name	Google Login
Primary Actor	Investor/Admin
Pre-condition	● Login Button is visible to User
Post-condition	Successfully logged in.

Main scenario	1. User clicks to google login
	2. User selects google account.
	3. System successfully lands user to homepage after login.
Alternative	

Table 4.41 View Graph

Use Case Id	UC041
Use Case Name	View Graph
Primary Actor	Admin
Pre-condition	● Admin must be logged in
Post-condition	Graph is shown
Main scenario	1. Admin visits Dashboard.
	2. Admin moves to section where graph is visible.
	3. Graph is visible to Admin
Alternative	

Table 4.42 Upload CNIC pictures

Use Case Id	UC042
Use Case Name	Uplaod CNIC Pictures
Primary Actor	Investor
Pre-condition	● Investor Must be logged into the system.
Post-condition	Picture is Uploaded
Main scenario	1. Investor visits User Profile.
	2. Investor moves to section where picture is uploaded.
	3. Investor clicks on select images
	4. Investor selects images to upload
	5. Images are uploaded and saved to database.
Alternative	

Table 4.43 View Messages

Use Case Id	UC043
Use Case Name	View Messages

Primary Actor	Admin
Pre-condition	● Admin must be logged into the system
Post-condition	Message is shown to admin.
Main scenario	1. Admin clicks on messages. 2. System shows the messages.
Alternative	2a.1 If no messages found, table will be shown empty.

Table 4.44 Search Messages by Name

Use Case Id	UC044
Use Case Name	Search msgs by name
Primary Actor	Admin
Pre-condition	● Admin must be logged into the system
Post-condition	Name found or not.
Main scenario	1. Admin clicks on messages page. 2. Admin clicks on search box named as search name. 3. Admin clicks on search button 4. Results shown to Admin
Alternative	4a.1 If no name is matched, Results will be empty.

Table 4.45 Search messages by email

Use Case Id	UC045
Use Case Name	Search messages by Email
Primary Actor	Admin
Pre-condition	● Admin must be logged into the system
Post-condition	Message found or not.
Main scenario	1. Admin clicks on Messages page on Admin panel 2. Admin clicks on search bar named as search by eamil. 3. System Shows results.
Alternative	4a.1 If no Email is matched, Results will be empty.

Table 4.46 Change Status to completed

Use Case Id	UC046
Use Case Name	Change Status to Completed.

Primary Actor	Admin
Pre-condition	● There must be a message received to change it's status
Post-condition	Status changed to Completed.
Main scenario	1. Admin goes to messages page. 2. Admin Moves to section where messages are shown. 3. Admin change status to Completed
Alternative	

Table 4.47 View Users

Use Case Id	UC047
Use Case Name	View Users
Primary Actor	Admin
Pre-condition	● Admin must be logged in to the system.
Post-condition	All users list is shown.
Main scenario	1. Admin goes to database. 2. Admin goes to users table 3. Users list is shown to admin.
Alternative	3a.1 If there are no users regitered, the table will be shown empty.

Table 4.48 Manage Ownership

Use Case Id	UC048
Use Case Name	Manage OwnerShip
Primary Actor	System
Pre-condition	● Shares must be sold or owned by someone
Post-condition	All ownership is maintained
Main scenario	1. Investor buys some shares 2. System keep the record updated in the database 3. System converts the ownership 4. User profile, transaction history is updated.
Alternative	

Table 4.49 Notify Investor

Use Case Id	UC049
Use Case Name	Notify Investor
Primary Actor	System
Pre-condition	● Shares must be sold or purchases in order to notify.
Post-condition	Investor receives notification
Main scenario	1. Other investor buys some Property Shares. 2. System updates the record in database. 3. System notifies Investor about the related activity.
Alternative	3a.1 If no related activity occurs, no notification will be send to investor.

Table 4.50 Send Message

Use Case Id	UC050
Use Case Name	Send Message
Primary Actor	Investor
Pre-condition	● Investor must be logged in to the system.
Post-condition	Message sent successfully.
Main scenario	1. Investor visits contact us page. 2. Investor enter details. 3. Investor enters message. 4. Investor clicks on send message. 5. Message is sent.
Alternative	3a.1 If the message box is empty, message will not deliver and error on message box will be shown.

Table 4.51 Email Reply

Use Case Id	UC051
Use Case Name	Email Reply
Primary Actor	Admin
Pre-condition	● Admin must have received messages to reply
Post-condition	Message through email sent successfully.
Main scenario	1. Admin visits message page on admin dashboard 2. Admin

Alternative	3a.1 If the message box is empty, message will not deliver and error on message box will be shown.

Table 4.52 Status Filter

Use Case Id	UC052
Use Case Name	Search messsges by status type
Primary Actor	Admin
Pre-condition	● There must be some messages in the list in order to search.
Post-condition	Message through email sent successfully.
Main scenario	1. Admin selects status from selection menu i.e Pending or completed 2. System shows messages according to status.
Alternative	3a.1 If no messages are received to admin. Any choice results to show empty table.

Table 4.53 Write Content

Use Case Id	UC053
Use Case Name	Write Content
Primary Actor	Investor/User
Pre-condition	● User must be logged in to the system.
Post-condition	Content for blog added
Main scenario	1. User visits blogs page 2. User moves to the section where blog content is added 3. User enters blog Content to create blog.
Alternative	3a.1 Blogs content box cannot be empty.

Table 4.54 Add Thumbnail

Use Case Id	UC054
Use Case Name	Add Thumbnail
Primary Actor	Investor/User
Pre-condition	● User must be logged in to the system.
Post-condition	Thumbnail Added for blogs creation.
Main scenario	4. User visits blogs page

	5. User moves to the section where blog content is added
	6. User enters blog Content to create blog.
Alternative	3a.1 Blogs content box cannot be empty.

Chapter 5
Implementation

5.1 IDE, Tools and Technologies

5.1.1 Front-End:

1. HTML

2. CSS

3. Bootstrap

4. JavaScript

5. Laravel Livewire

5.1.2 Back-End:

1. Laravel

5.1.3 Database:

1. MySQL

5.1.4 Tools:

1. VS Code

2. Xampp

3. Star UML

4. Git & GitHub

5.2 Best Practices / Coding Standard

1. Naming Conventions

2. Coding Standards

3. Exception Handling

4. Optimization

Chapter 7
Conclusion & Outlook

7.1 Introduction

The Real Investment project was initiated to provide an innovative solution to the challenges faced by individuals interested in investing in real estate but lacking the substantial capital typically required. In Pakistan, traditional real estate investment remains largely inaccessible to the average citizen, and there is no formalized digital infrastructure for fractional ownership. Our system bridges this gap by offering a platform that enables users to invest in property shares, track returns based on rental income, and even sell their shares through a structured bidding system. The system was developed using Laravel with Livewire for the frontend interactivity and hosted locally through XAMPP, considering the university-level nature of the project. Stripe was integrated in test mode to simulate the online payment process, allowing us to mimic real-world transactions for demonstration purposes.

7.2 Achievements and Improvements

Throughout the development of the project, several key objectives were successfully achieved. The system was modularized into separate roles such as Admin, Property Owner, and Investor, each with dedicated functionalities. A total of 65 use cases were designed and implemented, covering modules including property management, investment management, bidding system, user profile handling, and profit distribution. One of the highlights was the successful simulation of share creation and distribution based on the property's rental yield, allowing investors to receive calculated returns annually. The bidding module enabled investors to list their owned shares for resale while maintaining control over the minimum bid price and visibility duration. Additionally, we structured the database to reflect logical relations between properties, owners, investors, and transactions, ensuring a scalable and understandable backend design. During the project's evolution, the user interface was improved for better navigation and responsiveness, validations were added for data input accuracy, and access control mechanisms were applied to protect the system's integrity.

7.3   Critical Review

While the project met its development goals, it also highlighted several constraints and areas for improvement. The system currently runs on a local server environment, which does not represent the performance and security challenges of a live deployment. Legal limitations in Pakistan also meant avoiding blockchain and cryptocurrency elements, which are typically associated with tokenized ownership. The Stripe payment gateway, while effective for testing, is not officially supported in Pakistan, which would require adaptation for any real-world use. Furthermore, due to the academic nature of the project, user testing was limited, and stress testing under load was not conducted. Advanced security measures such as SSL encryption, firewalls, or two-factor authentication were not implemented, which would be essential in a production-grade platform. Lastly, the system currently assumes property data is accurate and trusted, but in a real-world setting, verification processes would be critical.

7.4 Future Recommendations / Outlook

Looking forward, the system can be improved and potentially deployed in a real-world environment through several enhancements. Hosting the application on a cloud platform such as AWS or DigitalOcean would allow for better performance, remote accessibility, and data backup. Integration with local payment gateways like JazzCash or Easypaisa would make transactions more practical and legally compliant. The development of a mobile application could further increase accessibility and user engagement, especially for younger investors. Implementing proper KYC (Know Your Customer) and AML (Anti-Money Laundering) processes would add credibility and help fulfill regulatory requirements. Future enhancements should also include investor dashboards with performance analytics, regular reports, and profit summaries. Additionally, integration of security features such as login attempt monitoring, captcha verification, and activity logging will help make the platform more secure. Lastly, if regulations in Pakistan evolve to support digital asset ownership or blockchain-based property management, the system can be adapted to include smart contracts for secure and transparent ownership transfers.