FEDERAL INSTITUTE OF SCIENCE AND TECHNOLOGY (FISAT)		

FEDERAL INSTITUTE OF SCIENCE AND TECHNOLOGY (FISAT)
DEPARTMENT OF COMPUTER APPLICATIONS
MAIN PROJECT
SCRUM BOOK

Name of the Student:AHALYA V L   **Roll No:11**   **Batch:A**

Email ID:ahalyavl24@gmail.com

Name of the Guide:Dr. Shidha M V

Name of the Scrum Master:Ms. Sona Mary Louis

Project Title:Astra Construction:Construction Management System

GitHub ID: https://github.com/Ahalyavl/Main-Project

Sprint Release #: 1

Date: 28-01-2025

Description of Work:
 • Conducted a detailed literature survey on construction project management: Researched industry-standard practices, tools, and frameworks to understand key main points and best practices in project execution. • Defined system architecture and user roles: Established a multi-role system including Customer, Contractor, Designer, Vendor, and Admin. Each role was assigned specific permissions and access levels. • Designed initial UI wireframes and finalized project workflow. • Set up the development environment with Flask (backend), MySQL (database), and React/Android (frontend). • Set up GitHub repository with proper branching strategies.
Remarks:

Name and Signature of the Guide   **Name and Signature of the Scrum Master**

Dr. Shidha M V   **Ms. Sona Mary Louis**

Sprint Release #:2

Date:12-02-2025

Description of Work:

• Developed User Management Module with secure authentication and authorization.
 	
• Implemented role-based access control for different user types: Defined distinct roles, including Users, Contractors, and Admins, and assigned specific access levels. Users could browse and submit project requests, contractors could review and approve designs,
 	
• Designed and integrated the Home Design Selection Module: Created a user-friendly interface where users could make selections based on their requirements. This included:
 	
  • Selecting house style, color, and square feet: Provided multiple customization options to let users tailor their homes to their preferences.
 	
  • Submitting preferred designs for contractor approval
 	
• Built interactive dashboards for users and admin.

Remarks:

Name and Signature of the Guide   **Name and Signature of the Scrum Master**

Dr. Shidha M V   **Ms. Sona Mary Louis**

Sprint Release #:3

Date:20-02-2025

Description of Work:

- Developed a Contractor Dashboard to efficiently manage user project requests.

- Implemented a Project Request Review System, enabling contractors to:

    - View design specifications submitted by users.

    - Generate and provide a construction cost estimate.

    - Send the estimate to users for review and approval.

    - Track user responses (accept/reject) and update project status accordingly.

- Designed an interactive user interface (UI) to displaying

    - Cost breakdowns.

    - Payment history (if user has approved and paid).

    - Work progress updates.

- Developed a Designer Management Module, enabling contractors to:

    - Add designers to the platform.

    - Designers manage categories,designs and plans.

Remarks:

Name and Signature of the Guide   **Name and Signature of the Scrum Master**

Dr. Shidha M V   **Ms. Sona Mary Louis**

Sprint Release#:4

Date:24-02-2025

Description of Work:
- Implemented Payment Module and material procurement features where: - Users can approve/reject estimates and make payment.   - Contractors can monitor payment history.   - Built a Material Procurement and Billing , allowing contractors to: - Purchase construction materials from shop.   - Contractors make payment to purchased materials.   - Shop issue itemized bills for purchased materials.   - Shop loads and delivers materials.   - Maintain a record of all purchased materials for cost tracking.   - Optimized database structure to store financial records securely.
Remarks:

Name and Signature of the Guide   **Name and Signature of the Scrum Master**

Dr. Shidha M V   **Ms. Sona Mary Louis**

Sprint Release#:5

Date:07-03-2025

Description of Work:

● Implemented Progress Tracking enabling:
 	
    ● Contractors to send real-time project updates to users.
 	
    ● Upload of photos and descriptions for completed tasks to keep users informed.
 	
● Developed an Admin Report Generation , providing insights into:
 	
    • Users who requested designs and their selected project specifications.
 	
    • Assigned contractors for each project.
 	
    • Payment details.
 	
● Conducted functional testing to ensure system stability.
 	
● Fixed bugs and UI inconsistencies in various modules.
 	
● Optimized database queries and API performance.
 	
● Completed final project documentation.
 	
● Deployed the Astra Construction platform for end-user access.

Remarks:

Name and Signature of the Guide   **Name and Signature of the Scrum Master**

Dr. Shidha M V   **Ms. Sona Mary Louis**

Date: 12-03-2025

PRODUCT BACKLOG

➢ **User Registration & Authentication**

- User Registration – Users can create accounts (Customers, Contractors, Designers, Vendors, Admin).
- User Login & Authentication – Secure authentication with password hashing and session management.
- Role-Based Access Control – Define access levels for Customers, Contractors, Designers, Vendors, and Admins.

➢ **Home Selection & Project Request**

- Home Type Selection – Users select whether they want to renovate or build a new home.
- Home Design Selection – Users choose house styles, colors, and square feet.
- Project Request Submission – Users submit their project requests to contractors.

➢ **Contractor & Designer Management**

- Contractor Dashboard – Contractors can manage incoming project requests.
- Designer Management – Contractors can add designers to the platform.
- Design Upload & Management – Designers upload and categorize their home designs.

➢ **Cost Estimation & Approval**

- Estimate Generation – Contractors provide construction cost estimates based on user selections.
- User Estimate Review – Users can review, accept, or reject the estimate.
- Contractor Approval Management – Contractors track user responses and update project status.

➢ **Payment Module**

- Payment Processing – Users can make payments for approved estimates.
- Payment History – Users and contractors can view transaction history.
- Financial Record Storage – Secure storage and tracking of all transactions.

> ➤ **Material Procurement**

- Material Purchase System – Contractors can purchase construction materials from vendors.
- Billing System – Vendors generate itemized bills for purchased materials.
- Material Delivery Management – Shops handle material loading and delivery.

- Procurement Cost Tracking – Maintain a record of all purchased materials.

> ➤ **Progress Tracking & Updates**

- Real-time Project Updates – Contractors send work progress updates to users.
- Photo & Description Uploads – Contractors upload images and details of completed work.

> ➤ **Admin Dashboard & Reports**
- Report on user project requests, assigned contractors,design, approval status.
- Visual analytics including work progress graphs based on work update dates and progress percentage.
- Daily sales rate tracking with graphs showing the amount paid over time.

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Dr. Shidha M V   **Ms. Sona Mary Louis**

Date: 13-03-2025

DATABASE & UI DESIGN

DATABASE

Login & Role Management

Field Name	Data Type	Description
login_id	INT (PK, Auto-Increment)	Unique login identifier
username	VARCHAR(100)	User's unique username
password	VARCHAR(100)	Encrypted password (hashed)
usertype	VARCHAR(100)	Role: Admin, Customer, Contractor, Shop

Contractor Table

Field Name	Data Type	Description
contractor_id	INT (PK, Auto-Increment)	Unique identifier for contractors
login_id	INT (FK)	References the `login` table
fname	VARCHAR(100)	First name of the contractor
lname	VARCHAR(100)	Last name of the contractor
place	VARCHAR(100)	Location of the contractor
phone	VARCHAR(100)	Contact number
email	VARCHAR(100)	Contractor's email address
aadhar	VARCHAR(100)	Aadhar ID for verification

Customer Table

Field Name	Data Type	Description
customer_id	INT (PK, Auto-Increment)	Unique identifier for customers
login_id	INT (FK)	References the `login` table
fname	VARCHAR(100)	First name of the customer
lname	VARCHAR(100)	Last name of the customer
place	VARCHAR(100)	Customer's location
phone	VARCHAR(100)	Contact number
email	VARCHAR(100)	Customer's email address
aadhar	VARCHAR(100)	Aadhar ID for verification

Designs Table

Field Name	Data Type	Description
design_id	INT (PK, Auto-Increment)	Unique design identifier
contractor_id	INT (FK)	References the `contractor` table
designname	VARCHAR(100)	Name of the design
details	VARCHAR(100)	Design description/details

Design Requests Table

Field Name	Data Type	Description
drequest_id	INT (PK, Auto-Increment)	Unique design request ID
customer_id	INT (FK)	References the `customer` table
design_id	INT (FK)	References the `designs` table
req_date	VARCHAR(100)	Date of request
req_status	VARCHAR(100)	Status: pending/approved/rejected/paid

Estimate Table

Field Name	Data Type	Description
estimate_id	INT (PK, Auto-Increment)	Unique estimate ID
drequest_id	INT (FK)	References `designrequest` table
est_type	VARCHAR(100)	Type of estimate
est_amount	VARCHAR(100)	Estimated project cost
est_date	VARCHAR(100)	Date of estimate
est_status	VARCHAR(100)	Status: pending/approved/paid

Payment Table

Field Name	Data Type	Description
payment_id	INT (PK, Auto-Increment)	Unique payment ID
estimate_id	INT (FK)	References the `estimate` table
pay_amount	VARCHAR(100)	Payment amount
pay_date	VARCHAR(100)	Date of payment

Material Procurement & Raw Materials Table

Field Name	Data Type	Description
material_id	INT (PK, Auto-Increment)	Unique material ID
shop_id	INT (FK)	References `shop` table
raw_name	VARCHAR(100)	Name of raw material
raw_details	VARCHAR(100)	Description of the material
raw_rate	VARCHAR(100)	Price per unit

Raw Material Request Table

Field Name	Data Type	Description
rrequest_id	INT (PK, Auto-Increment)	Unique material request ID
drequest_id	INT (FK)	References the `designrequest` table
material_id	INT (FK)	References `raw_materials` table
rr_status	VARCHAR(100)	Status of material request (Pending/Delivered)
contractor_id	INT (FK)	References `contractor` table

Shop Table

Field Name	Data Type	Description
shop_id	INT (PK, Auto-Increment)	Unique shop ID
login_id	INT (FK)	References `login` table
shop	VARCHAR(100)	Shop name
place	VARCHAR(100)	Location
phone	VARCHAR(100)	Contact number
email	VARCHAR(100)	Shop email

Feedback Table

Field Name	Data Type	Description
feedback_id	INT (PK, Auto-Increment)	Unique feedback ID
customer_id	INT (FK)	References `customer` table
feedback	VARCHAR(100)	User feedback
feed_date	VARCHAR(100)	Date of feedback

UI DESIGN

Home Page
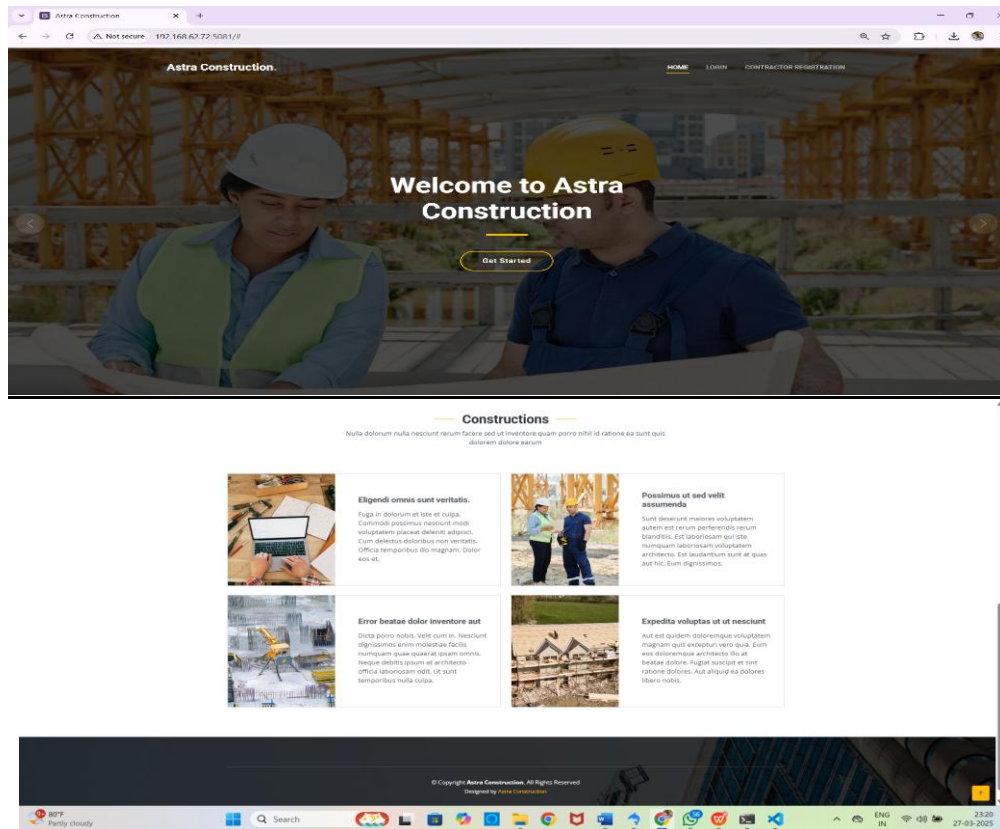
Admin Dashboard
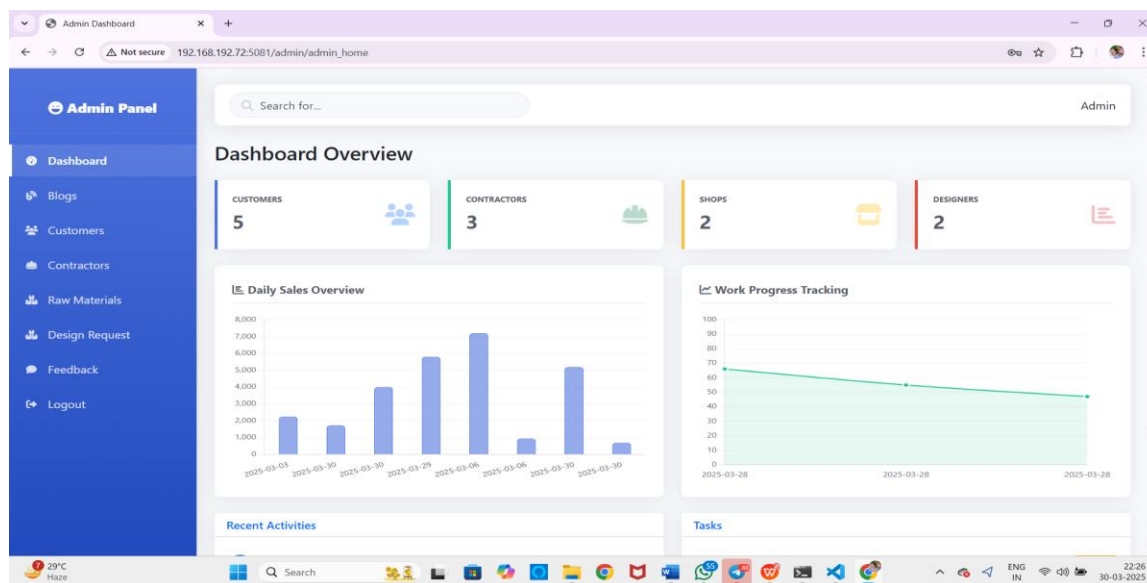
Admin Report
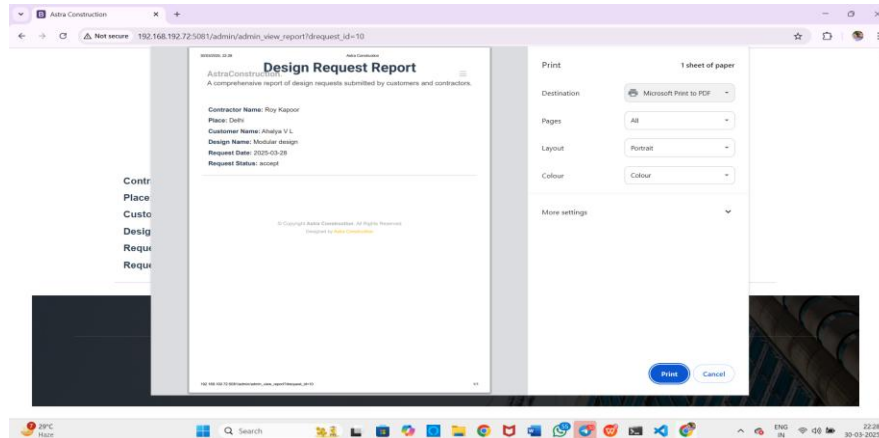
Contractor Registration Page
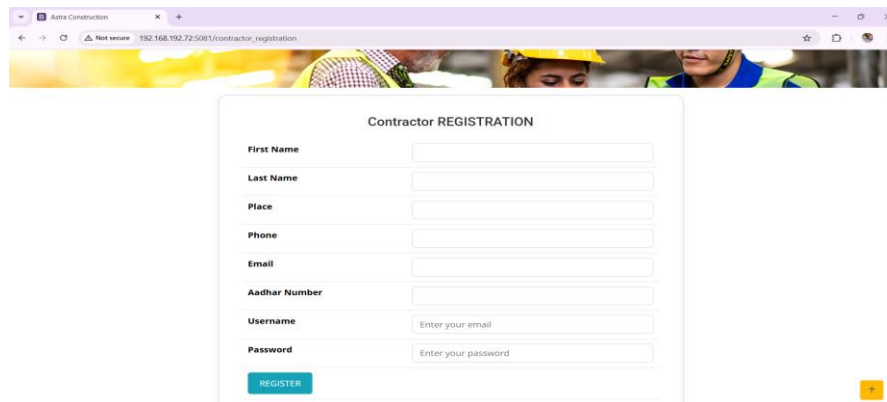
Contractor Manage Designers
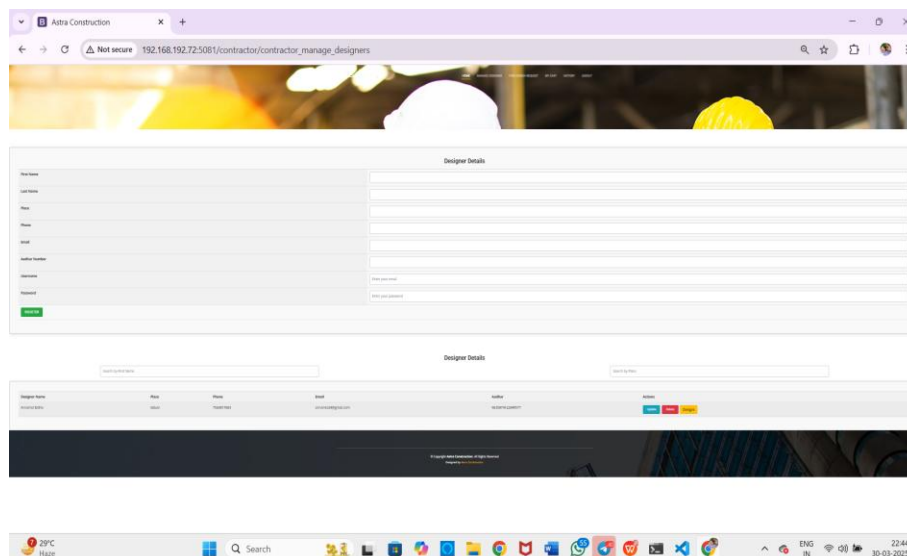
# Designer Manage Design and Plans

Contractor View Design Request

Construction Cost Estimation

Send Estimate

Work Updates

Shop

Purchased Material bill


User Login
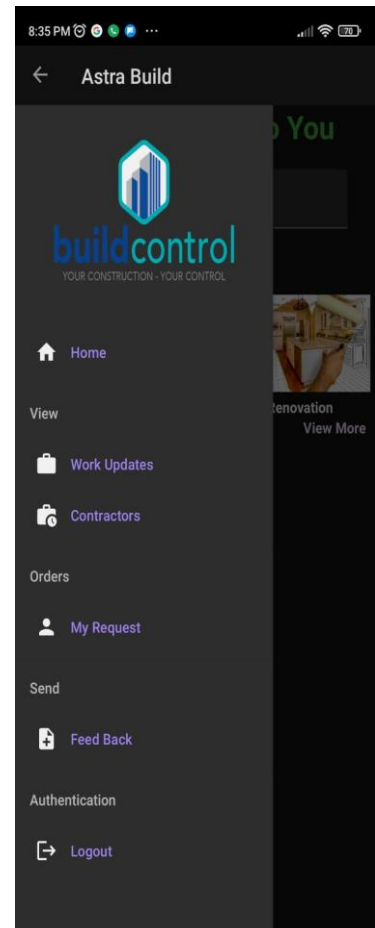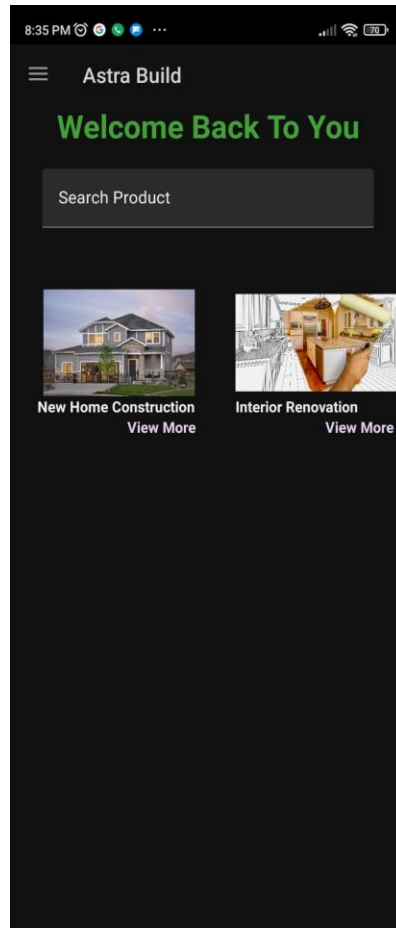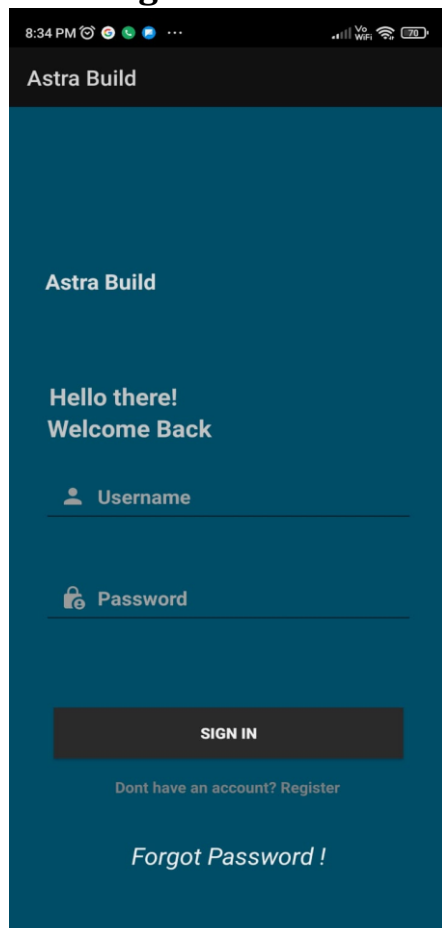
Design and Plans
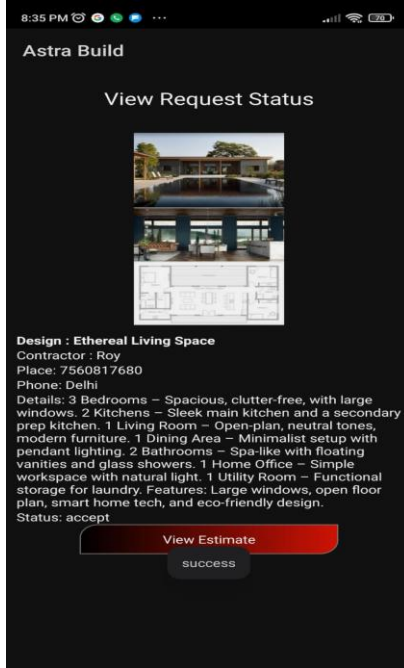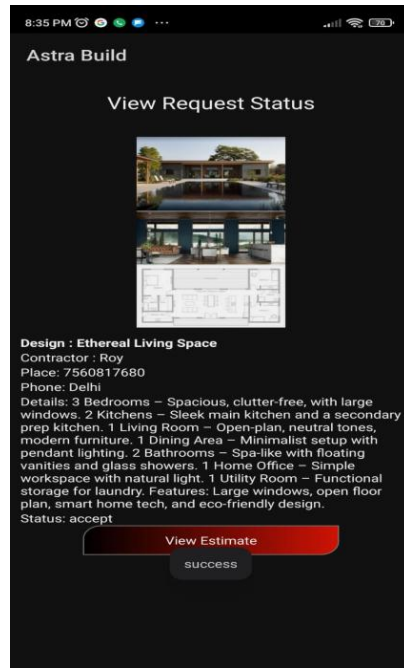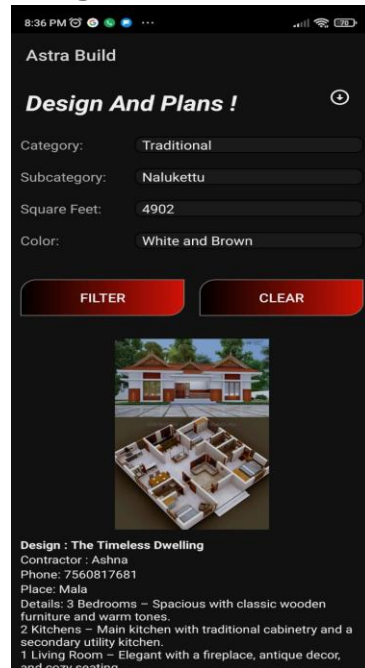
Work Updates
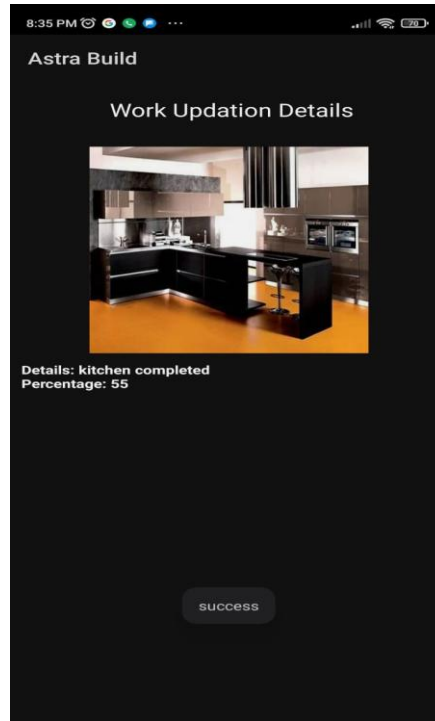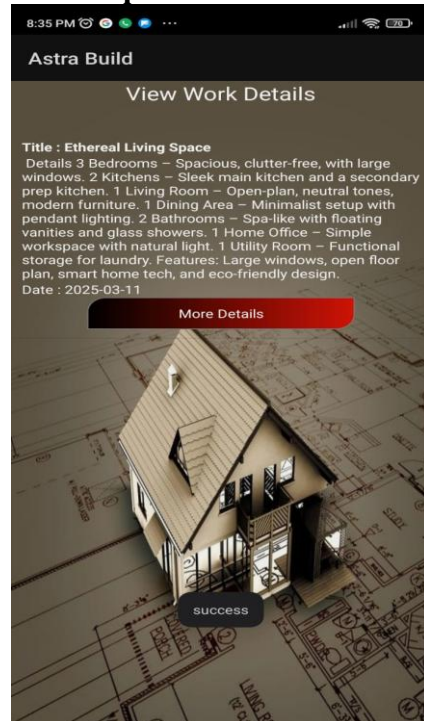
Name and Signature of the Guide: **Name and Signature of the Scrum Master**

 Dr. Shidha M V   **Ms. Sona Mary Louis**

Date:

TESTING AND VALIDATION

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 Dr. Shidha M V   **Ms. Sona Mary Louis**

Date: 14-03-2025

DETAILS OF VERSIONS

GitHub Repository: https://github.com/Ahalyavl/Main-Project

Version: 1.0.0 – Initial Release

Sprint Time: Sprint 1 (2 weeks)

Push Description:

Conducted a detailed literature survey on construction project management. Researched industry-standard practices, tools, and frameworks to identify key pain points and best practices. Defined the system architecture, established user roles (Customer, Contractor, Designer, Vendor, Admin), and designed initial UI wireframes. Set up the development environment using Flask (backend), MySQL (database), and React/Android (frontend). Created a GitHub repository with proper branching strategies.

Features:

- System Architecture & User Roles – Defined roles for Customers, Contractors, Designers, Vendors, and Admins.
- UI Wireframes & Project Workflow – Designed the basic wireframe layout for the platform.
- Development Environment Setup – Flask (backend), MySQL (database), React/Android (frontend).

Version: 1.1.0 – Sprint 2

Sprint Time: Sprint 2 (2 weeks)

Push Description:

Expanded platform functionalities by integrating user authentication, home selection, and project request submission. Developed a secure login system with role-based access control and implemented a dashboard for user interactions.

Features:

- User Registration & Authentication – Secure authentication with password hashing and session management.
- Role-Based Access Control (RBAC) – Permissions for Customers, Contractors, Designers, Vendors, and Admins.
- Home Selection Module – Users can select renovation or new construction, choose house styles, colors, and square feet.
- Project Request Submission – Users submit project requests to contractors.
- Interactive Dashboards – Designed dashboards for users and admin.

Version: 1.2.0 – Sprint 3

Sprint Time: Sprint 3 (2 weeks)

Push Description:

Enhanced project request and contractor functionalities. Developed a dedicated Contractor Dashboard, enabling streamlined project management. Introduced a Designer Management Module for contractor-driven designer onboarding and design submissions. Implemented a Project Cost Estimation System for better financial planning.

Features:

- Contractor Dashboard – Contractors can manage incoming project requests.
- Designer Management Module – Contractors can add designers and manage their designs.
- Estimate Generation – Contractors can provide cost estimates based on user selections.
- User Estimate Review – Users can accept or reject estimates, enabling decision-making.
- Project Status Tracking – Contractors can track user responses and update project progress.

Version: 1.3.0 – Sprint 4

SprintTime: Sprint 4 (2 weeks)

Push Description:

Integrated payment processing and material procurement into the system. Users can approve contractor estimates and make payments, while contractors can track transactions

and purchase necessary construction materials. A Billing System was also introduced for proper financial management.

Features:

- Payment Module – Users can approve/reject estimates and make secure payments.
- Payment History Tracking – Both users and contractors can view their financial transactions.
- Material Procurement System – Contractors can purchase construction materials from vendors.
- Billing System – Vendors generate itemized bills for purchased materials.
- Material Delivery Tracking – Shops manage material loading and delivery logistics.

Version: 1.4.0 – Sprint 5

Sprint Time: Sprint 5 (2 weeks)

Push Description:

Implemented project progress tracking, admin reporting, and system optimizations. Contractors can now send real-time updates with work progress images and descriptions. Admins have access to detailed project reports and visual analytics showcasing work progress and financial trends.

 Features:

- Real-Time Project Updates – Contractors send work progress updates to users.
- Photo & Description Uploads – Work images and descriptions for tracking.
- Admin Dashboard & Reports – Insights into user requests, assigned contractors, and approval statuses.
- Work Progress Analytics – Graphs based on work update dates and percentage completion.
- Daily Sales Tracking – Visual analytics displaying payments over time.
- System Optimization – Improved database efficiency and API response time.

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