



**Department of Networking and  
Communications SRM IST, Kattankulathur –  
603 203**

**Course Code: 18CSC206J**

**Course Name: Software Engineering and Project Management**

|                            |   |
|----------------------------|---|
| <b>Experiment No</b>       | 1   |
| <b>Title of Experiment</b> | To identify the Software Project, Create Business Case, Arrive at a Problem Statement |
| <b>Team Lead</b>           | Haripreeth Dwarakanath Avarur   |
| <b>Team Members</b>        | Haripreeth, Aditi, Sanjay G   |
| <b>Register Number</b>     | RA2011003010011, RA2011003010004, RA2011003010022                                     |
| <b>Date of Experiment</b>  | 17.03.2022  |

**Mark Split Up**

| S.No         | Description | Maximum Mark | Mark Obtained |
|--------------|-------------|--------------|---------------|
| 1            | Exercise    | 5            |               |
| 2            | Viva        | 5            |               |
| <b>Total</b> |             | <b>10</b>    |               |

**Staff Signature:**

**Date:**

**Aim:**

To Frame a project team, analyze and identify a Software project. To create a business case and implement the project.

**Team Members:**

| S. No | Register No     | Name                          | Role     |
|-------|-----------------|-------------------------------|----------|
| 1     | RA2011003010011 | Haripreeth Dwarakanath Avarur | Lead/Rep |
| 2     | RA2011003010004 | Aditi                         | Member   |
| 3     | RA2011003010022 | Sanjay G                      | Member   |

**Project Title: Rentaza: Portal for affordable Housing****Project Description:**

With Rentaza, students and working professionals can find an affordable housing. Rentaza provides users with direct access to landlords and brokers.

We as a team are building a mobile-application to aid users to get easy access to buy or rent apartment flats. The app will list the best flats for sale and for rent, so the users get the liberty to choose the best.

Information to contact the landlords or flat owners will be provided directly; this avoids the unnecessary and often irritable communication between middle men like brokers.

Join the ever-growing Rentaza family today for hassle free process.

The application will be built on Flutter for front-end and the language used in the back-end will be Firebase.

**Result:**

Thus, the project team formed, the project is described, the business case was prepared and the problem statement was arrived.



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|                            |   |
|----------------------------|---|
| <b>Experiment No</b>       | 2   |
| <b>Title of Experiment</b> | Identification of Process Methodology and Stakeholder Description |
| <b>Team Lead</b>           | Haripreeth Dwarakanath Avarur                                     |
| <b>Team Members</b>        | Haripreeth, Aditi, Sanjay G                                       |
| <b>Register Number</b>     | RA2011003010011, RA2011003010004, RA2011003010022                 |
| <b>Date of Experiment</b>  | 24.03.2022  |

### Mark Split Up

| S.No         | Description | Maximum Mark | Mark Obtained |
|--------------|-------------|--------------|---------------|
| 1            | Exercise    | 5            |               |
| 2            | Viva        | 5            |               |
| <b>Total</b> |             | <b>10</b>    |               |

**Staff Signature with date**

**Aim:**

To identify the appropriate Process Model for the project and prepare Stakeholder and User Description.

**Team Members:**

| Sl. No. | Register No     | Name                          | Role       |
|---------|-----------------|-------------------------------|------------|
| 1       | RA2011003010011 | Haripreeth Dwarakanath Avarur | Rep/Member |
| 2       | RA2011003010004 | Aditi                         | Member     |
| 3       | RA2011003010022 | Sanjay G                      | Member     |

**Project Title: Rentaza: Portal for affordable Housing****Selection of Methodology:**

- The Waterfall model refers to a cascading waterfall. It's the earliest of all software development methodologies. It's a linear sequential flow: when one stage is completed, the work is started on the subsequent stage.
- Advantages of Iterative Waterfall Model:
  1. Simple and easy to understand and use
  2. Easy to manage due to the rigidity of the model.
  3. Each phase has specific deliverables and a review process.
  4. Phases are processed and completed one at a time.
  5. Works well for smaller projects where requirements are very well understood.
  6. Clearly defined stages. Well understood milestones.
  7. Easy to arrange tasks. Process and results are well documented.

Incorporate information to below table regarding stakeholders of the project  
 [Make use of below examples]

|                      | Stakeholder Name   | Activity/ Area/ Phase  | Interest            | Influence / Role      | Priority (High/ Medium/ Low) |
|----------------------|--------------------|--|---------------------|-----------------------|------------------------------|
| Internal Stakeholder | CEO                | Making important decisions for the company                                 | Positive Influencer | Decision Maker        | High                         |
|                      | Group Managers     | Monitoring various teams   | Positive Supporter  | Collaborator          | Medium                       |
|                      | Employees          | Development (Front end and back end), testing of the software              | Positive Supporter  | Developer             | Medium                       |
|                      | Investors          | Providing funds and resources  | Positive Supporter  | Financial Support     | High                         |
| External Stakeholder | Corporate Customer | Interest in buying the software/application for their respective business. | Positive / Negative | Participant           | High                         |
|                      | Advertising Agency | Advertisement for our services   | Positive            | Advertiser, Supporter | Low                          |

**For Example:**

| Stakeholder Name                      | Activity / Area / Phase       | Interest | Influence | Priority (High / Medium/Low) |
|---------------------------------------|-------------------------------|----------|-----------|------------------------------|
| Regional Head of Sales & Marketing    | Subscription using mobile App | High     | High      | 1                            |
| Finance Account Receivable consultant | Multiple Currency Payment     | High     | Low       | 3                            |

### Interest and Influence matrix

| Interest | Influence |
|----------|-----------|
| High     | High      |
| Low      | Low       |
| Low      | High      |
| High     | Low       |

| Stakeholder      | Interests   | Estimated Project Impact | Estimated Priority |
|------------------|---|--------------------------|--------------------|
| Owner            | Achieve targets, Increase sales margin  | High                     | 1                  |
| Sponsor          | Provides new market to expand ventures<br>Negotiate funding for project<br>Reviews changes to project environments. | Med                      | 3                  |
| Team members     | Demand incentives<br>Retain and upgrade skills<br>New product excitement  | High                     | 2                  |
| Project Manager  | Lead the team in every aspect.<br>Accountable for entire project scope, team, success & failure                     | High                     | 2                  |
| Investors        | Promoter of the investment,<br>Provides necessary financial resources   | Low                      | 5                  |
| Resource Manager | Resource planning and allocation.<br>Ensuring adequate resource according to project needs and budget.              | Med                      | 4                  |
| Suppliers        | Ensuring feasible and realistic in every aspect<br>Managing divergence from budgeted cost.                          | Med                      | 6                  |
| End Users        | Provides feedback   | Low                      | 7                  |

### Result:

The Project Methodology was identified and the stakeholders were described.



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|                            |   |
|----------------------------|---|
| <b>Experiment No</b>       | 3   |
| <b>Title of Experiment</b> | System, Functional and Non-Functional Requirements of the Project |
| <b>Team Lead</b>           | Haripreeth Dwarakanath Avarur                                     |
| <b>Team Members</b>        | Haripreeth, Aditi, Sanjay G                                       |
| <b>Register Number</b>     | RA2011003010011, RA2011003010004, RA2011003010022                 |
| <b>Date of Experiment</b>  | 31.03.2022  |

### Mark Split Up

| S.No         | Description | Maximum Mark | Mark Obtained |
|--------------|-------------|--------------|---------------|
| 1            | Exercise    | 5            |               |
| 2            | Viva        | 5            |               |
| <b>Total</b> |             | <b>10</b>    |               |

**Staff Signature with date**

## Aim

To identify the system, functional and non-functional requirements for the project.

## Team Members:

| S No | Register No     | Name                          | Role       |
|------|-----------------|-------------------------------|------------|
| 1    | RA2011003010011 | Haripreeth Dwarakanath Avarur | Rep/Member |
| 2    | RA2011003010004 | Aditi                         | Member     |
| 3    | RA2011003010022 | Sanjay                        | Member     |

## Project Title: RENTAZA: PORTAL FOR AFFORDABLE HOUSING

## System Requirements:

Developing the mobile application, we have found the requirements needed for building the app are:

1. Android Studio
2. Flutter
3. Windows 10 and above supported applications
4. An API  
or
5. Flutter Flow (all in one application of the above 4 points)

## Functional Requirements:

These are statements of services the system should provide, how the system should react to particular inputs, and how the system should behave in particular situations. It specifies the application functionality that the developers must build into the product to enable users to accomplish their tasks.

### 1) PREFERENCE-BASED SEARCH

- The system must allow the user to create a dedicated account to search properties based on their preferences.
- The system must view different housing based on different search categories.
- The system shall allow the customers to cancel their booking or change their preferences.
- The system must be able to display a detailed summary for successfully committed bookings.

### 2) HOUSING

- The system should allow clients to check properties.
- The system shall allow both client parties to update and track information on the property.

### 3) DATABASE

- The system shall allow users to maintain individual databases.

## **Non-Functional Requirements**

Non-functional requirements, as the name suggests, are requirements that are not directly concerned with the specific services delivered by the system to its users. They may relate to emergent system properties such as reliability, response time, and store occupancy.

Alternatively, they may define constraints on the system implementation such as the capabilities of I/O devices or the data representations used in interfaces with other systems. Non-functional requirements, such as performance, security, or availability, usually specify or constrain the characteristics of the system as a whole.

- USABILITY
- SECURITY
- PERFORMANCE
- AVAILABILITY

## **Result:**

Thus, the requirements were identified and accordingly described.



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|                            |   |
|----------------------------|---|
| <b>Experiment No</b>       | 4   |
| <b>Title of Experiment</b> | Prepare Project Plan based on scope, Calculate Project effort based on resources and Job roles and responsibilities |
| <b>Team Lead</b>           | Haripreeth Dwarakanath Avarur   |
| <b>Team Members</b>        | Haripreeth, Aditi, Sanjay   |
| <b>Register Number</b>     | RA2011003010011, RA2011003010022, RA2011003010004   |
| <b>Date of Experiment</b>  | 07.04.2022  |

### Mark Split Up

| S.No         | Description | Maximum Mark | Mark Obtained |
|--------------|-------------|--------------|---------------|
| 1            | Exercise    | 5            |               |
| 2            | Viva        | 5            |               |
| <b>Total</b> |             | <b>10</b>    |               |

**Staff Signature with date**

## Aim

To Prepare Project Plan based on scope, Calculate Project effort based on resources, Find Job roles and responsibilities

## Team Members:

| SI No | Register No     | Name                          | Role   |
|-------|-----------------|-------------------------------|--------|
| 1     | RA2011003010011 | Haripreeth Dwarakanath Avarur | Lead   |
| 2     | RA2011003010022 | Sanjay G                      | Member |
| 3     | RA2011003010004 | Aditi                         | Member |

## Tentative Project Timeframe:

- Flutter – (20.4.22 – 1.5.22)  
Learn To use and practice Flutter using Dart and Android Studio May 1<sup>st</sup>
- Android Studio- (1.5.22 – 14.5.22)  
Implement our practices on Android Studio May 14<sup>th</sup>
- Make a Demo- (14.5.22 – 31.5.22)  
May 31<sup>st</sup>
- Error Detection and Resolve- (31.5.22 – 5.6.22) June 5<sup>th</sup>
- Final Project- (5.6.22 – 15.6.22) June 15<sup>th</sup>

## Final Project Timeframe (Edited: 20.06.2022)

- Learning Basics of Flutter:  
It took longer than anticipated to learn this. (20.4.22 – 25.5.22)
- Practicing our Understanding on Android Studio:  
(25.5.22 – 31.5.22)
- Exposure to Flutter Flow:  
Due to the delay of our project, we decided to change to Flutter Flow to finish our project in due time. (1.6.22 – 8.6.22)
- Make A demo:  
(9.6.22 – 13.6.22)

## Result:

Thus, the Project Plan was documented successfully.

## 1. Project Management Plan

Describe the key issues driving the project. [Min 3 Focus Areas]

| Focus Area               | Details   |
|--------------------------|---|
| Integration Management   | Governance Framework<br>Project Team Structure<br>Roles & Responsibilities of Team<br>Change Management<br>(Change Control, Issue Management)<br>Project Closure  |
| Scope Management         | Scope Statement<br>Requirement Management (Gathering, Control, Assumption, Constraint Stakeholder)<br>Define Deliverable<br>Requirement Change Control<br>Activities and Sub-Tasks  |
| Schedule Management      | Define Milestones<br>Schedule Control   |
| Cost Management          | Estimate Effort<br>Assign Team<br>Budget Control  |
| Quality Management       | Quality Assurance: Quality assurance will be managed including governance, roles and responsibilities, tools and techniques and reporting<br>Quality Control: Specify the mechanisms to be used to measure and control the quality of the work products |
| Resource Management      | Estimate and Manage the need<br>People: People & Skills Required<br>Finance: Budget Required<br>Physical: Facilities, IT Infrastructure   |
| Stakeholder              | Identifying, Analyzing, Engaging Stakeholders   |
| Communication Management | Determine communication requirements, roles and responsibilities, tools and techniques. [Type of Communication, Schedule, Mechanism Recipient]  |
| Risk Management          | Identifying, analysing, and prioritizing project risks  |
| Procurement Management   | Adhering to organization procurement process  |

## 2. Estimation

### 2.1. Effort and Cost Estimation

| Activity Description  | Sub-Task                                       | Sub-Task Description  | Effort (in hours) | Cost in INR |
|---|--|---|-------------------|-------------|
| Design the user screen  | E1R1A1T1<br>(Effort-Requirement-Activity-Task) | Confirm the user requirements (acceptance criteria)                 | 3                 |             |
|   | E1R1A1T2                                       |   |                   |             |
|   | E1R1A1T3                                       |   |                   |             |
| Identify Data Source for displaying units of Energy Consumption |  | Go through Interface contract (Application Data Exchange) documents | 5                 |             |
|   |  | Document  |                   |             |

| Effort (hr) | Cost (INR) |
|-------------|------------|
| 1           | 500        |

### 2.2. Infrastructure/Resource Cost [CapEx]

< OneTime Infra requirements >

| Infrastructure Requirement | Qty  | Cost per qty | Cost per item |
|----------------------------|------|--------------|---------------|
| User Data                  | 3000 | -            | -             |
|                            |      |              |               |
|                            |      |              |               |

### 2.3 Maintenance and Support Cost [OpEx]

| Category        | Details  | Qty | Cost per qty per annum | Cost per item |
|-----------------|--|-----|------------------------|---------------|
| People          | Network, System, Middleware and DB admin<br><br>Developer , Support Consultant | 3   | 2,000,000              | 6,000,000     |
| License         | Operating System<br>Database<br>Middleware<br>IDE                              | 10  | 10000                  | 100,000       |
| Infrastructures | Server, Storage and Network  | 20  | 20000                  | 400,000       |

## 2.3. Project Team Formation

Identification Team members:

| Name               | Role                              | Responsibilities  |
|--------------------|-----------------------------------|---|
| Haripreeth         | Key Business User (Product Owner) | Provide clear business and user requirements                          |
| Haripreeth         | Project Manager                   | Manage the project  |
| Aditi              | Business Analyst                  | Discuss and Document Requirements                                     |
| Sanjay             | Technical Lead                    | Design the end-to-end architecture                                    |
| Aditi (Sanjay)     | UX Designer                       | Design the user experience  |
| Aditi (Sanjay)     | Frontend Developer                | Develop user interface  |
| Haripreeth, Sanjay | Backend Developer                 | Design, Develop and Unit Test Services/API/DB                         |
| Sanjay             | Cloud Architect                   | Design the cost effective, highly available and scalable architecture |
| Sanjay             | Cloud Operations                  | Provision required Services   |
| Sanjay, Haripreeth | Tester                            | Define Test Cases and Perform Testing                                 |

## 2.4. Responsibility Assignment Matrix

| RACI Matrix                    | Team Members |                  |                        |                   |
|--------------------------------|--------------|------------------|------------------------|-------------------|
| Activity                       | Name (BA)    | Name (Developer) | Name (Project Manager) | Key Business User |
| User Requirement Documentation | A            | C/I              | I                      | R                 |
|                                |              |                  |                        |                   |

|   |             |
|---|-------------|
| A | Accountable |
| R | Responsible |
| C | Consult     |
| I | Inform      |

## Reference

1. <https://www.pmi.org/>
2. <https://www.projectmanagement.com/>
3. <https://www.tpsgc-pwgsc.gc.ca/biens-property/sngp-npms/ti-it/ervcpgrm-dsfvpmpmte.html>



## Department of Networking and Communications

**SRM IST, Kattankulathur – 603 203**

**Course Code: 18CSC206J**

**Course Name: Software Engineering and Project Management**

|                            |   |
|----------------------------|---|
| <b>Experiment No</b>       | 5   |
| <b>Title of Experiment</b> | Prepare Work breakdown structure, Timeline chart, Risk identification table |
| <b>Team Lead</b>           | Haripreeth Dwarakanath Avarur   |
| <b>Team Members</b>        | Haripreeth, Aditi, Sanjay   |
| <b>Register Number</b>     | RA2011003010011, RA2011003010004, RA2011003010022                           |
| <b>Date of Experiment</b>  | 18.04.2022  |

### Mark Split Up

| S.No         | Description | Maximum Mark | Mark Obtained |
|--------------|-------------|--------------|---------------|
| 1            | Exercise    | 5            |               |
| 2            | Viva        | 5            |               |
| <b>Total</b> |             | <b>10</b>    |               |

**Staff Signature with date**

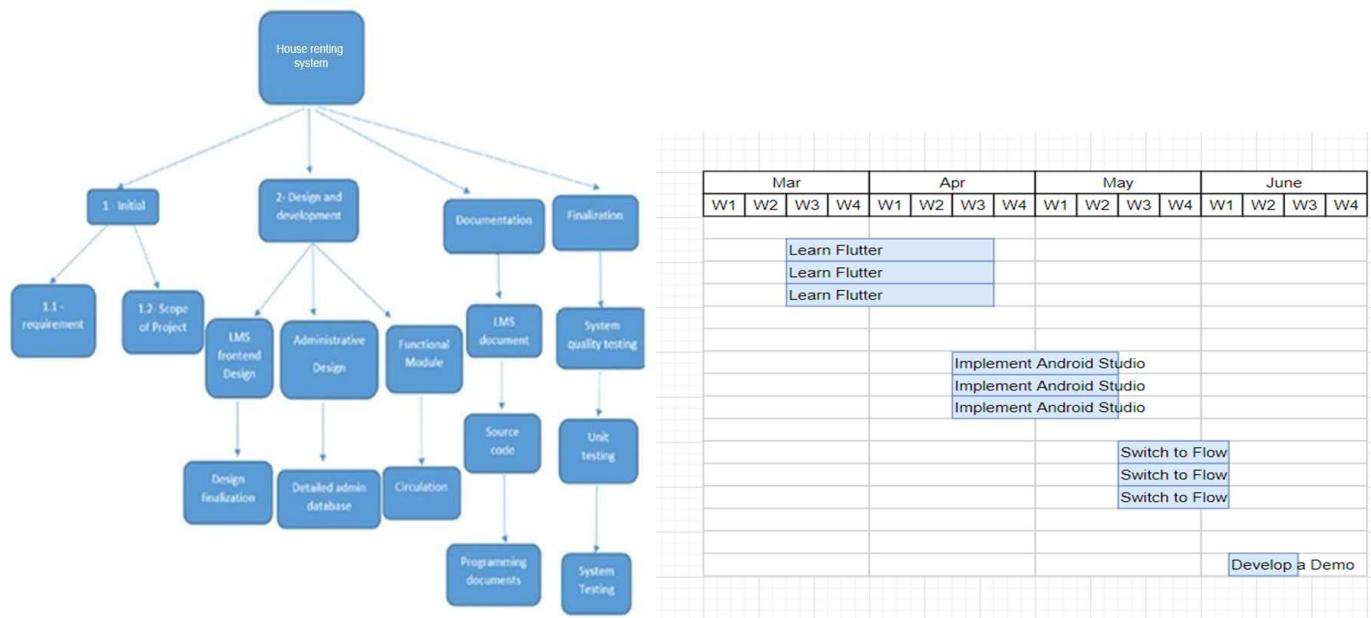
## Aim

To Prepare Work breakdown structure, Timeline chart and Risk identification table

### Team Members:

| Sl No | Register No     | Name                          | Role   |
|-------|-----------------|-------------------------------|--------|
| 1     | RA2011003010011 | Haripreeth Dwarakanath Avarur | Rep    |
| 2     | RA2011003010004 | Aditi                         | Member |
| 3     | RA2011003010022 | Sanjay G.                     | Member |

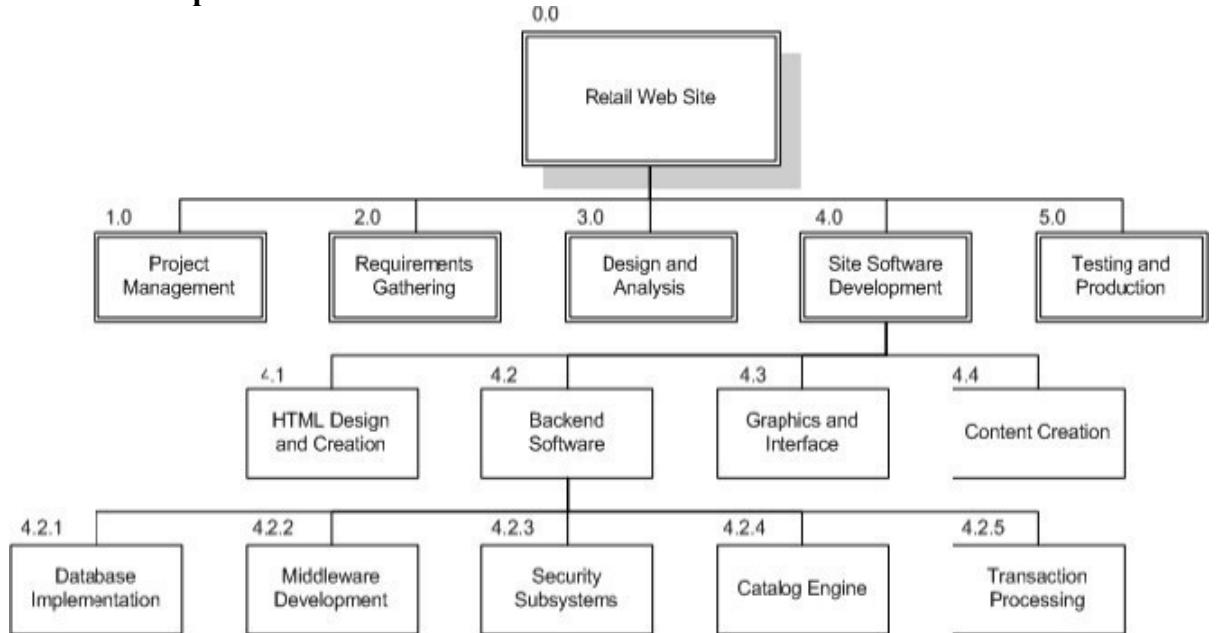
<Incorporate WBS, Timeline chart and Risk table>



### Result:

Thus, the work breakdown structure with timeline chart and risk table were formulated successfully.

## WBS – Examples



0.0 Retail Web Site

1.0 Project Management

2.0 Requirements Gathering

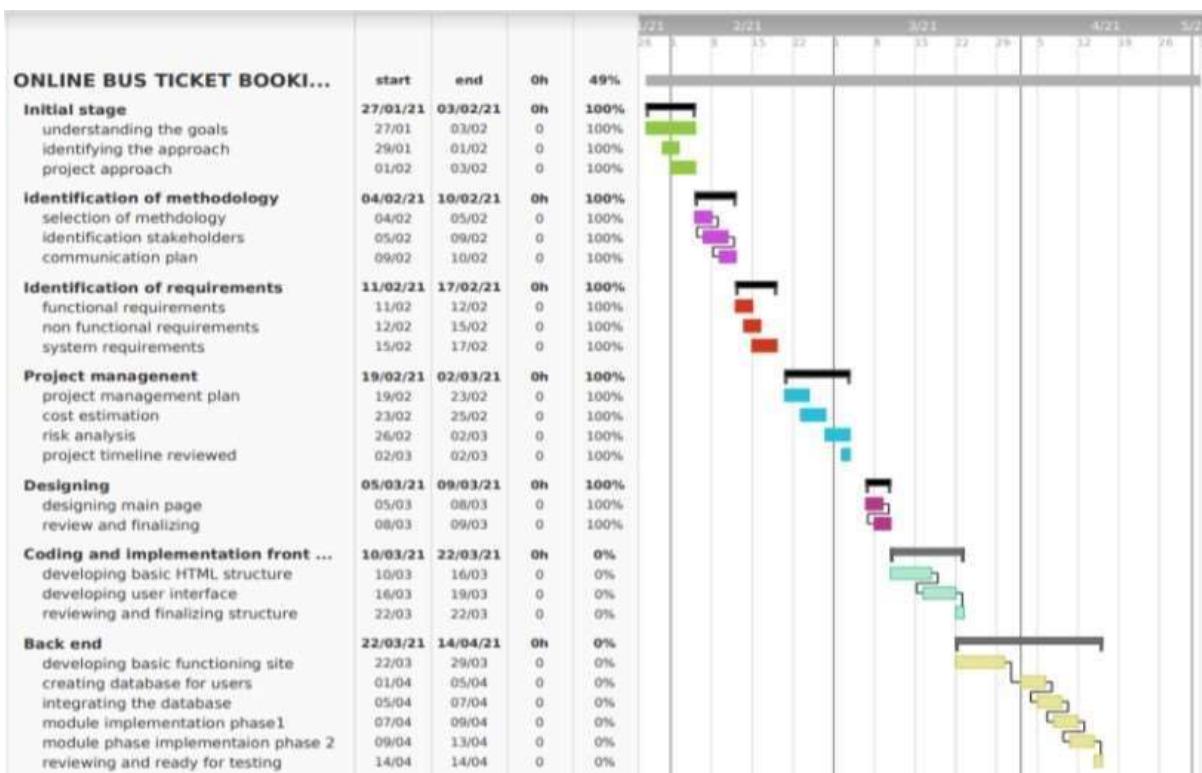
3.0 Analysis & Design

4.0 Site Software Development

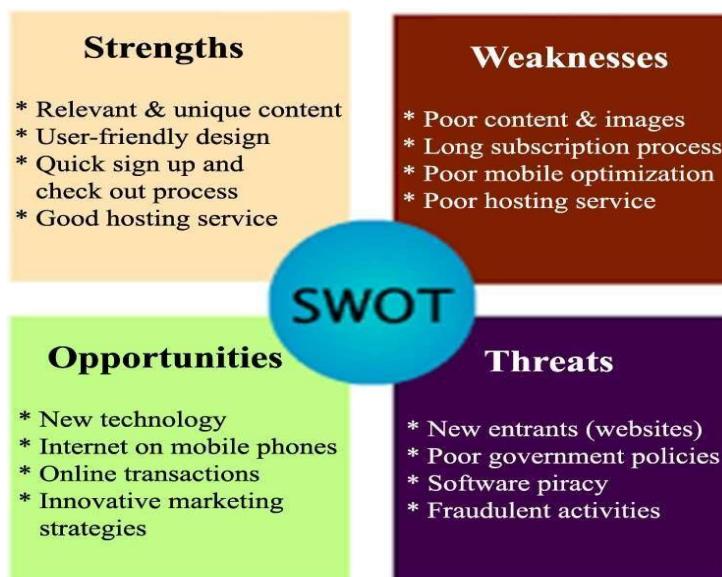
- 4.1 HTML Design and Creation
- 4.2 Backend Software
  - 4.2.1 Database Implementation
  - 4.2.2 Middleware Development
  - 4.2.3 Security Subsystems
  - 4.2.4 Catalog Engine
  - 4.2.5 Transaction Processing
- 4.3 Graphics and Interface
- 4.4 Content Creation

5.0 Testing and Production

## TIMELINE – GANTT CHART



## RISK ANALYSIS – SWOT & RMMM





## Risk Management Framework- Risks And Mitigation ...

| Response | Strategy   | Examples   |
|----------|--|--|
| Avoid    | Risk avoidance is a strategy where the project team takes action to remove the threat of the risk or protect from the impact   | <ul style="list-style-type: none"><li>Extending the schedule</li><li>Reducing/removing scope</li><li>Change the execution strategy</li></ul>           |
| Transfer | Risk transference involves shifting or transferring the risk threat and impact to a third party. Rather transfer the responsibility and ownership  | <ul style="list-style-type: none"><li>Purchasing insurance</li><li>Performance bonds</li><li>Warranties</li><li>Contract issuance (lump sum)</li></ul> |
| Mitigate | Risk mitigation is a strategy where the project team takes action to reduce the probability of the risk occurring. This does not risk or potential impact , but rather reduces the likelihood of it becoming real. | <ul style="list-style-type: none"><li>Increasing testing</li><li>Changing suppliers to a more stable one</li><li>Reducing process complexity</li></ul> |
| Accept   | Risk acceptance means the team acknowledges the risk and its potential impact, but decides not to take any preemptive action to prevent it. It is dealt with only if it occurs                                     | <ul style="list-style-type: none"><li>Contingency reserve budgets</li><li>Management schedule float</li><li>Event contingency</li></ul>                |

Slide 1 of 3



## Department of Networking and Communications

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**Course Code: 18CSC206J**

**Course Name: Software Engineering and Project Management**

|                            |  |
|----------------------------|--|
| <b>Experiment No</b>       | 6  |
| <b>Title of Experiment</b> | Design a System Architecture, Use Case and Class Diagram |
| <b>Team Lead</b>           | Haripreeth Dwarakanath Avarur                            |
| <b>Team Members</b>        | Haripreeth, Aditi, Sanjay G                              |
| <b>Register Number</b>     | RA2011003010011, RA2011003010004, RA2011003010022        |
| <b>Date of Experiment</b>  | 31.05.2022   |

### Mark Split Up

| S.No         | Description | Maximum Mark | Mark Obtained |
|--------------|-------------|--------------|---------------|
| 1            | Exercise    | 5            |               |
| 2            | Viva        | 5            |               |
| <b>Total</b> |             | <b>10</b>    |               |

**Staff Signature with date**

## Aim

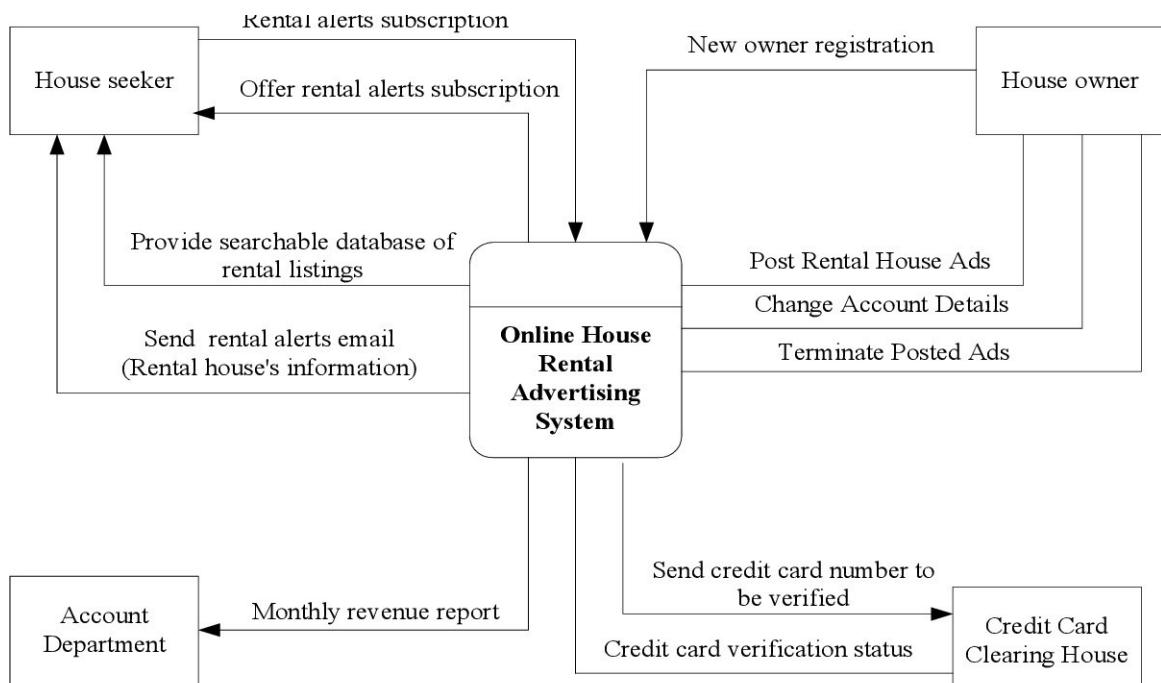
To Design a System Architecture, Use case and Class Diagram

## Team Members:

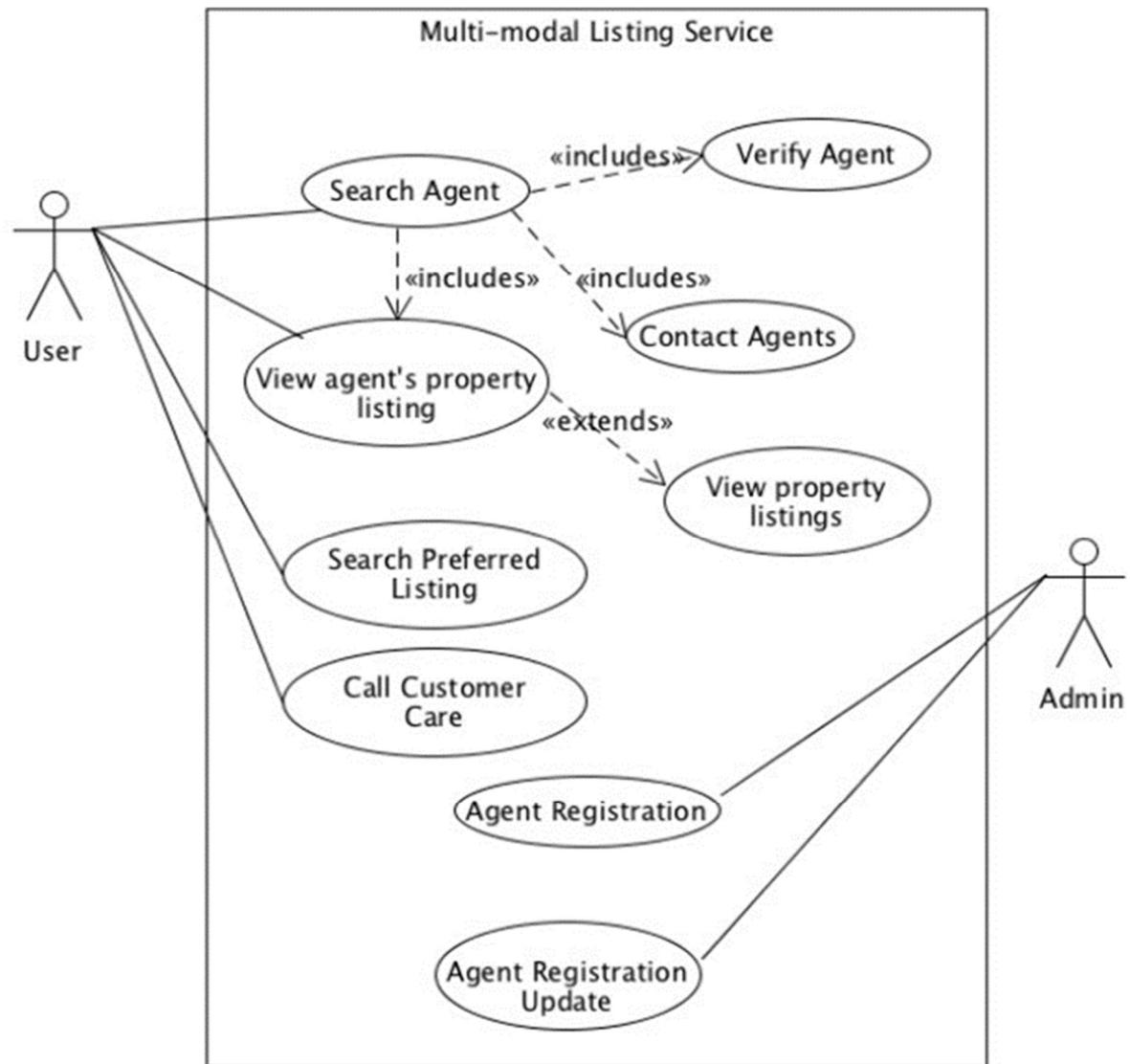
| Sl No | Register No     | Name                          | Role                 |
|-------|-----------------|-------------------------------|----------------------|
| 1     | RA2011003010011 | Haripreeth Dwarakanath Avarur | <b>Team Lead/Rep</b> |
| 2     | RA2011003010004 | Aditi                         | <b>Member</b>        |
| 3     | RA2011003010022 | Sanjay                        | <b>Member</b>        |

Requirements

## SYSTEM ARCHITECTURE



## USE CASE DIAGRAM



### Result:

Thus, the system architecture, use case and class diagram created successfully



## School of Computing

**SRM IST, Kattankulathur – 603 203**

**Course Code: 18CSC206J**

**Course Name: Software Engineering and Project Management**

|                            |                                       |
|----------------------------|---------------------------------------|
| <b>Experiment No</b>       | 7                                     |
| <b>Title of Experiment</b> | Design an Entity relationship diagram |
| <b>Team Lead</b>           | Haripreeth Dwarakanath Avarur         |
| <b>Team Members</b>        | Haripreeth, Aditi, Sanjay G           |
| <b>Register Number</b>     | RA2011003010011                       |
| <b>Date of Experiment</b>  | 2.05.2022                             |

### Mark Split Up

| <b>S. No</b> | <b>Description</b> | <b>Maximum Mark</b> | <b>Mark Obtained</b> |
|--------------|--------------------|---------------------|----------------------|
| 1            | Exercise           | 5                   |                      |
| 2            | Viva               | 5                   |                      |
| <b>Total</b> |                    | <b>10</b>           |                      |

**Staff Signature with date**

## Aim

To create the Entity Relationship Diagram

## Team Members:

| S No | Register No     | Name                          | Role   |
|------|-----------------|-------------------------------|--------|
| 1    | RA2011003010011 | Haripreeth Dwarakanath Avarur | Rep    |
| 2    | RA2011003010004 | Aditi                         | Member |
| 3    | RA2011003010022 | Sanjay G                      | Member |

## \*/ER Diagram, Notation and Example

### What is ER Diagram?

- ER Diagram stands for Entity Relationship Diagram, also known as ERD is a diagram that displays the relationship of entity sets stored in a database. In other words, ER diagrams help to explain the logical structure of databases. ER diagrams are created based on three basic concepts: entities, attributes and relationships.
- ER Diagrams contain different symbols that use rectangles to represent entities, ovals to define attributes and diamond shapes to represent relationships.
- At first look, an ER diagram looks very similar to the flowchart. However, ER Diagram includes many specialized symbols, and its meanings make this model unique. The purpose of ER Diagram is to represent the entity framework infrastructure.

### What is ER Model?

- ER Model stands for Entity Relationship Model is a high-level conceptual data model diagram. ER model helps to systematically analyze data requirements to produce a well-designed database.
- ER Model represents real-world entities and the relationships between them. Creating an ER Model in DBMS is considered as a best practice before implementing your database.
- ER Modeling helps you to analyze data requirements systematically to produce a well-designed database. So, it is considered a best practice to complete ER modeling before implementing your database.

### Why use ER Diagrams?

Here, are prime reasons for using the ER Diagram

- Helps you to define terms related to entity relationship modeling
- Provide a preview of how all your tables should connect, what fields are going to be on each table
- Helps to describe entities, attributes, relationships
- ER diagrams are translatable into relational tables which allows you to build databases quickly
- ER diagrams can be used by database designers as a blueprint for implementing data in specific software applications

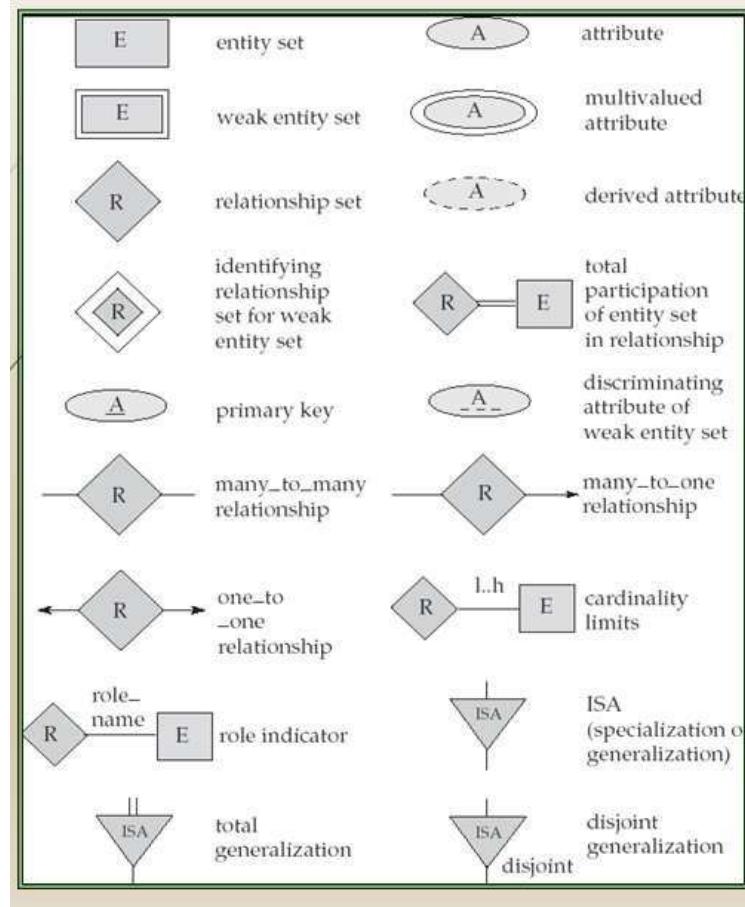
- The database designer gains a better understanding of the information to be contained in the database with the help of ER diagram
- ER Diagram allows you to communicate with the logical structure of the database to users

## Components of the ER Diagram

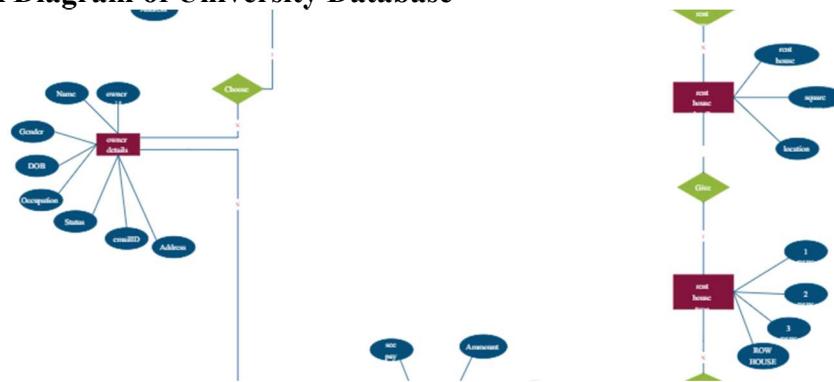
This model is based on three basic concepts: Entities, Attributes, Relationships

### ER Diagram – Notations

- Rectangles represent entity sets.
- Diamonds represent relationship sets.
- Lines link attributes to entity sets and entity sets to relationship sets.
- Ellipses represent attributes
- Double ellipses represent multivalued attributes.
- Dashed ellipses denote derived attributes.
- Underline indicates primary key attributes



## ER Diagram of University Database



## ADDITIONAL NOTES

- A database can be modeled as a collection of entities, relationship among entities.
- An entity is an object that exists and is distinguishable from other objects.  
Example: specific person, company, event, plant
- Entities have attributes.  
Example: people have names and addresses
- An entity set is a set of entities of the same type that share the same properties.  
Example: set of all persons, companies, trees, holidays
  
- Express the number of entities to which another entity can be associated via a relationship set.
- Most useful in describing binary relationship sets.
- We express cardinality constraints by drawing either a directed line (->), signifying “one,” or an undirected line (—), signifying “many,” between the relationship set and the entity set.
  
- An entity is represented by a set of attributes, that is descriptive properties possessed by all members of an entity set.  
Example: customer = (customer-id, customer-name, customer-street, customer-city)  
loan = (loan-number, amount)
- Domain – the set of permitted values for each attribute
- Attribute types:
  1. Simple and composite attributes.
  2. Single-valued and multi-valued attributes  
E.g. multivalued attribute: phone-numbers
  3. Derived attributes-Can be computed from other attributes

E.g. age, given date of birth

### **Cardinality**

- For a binary relationship set the mapping cardinality must be one of the following types:

1. One to one

A customer is associated with at most one loan via the relationship borrower. A loan is associated with at most one customer via borrower

2. One to many

A loan is associated with at most one customer via borrower, a customer is associated with several (including 0) loans via borrower

3. Many to one

A loan is associated with several (including 0) customers via borrower, a customer is associated with at most one loan via borrower

4. Many to many

A loan is associated with several (including 0) customers via borrower, a customer is associated with several loans (including 0) via borrower

### **Weak Entity Set**

- An entity set that does not have a primary key is referred to as a weak entity set and represented by double outlined box in E-R diagram.

Example : Consider the entity set payment which got three attributes : payment\_number, payment\_date and payment\_amount. Payment numbers are sequential starting from 1 generally separately for each loan. Although each payment entity is distinct, payments for different loans may share the same payment number. Thus this entity set does not have a primary key.

### **Discriminator**

- The discriminator (or partial key) of a weak entity set is the set of attributes that distinguishes among all the entities of a weak entity set

Example: discriminator of weak entity set payment is the attribute payment\_number since for each loan a payment number uniquely identifies one single payment for that loan.

### **Specialization-Generalization-ISA**

- E-R model provides means of representing these distinctive entity groupings

- Process of designating subgroupings within an entity set is called specialization depicted by triangle component labelled ISA ("is a")

- Bottom up design process in which multiple entity sets are synthesized into higher level entity set - Generalization

- ISA relationship may also be referred to as superclass-subclass relationship

- Higher and lower level entity sets are designated by the terms superclass and subclass.

- Specialization and generalization are simple inversions of each other; they are represented in an E-R diagram in the same way.

### **Total & Partial Participation**

- Total participation (indicated by double line): every entity in the entity set participates in at least one relationship in the relationship set

E.g. participation of loan in borrower is total, every loan must have a customer associated to it via borrower

- Partial participation: some entities may not participate in any relationship in the relationship set

Example: participation of customer in borrower is partial

### **Cardinality limits**

- Cardinality limits can also express participation constraints
- Minimum and maximum cardinality is expressed as l..h where l is the minimum and h is the maximum cardinality
- Minimum value of 1 indicates total participation of entity set in relationship set
- Maximum value of 1 indicates entity participates in atmost one relationship set.
- Maximum value of \* indicates no limit

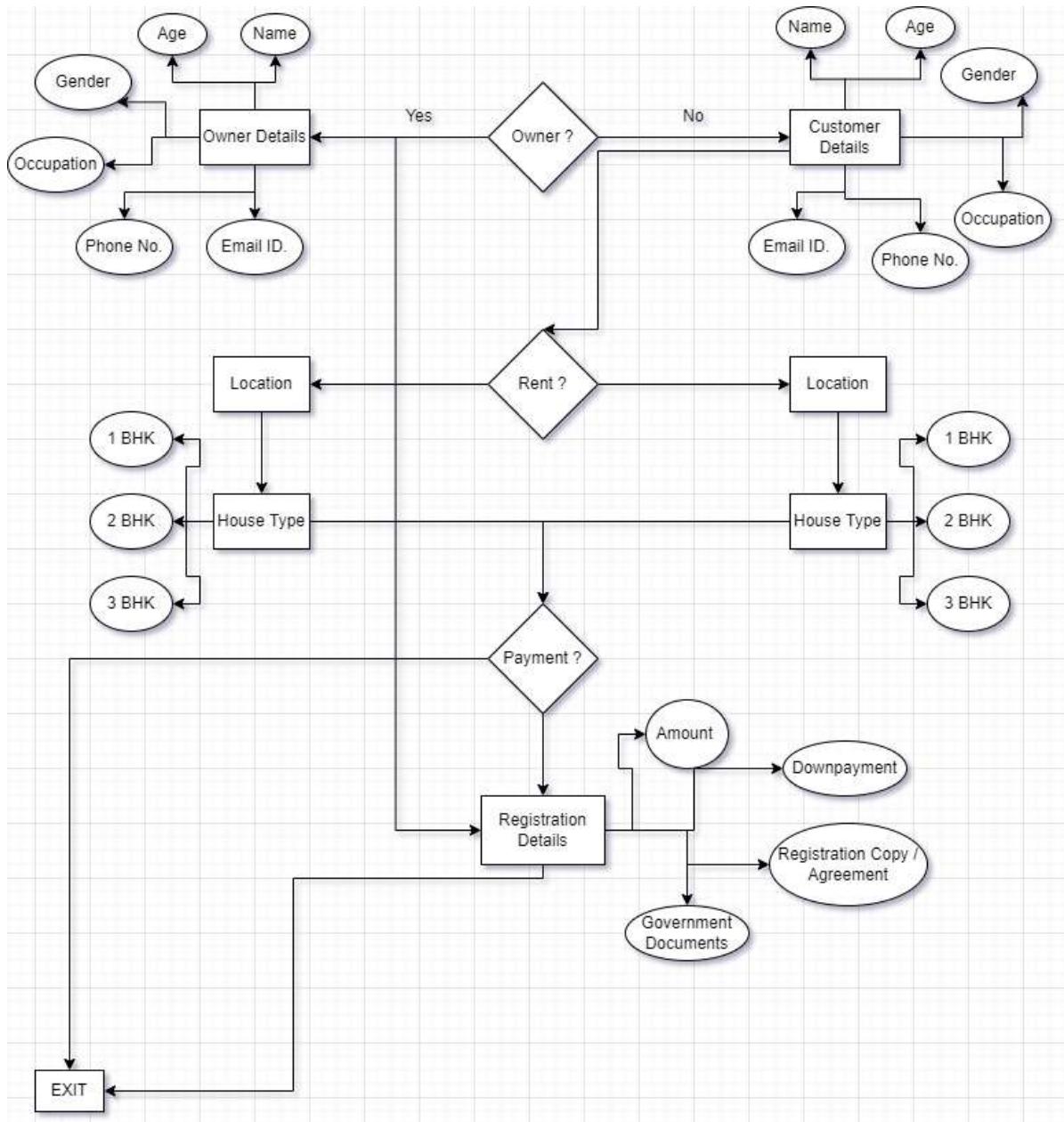
### **Role indicator**

- Entity sets of a relationship need not be distinct
- The labels “manager” and “worker” are called roles; they specify how employee entities interact via the works-for relationship set.
- Roles are indicated in E-R diagrams by labeling the lines that connect diamonds to rectangles.
- Role labels are optional, and are used to clarify semantics of the relationship

### **Disjoint Generalization**

- Disjointness constraint requires that an entity belong to more than one lower-level entity set.
- Example: account entity can satisfy only one condition for account type attribute ; entity can either be savings or chequing account but not both.

## Relationship Diagram:



## Result:

Thus, the entity relationship diagram was created successfully.



## School of Computing

**SRM IST, Kattankulathur – 603 203**

**Course Code: 18CSC206J**

**Course Name: Software Engineering and Project Management**

|                            |   |
|----------------------------|---|
| <b>Experiment No</b>       | 8   |
| <b>Title of Experiment</b> | Develop a Data Flow Diagram (Process-Up to Level 1) |
| <b>Team Lead</b>           | Haripreeth Dwarakanath Avarur                       |
| <b>Team Members</b>        | Haripreeth, Aditi, Sanjay                           |
| <b>Register Number</b>     | RA2011003010011, RA2011003010004, RA2011003010022   |
| <b>Date of Experiment</b>  | 10.05.2022  |

### Mark Split Up

| <b>S. No</b> | <b>Description</b> | <b>Maximum Mark</b> | <b>Mark Obtained</b> |
|--------------|--------------------|---------------------|----------------------|
| 1            | Exercise           | 5                   |                      |
| 2            | Viva               | 5                   |                      |
| <b>Total</b> |                    | <b>10</b>           |                      |

**Staff Signature with date**

## Aim

To develop the data flow diagram up to level 1 for the <project name>

## Team Members:

| S No | Register No     | Name                          | Role   |
|------|-----------------|-------------------------------|--------|
| 1    | RA2011003010011 | Haripreeth Dwarakanath Avarur | Rep    |
| 2    | RA2011003010004 | Aditi                         | Member |
| 3    | RA2011003010022 | Sanjay                        | Member |

<DFD >

## Data Flow Diagram

The DFD takes an input-process-output view of a system. That is, data objects flow into the software, are transformed by processing elements, and resultant data objects flow out of the software. Data objects are represented by labeled arrows, and transformations are represented by circles (also called bubbles). The DFD is presented in a hierarchical fashion. That is, the first data flow model (sometimes called a level 0 DFD or context diagram) represents the system as a whole. Subsequent data flow diagrams refine the context diagram, providing increasing detail with each subsequent level.

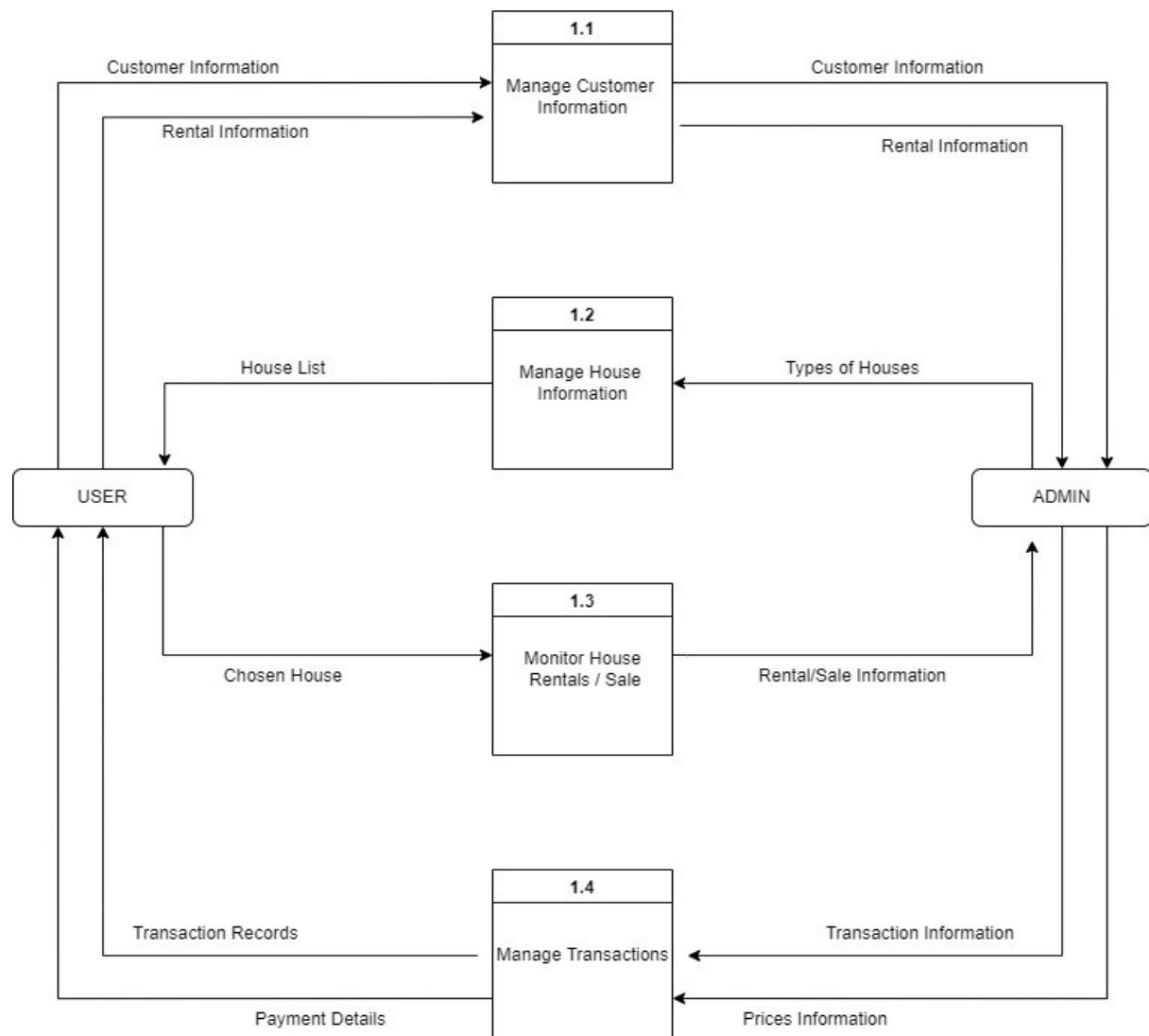
The data flow diagram enables you to develop models of the information domain and functional domain. As the DFD is refined into greater levels of detail, you perform an implicit functional decomposition of the system. At the same time, the DFD refinement results in a corresponding refinement of data as it moves through the processes that embody the application.

A few simple guidelines can aid immeasurably during the derivation of a data flow diagram:

- (1) Level 0 data flow diagram should depict the software/system as a single bubble;
- (2) Primary input and output should be carefully noted;
- (3) Refinement should begin by isolating candidate processes, data objects, and data stores to be represented at the next level;
- (4) All arrows and bubbles should be labeled with meaningful names;
- (5) Information flow continuity must be maintained from level to level and
- (6) One bubble at a time should be refined. There is a natural tendency to overcomplicate the data flow diagram. This occurs when you attempt to show too much detail too early or represent procedural aspects of the software in lieu of information flow.

## **DATA FLOW DIAGRAM-**

## **LEVEL 1:**



## Result:

Thus, the data flow diagrams have been created.



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**SRM IST, Kattankulathur – 603 203**

**Course Code: 18CSC206J**

**Course Name: Software Engineering and Project Management**

|                            |   |
|----------------------------|---|
| <b>Experiment No</b>       | 9   |
| <b>Title of Experiment</b> | Design a Sequence and Collaboration Diagram       |
| <b>Team Lead</b>           | Haripreeth Dwarakanath Avarur                     |
| <b>Team Members</b>        | Haripreeth, Aditi, Sanjay                         |
| <b>Register Number</b>     | RA2011003010011, RA2011003010004, RA2011003010022 |
| <b>Date of Experiment</b>  | 17.05.22  |

### Mark Split Up

| <b>S. No</b> | <b>Description</b> | <b>Maximum Mark</b> | <b>Mark Obtained</b> |
|--------------|--------------------|---------------------|----------------------|
| 1            | Exercise           | 5                   |                      |
| 2            | Viva               | 5                   |                      |
| <b>Total</b> |                    | <b>10</b>           |                      |

**Staff Signature with date**

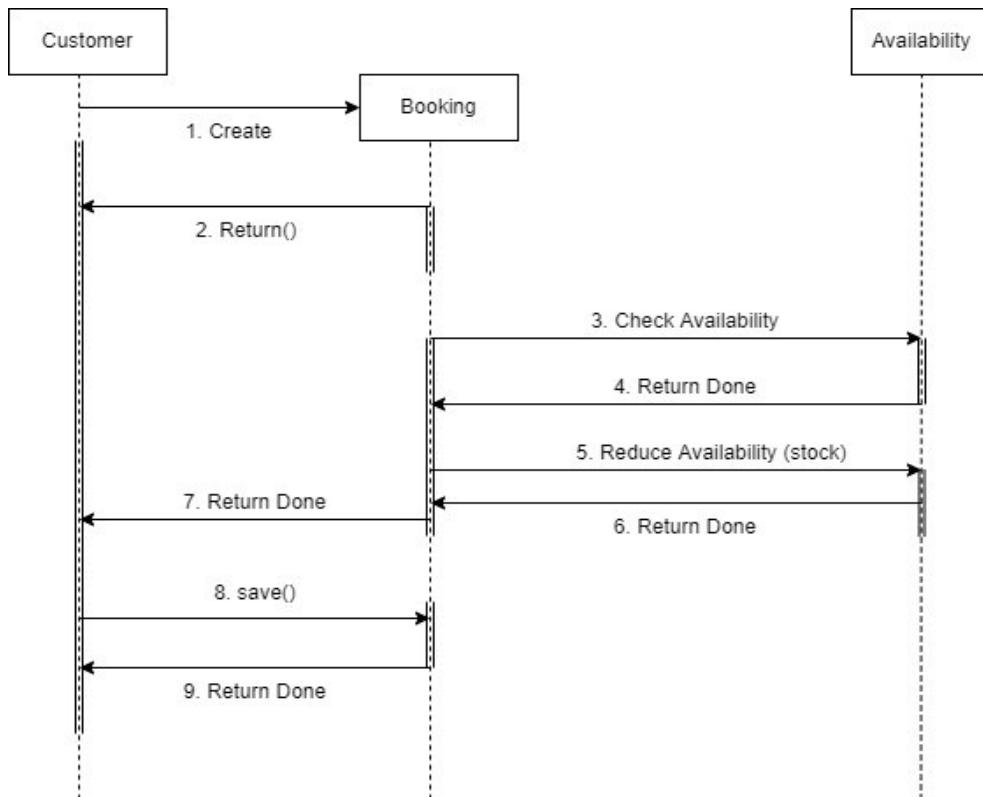
## Aim

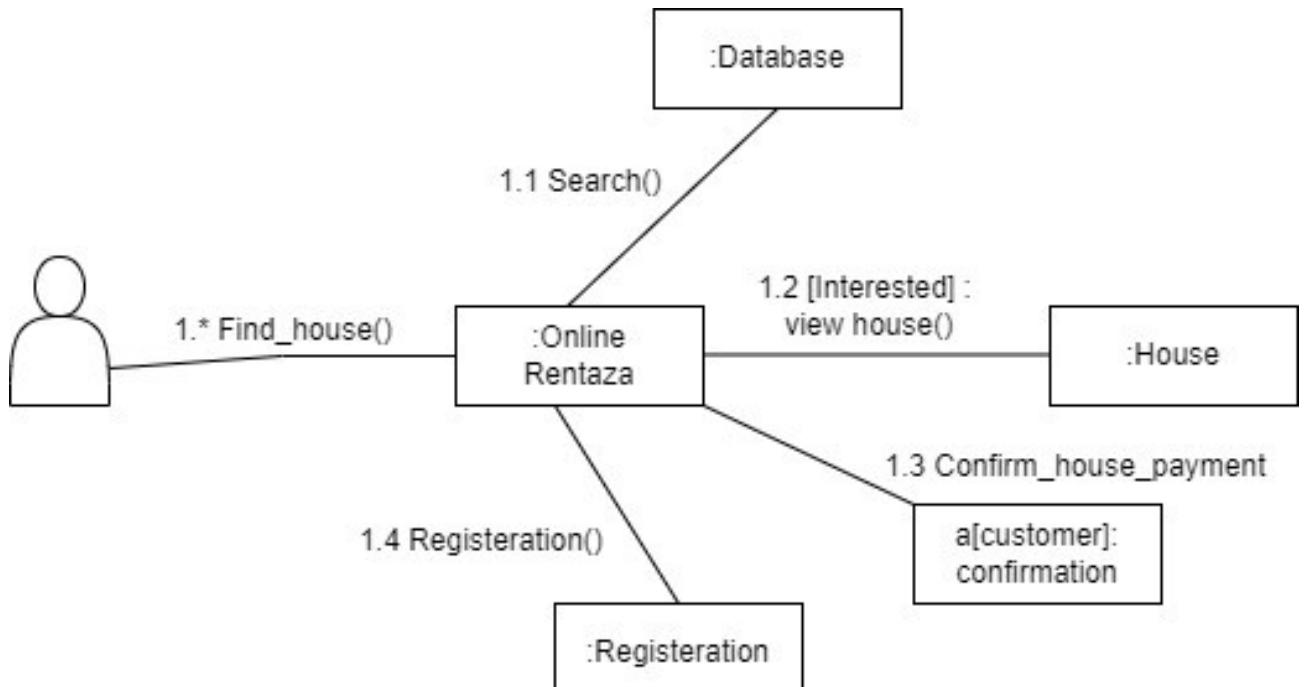
To create the sequence and collaboration diagram for the Rentaza Project

### Team Members:

| S No | Register No     | Name                          | Role       |
|------|-----------------|-------------------------------|------------|
| 1    | RA2011003010011 | Haripreeth Dwarakanath Avarur | Rep/Member |
| 2    | RA2011003010004 | Aditi                         | Member     |
| 3    | RA2011003010022 | Sanjay                        | Member     |

<Sequence and Collaboration Diagram>



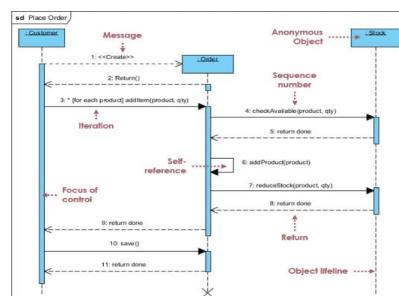


Result:

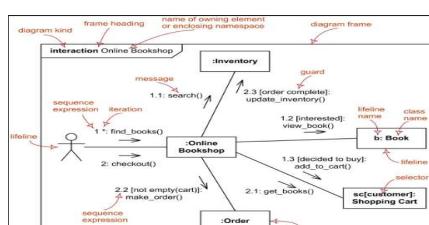
Thus, the sequence and collaboration diagrams were created for the <project name>.

### \*/ For Example

#### Sequence Diagram



#### Collaboration Diagram





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**SRM IST, Kattankulathur – 603 203**

**Course Code: 18CSC206J**

**Course Name: Software Engineering and Project Management**

|                            |   |
|----------------------------|---|
| <b>Experiment No</b>       | 10  |
| <b>Title of Experiment</b> | Develop a Testing Framework/User Interface        |
| <b>Team Lead</b>           | Haripreeth Dwarakanath Avarur                     |
| <b>Team Members</b>        | Haripreeth, Aditi, Sanjay                         |
| <b>Register Number</b>     | RA2011003010011, RA2011003010004, RA2011003010022 |
| <b>Date of Experiment</b>  | 25.05.2022  |

### Mark Split Up

| <b>S. No</b> | <b>Description</b> | <b>Maximum Mark</b> | <b>Mark Obtained</b> |
|--------------|--------------------|---------------------|----------------------|
| 1            | Exercise           | 5                   |                      |
| 2            | Viva               | 5                   |                      |
| <b>Total</b> |                    | <b>10</b>           |                      |

**Staff Signature with date**

## Aim

To develop the testing framework and/or user interface framework for the <project name>

## Team Members:

| S No | Register No     | Name                          | Role       |
|------|-----------------|-------------------------------|------------|
| 1    | RA2011003010011 | Haripreeth Dwarakanath Avarur | Rep/Member |
| 2    | RA2011003010004 | Aditi                         | Member     |
| 3    | RA2011003010022 | Sanjay                        | Member     |

<Incorporate the necessary information regarding testing/user interface of the project>

## Result:

Thus, the testing framework/user interface framework has been created for the <project name>.

## \*/ For example

## Executive Summary

This project is about house renting / sale made easy management. It is an application which cuts out the middle man, and customers and owners can interact and get details directly.

## Test Plan

The testing process will be done in 3 Major steps. First it begins with the Manual testing, the Agile testing and finally we finish with the System testing

## Scope of Testing

<<summarize the scope of testing >

functional: All Modules under Functional requirements has been completed successfully and have reached the Testing face. Testing needs to be done manually most of the features are basic and non-complex and it can be finished quickly under Manual Testing.

non-functional: All Modules under Non-Functional requirements have been completed successfully and have reached the Testing face. Testing needs to be done manually as most features are basic and non-complex and it can be finished quickly under Manual Testing

**Functional:** Are all modules covered? Any exception for any modules ? Does automation cover all functional test cases or Regression – Critical Path Test Cases ?

**Non-Functional:** Are all NFR (Non-Functional Requirements) covered?

## Types of Testing, Methodology, Tools

| Category                   | Methodology | Tools Required   |
|----------------------------|-------------|--|
| Functional Requirements    | Manual      | Manually written test cases, debugger                                    |
| Nonfunctional requirements | Manual      | Manually written test cases, debugger                                    |
| Agile testing              | Manual      | Verify the steps to produce possible solutions                           |
| Manual testing             | Manual      | To assist developers and testers in performing manual or automated tests |



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**Course Code: 18CSC206J**

**Course Name: Software Engineering and Project Management**

|                            |  |
|----------------------------|--|
| <b>Experiment No</b>       | 11   |
| <b>Title of Experiment</b> | Test Cases                                       |
| <b>Team Lead</b>           | Haripreeth Dwarakanath Avarur                    |
| <b>Team Members</b>        | Haripreeth, Aditi, Sanjay                        |
| <b>Register Number</b>     | RA2011003010011, RA201100301004, RA2011003010022 |
| <b>Date of Experiment</b>  | 31.05.2022                                       |

### Mark Split Up

| <b>S. No</b> | <b>Description</b> | <b>Maximum Mark</b> | <b>Mark Obtained</b> |
|--------------|--------------------|---------------------|----------------------|
| 1            | Exercise           | 5                   |                      |
| 2            | Viva               | 5                   |                      |
| <b>Total</b> |                    | <b>10</b>           |                      |

**Staff Signature with date**

## Aim

To develop the test cases manual for the Rentaza

## Team Members:

| S No | Register No     | Name                         | Role   |
|------|-----------------|------------------------------|--------|
| 1    | RA2011003010011 | Haripreeth Dwarakanth Avarur | Rep    |
| 2    | RA2011003010004 | Aditi                        | Member |
| 3    | RA2011003010022 | Sanjay                       | Member |

<Utilize the templates below and incorporate the project's test cases - Manual Test case to be written for at least one module >

## Result:

Thus, the test case manual has been created for the Rentaza .

# Test Case

## Functional Test Cases

| Test ID (#) | Test Scenario            | Test Case                          | Execution Steps   | Expected Outcome   | Actual Outcome                 | Status | Remarks |
|-------------|--------------------------|------------------------------------|---|--|--------------------------------|--------|---------|
| 1.          | Verify User Registration | Accept Valid Mobile number / email | <ol style="list-style-type: none"><li>User clicks on User Registration link</li><li>Enter the mobile Number on the text box</li><li>Click Register button</li></ol> | User should be taken to the next page for entering more user details | User is taken to the next step | Pass   | success |

|    |                                |  |   |  |   |      |         |
|----|--------------------------------|--|---|--|---|------|---------|
| 2. | Allow user to choose the house | Add the house                              | 1. User selects a product.<br>2. User enters the required bhk.<br>3. Selects add to cart option.  | Payment portal                                     | Payment portal  | Pass | success |
| 3. | Verify transaction process.    | Accept valid Card details for transaction. | 1. User enters Credit/Debit card credentials or for making the payment.<br>2. User gets OTP in registered mobile number to confirm transaction.<br>3. Transaction completed | Required amount is transferred through the portal. | Required amount is transferred through the portal from customer to the warehouse owner. | Pass | Success |

| Test ID (#) | Test Scenario | Test Case | Execution Steps | Expected Outcome | Actual Outcome | Status | Remarks |
|-------------|---------------|-----------|-----------------|------------------|----------------|--------|---------|
|             | Page          |           |                 |                  |                |        |         |

## Non-Functional Test Cases

| Test ID (#) | Test Scenario         | Test Case                                      | Execution Steps  | Expected Outcome  | Actual Outcome   | Status | Remarks |
|-------------|-----------------------|--|--|---|--|--------|---------|
| 1.          | <b>Site speed</b>     | The portal must be interactive with the user.. | 1. Check the response time of the portal after user enters a command in the front end. | Response time of the portal be quick.   | Response time of the portal is fast with minimal errors. | Pass   | Success |
| 2.          | <b>Efficiency</b>     | Minimum resources be used.                     | 1. Check the amount of software developed divided by the resources used.               | Resources used be minimum.  | The resources used to develop the portal were optimal.   | Pass   | Success |
| 3.          | <b>Compactibility</b> | Portal be updated on user's actions.           | 1. Warehouse owner enters products for sale, the products are stored in the database.  | The product that the warehouse owners sell should be updated in the database also | The products are automatically stored in the database.   | Pass   | Success |



## School of Computing

**SRM IST, Kattankulathur – 603 203**

**Course Code: 18CSC206J**

**Course Name: Software Engineering and Project Management**

|                            |   |
|----------------------------|---|
| <b>Experiment No</b>       | 12  |
| <b>Title of Experiment</b> | Manual Test Case Reporting                        |
| <b>Team Lead</b>           | Haripreeth Dwarakanath Avarur                     |
| <b>Team Members</b>        | Haripreeth, Aditi, Sanjay                         |
| <b>Register Number</b>     | RA2011003010011, RA2011003010004, RA2011003010022 |
| <b>Date of Experiment</b>  | 07.06.2022  |

### Mark Split Up

| <b>S. No</b> | <b>Description</b> | <b>Maximum Mark</b> | <b>Mark Obtained</b> |
|--------------|--------------------|---------------------|----------------------|
| 1            | Exercise           | 5                   |                      |
| 2            | Viva               | 5                   |                      |
| <b>Total</b> |                    | <b>10</b>           |                      |

**Staff Signature with date**

## Aim

To prepare the manual test case report for the Rentaza Project.

## Team Members:

| S No | Register No     | Name                          | Role       |
|------|-----------------|-------------------------------|------------|
| 1    | RA2011003010011 | Haripreeth Dwarakanath Avarur | Rep/Member |
| 2    | RA2011003010004 | Aditi                         | Member     |
| 3    | RA2011003010022 | Sanjay                        | Member     |

| Category               | Progress Against Plan | Status      |
|------------------------|-----------------------|-------------|
| Functional Testing     | Amber                 | In-Progress |
| Non Functional Testing | Amber                 | In-Progress |

| Functional                    | Test Case Coverage (%) | Status      |
|-------------------------------|------------------------|-------------|
| User Registration             | 75%                    | In-Progress |
| Login id                      | 80%                    | In-Progress |
| Services provided             | 70%                    | In-Progress |
| Budget estimation             | 70%                    | In-Progress |
| Errors when screen sizes vary | 40%                    | In-Progress |

| <b>Non-Functional</b> | <b>Test Case Coverage (%)</b> | <b>Status</b> |
|-----------------------|-------------------------------|---------------|
| Authentication        | 50% (Working Prototype)       | In-Progress   |
| Security              | 0% (No Prototype)             | No Progress   |
| Data latency          | 50% (Working Prototype)       | In-Progress   |
| Performance           | 50% (Working Prototype)       | In-Progress   |
| Availability          | 50% (Working Prototype)       | In-Progress   |

Result:

Thus, the test case report has been created for the Rentaza Project.



## School of Computing

**SRM IST, Kattankulathur – 603 203**

**Course Code: 18CSC206J**

**Course Name: Software Engineering and Project Management**

|                            |   |
|----------------------------|---|
| <b>Experiment No</b>       | 13  |
| <b>Title of Experiment</b> | Provide the details of Architecture Design/Framework/Implementation |
| <b>Team Lead</b>           | Haripreeth Dwarakanath Avarur                                       |
| <b>Team Members</b>        | Haripreeth, Aditi, Sanjay   |
| <b>Register Numbers</b>    | RA2011003010011   |
| <b>Date of Experiment</b>  | 14.06.2022  |

### Mark Split Up

| <b>S. No</b> | <b>Description</b> | <b>Maximum Mark</b> | <b>Mark Obtained</b> |
|--------------|--------------------|---------------------|----------------------|
| 1            | Exercise           | 5                   |                      |
| 2            | Viva               | 5                   |                      |
| <b>Total</b> |                    | <b>10</b>           |                      |

**Staff Signature with date**

## Aim

To provide the details of architectural design/framework/implementation

## Team Members:

| S No | Register No     | Name                          | Role       |
|------|-----------------|-------------------------------|------------|
| 1    | RA2011003010011 | Haripreeth Dwarakanath Avarur | Rep/Member |
| 2    | RA2011003010004 | Aditi                         | Member     |
| 3    | RA2011003010022 | Sanjay                        | Member     |

< Provide the details of architectural design/framework/implementation with screenshots - Minimum three modules to be completed (excluding login page) use of software on their choice to implement>

Full documentation with the coding

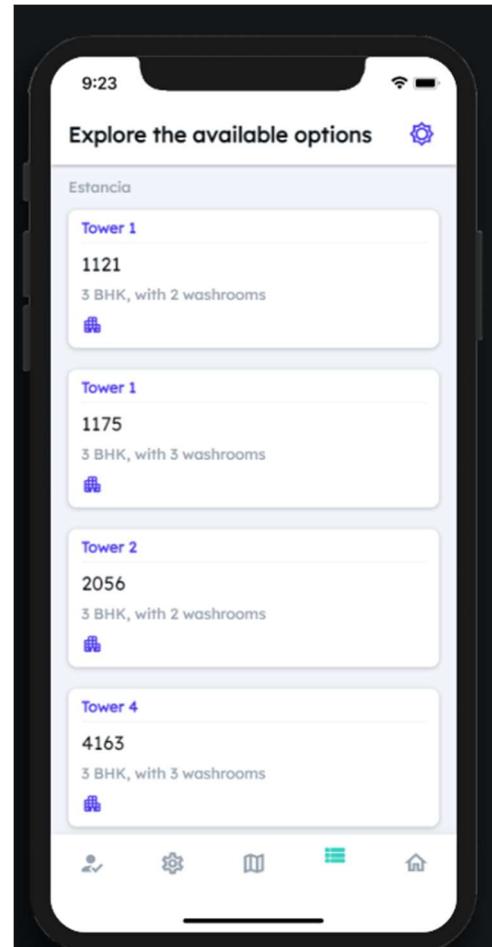
```
import './flutter_flow/flutter_flow_theme.dart';
import './flutter_flow/flutter_flow_util.dart';
import './property1/property1_widget.dart';
import './property2/property2_widget.dart';
import './property3/property3_widget.dart';
import './property4/property4_widget.dart';
import './user_details/user_details_widget.dart';
import 'package:flutter/material.dart';
import 'package:flutter_spinkit/flutter_spinkit.dart';
import 'package:google_fonts/google_fonts.dart';

class ListViewWidget extends StatefulWidget {
  const ListViewWidget({Key key}) : super(key: key);

  @override
  _ListViewWidgetState createState() => _ListViewWidgetState();
}

class _ListViewWidgetState extends State<ListViewWidget> {
  final scaffoldKey = GlobalKey<ScaffoldState>();

  @override
  Widget build(BuildContext context) {
    return Scaffold(
      key: scaffoldKey,
      appBar: AppBar(
        backgroundColor: Colors.white,
        automaticallyImplyLeading: false,
        title: Text(
          'Explore the available options',
          style: FlutterFlowTheme.of(context).title1.override(
            fontFamily: 'Lexend Deca',
            color: Color(0xFF090F13),
            fontSize: 20,
            fontWeight: FontWeight.bold,
          ),
        ),
        actions: [
          Padding(
            padding: EdgeInsetsDirectional.fromSTEB(0, 0, 20, 0),
            child: InkWell(
              onTap: () async {
                await Navigator.push(
                  context,
                  MaterialPageRoute(
                    builder: (context) => UserDetailsWidget(),
                  ),
                );
              },
            ),
          ),
        ],
      ),
    );
  }
}
```



```
        );
    },
    child: Icon(
      Icons.brightness_low_outlined,
      color: Color(0xFF4B39EF),
      size: 24,
    ),
  ),
),
],
centerTitle: false,
elevation: 2,
),
backgroundColor: Color(0xFFFF1F4F8),
body: SafeArea(
  child: Column(
    mainAxisAlignment: MainAxisAlignment.max,
    children: [
      Row(
        mainAxisAlignment: MainAxisAlignment.max,
        children: [
          Padding(
            padding: EdgeInsetsDirectional.fromSTEB(16, 12, 0, 12),
            child: Text(
              'Estancia',
              style: FlutterFlowTheme.of(context).bodyText2.override(
                fontFamily: 'Lexend Deca',
                color: Color(0xFF95A1AC),
                fontSize: 14,
                fontWeight: FontWeight.normal,
              ),
            ),
          ),
        ],
      ),
    ],
  ),
),
Padding(
  padding: EdgeInsetsDirectional.fromSTEB(0, 0, 0, 12),
  child: ListView(
    padding: EdgeInsets.zero,
    primary: false,
    shrinkWrap: true,
    scrollDirection: Axis.vertical,
    children: [
      Padding(
        padding: EdgeInsetsDirectional.fromSTEB(16, 0, 16, 8),
        child: Container(
          width: double.infinity,
          decoration: BoxDecoration(
            color: Colors.white,
            boxShadow: [
              BoxShadow(
                blurRadius: 3,
                color: Color(0x430F1113),
                offset: Offset(0, 1),
              )
            ],
            borderRadius: BorderRadius.circular(8),
          ),
        ),
      ),
      child: InkWell(
        onTap: () async {
          await Navigator.push(
            context,
            PageTransition(
              type: PageTransitionType.rightToLeft,
              duration: Duration(milliseconds: 300),
              reverseDuration: Duration(milliseconds: 300),
              child: PropertyWidget(),
            ),
          );
        },
      ),
    ],
  ),
),
child: Column(
  mainAxisAlignment: MainAxisAlignment.max,
  children: [
    Padding(
      padding: EdgeInsetsDirectional.fromSTEB(12, 4, 12, 4),
      child: InkWell(
        onTap: () async {
          await Navigator.push(
            context,
            PageTransition(
              type: PageTransitionType.rightToLeft,
            ),
          );
        },
      ),
    ),
  ],
);
```

```

duration: Duration(milliseconds: 300),
reverseDuration:
    Duration(milliseconds: 300),
child: Property1Widget(),
),
);
},
child: Row(
mainAxisSize: MainAxisSize.max,
children: [
Padding(
padding: EdgeInsetsDirectional.fromSTEB(
0, 4, 0, 0),
child: Text(
'Tower 1',
style: FlutterFlowTheme.of(context)
.bodyText2
.override(
fontFamily: 'Lexend Deca',
color: Color(0xFF4B39EF),
fontSize: 14,
fontWeight: FontWeight.w600,
),
),
),
],
),
),
),
),
Container(
width: MediaQuery.of(context).size.width * 0.85,
height: 1,
decoration: BoxDecoration(
color: Color(0xFFFF1F4F8),
),
),
),
Padding(
padding:
EdgeInsetsDirectional.fromSTEB(12, 4, 12, 4),
child: Row(
mainAxisSize: MainAxisSize.max,
children: [
Padding(
padding: EdgeInsetsDirectional.fromSTEB(
0, 4, 0, 0),
child: Text(
'1121',
style: FlutterFlowTheme.of(context)
.subtitle1
.override(
fontFamily: 'Lexend Deca',
color: Color(0xFF090F13),
fontSize: 18,
fontWeight: FontWeight.w500,
),
),
),
],
),
),
),
Padding(
padding:
EdgeInsetsDirectional.fromSTEB(12, 4, 12, 4),
child: Row(
mainAxisSize: MainAxisSize.max,
children: [
Expanded(
child: Text(
'3 BHK, with 2 washrooms',
style: FlutterFlowTheme.of(context)
.bodyText2
.override(
fontFamily: 'Lexend Deca'

```

## Result:

Thus, the details of architectural design/framework/implementation along with the screenshots were provided.