

# **DREAM HOME CONSTRUCTION**

SUBMITTED IN PARTIAL FULFILLMENT OF  
REQUIREMENTS FOR THE AWARD OF THE DEGREE OF  
**MASTER OF SCIENCE IN COMPUTER SCIENCE**  
**OF**

**UNIVERSITY OF CALICUT**

SUBMITTED BY

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UNDER THE GUIDANCE OF

**Mr. ISHAQUE K**



**DEPARTMENT OF COMPUTER SCIENCE**  
**UNIVERSITY OF CALICUT**

**2024**

## CERTIFICATE

This is to certify that the project work entitled “**DREAM HOME CONSTRUCTION**” is a bona fide record of original work done by **MUKESH M**(CUAUCMF012) final year M.Sc. Computer Science in partial fulfillment of the requirements for the award of the degree in Master of Computer Science during the period of 2022-2024.

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Examination held on: .....

Signature of Examiners

1 . ....

2 . ....

Calicut university

Date:

## **DECLARATION**

I here by declare that the project entitled “**DREAM HOME CONSTRUCTION**” submitted to the **Department of Computer Science, University of Calicut** in partial fulfilment of the requirements for the award of degree in **MSc. COMPUTER SCIENCE** is a record of original dissertation work done by me, Under the guidance and supervision of **Mr. Ishaque K Assistant professor, Department of Computer Science, University of Calicut, Thenhipalam** during my study period in **CALICUT UNIVERSITY CAMPUS, MALAPPURAM**.

Place:

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Date:

Reg.No:CUAWCMF012

## ACKNOWLEDGEMENT

Presentation, inspiration and motivation have always played a key role in the success of any venture. I express my sincere thanks to my guide **Mr. ISHAQUE K Assistant Professor of The Department, Department of Computer Science, University of Calicut.** Whose valuable guidance and kind supervision given to me through the course which shaped the present work as its show

I pay my deep sense of gratitude to **Dr. LAJISH V L Associate Professor and head of Department of Computer Science, University of Calicut** to encourage me to the highest peak to provide me the opportunity to prepare project.

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I'm immensely obliged to my friends for their elevating inspiring, encouraging guidance and kind of supervision in the completion of my project.

## **ABSTRACT**

Dream Home Construction has developed a comprehensive online platform that integrates various aspects of the home design and construction process. By leveraging this intuitive platform, users are empowered to navigate the entire process seamlessly. From selecting plans tailored to their properties to exploring a curated collection of predefined designs by seasoned engineers and interior designers, every step is designed to simplify the journey. With the ability to virtually walk through various home designs, communicate directly with designers, and even customize plans to align with their preferences and budget, users maintain full control over their vision. Additionally, the platform integrates exterior design trends, allowing users to enhance their homes with the latest styles effortlessly. Through a robust contractor management system, professionals specializing in electrical, plumbing, and construction services showcase their expertise with detailed portfolios and location-tagged previous works, enabling users to make informed decisions with confidence. In essence, Dream Home Construction seamlessly connects property owners with investors, architects, interior designers, and contractors, streamlining the path to realizing their dream homes with ease and efficiency. Furthermore, a camera at the construction site allows clients to monitor the work in progress, ensuring transparency and satisfaction throughout the construction journey.

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# **INTRODUCTION**



## **INTRODUCTION**

In today's age, integrating various aspects of home design and construction into a single platform is essential for clients looking to streamline their building process. Dream Home Construction has developed a comprehensive online platform that addresses these needs by allowing clients to select plans suited for their property without the necessity of in-person consultations with engineers.

The "Dream Home Construction Platform" enables users to choose from a variety of pre-defined designs uploaded by experienced architects, interior designers, exterior designers, and contractors, ensuring their dream home is realized in their preferred location. This web-application also facilitates communication with designers through a chat feature, allowing users to discuss design preferences and submit customized plans to explore feasibility and budget considerations. Interior and exterior designers can share the latest design trends, making it simple for users to search and select designs that match their vision. The platform streamlines the contractor selection process by allowing contractors to manage and upload details about their electrical, plumbing, and construction work, complete with locations and images of previous projects. This transparency helps users find the best contractors for their needs. Additionally, the platform includes a real-time monitoring feature through a camera placed at the construction site, providing clients with continuous updates and the ability to oversee progress remotely. By combining these functionalities, the platform offers a seamless and efficient solution for clients to bring their dream homes to life, from the initial design phase through to the completion of construction. This integration of advanced technologies and user-centric design significantly enhances the overall home-building experience.

# **SYSTEM STUDY**

## **SYSTEM STUDY**

The initial phase of the system development life cycle is the system study, providing a comprehensive understanding of the physical system. It unfolds in two stages. Initially, a preliminary survey is conducted to delineate the system's scope. Subsequently, a more exhaustive analysis delves into user requirements, as well as the constraints and deficiencies of the existing system. Following the system study, the user drafts a system proposal. In my project, I gather information for public dissemination, leveraging insights gleaned during the preliminary study to discern current user preferences.

The system study for the proposed architecture encompasses an intricate examination of each module's functionalities and requirements. Beginning with the ADMIN module, the analysis delves into user authentication protocols for login, criteria for approving or rejecting professionals, and the storage and display of client information, ratings, and feedback. For the CLIENT module, the study scrutinizes registration procedures, plan request mechanisms, storage and presentation of plan details and budgets, as well as functionalities such as chat, complaint submission, rating, and payment. Additionally, integration of camera functionality for viewing work progress is explored. Similarly, for ARCHITECT, EXTERIOR DESIGNER, INTERIOR DESIGNER, and CONTRACTOR modules, the study encompasses registration processes, profile viewing, customized plan/design submission mechanisms, chat functionalities, gallery management, payment systems, and, for CONTRACTOR, work requirement submissions and camera integration for work status viewing. This comprehensive system study lays the groundwork for the development of a robust and user-centric system proposal.

## EXISTING SYSTEM

"Fixer Upper Finder" connects homeowners with contractors but lacks Dream Home Construction's design options, virtual walkthroughs, and direct communication. It provides basic contractor information without detailed portfolios or location-tagged projects, offering limited assistance compared to Dream Home Construction.

### **Drawbacks:**

- "Fixer Upper Finder" does not offer the comprehensive design options that limits homeowners' ability to visualize and customize their projects extensively.
- The platform does not feature virtual walkthroughs, making it harder for homeowners to get a realistic sense of how their renovated space will look.
- Homeowners cannot communicate directly with contractors through the platform, which can lead to delays and misunderstandings as direct communication is often necessary to clarify project details and expectations.
- The platform only provides basic information about contractors, which can be insufficient for homeowners to make informed decisions about which contractor to hire.
- Detailed portfolios showcasing contractors' past work are not available, so homeowners cannot adequately assess the quality and style of a contractor's previous projects.
- Projects are not tagged with specific locations, making it difficult for homeowners to find contractors with experience in their area and similar types of homes.
- "Fixer Upper Finder" offers less assistance, making it less competitive, especially for homeowners seeking comprehensive planning and visualization tools.

## PROPOSED SYSTEM

The "Dream Home Construction Platform" offers a variety of pre-defined designs from experienced professionals, ensuring users can realize their dream home in their preferred location. The application includes a chat feature for communication with designers to discuss preferences and explore customized plans. Designers can share the latest trends, making it easy for users to find matching designs. The platform streamlines contractor selection by allowing contractors to upload detailed information and images of previous projects, enhancing transparency. It also includes real-time monitoring with a construction site camera, providing continuous updates. This platform combines advanced technologies and user-centric design for a seamless home-building experience from start to finish.

### **Advantages:**

- Offers a variety of pre-defined designs from experienced professionals, allowing extensive visualization and customization.
- Includes virtual walkthroughs for realistic space planning and decision-making.
- Allows direct communication with designers via chat for clear discussions on preferences and plans.
- Contractors can upload detailed work information, including images and location-tagged projects.
- Designers share the latest trends, making it easy to find matching designs.
- Streamlines contractor selection with detailed portfolios and transparent information.
- Provides real-time monitoring with a construction site camera for continuous updates.
- Enhances the home-building experience with advanced technologies and user-centric design, ensuring a seamless process from design to completion.

## **MODULE DESCRIPTION**

This project has 6 modules :

### **ADMIN**

- Login
- View and approve and reject architect ,interior designer exterior designer and contractor
- View registered client
- View Ratings
- View feedback

### **CLIENT**

- Register
- Login
- Send request for a plan with plot and requirements to architect
- View plan details and budget send by architect
- View architect's plan gallery
- View design details and budget send by exterior designer
- View Exterior designer's gallery
- Send request for a work and requirements to exterior designer
- View work details and budget send by contractor
- Chat with architect , interior designer ,exterior designer and contractor
- Send complaints
- Send ratings
- Send payment
- View work status by camera

## **ARCHITECT**

- Register
- Login
- View profile
- View customized plan & requirements
- Send customized plan details & budget
- Chat with customer
- Upload and manage gallery
- View payment

## **EXTERIOR DESIGNER**

- Register
- Login
- View profile
- View customized design & requirements
- Send customized design details & budget
- Chat with customer
- Upload and manage gallery
- View Payment

## **CONTRACTOR**

- Register
- Login
- View profile
- View work requirements
- Send work details & budget
- Chat with customer
- Upload and manage gallery
- View payment
- Add camera and view status of work

## **INTERIOR DESIGNER**

- Register
- Login
- View profile
- View customized design & requirements
- Send customized design details & budget
- Chat with customer
- Upload and manage gallery
- View Payment



# **SYSTEM SPECIFICATION**

**HARDWARE SPECIFICATION**

System : Intel

Processor : Core i3

Ram Capacity : 4GB

Hard Disk Drive : 1TB

Keyboard : Standard

Mouse : Standard

**SOFTWARE SPECIFICATION**

Platform : Windows OS

Front End : Python, Javascript, HTML, CSS,Flutter

Back End : Django,Androidstudio

API : Django

Browser : Google Chrome, Mozilla Firefox, Internet Explorer

## LANGUAGE DESCRIPTION

### HTML

HTML stands for Hyper Text Markup Language. It is used to design web pages using markup language. HTML is the combination of Hypertext and Markup language. Hypertext defines the link between the web pages. Markup language is used to define the text document within tag which defines the structure of web pages. This language is used to annotate (make notes for the computer) text so that a machine can understand it and manipulate text accordingly. Most of markup languages are human readable.

HTML is a markup language which is used by the browser to manipulate text, images and other content to display it in required format. HTML was created by Tim Berners-Lee in 1991. The first ever version of HTML was HTML 1.0. HTML uses predefined tags and elements which tells the browser about content display property. If a tag is not closed then browser applies that effect till end of page.

### CSS (Cascading Style Sheet)

A CSS (cascading style sheet) file allows you to separate your web sites HTML content from its style. As always you use your HTML file to arrange the content, but all of the presentation (fonts, colors, background, borders, text formatting, link effects & so on...) are accomplished within a CSS. At this point you have some choices of how to use the CSS, either internally or externally. First, we will explore the internal method. This way you are simply placing the CSS code within the tags of each HTML file you want to style with the CSS. The format for this is shown in the example below. Inline styles are defined right in the HTML file along side the element you want to style. An external CSS file can be created with any text or HTML editor. A CSS file contains no (X)HTML, only CSS. You simply save it with the .css file extension.

## **DJANGO**

Django is a Python-based web framework that allows you to quickly create efficient web applications. It is also called batteries included framework because Django provides built-in features for everything including Django Admin Interface, default database – SQLite3, etc. When you're building a website, you always need a similar set of components: a way to handle user authentication (signing up, signing in, signing out), a management panel for your website, forms, a way to upload files, etc. Django gives you ready-made components to use and that too for rapid development. Django's primary goal is to ease the creation of complex database-driven websites. Some well known sites that use Django include PBS, Instagram, Disqus, Washington Times, Bitbucket and Mozilla.

## **JAVASCRIPT**

JavaScript is a versatile programming language commonly used in web development to create interactive and dynamic websites. As a client-side scripting language, it runs directly in the web browser and allows developers to add functionality, manipulate content, and respond to user actions on web pages. JavaScript is known for its flexibility, as it can be used for a wide range of tasks, from simple form validation to complex web applications. With its widespread adoption and extensive libraries and frameworks such as React, Angular, and Vue.js, JavaScript continues to be a fundamental tool for building modern web experiences. This tutorial provides an overview of JavaScript, including its syntax, basic concepts, and common use cases in web development. It also covers tools and resources for learning JavaScript and practical examples to help you get started with coding. Whether you're a beginner or an experienced developer, JavaScript offers endless possibilities for creating dynamic and interactive web applications.

## **PYTHON**

Python is a general-purpose, dynamic, high-level, and interpreted programming language. It supports Object Oriented programming approach to develop applications. It is simple and easy to learn and provides lots of high-level data structures .Python is an easy-to-learn yet powerful and versatile scripting language, which makes it attractive for Application Development. With its interpreted nature, Python's syntax and dynamic typing make it an ideal language for scripting and rapid application development. Python supports multiple programming patterns, including object- oriented, imperative, and functional or procedural programming styles. Python is not intended to work in a particular area, such as web programming. It is a multipurpose programming language because it can be used with web, enterprise, 3D CAD, etc .We don't need to use data types to declare variable because it is dynamically typed, so we can write `a=10` to assign an integer value in an integer variable. Python makes development and debugging fast because no compilation step is included in Python development, and the edit-test-debug cycle is very fast. Python has many web-based assets, open-source projects, and a vibrant community. Learning the language, working together on projects, and contributing to the Python ecosystem are all made very easy for developers. Because of its straightforward language framework, Python is easier to understand and write code in. This makes it a fantastic programming language for novices. Additionally, it assists seasoned programmers in writing clearer, error-free code.

## **FLUTTER**

Flutter is an open-source UI toolkit by Google for building natively compiled applications across mobile, web, and desktop from a single codebase. With its rich widget library, developers can create beautiful and high-performance user interfaces. Flutter's hot reload feature enables rapid development, allowing for quick iteration and experimentation. It offers a flexible and reactive framework, making it easy to manage state, handle user input, and integrate platform-specific features using plugins. Whether you're a beginner or an experienced developer, Flutter provides comprehensive documentation, vibrant community support, and a thriving ecosystem of packages and tools to streamline the app development process.

# **SYSTEM ANALYSIS**

## SYSTEM ANALYSIS

System Analysis is concerned with analyzing, designing, implementing and evaluating information system in our organization. It is carried out to make the system more effective either by modification or by substantial redesign. In system analysis we identify the problem, study the alternative solution and select the most suitable solution, which meet the technical economic and social demands for analysis, various tools such as dataflow diagram, interviews on site observation, questionnaires etc., are used. System analysis process is also called a life cycle methodology since it relates to four significant phases in life cycle of all information system. They are

1. System Analysis / Study Phase.
2. System Design / Design phase.
3. System Development / Development Phase.
4. Testing and implementation / Operation Phase.

All activities associated with each life cycle phase must be performed managed and documented. So, system analysis is the performance, management and documentation of the activities related to the four life cycle phases of a computer-based system

.

## **FEASIBILITY STUDY**

The most difficult part of feasibility analysis is the identification of the Candidate system and the evaluation of their performance. Feasibility study is a test of a system proposal according to its workability, impact on the organization, ability to meet the user needs and effective use of resources.

A feasibility study is conducted to select the best system that meets performance requirements. The entails an identification description, an evaluation of candidate system, and the selection of the best system for the job. The new system has advantages such as we can easily doing transactions in the shop and this application is more user friendly for the employees. Six key considerations are involved in the feasibility analysis:

1. Technical Feasibility
2. Operational Feasibility
3. Economical Feasibility
4. Behavioral Feasibility
5. Software Feasibility
6. Hardware Feasibility



## TECHNICAL FEASIBILITY

A study of function, performance and constraints may improve the ability to create an acceptable system. Technical Feasibility is frequently the most difficult area to achieve at the stage of product engineering process. Considering that are normally associated with the technical feasibility include,

- Development risk
- Resource availability
- Technology

Technical Feasibility study deals with the hardware as well as software requirements. The scope was whether the work for the project is done with the current requirements and existing software technology has to be examined in the feasibility study.

The outcome was found to be positive. In the proposed system, data can be easily stored and managed using database management system software. The reports and results for various queries can be generated easily. Therefore, the system is technically feasible.

## OPERATIONAL FEASIBILITY

Proposed projects are beneficial only if they can be turned into information system that will meet the organization's operating requirements. Simply stated, this test of feasibility asks if the system will work when it is developed and installed. Are these major barriers to implementation?

The purpose of the operational feasibility study is to determine whether the new system will be used if it is developed and implemented from users that will undermine the possible application benefits. There was no difficulty in, implementing the system and the proposed system is so effective, user friendly and functionally reliable so that the users in the company will find that the new system reduce their hard steps. If the user of the system is fully aware of the internal working of the system then the users will not be facing any problem in running the system.

**ECONOMICAL FEASIBILITY**

Proposed system was developed with the available resources. Since cost input for the software is almost nil the output of the software is always a profit. Hence software is economically feasible. In the existing system, manpower is more required. In the proposed system the effort to be involved is reduced drastically. So, the proposed system is said to be economic.

**BEHAVIORAL FEASIBILITY**

People are inherently resistant to changes and computer is known as facilitating the changes. An estimate should be made of how strongly the users react to the development of the system. The proposed system consumes time. Thus the people are made to engage in some other important work.

**SOFTWARE FEASIBILITY**

Even though software is developed in very high software environment, it will be supported by many other and environments with minimum changes.

**HARDWARE FEASIBILITY**

The software can be developed with resource already existing. Here the consideration is that the existing hardware resources support the technologies that are to be used by the new system. No hardware was newly bought for the project and hence software is said to achieve hardware feasibility. The software can be developed with resource already existing. Here the consideration is that the existing hardware resources support the technologies that are to be used by the new system. No hardware was newly bought for the project and hence software is said to achieve hardware feasibility.

# **SYSTEM DESIGN**

## **SYSTEM DESIGN**

System Design involves translating system requirements and conceptual design into technical specification and general flow of processing. After the system requirements have been identified, information has been gathered to verify the problems and after evaluating the existing system a new system is proposed. System Design is the process of planning of new system or to replace or complement an existing system. It must be thoroughly understood about the old system determine how computers can be used to make its operations more effective.

System Design sits at technical the kernel of the system development. Once system requirements have been analyzed and specified system design is the first of the technical activities – design, code generation and test that required to build and verify the software. System Design is the most creative and challenging phases of the system life cycle. The term design describes the final system and the process by which it is to be developed.

System Design is the high-level strategy for solving the problem and building a solution. System Design includes decisions about the organization of the system into subsystems, the allocation of subsystems to hardware and software components and major conceptual and policy decision that forms the framework for detailed design.

## **DATA FLOW DIAGRAM**

A Data Flow Diagram is used to define the flow of data and the resources such as information. Data Flow Diagrams are a way of expressing system requirements in graphical manner .it has the purpose of clarifying system requirements and identifying the major transformation that will become program in the system design. So it is the starting point of design phase that functionally decomposes the requirement specification down in to the lowest level of details. The bubbles represent data transformation and the lines represent information flow in the system. Data Flow Diagrams are useful in understanding a system and can be effectively used for partitioning. The system may be an organization, a manual procedure, software system, a mechanical system or any combination of these.

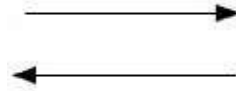
### **Rules For Constructing a Data Flow Diagram**

Process should be named and numbered for easy reference. Each name should be Representative of process. The direction of flow is from top to bottom and from left to right. That is information flow should be from source to destination. Numbering is given when a process is exploded into lower-level details. The name of the data stores, source and destination are written in capital letters. Process and Data Flow names have the first letter of each word capitalized. The Data Flow Diagram is particularly designed to aid communication. If it contains dozens of process and data stores it gets too unwieldy. The rule of the thumb is to explode the DFD into a functional level beyond that, it is best to take each function separately and expand it to show the explosion in a single process. If a user wants to know what happens within a given process, then the detailed explosion of that process may be shown.

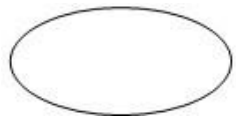
The goal of DFD is to have a commonly understood model of a system. The diagram is the basis of structured system analysis. DFD are supported by other techniques of structured system analysis. DFD are supported by other techniques of structured system analysis such as structured diagrams, and data dictionaries.

## DFD SYMBOLS

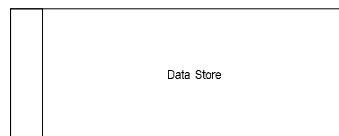
Data Flow Diagrams are composed of the four basis symbols shown below



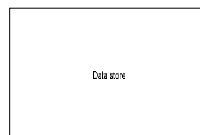
A data is a root, which enables packet of data to travel from one point to another. Data may flow from a source to a processor and from data source or process. An arrow line depicts the flow, with arrowhead pointing in the direction of flow.



A process represents transformation where incoming data changed into outgoing data flows.

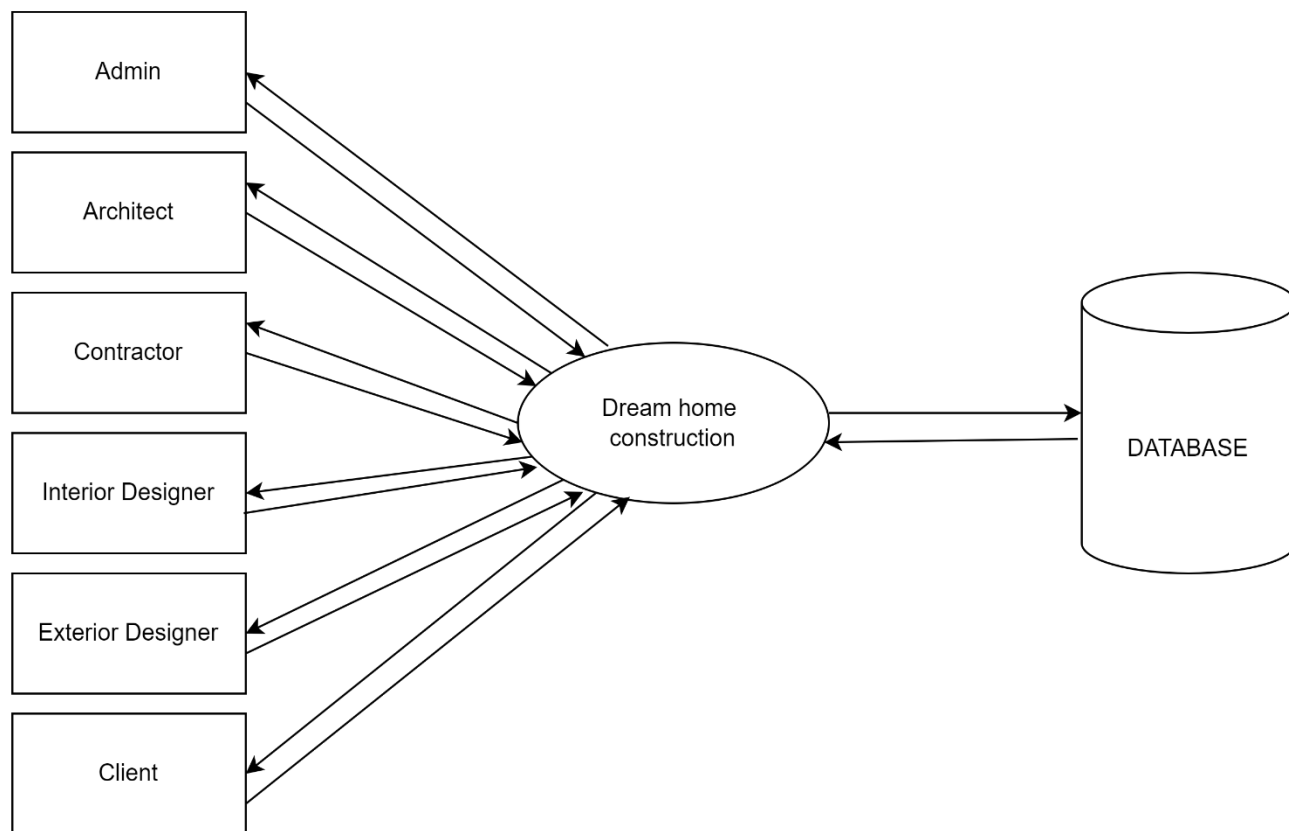


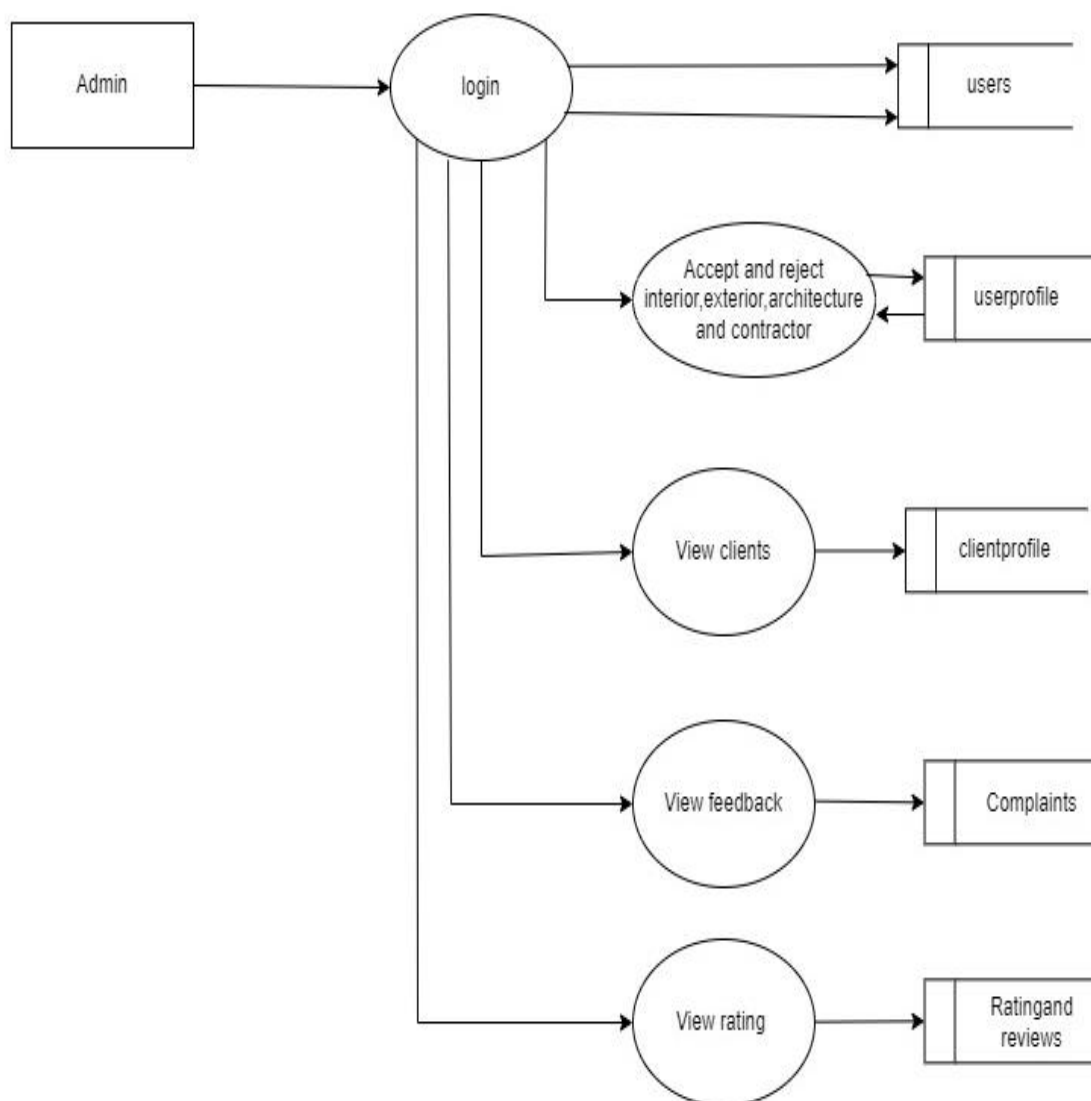
An open-ended box represents a data store, data at rest or a temporary repository of data.



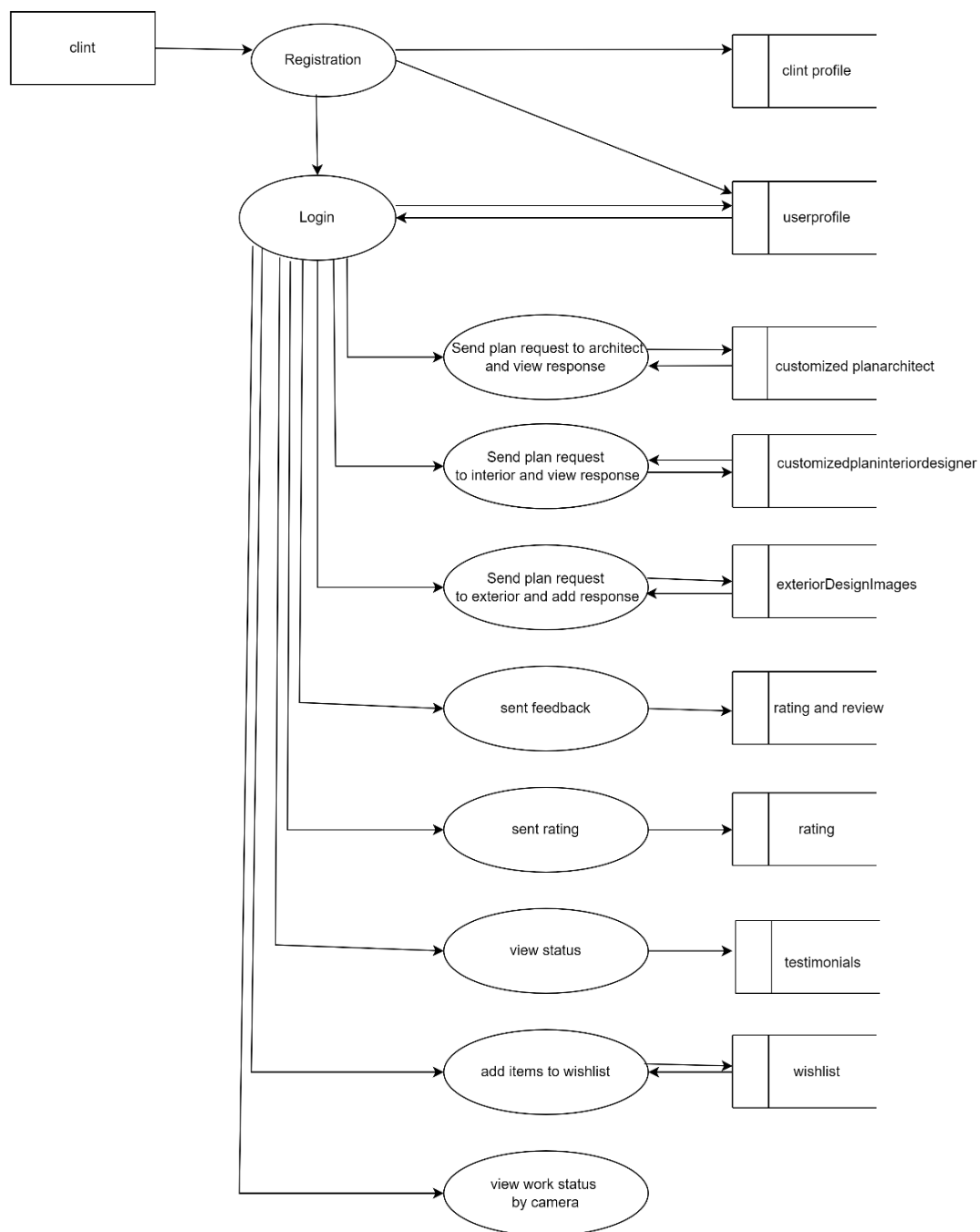
A square defines a source or destination of system data.

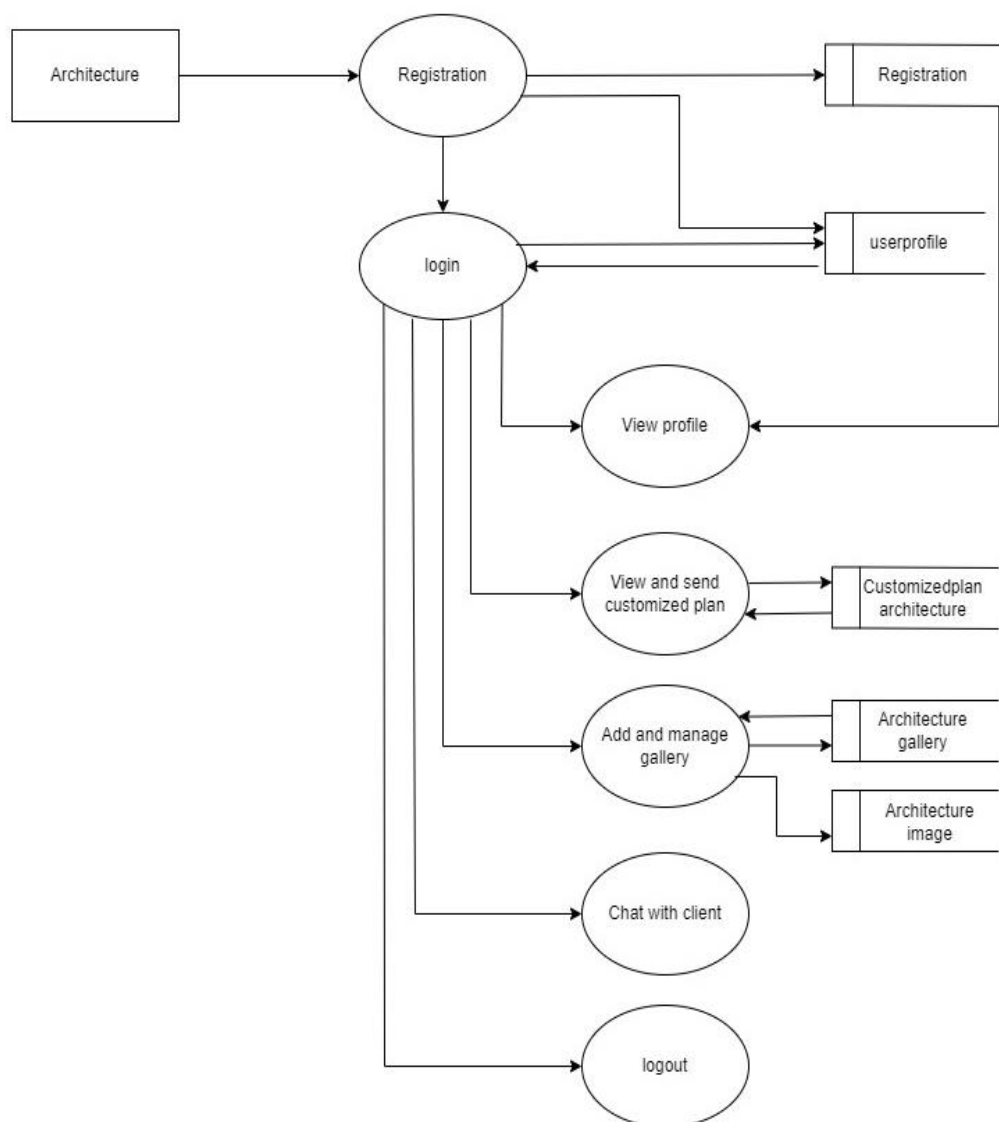
## LEVEL 0

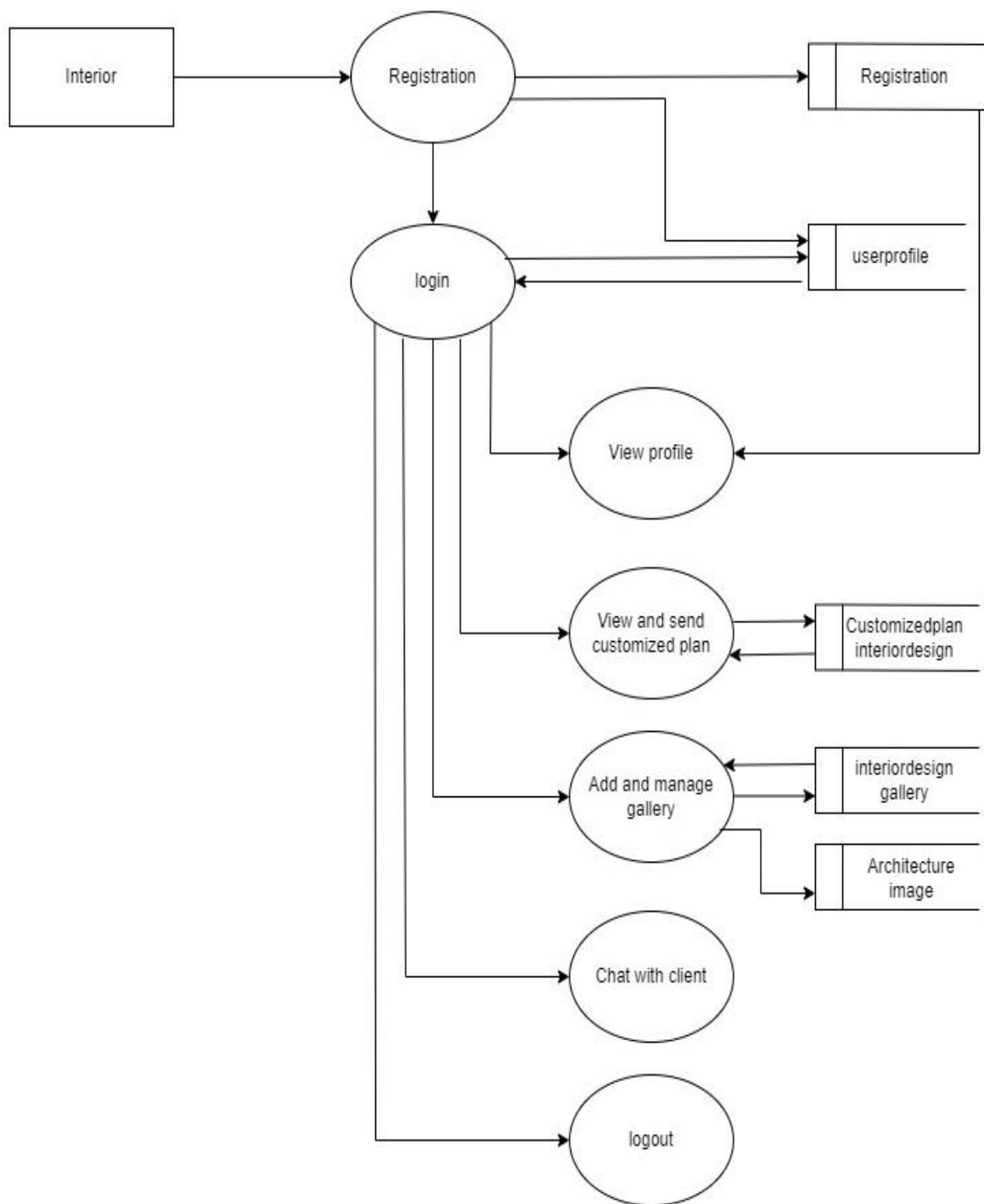


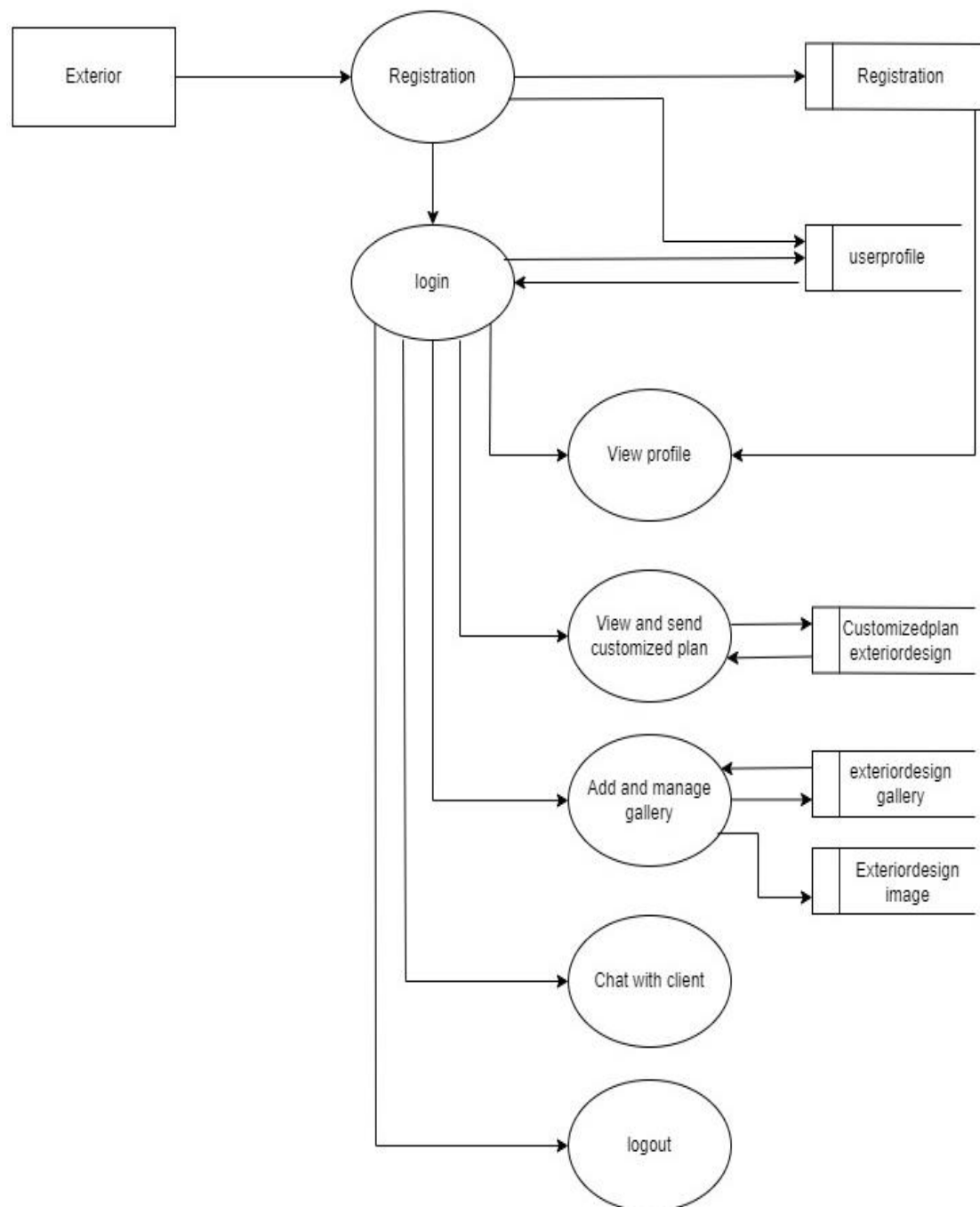
**LEVEL 1.1: ADMIN**

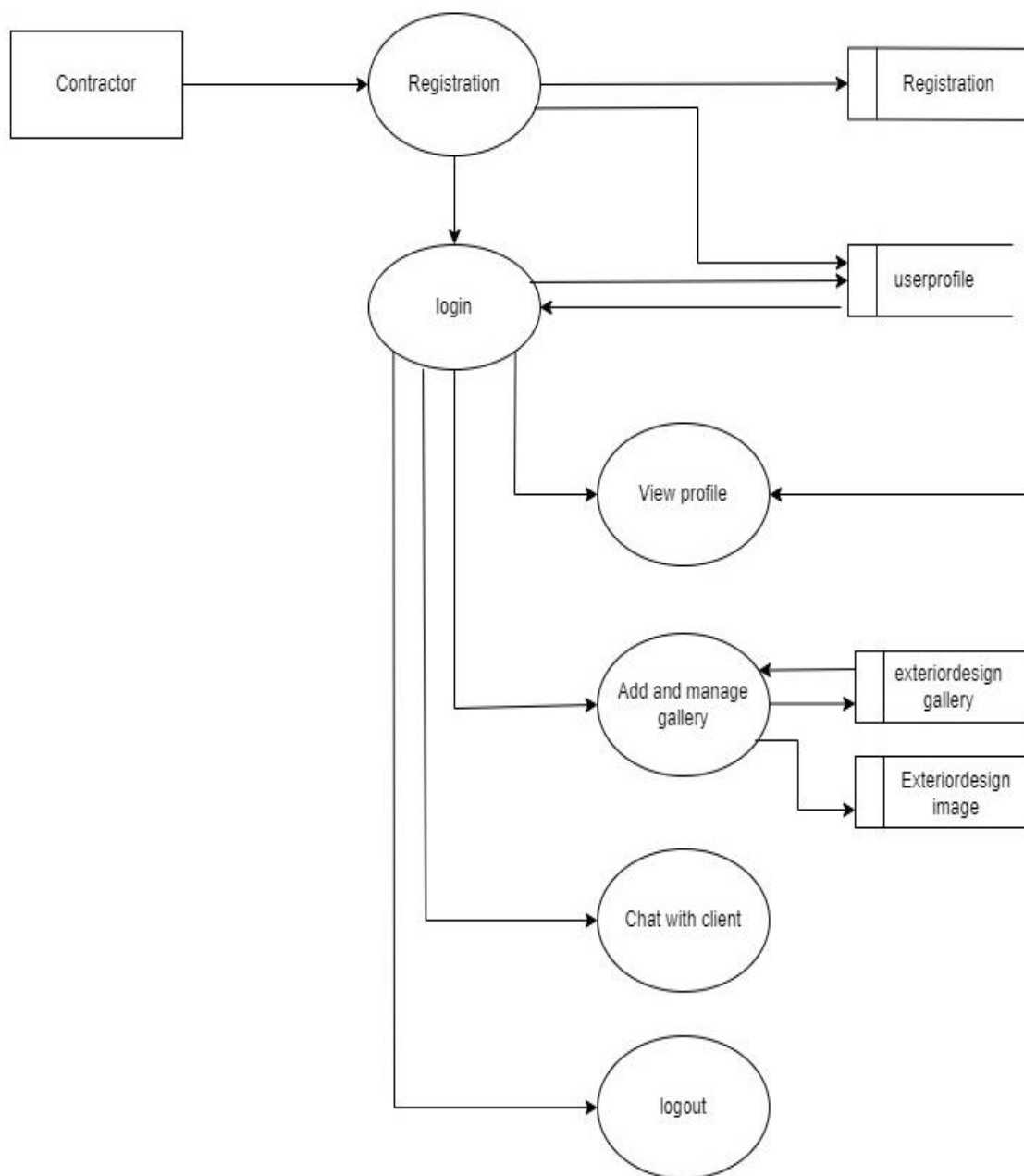


**LEVEL 1.2: CLIENT**

**LEVEL 1.3: ARCHITECTURE**

**LEVEL 1.4: INTERIORDESIGNER**

**LEVEL 1.5: EXTERIORDESIGNER**

**LEVEL 1.6: ARCHITECTURE**

## **DATABASE DESIGN**

The data base design is a logical development in the methods used by the computer to access and manipulate data stored in the various parts of the computer system. Database is defined as an integrated collection of data. The overall objective in the development of database technology has been to treat data as organization recourses and as an integrated whole. The main objectives of database are data integration, data integrity and data independence.

### **SQLITE**

SQLITE is an in-process library that implements a self-contained, serverless, zero-configuration, Transactional SQL database engine. It is a database, which is zero configured, which means like other database you do not need to configure it in your system. SQLITE engine is not a standalone process like other databases, you can link it statically or dynamically as per your requirement with your application. SQLITE accesses its storage files directly. a complete SQLITE database is stored in a single cross platform disk file. Its transactions are fully ACID-complaint, allowing safe access from multiple processes or threads. It is written in ANSI-C and provide easy to use API.

SQLITE available on UNIX , LINUX, Mac OS-X, and Windows

### **Normalization**

Normalization is the process of organizing data in a database. This includes creating tables and establishing relationships between those tables according to rules designed both to protect the data and to make the database more flexible by eliminating redundancy and inconsistent dependency. Redundant data wastes disk space and creates maintenance problems. If data that exists in more than one place must be changed, the data must be changed in exactly the same way in all locations. Database normalization is a database schema design technique, by which an existing schema is modified to minimize redundancy and dependency of data.

**1 st Normal Form (1NF)**

In this Normal Form, we tackle the problem of atomicity. Here atomicity means values in the table should not be further divided. In simple terms, a single cell cannot hold multiple values. If a table contains a composite or multi-valued attribute, it violates the First Normal Form.

**2 nd Normal Form (2NF)**

The first condition in the 2nd NF is that the table has to be in 1st NF. The table also should not contain partial dependency. Here partial dependency means the proper subset of candidate key determines a non-prime attribute.

**3 rd Normal Form (3NF)**

it is not the  
case that  $Y \rightarrow X$ )

## TABLE DESIGN

### 1. Table Name : Registration

SL.No	Field	Data type	Constraints
1	id	integer (NOT NULL)	PRIMERY KEY
2	user_id	bigint (UNIQUE)	FOREIGN KEY
3	gender	varchar(55)	
4	houasename	varchar(55)	
5	post	varchar(55)	
6	pincode	varchar(55)	
7	place	varchar(55)	
8	district	varchar(55)	
9	landmark	varchar(55)	
10	idproof	varchar(100)	
11	idprooftype	varchar(55)	
12	idproofnumber	varchar(55)	
13	idprooffile	varchar(100)	
14	phone	varchar(55)	
15	yearofexperience	varchar(55)	
16	qualification	varchar(55)	
17	is_active	bool	
18	created_at	datetime	
19	updated_at	datetime	
20	age	varchar(55)	
21	photo	varchar(100)	
22	status	varchar(55)	



**2. Table Name: Complaints**

Sl.No	Field	Data type	Constraints
1	id	integer	PRIMARY KEY
2	user_id	bigInt	FOREIGN KEY
3	complaints	varchar(255)	
4	reply	varchar(255)	
5	Is_active	bool	

**3. Table Name : Architectgallery**

Sl.No	Field	Data type	Constraints
1	id	integer	PRIMARY KEY
2	user_id	bigint	FOREIGN KEY
3	size	varchar(55)	
4	designer	varchar(1000)	
5	plintharea	varchar(55)	
6	is_active	bool	
7	created_at	datetime	
8	updated_at	datetime	
9	style	varchar(50)	
10	category	varchar(50)	
11	budget	varchar(55)	
12	overallrating	varchar(55)	

**4. Table Name : administrator\_ratingandreview**

Sl.No	Field	Data type	Constraints
1	id	integer	PRIMARY KEY
2	user_id	bigint	FOREIGN KEY
3	r_id	bigint	FOREIGN KEY
4	rating	real	
5	review	Varchar(255)	
6	Is_active	bool	

**5. Table Name : architect\_customizedplanarchitect**

Sl.No	Field	Data type	Constraints
1	id	integer	PRIMARY KEY
2	architectid_id	bigint	FOREIGN KEY
3	user_id	bigint	FOREIGN KEY
4	budget	varchar(55)	
5	squarefeet	varchar(55)	
6	siteplan	varchar(100)	
7	plandetails	varchar(55)	
8	estimatedbudget	varchar(55)	
9	is_active	bool	
10	created_at	datetime	
11	updated_at	datetime	
12	plotimage	varchar(100)	
13	requirements	varchar(55)	
14	paymentstatus	bool	
15	paymentamount	Varchar(100)	

**6. Table Name : Wishlist**

Sl.No	Field	Data type	Constraints
1	id	integer	PRIMARY KEY
2	user_id	bigint	FOREIGN KEY
3	gender	varchar(55)	
4	housetname	varchar(55)	
5	post	varchar(55)	
6	pincode	varchar(55)	
7	place	varchar(55)	
8	district	varchar(55)	
9	landmark	varchar(55)	
10	idproof	varchar(100)	
11	phone	varchar(55)	
12	is_active	bool	
13	created_at	datetime	
14	updated_at	datetime	
15	age	varchar(55)	

**7. Table Name : client\_testimonials**

Sl.No	Field	Data type	Constraints
1	id	integer	PRIMARY KEY
2	user_id	bigint	FOREIGN KEY
3	testimonials	varchar(550)	
4	is_active	bool	
5	created_at	datetime	
6	updated_at	datetime	

**8. Table Name : Wishlist**

Sl.No	Field	Data type	Constraints
1	id	integer	PRIMERY KEY
2	user_id	bigint	FOREIGN KEY
3	is_active	bool	
4	created_at	datetime	
5	updated_at	datetime	

**9. Table Name: client\_wishlist\_architecture\_item**

Sl.No	Field	Data type	Constraints
1	id	integer	PRIMERY KEY
2	wishlist_id	bigint	FOREIGN KEY
3	Architecturegallery_id	bigint	FOREIGN KEY

**10. Table name: administrator\_architectimages**

Sl.No	Field	Data type	Constraints
1	id	integer	PRIMERY KEY
2	Planimage_id	bigint	FOREIGN KEY
3	is_active	bool	
4	created_at	datetime	
5	updated_at	datetime	
6	image	varchar(100)	

**11. Table Name: client\_wishlist\_contractor\_item**

Sl.No	Field	Data type	Constraints
1	id	integer	PRIMARY KEY
2	wishlist_id	bigint	FOREIGN KEY
3	contractorgallery_id	bigint	FOREIGN KEY

**12. Table Name: client\_wishlist\_exterior\_item**

Sl.No	Field	Data type	Constraints
1	id	integer	PRIMARY KEY
2	wishlist_id	bigint	FOREIGN KEY
3	exteriorgallery_id	bigint	FOREIGN KEY

**B****13. Table Name: client\_wishlist\_interior\_item**

Sl.No	Field	Data type	Constraints
1	id	integer	PRIMARY KEY
2	wishlist_id	bigint	FOREIGN KEY
3	interiorgallery_id	bigint	FOREIGN KEY

**14. Table Name: client\_wishlist\_architecture\_item**

Sl.No	Field	Data type	Constraints
1	id	integer	PRIMARY KEY
2	wishlist_id	bigint	FOREIGN KEY
3	Architecturegallery_id	bigint	FOREIGN KEY

**15.. Table Name : auth\_group\_permissions**

SL.No	Field	Data type	Constraints
1	id	integer	PRIMARY KEY
2	group_id	integer	FOREIGN KEY
3	permission_id	integer	FOREIGN KEY

**16. . Table Name : auth\_permissions**

SL.No	Field	Data type	Constraints
1	id	integer	PRIMARY KEY
2	content_type__id	integer	FOREIGN KEY
3	codename	varchar(100)	
	name	varchar(255)	

**17. Table Name : client\_rating**

SL.No	field	data type	constraints
1	id	integer	PRIMARY KEY
2	user_id	bigint	FOREIGN KEY
3	architect_item_id	bigint	FOREIGN KEY
4	contractor_item_id	bigint	FOREIGN KEY
5	exterior_item_id	bigint	FOREIGN KEY
6	interior_item_id	bigint	FOREIGN KEY
7	rating	varchar(100)	
8	is_active	bool	
9	created_at	datetime	
10	updated_at	datetime	

**18. Table Name : contractor\_contractorgallery**

SI.No	Field	Data type	Constraints
1	id	integer	PRIMARY KEY
2	user_id	bigint	FOREIGN KEY
3	style	varchar(55)	
4	size	varchar(55)	
5	designer	varchar(1000)	
6	contractor	varchar(55)	
7	category	varchar(50)	
8	budget	varchar(55)	
9	overallrating	varchar(55)	
10	is_active	bool	
11	created_at	datetime	
12	updated_at	datetime	

**19. Table Name : auth\_group**

SI.No	Field	Data type	Constraints
1	id	integer	PRIMERY KEY
2	name	Varchar(150)	

**20. Table Name : exterior\_exteriordesigneimages**

Sl.No	Field	Data type	Constraints
1	id	integer	PRIMARY KEY
2	designimage_id	bigint	FOREIGN KEY
3	is_active	bool	
4	created_at	datetime	
5	updated_at	datetime	
6	image	varchar(100)	

**21. Table Name: interior\_customizedplaninteriordesigner**

Sl.No	Field	Data type	Constraints
1	id	bigint	PRIMARYKEY
2	user	bigint	FOREIGN KEY
3	interiordesignerid	bigint	FOREIGN KEY
4	plotimage	varchar	
5	weathercondition	varchar	
6	budget	varchar	
7	requirements	varchar	
8	siteplan	varchar	
9	plandetails	varchar	
10	estimatedbudget	varchar	
11	paymentstatus	bool	
12	paymentamount	varchar	
13	is_active	bool	
14	created_at	datetime	



**22. Table Name : Customizedplanexteriordesigner**

Sl.No	Field	Data type	Constraints
1	id	integer	PRIMARY KEY
2	user_id	bigint	FOREIGN KEY
3	age	varchar(55)	
4	gender	varchar(55)	
5	houasename	varchar(55)	
6	post	varchar(55)	
7	pincode	varchar(55)	
8	place	varchar(55)	
9	district	varchar(55)	
10	landmark	varchar(55)	
11	idproof	varchar(100)	
12	phone	varchar(55)	
13	is_active	bool	
14	created_at	datetime	
15	updated_at	datetime	

**23. Table Name : contractor\_customizedplancontractor**

Sl.No	Field	Data type	Constraints
1	id	integer	PRIMARY KEY
2	user_id	bigint	FOREIGN KEY
3	contractorid	varchar(55)	FOREIGN KEY
4	plotimage	varchar(100)	
5	weathercondition	varchar(55)	
6	budget	varchar(55)	
7	requirements	varchar(55)	
8	plandetails	varchar(55)	
9	siteplan	varchar(100)	
10	estimatedbudget	varchar(55)	
11	paymentstatus	bool	
12	paymentamount	varchar(100)	
13	is_active	bool	
14	created_at	datetime	
15	updated_at	datetime	

**24. Table Name : exterior\_exteriordesignergallery**

Sl.No	Field	Data type	Constraints
1	id	integer	PRIMARY KEY
2	user_id	bigint	FOREIGN KEY
3	category	varchar(55)	
4	style	varchar(55)	
5	designer	varchar(1000)	
6	budget	varchar(55)	
7	overallrating	varchar(55)	
8	is_active	bool	
9	created_at	datetime	
10	updated_at	datetime	

**25. Table Name : ContractorImages**

Sl.No	Field	Data type	Constraints
1	id	integer	PRIMARY KEY
2	galleryimage_id	bigint	
3	image	Varchar(100)	
4	Is_active	bool	
5	Created_at	datetime	
6	Updated_at	datetime	

**26. Table Name : interior\_interiordesignergallery**

Sl.No	Field	Data type	Constraints
1	id	integer	PRIMARY KEY
2	user_id	bigint	FOREIGN KEY
3	category	varchar(50)	
4	style	varchar(55)	
5	designer	varchar(1000)	
6	budget	varchar(55)	
7	overallrating	varchar(55)	
8	is_active	bool	
9	created_at	datetime	
10	updated_at	datetime	

**27. Table Name : user\_userprofile\_groups**

Sl.No	Field	Data type	Constraints
1	id	bigint	PRIMARY KEY
2	userprofilr_id	bigint	FOREIGN KEY
3	group_id	integer	

**28. Table Name : exterior\_customizedplanexteriordesigner**

Sl.No	Field	Data type	Constraints
1	id	integer	PRIMARY KEY
2	user_id	bigint	FOREIGN KEY
3	exteriordesigner_id	bigint	FOREIGN KEY
4	plotimage	varchar(100)	
5	weathercondition	varchar(55)	
6	budget	varchar(55)	
7	requirements	varchar(55)	
8	siteplan	varchar(100)	
9	plandetails	varchar(55)	
10	estimatedbudget	varchar(55)	
11	paymentstatus	bool	
12	paymentamount	varchar(100)	
13	is_active	bool	
14	created_at	datetime	
15	updated_at	datetime	

**29. Table Name : user\_userProfile**

Sl.No	Field	Data type	Constraints
1	id	bigint	PRIMARY KEY
2	gender	varchar	
3	user_type	varchar	
4	mobile_no	varchar	
5	status	varchar	
6	is_active	bool	
7	Created_at	datetime	
8	Updated_at	datetime	

**30. Table Name : user\_tokens**

Sl.No	Field	Data type	Constraints
1	id	integer	PRIMARY KEY
2	user_id	bigint	FOREIGN KEY
3	key	varchar(40)	
4	created	datetime	
5	updated	datetime	
6	session_dict	text	

**31. Table Name : Customizedplancontractor**

Sl.No	Field	Data type	Constraints
1	id	integer	PRIMARY KEY
2	password	varchar(128)	
3	last_login	datetime	
4	is_superuser	bool	
5	username	varchar(150)	
6	first_name	varchar(150)	
7	last_name	varchar(150)	
8	email	varchar(254)	
9	is_staff	bool	
10	date_joined	datetime	
11	gender	varchar(10)	
12	user_type	varchar(30) NOT NULL	
13	mobile_no	varchar(30)	
14	is_active	bool	
15	created	datetime	
16	updated	datetime	
17	status	varchar(50)	

# **SYSTEM IMPLEMENTATION**



## SYSTEM IMPLEMENTATION

In the system implementation, the frontend development was conducted with Flutter, leveraging its versatile capabilities for cross-platform development. Using Visual Studio Code as our primary IDE for Flutter development, we ensured a streamlined workflow. We meticulously crafted the user interface according to Material Design principles, utilizing various Flutter widgets to deliver an intuitive and visually appealing experience. Integration with the Django backend was seamlessly achieved through Flutter's `http` package, enabling efficient communication with backend APIs. For state management, we relied on the Provider package, ensuring smooth propagation of changes throughout the app. Rigorous testing and debugging across multiple devices ensured compatibility and responsiveness.

On the backend, Django served as the robust foundation for our web application, offering a high-level Python web framework for rapid development and clean design. Python and Django were seamlessly integrated into our development workflow within PyCharm, providing a conducive environment for efficient coding. The project structure was established using the `django-admin` command-line tool, facilitating organized development. Views to handle incoming HTTP requests were implemented, and Django REST Framework was utilized for the seamless creation of RESTful APIs. MySQL was configured as the database backend, ensuring robust data management capabilities. Security measures were paramount, with Django's built-in authentication system enabling the implementation of secure access controls. Unit tests were meticulously crafted to validate Django views and APIs, with PyCharm's debugging tools aiding in issue resolution.

# **SYSTEM TESTING**

## SYSTEM TESTING

Testing is the major quality measure employed during software development. After the coding phase, computer programs are available that can be executed for testing purposes. Testing not only has to uncover errors introduced during coding but also locates errors committed during the previous phases. Thus, the aim of testing is to uncover requirements, design or coding in the program. System testing is an expensive but critical process that can take as much as fifty percent of the budget for program development. Consequential, different levels of testing are employed. In fact a successful test is one that finds an error. The system performance criteria deals with turnaround time backup, file protection and human factor. A test for the user acceptance should be carried out. The package developed was taken through different levels of testing and required modifications were made. Testing is a vital to the success of the system. System testing makes a logical assumption that if all parts of the system are correct, the goal will be successfully achieved. The following points show how testing is essential.

- Existence of program defects or inadequacies is inferred
- Verifies whether the software behaves as intended by its designer.
- Checks conformance with requirements specification/user needs.
- Assesses the operational reliability of the system.
- Test the performance of the system.
- Reflects the frequencies of actual user inputs.
- Find the fault which caused the output anomaly.
- Detect flaws and deficiencies in the requirements.
- Exercise the program using data like real data processed by the program.
- Test the system capabilities.

## TYPES OF TESTING

System testing is the state of implementation, which is aimed at ensuring that the system works accurately and efficiently before live operation commences. Testing is vital to the success of system. System testing makes a logical assumption that if all parts of the system are correct, the goal will be successfully achieved. The candidate system is subject to variety of tests.

- Unit Testing
- Integration Testing
- Validation Testing
- Input Testing
- Output Testing
- User Acceptance Testing

### Unit Testing

Unit testing focuses on the verification effort on the smallest unit of software design the software component module. Using the component level design as a guide, important control paths are tested to uncover the error within in the boundary of the module. The relative complexity of tests and uncovered error is limited by the constrained scope established for unittesting. Each module was tested individually and the errors are corrected.

### Integration Testing

Integration testing is a systematic technique for constructing the program structure while at the same time conducting test to uncover errors associated with interfacing. The objective is to take unit test components and build a program structure that has been dictated by design. Each module after unit testing were integrated and tested and errors were fixed.

## **Validation Testing**

Here the inputs are given by the user are validated. This is the password validation, format of date are correct, textbox validation. Changes that need to be done after result of this testing. While verification is quality control process, quality assurance process carried out before the software is ready for release is known as validation testing. Its goal is to validate and be confident about the software product or system, that fulfills the requirements given by the customer. The two major areas when it should take place are in the early stages of software development and towards the end, when the product is ready for release. In other words, it is acceptance testing which is a part of validation testing.

## **Input Testing**

Here system is tested with all verifiable combination of inputs. User may type data in situations like entering password, numerical details etc. The system is tested with all the cases and it responded error messages.

## **Output Testing**

After performing the validation testing, the next step is output testing of the proposed system, since no system could be useful if it does not produce the required output in the specific format. The output generator or displayed by the system under consideration is tested by asking the user about the format required by them. The output format on the screen is found to be correct as the format was designed in the system design phase according to the user needs. As far as hardcopies are considered it goes in term with the user requirement. Hence output testing does not result any correction in the system.

## **User Acceptance Testing**

User acceptance testing is done in presence of user. User acceptance of a system is the key factor for the success of any system. The system under consideration is tested for user acceptance by constantly in touch with the prospective system users at time of developing and making changes wherever is done in regard to the following points:

- Input screen design
- Output screen design
- Menu driven system

# **FUTURE ENHANCEMENT**

## **FUTURE ENHANCEMENT**

- Cameras added to the platform let users watch construction progress remotely, enhancing transparency. Advanced AI creates customized plans by analyzing user preferences and constraints.
- AI calculates area allowances and adjusts plans automatically to fit user-defined space constraints.
- AI optimizes construction schedules based on factors like resource availability and weather conditions, reducing delays.
- AI optimizes resource allocation, ensuring efficient use of materials and budget.
- AI provides accurate cost projections, improving cost transparency for users' projects.
- Predictive Maintenance Alerts: Using AI to predict potential maintenance issues and send alerts, helping homeowners address problems before they escalate.
- AI-Enhanced Interior Design Suggestions: AI algorithms providing personalized interior design recommendations based on user preferences and latest trends.
- Real-Time Financial Management Tools: Integrating real-time financial management tools to monitor expenses, track payments, and manage budgets throughout the construction process.

# **CONCLUSION**

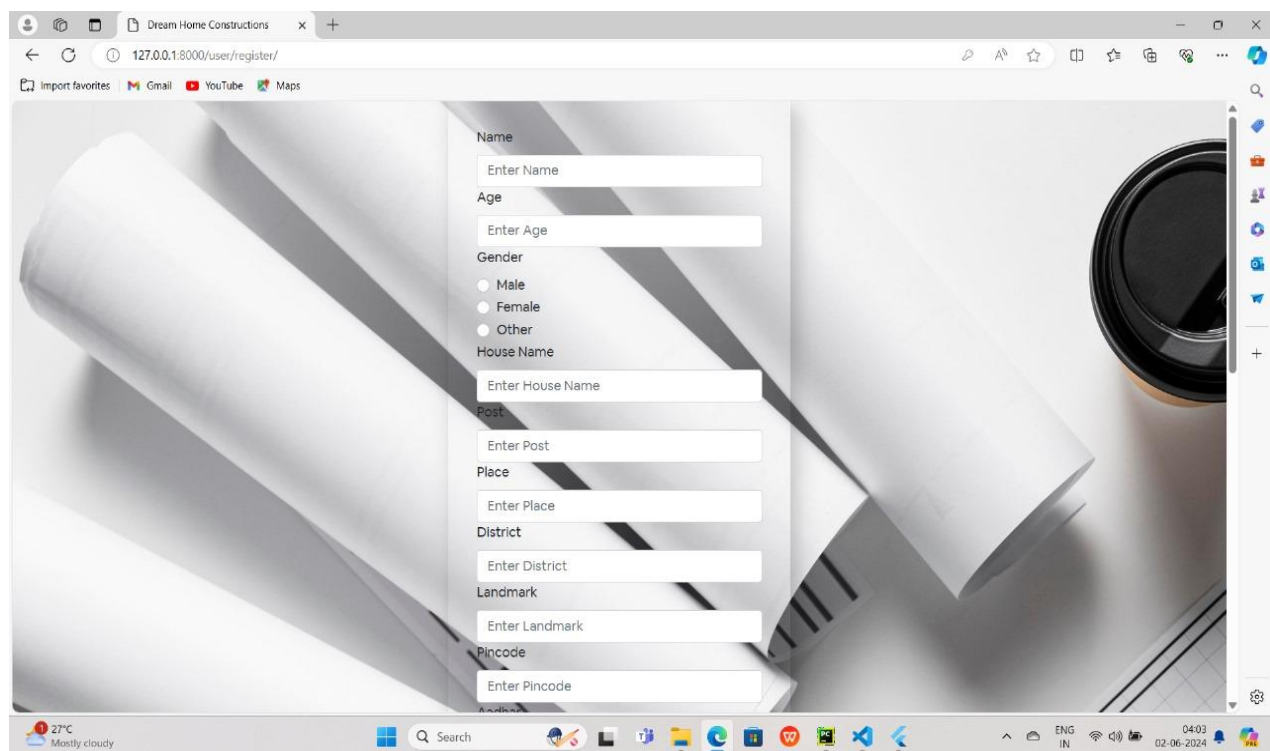
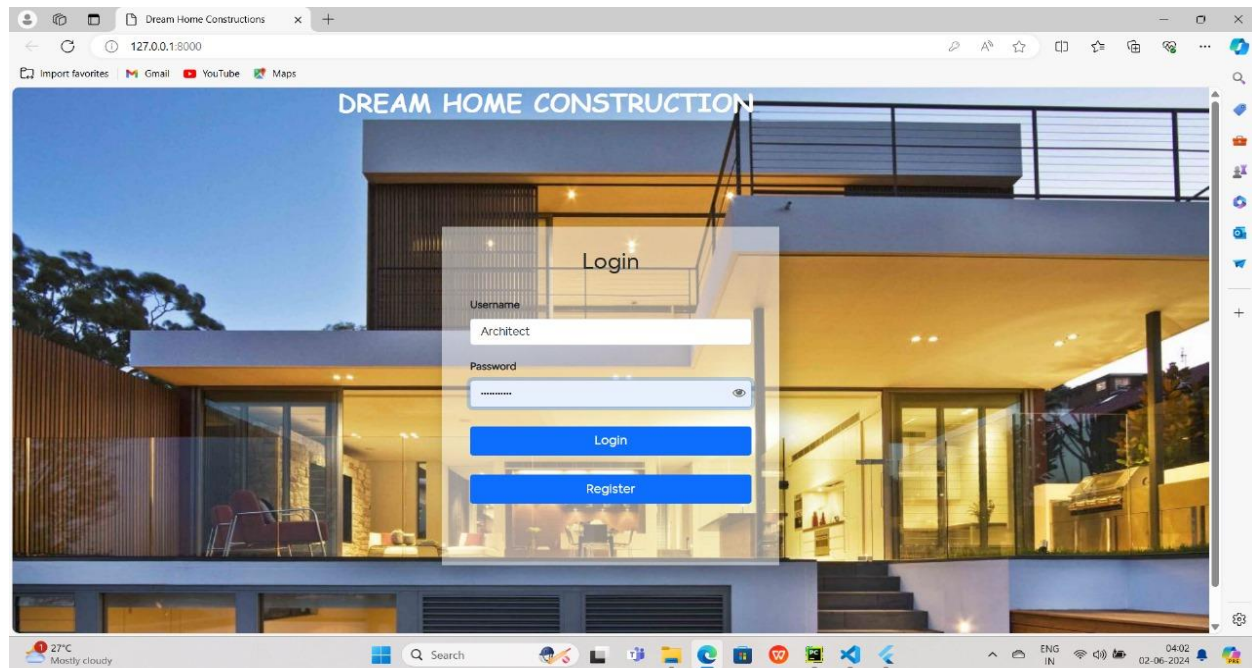


## **CONCLUSION**

In summary, the Dream Home Construction platform represents a paradigm shift in the realm of home construction, offering unparalleled ease, flexibility, and efficiency to property owners and investors alike. Its intuitive interface and diverse selection of pre-designed layouts have redefined the traditional process of home design and construction, empowering users to effortlessly manifest their dream homes. Through fostering seamless communication among users, designers, and contractors, the platform fosters a collaborative ecosystem built on transparency and trust. Ultimately, the Dream Home Construction platform serves as a beacon of innovation and technological advancement, exemplifying how modern solutions can simplify and democratize the journey of building one's dream home, making it more accessible and fulfilling than ever before.

# **APPENDIX**

## SCREENSHOTS



The screenshot shows a web browser window with the URL `127.0.0.1:8000/administrator/add-exterior/`. The page title is "Dream Home Construction". On the left, there is a sidebar menu with options: Home, Architect, Exterior designer (selected), Interior designer, Contractor, Clients, Feedbacks, and Rating. The main content area displays a search bar and a table of exterior designers. The table has columns: Name, Username, Age, Gender, House Name, Post, Place, District, Landmark, Pincode, ID Proof, Phone, Year of Experience, and Q. One record is visible for a user named "vijila n" with a profile picture. Below the table, it says "Showing 1 to 1".


Name	Username	Age	Gender	House Name	Post	Place	District	Landmark	Pincode	ID Proof	Phone	Year of Experience	Q
vijila n	vijila n	36	female	thazhetodi	calicut	France	kochi	ghhghgh	987654		9087650987	8	L Ai

The screenshot shows a web browser window with the URL `127.0.0.1:8000/administrator/view-reply/`. The page title is "Dream Home Construction". On the left, there is a sidebar menu with options: Home, Architect, Exterior designer, Interior designer, Contractor, Clients, Feedbacks (selected), and Rating. The main content area displays a search bar and a table of feedbacks. The table has columns: User and Feedback. There are 11 records listed.

User	Feedback
abcd	camera feature nice
abcd	friendly ui
abcd	house designs are beautiful
abcd	plans are excellent
abcd	wonderful designs
abcd	very good
abcd	excellent job
abcd	nice work
abcd	good experience
abcd	
abcd	nice work
abcd	

Dream Home Construction

Search


Name	Username	Age	Gender	House Name	Post	Place	District	Landmark	Pincode	ID Proof	Phone	Year of Experience
swathika	swathika	23	female	Athirfaj	amnlalh	hguhhb	wayanad	hgghgggsdss	899702		8281893748	4

Showing 1 to 1

26°C Sunny

Dream Home Construction

Search

Name	Username	Age	Gender	House Name	Post	Place	District	Landmark	Pincode	ID Proof	Phone	Year of Experience
sangeta m	sangeta	24	female	asdfg	calicut	calicut	calicut	gghhhhhhhhhh	654321		9544776790	4

Showing 1 to 1

26°C Sunny

Architect Home

Search

SI no	User	Plot Image	Requirements	Budget	Square Feet	Payment	Action
1	abcd		2000 sft	1lakh	2000	False	...

Showing 1 to 1

Architect Home

Search

+ Add New

SI no	User	Style	Size	Description	Category	Plan Image	Action
1		The Secret Garden	1500	The Secret Garden	apartments	<a href="#">View</a>	...
2		The Secret Garden	3000	The Secret Garden	apartments	<a href="#">View</a>	...
3		The Lost Ark	5500	The Lost Ark	apartments	<a href="#">View</a>	...
4		The Enchanted House	5500	The Enchanted House	shopping complex	<a href="#">View</a>	...
5		Odyssey Place	3500	Odyssey Place	shopping complex	<a href="#">View</a>	...
6		Dreamscapes	1500	Dreamscapes	shopping complex	<a href="#">View</a>	...
7		Supernova Suites	500	Supernova Suites	shopping complex	<a href="#">View</a>	...
8		Solarium Suites	4000	Solarium Suites	hospitals	<a href="#">View</a>	...
9		Nebulae Place	3000	Nebulae Place	hospitals	<a href="#">View</a>	...
10		Summit House	2000	Summit House	hospitals	<a href="#">View</a>	...
11		Lunar Lofts	1000	Lunar Lofts	hospitals	<a href="#">View</a>	...



Interior Home

Home  
View Profile  
**Customized Plan**  
Chat  
Gallery

Search

Sl no	User	Site Plan	Requirements	Budget	Weather Condition	Payment	Action
1	abcd		1500sft	1.5 lakh	sunny	False	...
2	abcd		hbidjcvdwbibweio	1200000	normal	True	...

Showing 1 to 2

27°C Mostly cloudy

Interior Home

Home  
View Profile  
Customized Plan  
Chat  
**Gallery**

Search

+ Add New

Sl no	User	Style	Description	Category	Design Image	Action
1	swathika	modern	traditional room	toilet	<a href="#">View</a>	...
2	swathika	traditional	traditional room	toilet	<a href="#">View</a>	...
3	swathika	modern	modern room	dining area	<a href="#">View</a>	...
4	swathika	traditional	traditional room	dining area	<a href="#">View</a>	...
5	swathika	traditional	traditional room	kids room	<a href="#">View</a>	...
6	swathika	modern	modern room	kids room	<a href="#">View</a>	...
7	swathika	modern	modern room	showrooms	<a href="#">View</a>	...
8	swathika	modern	modern room	showrooms	<a href="#">View</a>	...
9	swathika	traditional	traditional room	showrooms	<a href="#">View</a>	...
10	swathika	traditional	traditional liveroom	living area	<a href="#">View</a>	...
11	swathika	modern	special	living area	<a href="#">View</a>	...

27°C Mostly cloudy

Exterior Home

- Home
- View Profile
- Customized Plan
- Chat
- Gallery

Name vijila n  
Age 36  
Gender female  
House Name thazhetodi  
Post calicut  
Place France  
District kochi  
Landmark ghhghgh  
Pincode 987654

ID Proof

Certificate

Phone 9087650987  
Year of Experience 8  
Qualification Landscape Architecture

[Edit Profile](#)

Exterior Home

- Home
- View Profile
- Customized Plan
- Chat
- Gallery

Search

SI no	User	Site Plan	Requirements	Budget	Weather Condition	Payment	Action
1	abcd		1000 sft	2lakh	cold	False	...

Showing 1 to 1



The screenshot shows a web browser window with the address bar displaying '127.0.0.1:8000/exterior/add-exterior-gallery/'. The page title is 'Exterior Home'. On the left, there is a sidebar with navigation links: Home, View Profile, Customized Plan, Chat, and Gallery (which is highlighted). The main content area features a search bar and a table with the following data:

Sl no	User	Style	Description	Category	Design Image	Action
1	vijila n	traditional	city	home		<a href="#">View</a>
2	vijila n	new era	organic	corporate buildings		<a href="#">View</a>
3	vijila n	traditional	traditional	shopping complex		<a href="#">View</a>
4	vijila n	modern	nature	apartments		<a href="#">View</a>



Below the table, it says 'Showing 1 to 4' and '1' items are displayed. A '50' dropdown menu is visible at the bottom right of the table area. The Windows taskbar at the bottom shows the date as 02-06-2024 and the time as 04:59.

The screenshot shows a web browser window with the address bar displaying '127.0.0.1:8000/contractor/contractor-home/'. The page title is 'Contractor Home'. On the left, there is a sidebar with navigation links: Home (highlighted), View Profile, Customized Plan, Chat, and Gallery. The main content area features a large image of a modern living room with the text 'Welcome To Dream Home Construction' overlaid. The Windows taskbar at the bottom shows the date as 02-06-2024 and the time as 09:35.

Contractor Home

- Home
- View Profile
- Customized Plan
- Chat
- Gallery

Name sangeta m  
Age 24  
Gender female  
House Name asdfg  
Post calicut  
Place calicut  
District calicut  
Landmark gghhhhhhhh  
Pincode 654321

ID Proof   
Certificate   
Phone 9544776790  
Year of Experience 4  
Qualification Other

[Edit Profile](#)

Update

Name  
sangeta m

Age  
24

Gender  
☐ Male  
☐ Female  
☐ Other

House Name  
asdfg

Post  
calicut

Pincode  
654321

Place

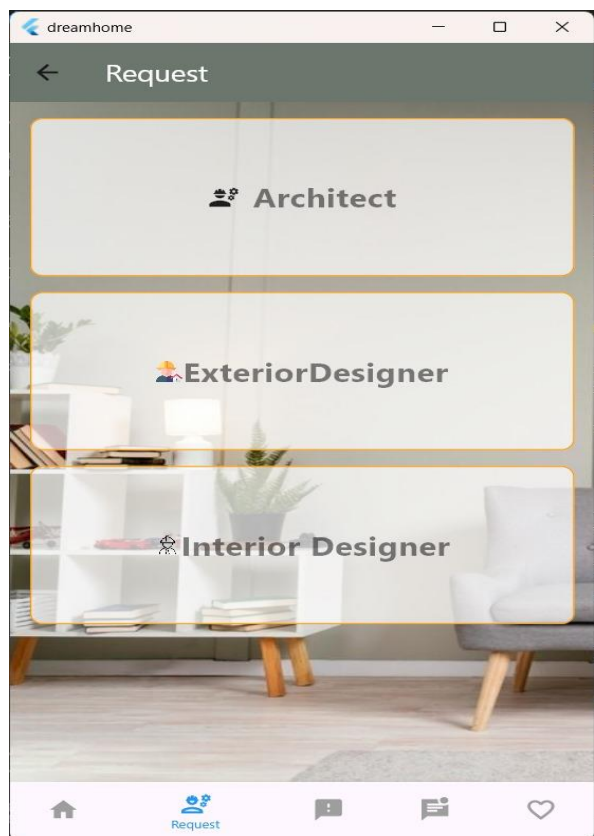
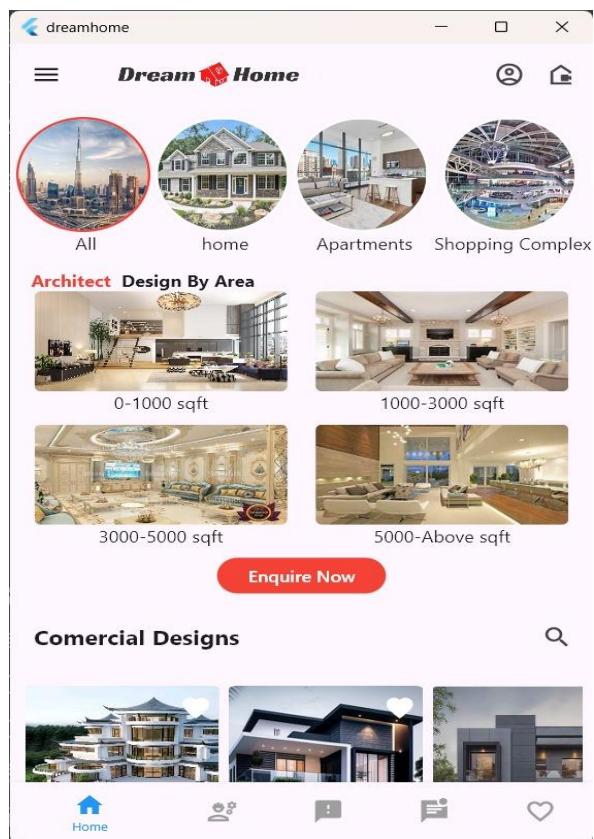
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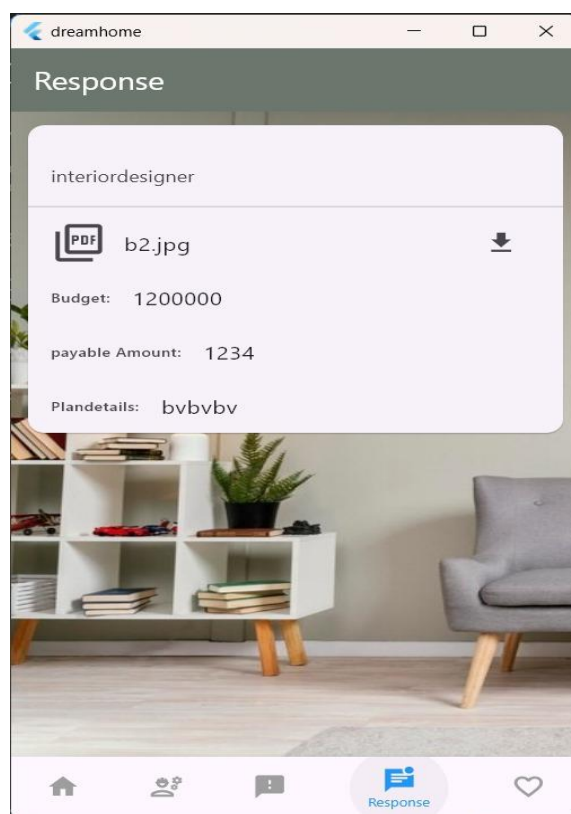
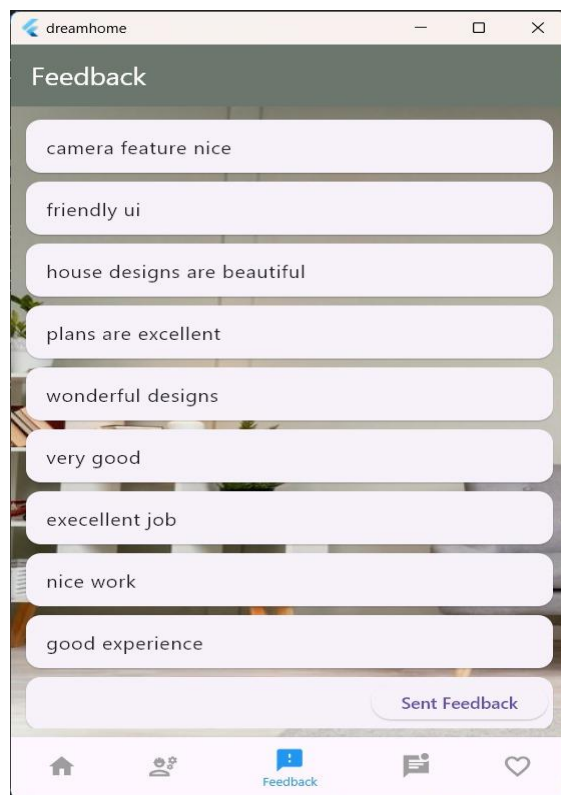
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3	abcd	1235698547	<a href="#">1235698547</a>

Showing 1 to 3





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