**LAB REPORT**

***Submitted by***

**Kartik Jain RA2011026010335**
**Sakasham Aditya RA2011026010308**
**Sanskar Arora RA2011026010311**

***Under the Guidance of***

**Dr C.G. Anupama**

**Assistant Professor, O.G.**

***In partial satisfaction of the requirements for the degree of***

**BACHELOR OF TECHNOLOGY**
**in**
**COMPUTER SCIENCE ENGINEERING**

**with specialization in Artificial Intelligence and Machine Learning**


**SCHOOL OF COMPUTING**

**COLLEGE OF ENGINEERING AND TECHNOLOGY**

**SRM INSTITUTE OF SCIENCE AND TECHNOLOGY**

**KATTANKULATHUR - 603203**

**JUNE 2022**

SRM INSTITUTION OF SCIENCE AND TECHNOLOGY
KATTANKULATHUR-603203

# BONAFIDE CERTIFICATE

Certified that this lab report titled **"_____"** is the bonafide work done by _____who carried out the lab exercises under my supervision. Certified further, that to the best of my knowledge the work reported herein does not form part of any other work.

**SIGNATURE**

**Dr C.G. Anupama**
**SEPM – Course Faculty**
**Assistant Professor, O.G.**

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(Deemed to be University u/s 3 of UGC Act, 1956)

## Department of Networking and Communications

## SRM IST, Kattankulathur – 603 203

**Course Code: 18CSC206J**

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

| | |
|---|---|
| **Experiment No** | 1 |
| **Title of Experiment** | To identify the Software Project, Create Business Case, Arrive at a Problem Statement |
| **Team Members** | Kartik Jain, Sakasham Aditya, Sanskar Arora |
| **Register Number** | RA2011026010335, RA2011026010308, RA2011026010311 |
| **Date of Experiment** | 30/03/2022 |

### Mark Split Up

| S.No | Description | Maximum Mark | Mark Obtained |
|---|---|---|---|
| 1 | Exercise | 5 | |
| 2 | Viva | 5 | |
| | **Total** | **10** | |

**Staff Signature with date**

**Aim**

To Frame a project team, analyze and identify a Software project. To create a business case and Arrive at a Problem Statement for the **REALIZER**

**Team Members:**

| S. No | Register No | Name | Role |
|---|---|---|---|
| **1** | RA2011026010335 | **Kartik Jain** | **Lead/Rep** |
| **2** | RA2011026010308 | **Sakasham Aditya** | **Member** |
| **3** | RA2011026010311 | **Sanskar Arora** | **Member** |

**Project Title: *REALIZER***

**Project Description :-**

**We're living in the 21st century. In this fast paced modern world, everyone is getting global. Life has become easier with technology. STILL there are some people who are lacking behind. Not everyone has access to internet or not everyone is educated enough to put themselves or their business out there on the internet. Due to increase in various companies like UrbanClap and Justdial these people are left without work most of the time. These people too deserve a chance. So, we are helping them get out there on the internet. Small businesses can get a chance to show their work or skills. Through our app, people can get the services of these small businesses. Using our app, people can get services provided by Plumbers, Electricians, Painter, Carpenters, and Constructor/renovation workers. We will help them setup their business online through our app. When people are in need of any service, our app will lead them to those small business services near their area which will ensure faster services. Our app runs 24/7 and we'll ensure that the service people are getting are from skilled and efficient workers. UrbanClap is an app which provides services from already established businesses which is not the case for us. We are bringing smaller businesses to spotlight. UrbanClap sends its own workers while we are using small businesses just like Zomato does. Zomato doesn't have its own restaurants but it delivers food from other**

**restaurants which is exactly the kind of work we are doing. We are also putting small businesses on display just like Justdial.**

**Result :-**

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

## ONE PAGE BUSINESS CASE TEMPLATE

| | |
|---|---|
| DATE | 30/03/2022 |
| SUBMITTED BY | Kartik Jain, Sakasham Aditya, Sanskar Arora |
| TITLE / ROLE | Team Lead, Team Member, Team Member |

LOG

## THE PROJECT

In bullet points, describe the problem this project aims to solve or the opportunity it aims to develop.

- Realizer provides a platform that allows skilled and experienced professionals to connect with users looking for their specific services.
- We are providing skilled and experienced workers that have undergone intensive training.
- According to our algorithm and services we provide you with workers nearest to the customer's requirement at their desired date and time.
- We are aiming to connect small scale businesses (carpenters, painters, electricians, plumbers, construction/renovation workers) with interested customers.
- We are helping the small businesses to grow as a whole.
- Our goal is to provide efficient and faster services.

## THE HISTORY

In bullet points, describe the current situation.

- UrbanClap as a company targets already established employers/businesses but we are aiming the small or not so established businesses so that they can get an opportunity to get back in this business world.
- Currently there is no such app that targets local/close businesses.
- UrbanClap has limited employers/workers. So, we provide faster services.
- Zomato as a company delivers products from other restaurants. It doesn't have its own restaurants. Similarly, we are doing the task of connecting customers to small businesses. Our job is to connect these people according to their needs.
- Just like Justdial we are collecting data and creating a database of the different service providers in an area/city.

## LIMITATIONS

List what could prevent the success of the project, such as the need for expensive equipment, bad weather, lack of special training, etc.

- Our workers can lack some skills when we're checking them for their efficiency so training them could be a time-taking process.
- Bad weather definitely can hinder our job. Due to harsh weather conditions, workers could face a hard time reaching the employers.
- Different businesses have different closing times. So, we cannot ensure all businesses being available at all hours of the day.

## APPROACH

List what is needed to complete the project.

- We need to create a database first by contacting as many businesses/workers as possible. Area by area and types of workers.
- We need people who can provide special training to our workers.
- We would need resources to put our app in the market.
- We would need resources to provide our workers with high level equipment if possible.
- We need to know the density of population in certain colonies/areas where population is large but service providers are less in number.

## BENEFITS

In bullet points, list the benefits that this project will bring to the organization.

- It will increase employment and help then earn their livelihood.
- Small Businesses can go online
- Faster and Efficient Work can be done
- Provides General Information
- Labour at Cheaper Prices hence wallet friendly
- Guaranteed Service
- Direct Interaction between the professionals and the customers
- The services are mostly provided at the chosen venue of the consumer
- Service is available on android app as well as through website
- All requirements are processed according to personal choices

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## Department of Networking and Communications

## SRM IST, Kattankulathur – 603 203

**Course Code: 18CSC206J**

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

| | |
|---|---|
| **Experiment No** | 2 |
| **Title of Experiment** | Identification of Process Methodology and Stakeholder Description |
| **Team Members** | Kartik Jain, Sakasham Aditya, Sanskar Arora |
| **Register Number** | RA2011026010335, RA2011026010308, RA2011026010311 |
| **Date of Experiment** | 03/04/22 |

### Mark Split Up

| S.No | Description | Maximum Mark | Mark Obtained |
|---|---|---|---|
| 1 | Exercise | 5 | |
| 2 | Viva | 5 | |
| | **Total** | **10** | |

**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 | RA2011026010335 | Kartik Jain | Rep/Member |
| 2 | RA2011026010311 | Sanskar Arora | Member |
| 3 | RA2011026010308 | Sakasham Aditya | Member |

**Project Title: REALIZER**

**Selection of Methodology :-**

- We implement agile methodology because we find it more efficient to run tests and develop all forms of the program concurrently, unlike in the waterfall model. This allows us to communicate with the team better and put out fires as they appear for the program.
- To identify the stakeholders we analysed all the bodies which have an influence on our application in one way or the other. The Premier League is the biggest influencer for our app because our entire application is based on the results of the matches and the player base who play fantasy league are our major users
- Waterfall model methodology which is also known as linear sequential life cycle model. Waterfall Model followed in the sequential order, and so project development team only moves to next phase of development or testing if the previous step is completed
- Agile methodology is a practice that helps continuous iteration of development and testing in the software development process. In this model, development and testing activities are concurrent, unlike the Waterfall model. This process allows more communication between customers, developers, managers and testers
- Therefore, we selected Agile methodology as it suited our needs more

**Roles and Methods :-**

Roles:

- Front-End Developer: Sakasham Aditya
- Back-End Developer: Kartik Jain, Sanskar Arora
- Project Lead: Kartik Jain

**Methods:**

- Agile

**Identification of Stakeholders :-**

- **Project Manager**
- **Team Members**
- **Investors**
- **Customer**

| Stakeholder Name | Activity/ Area /Phase | Interest | Influence | Priority (High/ Medium/ Low) |
|---|---|---|---|---|
| Project Manager | Responsible for managing the whole project. Project Manager is generally never involved in producing the end product but he/she controls, monitors and manages the activities involved in the production. | High | High | 1 |
| Team Members | Performs the actual work of the project under the Project Manager including development, testing, etc. | High | High | 1 |
| Investors | Provides funds and resources for the successful completion of the project. | Low | High | 1 |
| Customer | Customer is the one for whom the project is being developed. | High | High | 1 |

## . Interest and Influence matrix

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

Result

Thus the Project Methodology was identified and the stakeholders were described.

## Department Of Networking and Communications

## SRM IST, Kattankulathur – 603 203

**Course Code: 18CSC206J**

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

| | |
|---|---|
| **Experiment No** | 3 |
| **Title of Experiment** | System, Functional and Non-Functional Requirements of the Project |
| **Team Members** | Kartik Jain, Sakasham Aditya, Sanskar Arora |
| **Register Number** | RA2011026010335, RA2011026010308, RA2011026010311 |
| **Date of Experiment** | 6-04-2022 |

### Mark Split Up

| S.No | Description | Maximum Mark | Mark Obtained |
|---|---|---|---|
| 1 | Exercise | 5 | |
| 2 | Viva | 5 | |
| | **Total** | **10** | |

**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 | RA2011026010335 | Kartik Jain | Rep/Member |
| 2 | RA2011026010308 | Sakasham Aditya | Member |
| 3 | RA2011026010311 | Sanskar Arora | Member |

**Project Title: Realizer**

**System Requirements:**

**For Website**

- **2 GB RAM (Minimum)**
- **Runs in Windows XP/ Windows 7/ Windows 8/ Windows 10/ Windows 11**
- **Needs internet connection to run**
- **Works on Dual Core Processor or greater**

**For Mobile App**

- **2 GB RAM or greater**
- **Android 9.0 or greater**
- **50 MB space for installation**

**Functional Requirements:**

- **The app should contain the database for all available service providers in a particular area/city.**
- **The app must be able to search for the nearest servicemen.**
- **The app must be user friendly and must be available to the user at their preferred language.**

- **The app must be able to give the user many options for their selected service.**
- **The app should not be laggy and full of bugs.**
- **The app should be able to notify the servicemen about their job asap without any delay.**
- **The app should give suggestions for the best service providers.**
- **The app should accept all major credit/debit cards.**

**Non-Functional Requirements:**

- **The software should be available on the Internet, to enable the users to use , download it any time.**
- **The program should be platform independent.**
- **The app must be able to support atleast 10 service per user per day.**
- **The app must be able to run 24x7 and support any amount of requests from users at a time.**
- **The app/website should not go down.**
- **The search should bring results within 10 secs.**
- **The system should be easy for usability and self-descriptive for maintenance purposes.**

Result

Thus the requirements were identified and accordingly described.

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# School of Computing

## SRM IST, Kattankulathur – 603 203

**Course Code: 18CSC206J**

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

| | |
|---|---|
| **Experiment No** | 4 |
| **Title of Experiment** | Prepare Project Plan based on scope, Calculate Project effort based on resources and Job roles and responsibilities |
| **Name of the candidate** | Kartik jain |
| **Team Members** | Sakasham Aditya, sanskar arora |
| **Register Number** | RA2011026010335,308,311 |
| **Date of Experiment** | 22 april 2022 |

## Mark Split Up

| S.No | Description | Maximum Mark | Mark Obtained |
|---|---|---|---|
| 1 | Exercise | 5 | |
| 2 | Viva | 5 | |
| | **Total** | **10** | |

**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:**

| Sl No | Register No | Name | Role |
|---|---|---|---|
| 1 | RA2011026010335 | Kartik jain | Lead |
| 2 | RA2011026010308 | Sakasham aditya | Member |
| 3 | RA2011026010311 | Sanskar arora | Member |

# 1. Project Management Plan

Describe the key issues driving the project. Summarize the results of the project identification stage (e.g. feasibility assessment and business case). Summarize the solution selected from the Business Case. Define the objectives of the project and the intended business results. Define quantitative and measurable objectives that can be used as criteria by which key stakeholders will judge the success of the project. Some of this information can be extracted from the project charter

| Focus Area | Details |
|---|---|
| Integration Management | Kartik jain is the project Lead. He will be handling the backend development as well as the data analysis model.<br><br>Sanskar arora is the Front End Developer. He will be handling the Mobile Application including the User interface and the API's for Quality of Life features in said application.<br><br>Sakasham Aditya has been appointed as the Backend Developer. He will be creating and maintaining the server from which all data will be passed to and fro.<br><br>Since an Agile process model has been selected for this project. We have the flexibility to test out different models and versions of the final application before it hits the market. We also have allowed ourselves enough flexibility to effectively communicate between the Front-End team and the Back-End |

| | |
|---|---|
| | Team so that the final product can be produced without too much hassle of data transfers and such. |
| Scope Management | The target audience of our application are the people of all age group from 16 to 60+. Our mission is to provide an fast services ,which will be our edge over the competition by integrating data science into our system .<br><br>Naturally anything that cannot be predicted from data alone (, cancellations, change in working hours etc) will be out of the model's hands. |
| | |
| Cost Management | Estimate Effort<br><br>Assign Team<br><br>Budget Control<br><br>Details Mentioned below |
| Quality Management | Quality Assurance: Quality assurance will be managed including governance, roles and responsibilities, tools and techniques and reporting<br><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><br>People: People & Skills Required<br><br>Finance: Budget Required<br><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 |

## 1.1. Effort and Cost Estimation

| WBS | Activity | Activity Description | Sub-Task | Sub-Task Description | Effort (in hours/week) | Cost in INR |
|---|---|---|---|---|---|---|
| E1FR1 | E1R1A1 | App Development | E1R1A1T1 | To create application with connectivity to backend. | 6-8 | 30k |
| | | | E1R1A1T2 | Data Transferring to and from backend using API calls | 6-8 | |
| | | | E1R1A1T3 | Creating a frontend User Interface using Flutter | 6-8 | |
| E1FR2 | E1R1A2 | Backend Development | E1R1A2T1 | API Management | 6-8 | 40k |
| | | | E1R1A2T2 | Hosting | 6-8 | |
| E1FR3 | E1R1A3 | Data Analyst | E1R1A3T1 | Using Data and perfecting algorithm | 6-8 | |
| | | | E1R1A3T2 | Historical Comparison | 20+ | 80k |

## 1.2. Infrastructure/Resource Cost [CapEx]

| Infrastructure Requirement | Qty | Cost per qty | Cost per item |
|---|---|---|---|
| Domain Rights | 1 | 2-5k | 2-5k |
| Server firm and other hardware | 1 | 150k | 150k |
| Legal and other government documents | 1 | 200k | 200k |

## 2. Maintenance and Support Cost [OpEx]

| Category | Details | Qty | Cost per qty per annum | Cost per item |
|---|---|---|---|---|
| People | Data Analyst<br><br>Frond End Developer<br><br>Backend Developer | 3 | 20,000,00 | 60,000,00 |
| License | Operating System<br>Middleware<br>IDE | 10 | 10000 | 100,000 |
| Infrastructures | Server, Storage and Machine | 2 | 20000 | 400,000 |

## 3. Project Team Formation

### 3.1. Identification Team members

| Name | Role | Responsibilities |
|---|---|---|
| Project Team | Key Business User (Product Owner) | Provide clear business and user requirements |
| Kartik jain | Project Manager | Manage the project |
| Saksham aditya | Business Analyst | Discuss and Document Requirements |
| Kartik jain | Technical Lead | Design the end-to-end architecture |
| Sanskar arora | Frontend Developer | Develop user interface |
| Kartik jain and sakasham aditya | Backend Developer | Design, Develop and Unit Test Services/API/DB |
| Sanskar arora | Cloud Operations | Provision required Services |
| Sakasham aditya | Tester | Define Test Cases and Perform Testing |

### 3.2. Responsibility Assignment Matrix

| RACI Matrix | Team Members | | | |
|---|---|---|---|---|
| **Activity** | **Name (A)** | **Kartik jain,sakasham Aditya,sanskar arora** | **Kartik jain(Project Manager)** | **Key Business User** |
| Project Planning | C | R | A | C |
| App Construction | C | R | A | I |
| Content Review | A, R | R | I | I |

| | | | | |
|---|---|---|---|---|
| Usability testing | I | C | R | I |
| Ongoing review of visitors | I | A | R | C |

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

Result:

Thus, the Project Plan was documented successful

# Reference


1. https://www.pmi.org/
2. https://www.projectmanagement.com/
3. https://www.tpsgc-pwgsc.gc.ca/biens-property/sngp-npms/ti-it/ervcpgpm-dsfvpmpt-eng.html

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# School of Computing

## SRM IST, Kattankulathur – 603 203

**Course Code: 18CSC206J**

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

| | |
|---|---|
| **Experiment No** | 5 |
| **Title of Experiment** | Prepare Work breakdown structure, Timeline chart, Risk identification table |
| **Name of the candidate** | Sanskar Arora(311) |
| **Team Members** | Sakasham Aditya(308), Kartik Jain(335) |
| **Register Number** | RA2011026010335, RA2011026010308, RA2011026010311 |
| **Date of Experiment** | 22/04/22 |

### Mark Split Up

| S.No | Description | Maximum Mark | Mark Obtained |
|---|---|---|---|
| 1 | Exercise | 5 | |
| 2 | Viva | 5 | |
| | **Total** | **10** | |

**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 | RA2011026010335 | Kartik Jain | Rep |
| 2 | RA2011026010308 | Sakasham Aditya | Member |
| 3 | RA2011026010311 | Sanskar Arora | Member |

<Incorporate WBS, Timeline chart and Risk table>

# 1. Executive Summary

Our Project is Realizer. Realizer provides a platform that allows skilled and experienced professionals to connect with users looking for specific services. According to our algorithm and services we provide you with workers nearest to the customer's requirement at their desired date and time. We have set a few milestones to keep track of the progress. They are: Project Outline, Frontend completion, Backend completion, Data Analysis and Testing. We aim to complete this project by 23 May 2022. We have identified a few risks associated with this project the details of which are mentioned below.

# 2. WBS With Project Schedule

< Assign team members for sub-tasks based on RACI and skill requirement>

| Module (#) | Activity (#) | Sub-Task(#) | Assignee(s) | Planned Start Date | Planned End Date | Actual Start Date | Actual End Date | Status |
|---|---|---|---|---|---|---|---|---|
| Outline | Creating Basic Outline of the project and associated | Creating Business case<br><br>Identifying risks, and stakeholders | Kartik Jain<br><br>Sanskar Arora | 22/04/2022<br><br>02/05/2022 | 25/04/2022<br><br>05/05/2022 | 22/04/2022<br><br>02/05/2022 | 27/04/2022<br><br>05/05/2022 | Completed<br><br>Completed |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | document-ation | Creating Project plan and schedule | Kartik Jain | 07/05/2022 | 10/05/2022 | 07/05/2022 | 11/05/2022 | Completed |
| Front-end | Designing and developing UI and frontend layer | Creating the User Interface | Sanskar Arora | 08/05/2022 | 12/05/2022 | 08/05/2022 | 14/05/2022 | Completed |
| | | Adding functionality and Completing the app | Sanskar Arora | 09/05/2022 | 13/05/2022 | 10/05/2022 | | Pending |
| Data Analysis | Studying the given data and providing the ideal team | Analyzing data from the API | Kartik Jain | 28/04/2022 | 05/05/2022 | 28/04/2022 | 03/05/2022 | Completed |
| | | Comparing results with the actual results and adjusting accordingly | Kartik Jain | 05/05/2022 | 14/05/2022 | 10/05/2022 | | Pending |
| Backend | Designing Core Structure of software | Forming the API | Kartik Jain | 25/04/2022 | 10/05/2022 | | | Pending |
| | | Communicating data with the front end | Sakasham Aditya | 25/04/2022 | 12/05/2022 | | | Pending |

## 3. Risk Identification

- Structured Brainstorming with team and stakeholders
- Checklist is a list of actions/points to be considered [Information can be used from the similar previous projects]

- Risk can be identified from
    - Assumption-Constraint analysis
    - SWOT Analysis [Strength/Weakness/Opportunity/Threat]

## 1. List (Describe) Register

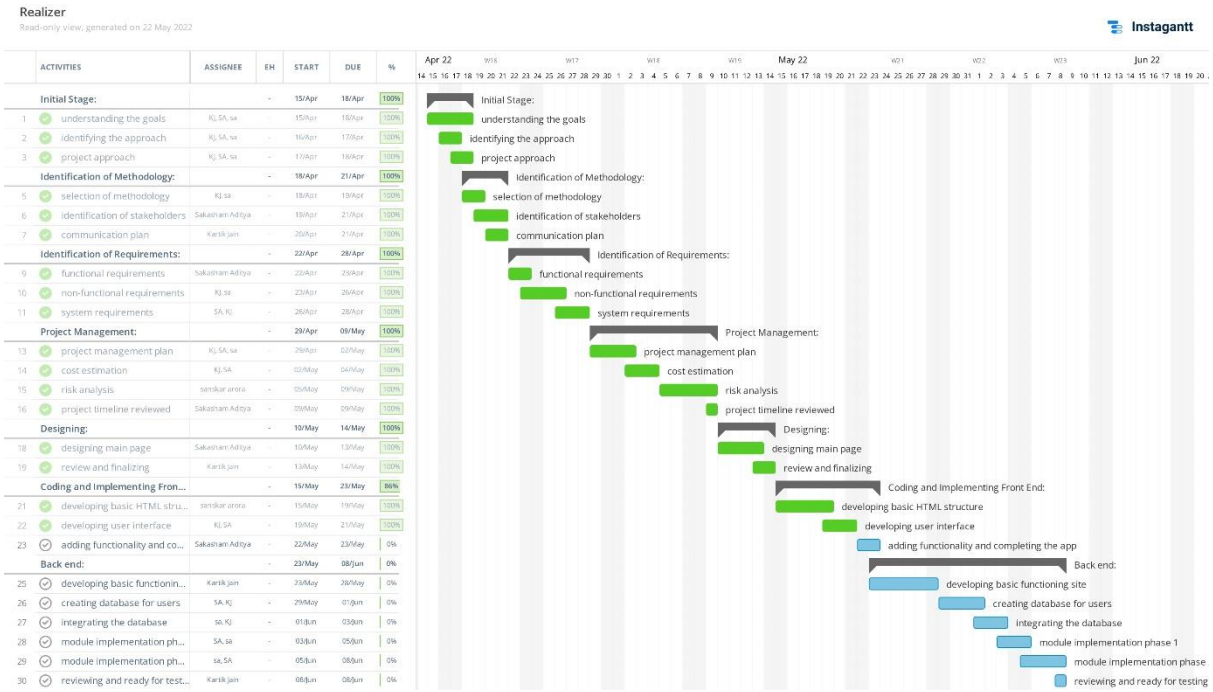
<Issue can potentially occur in future and list all risks identified >

| Risk ID (#) | Risk Description | Impact Description |
|---|---|---|
| R01 | **Unpredictable Weather:** Could make the services be cancel altogether. | **High Impact:** Very likely to have more than 1 cancellation, but wouldn't mess up the entire algorithm |
| R02 | **Server Crash:** Could affect the performance of the software and result in lower accessibility | **Medium Impact:** Could make the data unavailable until the situation is handled |

## 2. Managing Risk

<Risk should be categorized So action can be derived to address these risks could become an issue in future>

| Risk ID (#) | Status [Open / Closed] | Risk Appetite [ Accept/ Mitigate/ Transfer/Avoid] | Action | Action Owner | Target Date |
|---|---|---|---|---|---|
| R01 | Open | Accept | Keeping an account of working hours of the service providers, weather and maintaining the application rigorously | Kartik Jain | 07/05/2022 |
| R02 | Open | Avoid | Prevent server overload by providing only limited number of users access at a time | Sakasham Aditya | 30/04/2022 |



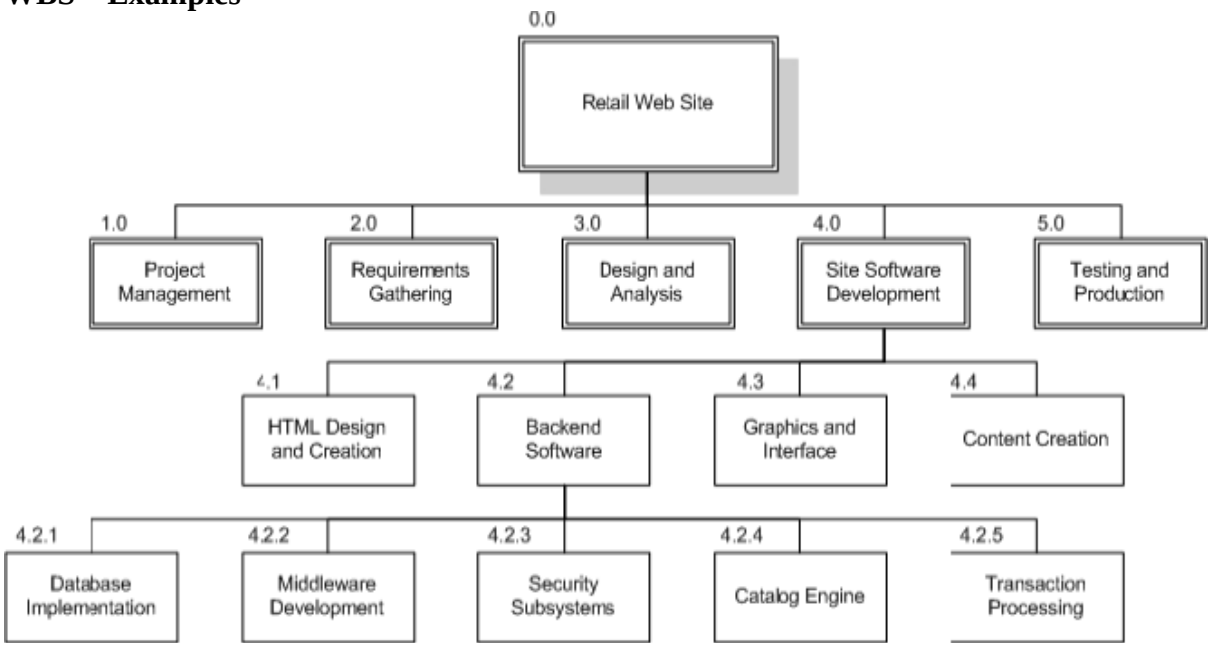

## Reference

1. https://www.pmi.org/

Result:

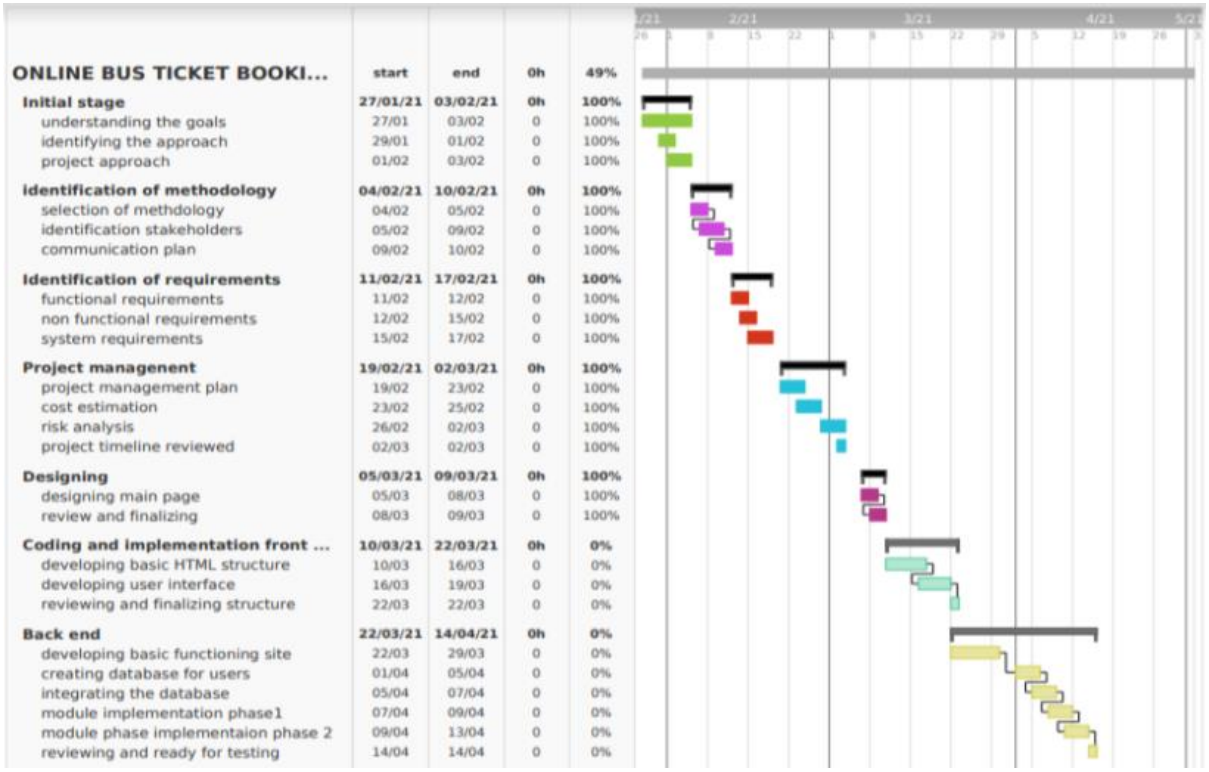
Thus, the work breakdown structure with timeline chart and risk table were formulated successfully.

**WBS – Examples**



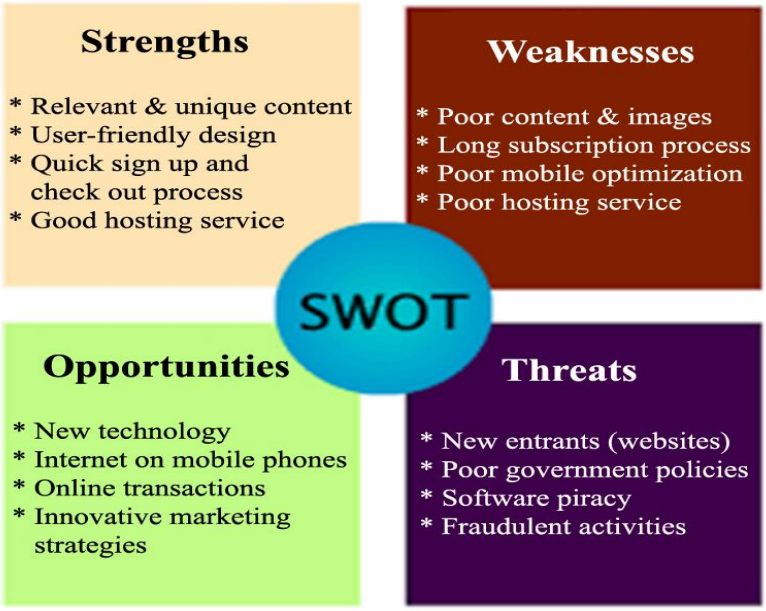

- ☐ 0.0 Retail Web Site
- ☐ 1.0 Project Management
- ☐ 2.0 Requirements Gathering
- ☐ 3.0 Analysis & Design
- ☐ 4.0 Site Software Development
    - 4.1 HTML Design and Creation
    - 4.2 Backend Software
        - 4.2.1 Database Implementation
        - 4.2.2 Middleware Development
        - 4.2.3 Security 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



| ONLINE BUS TICKET BOOKI... | start | end | 0h | 49% |
|---|---|---|---|---|
| **Initial stage** | **27/01/21** | **03/02/21** | **0h** | **100%** |
| understanding the goals | 27/01 | 03/02 | 0 | 100% |
| identifying the approach | 29/01 | 01/02 | 0 | 100% |
| project approach | 01/02 | 03/02 | 0 | 100% |
| **identification of methodology** | **04/02/21** | **10/02/21** | **0h** | **100%** |
| selection of methdology | 04/02 | 05/02 | 0 | 100% |
| identification stakeholders | 05/02 | 09/02 | 0 | 100% |
| communication plan | 09/02 | 10/02 | 0 | 100% |
| **Identification of requirements** | **11/02/21** | **17/02/21** | **0h** | **100%** |
| functional requirements | 11/02 | 12/02 | 0 | 100% |
| non functional requirements | 12/02 | 15/02 | 0 | 100% |
| system requirements | 15/02 | 17/02 | 0 | 100% |
| **Project managenent** | **19/02/21** | **02/03/21** | **0h** | **100%** |
| project management plan | 19/02 | 23/02 | 0 | 100% |
| cost estimation | 23/02 | 25/02 | 0 | 100% |
| risk analysis | 26/02 | 02/03 | 0 | 100% |
| project timeline reviewed | 02/03 | 02/03 | 0 | 100% |
| **Designing** | **05/03/21** | **09/03/21** | **0h** | **100%** |
| designing main page | 05/03 | 08/03 | 0 | 100% |
| review and finalizing | 08/03 | 09/03 | 0 | 100% |
| **Coding and implementation front ...** | **10/03/21** | **22/03/21** | **0h** | **0%** |
| developing basic HTML structure | 10/03 | 16/03 | 0 | 0% |
| developing user interface | 16/03 | 19/03 | 0 | 0% |
| reviewing and finalizing structure | 22/03 | 22/03 | 0 | 0% |
| **Back end** | **22/03/21** | **14/04/21** | **0h** | **0%** |
| developing basic functioning site | 22/03 | 29/03 | 0 | 0% |
| creating database for users | 01/04 | 05/04 | 0 | 0% |
| integrating the database | 05/04 | 07/04 | 0 | 0% |
| module implementation phase1 | 07/04 | 09/04 | 0 | 0% |
| module phase implementaion phase 2 | 09/04 | 13/04 | 0 | 0% |
| reviewing and ready for testing | 14/04 | 14/04 | 0 | 0% |

## 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 | • Extending the schedule<br>• Reducing/removing scope<br>• Change the execution strategy |
| Transfer | Risk transference involves shifting or transferring the risk threat and impact to a third party. Rather transfer the responsibly and ownership | • Purchasing insurance<br>• Performance bonds<br>• Warranties<br>• Contract issuance (lump sum |
| Mitigate | Risk mitigation is a strategy were by the project team takes a 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. | • Increasing testing<br>• Changing suppliers to a more stable one<br>• Reducing process complexity |
| 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. | • Contingency reserve budgets<br>• Management schedule float<br>• Event contingency |

Slide 1 of 3

## Department of Networking and Communications

## SRM IST, Kattankulathur – 603 203

**Course Code: 18CSC206J**

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

| | |
|---|---|
| **Experiment No** | 6 |
| **Title of Experiment** | Design a System Architecture, Use Case and Class Diagram |
| **Name of the candidate** | Kartik Jain |
| **Team Members** | Sakasham Aditya, Sanskar Arora |
| **Register Number** | RA2011026010335, RA2011026010308, RA2011026010311 |
| **Date of Experiment** | 10th May 2022 |

### Mark Split Up

| S.No | Description | Maximum Mark | Mark Obtained |
|---|---|---|---|
| 1 | Exercise | 5 | |
| 2 | Viva | 5 | |
| | **Total** | **10** | |

**Staff Signature with date**

**Aim**

To Design a System Architecture, Use case and Class Diagram

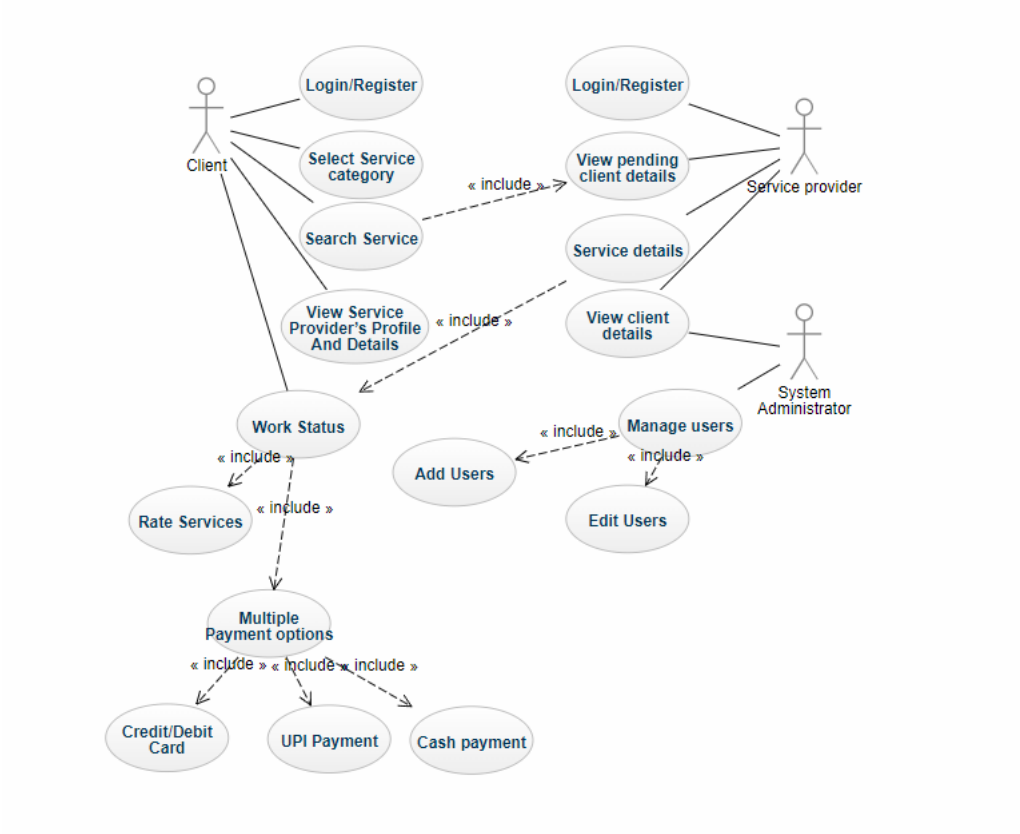
**Team Members:**

| Sl No | Register No | Name | Role |
|---|---|---|---|
| 1 | RA2011026010335 | Kartik Jain | Rep |
| 2 | RA2011026010308 | Sakasham Aditya | Member |
| 3 | RA2011026010311 | Sanskar Arora | Member |

**Requirements**

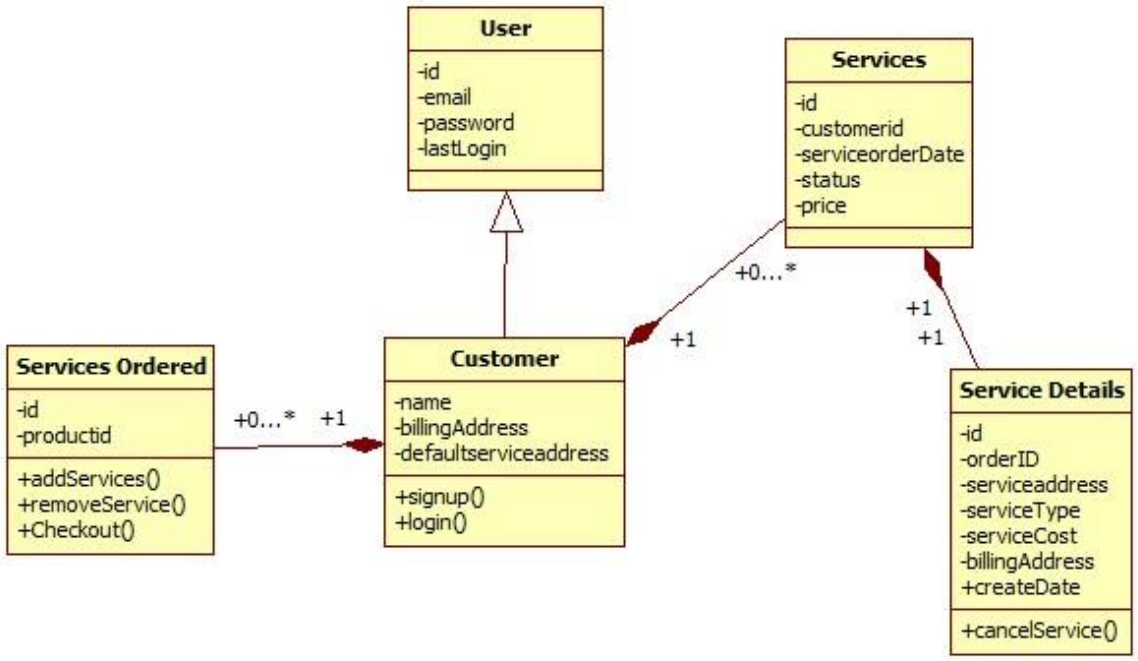
**<System Architecture, Use Case and Class Diagram>**

## Use case diagram-

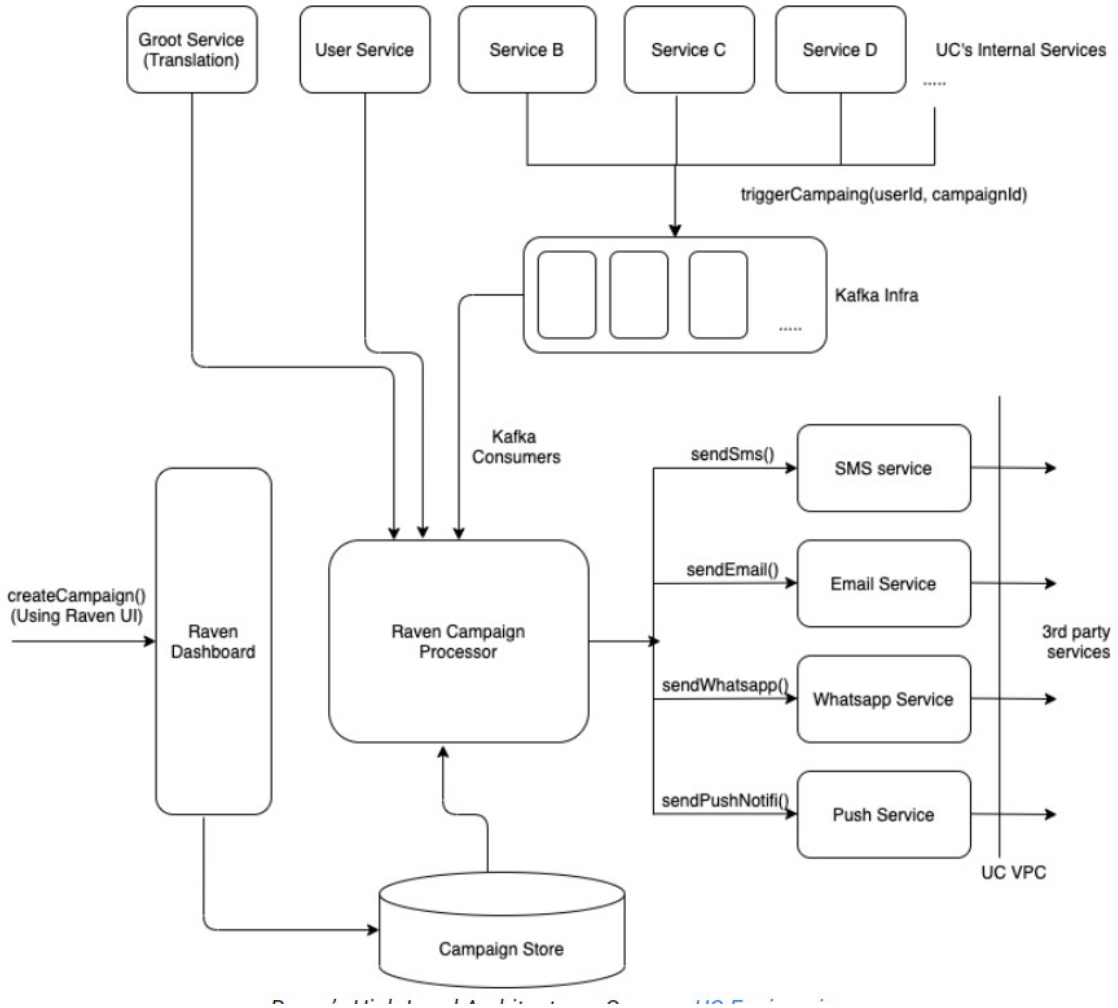



The use case diagram is designed to show the internal and external use cases of the software. In our use case diagram we have shown the user's experience with our application and how the different interactions function. The user (represented by actor on the left hand side) gets the information on the app which in turn get their information from several APIs (represented by actors). The core of our application is the service provider  which takes input from the backend, which converts the raw data from the backend  to relevant information.

Class Diagram:



## SYSTEM ARCHITECTURE



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**

| | |
|---|---|
| **Experiment No** | 7 |
| **Title of Experiment** | Design a Entity relationship diagram |
| **Name of the candidate** | **Sakasham Aditya** |
| **Team Members** | **Kartik Jain, Sankar Arora** |
| **Register Number** | **RA2011026010308** |
| **Date of Experiment** | **25th May 2022** |

**Mark Split Up**

| S. No | Description Maximum Mark Mark Obtained |
|---|---|
| 1 | Exercise 5 |
| 2 | Viva 5 |

| Total 10 |
|---|

**Staff Signature with date**

**Aim**

To create the Entity Relationship Diagram

**Team Members:**

| S No | Register No | Name Role |
|---|---|---|
| 1 | RA2011026010335 | Kartik Jain Rep |
| 2 | RA2011026010308 | Sakasham Aditya Member |
| 3 | RA2011026010311 | Sanskar Arora Member |

<ER Diagram >

Result:

Thus, the entity relationship diagram was created successfully.

**<u>*/ ER Diagram, Notation and Example</u>**

**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

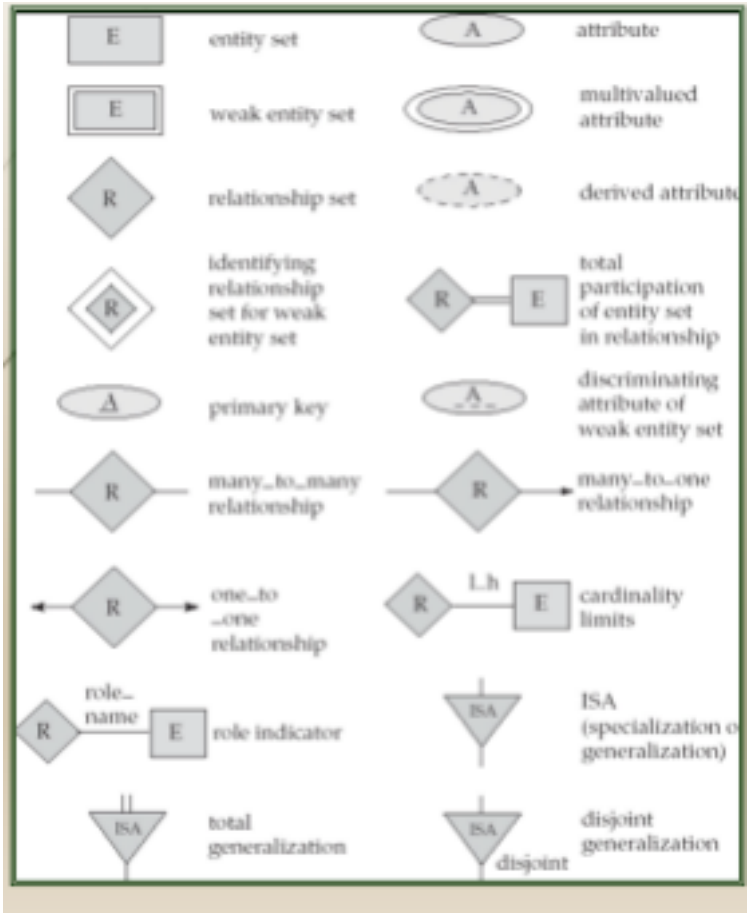
- Helps you to define terms related to entity relationship modeling
- Provide a preview of how all your tables should connect, what fields are going to be on each table
- Helps to describe entities, attributes, relationships
- ER diagrams are translatable into relational tables which allows you to build 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 ERP diagram
- ERD Diagram allows you to communicate with the logical structure of the database to users

**Components of the ER Diagram**

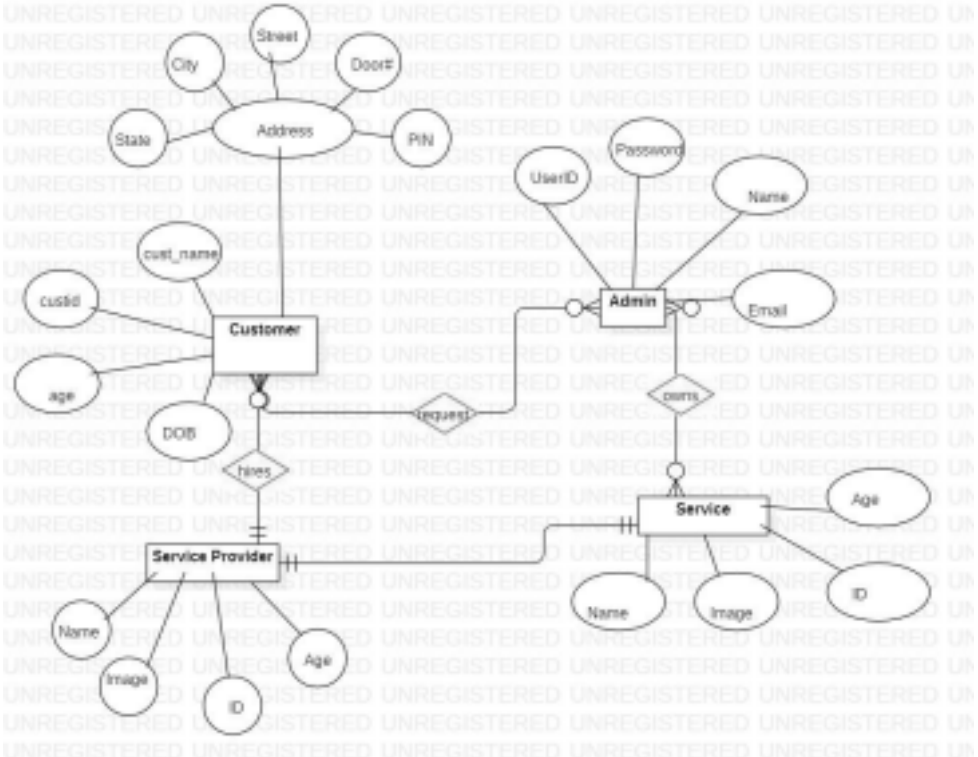
This model is based on three basic concepts: Entities, Attributes, Relationships

**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 Realizer**




## 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.

## School of Computing

## SRM IST, Kattankulathur – 603 203

**Course Code: 18CSC206J**

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

| | |
|---|---|
| **Experiment No** | 8 |
| **Title of Experiment** | Develop a Data Flow Diagram (Process-Up to Level 1) |
| **Name of the candidate** | Sanskar Arora (311) |
| **Team Members** | Kartik Jain (335), Sakasham Aditya (308) |
| **Register Number** | RA2011026010335, RA2011026010308, RA2011026010311 |
| **Date of Experiment** | 05/06/2022 |

**Mark Split Up**

| S. No | Description | Maximum Mark | Mark Obtained |
|---|---|---|---|
| 1 | Exercise | 5 | |
| 2 | Viva | 5 | |
| | **Total** | **10** | |

**Staff Signature with date**

**Aim**

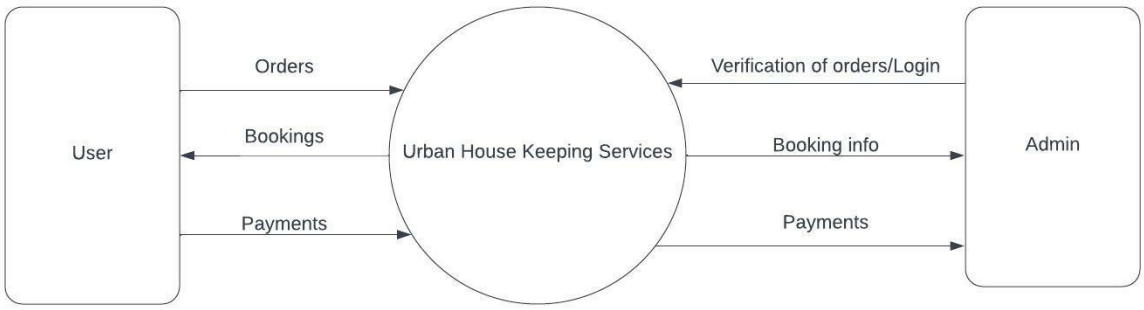
To develop the data flow diagram up to level 1 for the <project name>

**Team Members:**

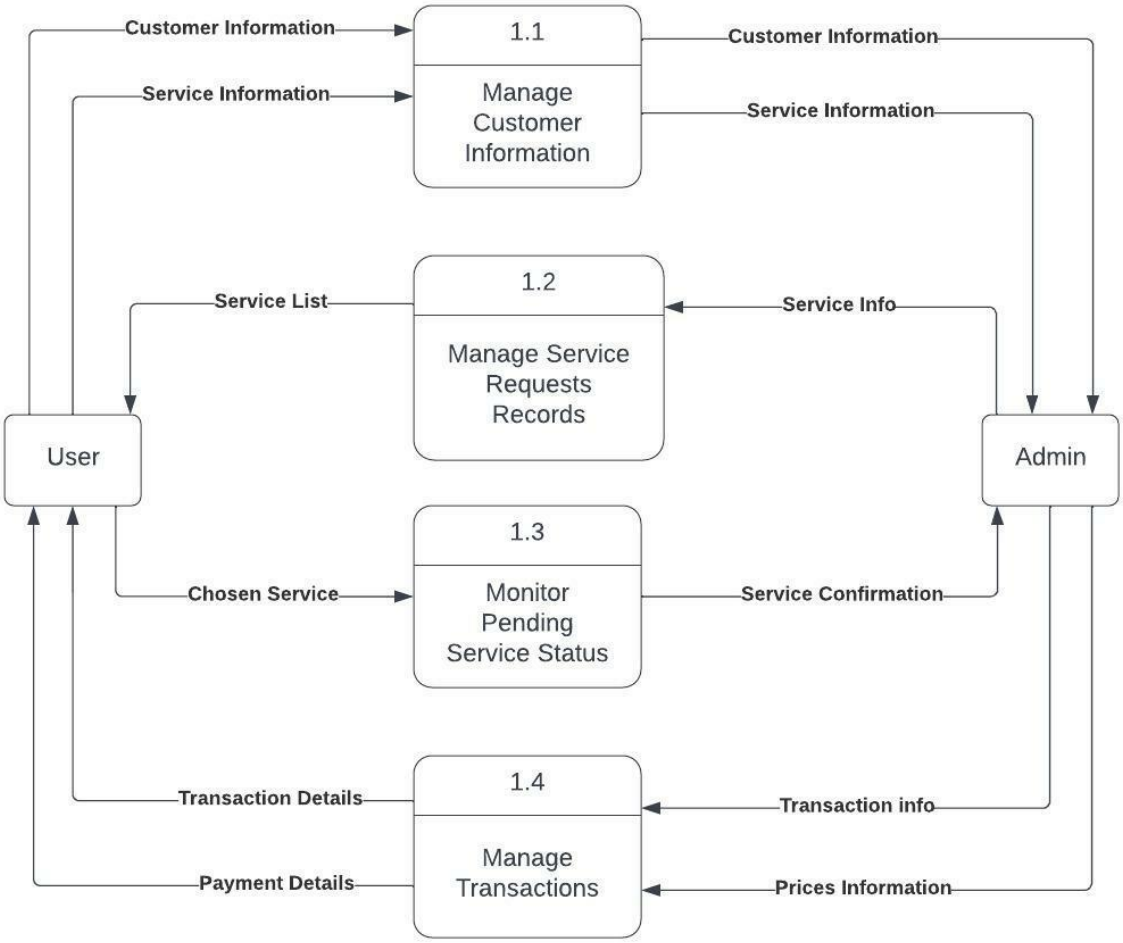
| S No | Register No | Name | Role |
|---|---|---|---|
| **1** | RA2011026010335 | **Kartik Jain** | **Rep** |
| **2** | RA2011026010308 | **Sakasham Aditya** | **Member** |
| **3** | RA2011026010311 | **Sanskar Arora** | **Member** |

<DFD >

**DFD Level 0**



**DFD Level 1**




Result:

Thus, the data flow diagrams have been created for the <REALIZER>.

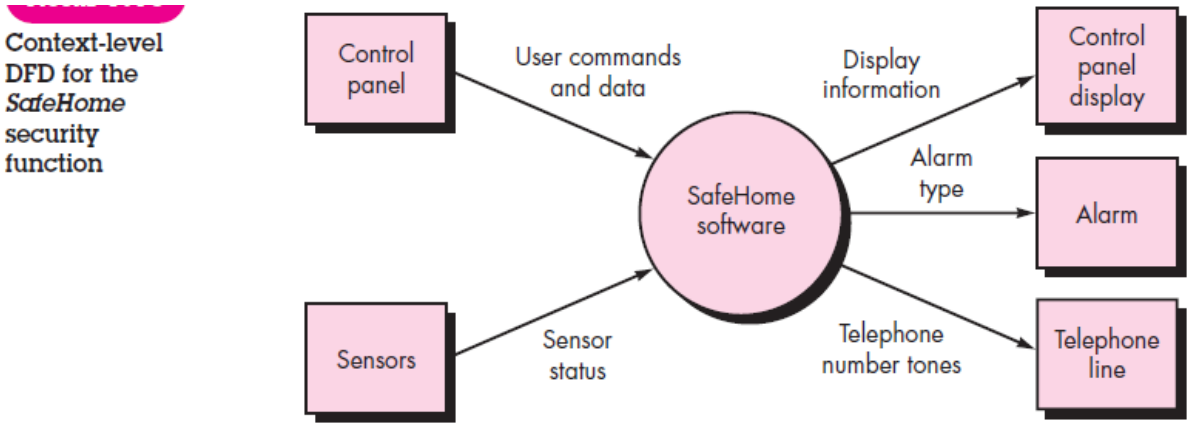
## Data Flow Diagram

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.

## */ For Example

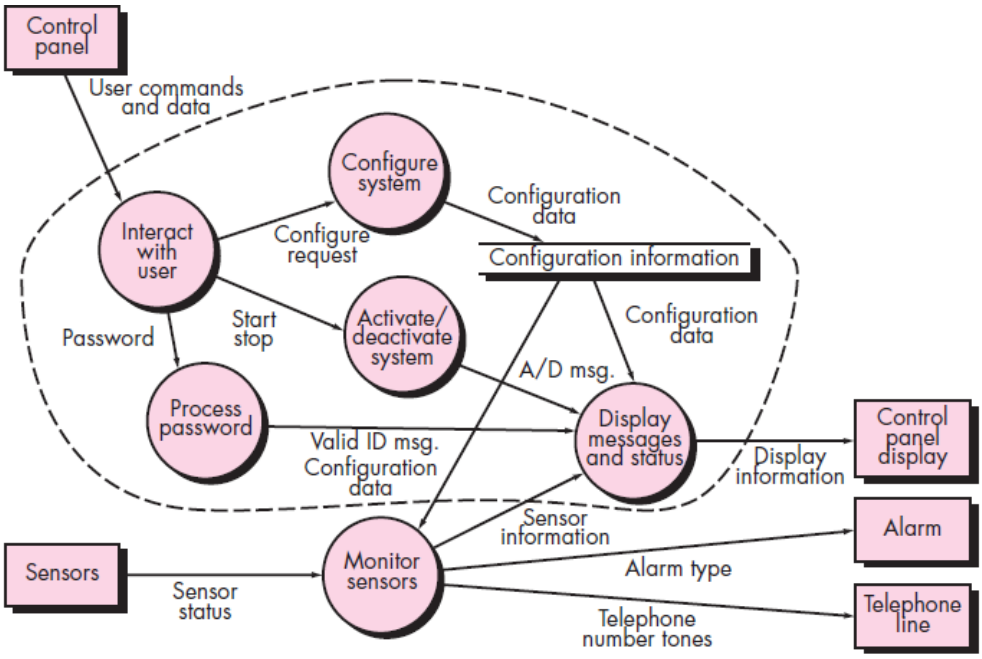
### DFD Level 0




Context-level DFD for the *SafeHome* security function

## DFD Level 1

Level 1 DFD for the *SafeHome* security function



**School of Computing**
**SRM IST, Kattankulathur – 603 203**

**Course Code: 18CSC206J**

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

| | |
|---|---|
| **Experiment No** | 9 |
| **Title of Experiment** | Design a Sequence and Collaboration Diagram |
| **Name of the candidate** | **KARTIK JAIN** |
| **Team Members** | **SAKASHAM ADITYA, SANSKAR ARORA** |
| **Register Number**<br><br>**Date of Experiment** | **RA2011026010335,RA2011026010311,RA2011026010308**<br><br>**31TH MAY 2022** |

**Mark Split Up**

| S. No | Description Maximum Mark Mark Obtained |
|---|---|
| 1 | Exercise 5 |
| 2 | Viva 5 |
| | **Total 10** |

**Staff Signature with date**

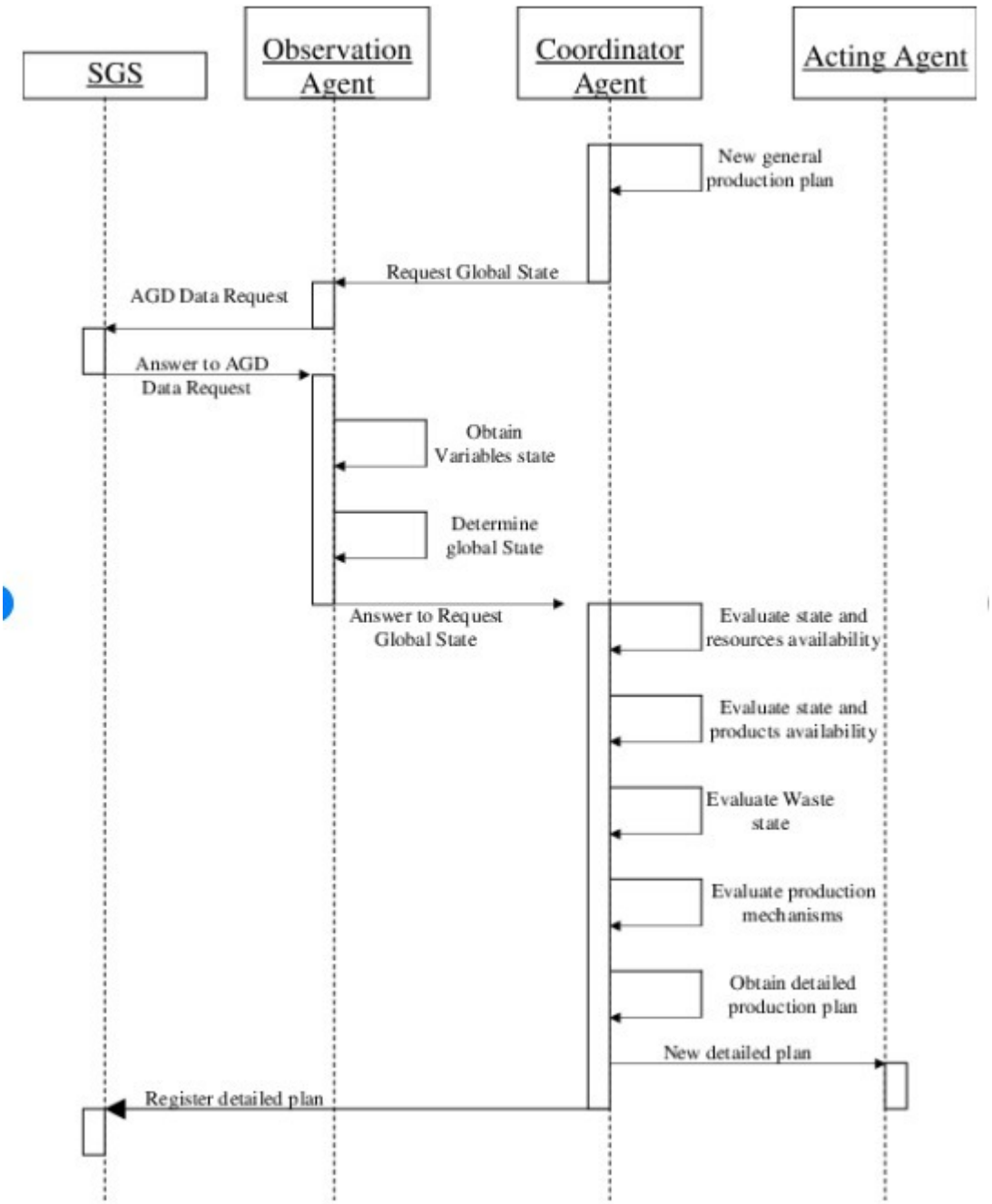
**Aim**

To create the sequence and collaboration diagram for the <project name>

**Team Members:**

| S No | Register No | Name Role |
|---|---|---|
| 1 | RA2011026010335 | KARTIK JAIN Rep/Member |
| 2 | RA2011026010311 | SANSKAR ARORA Member |
| 3 | RA2011026010308 | SAKASHAM ADITYA Member |

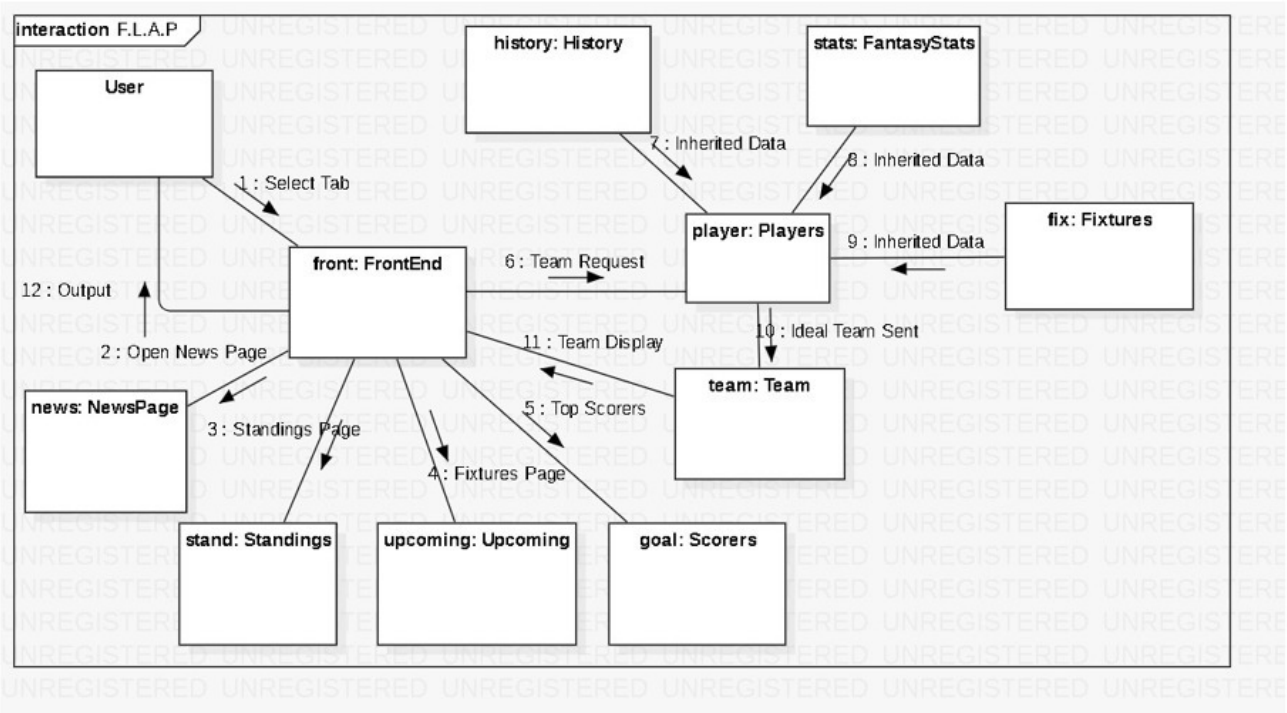
<Sequence and Collaboration Diagram>



Sequence Diagrams captures:

- the interaction that takes place in a collaboration that either realizes a use case or an operation (instance diagrams or generic diagrams)
- high-level interactions between user of the system and the system, between the system and other systems, or between subsystems (sometimes known as system sequence diagrams)\

Collaboration **Diagram with Description**



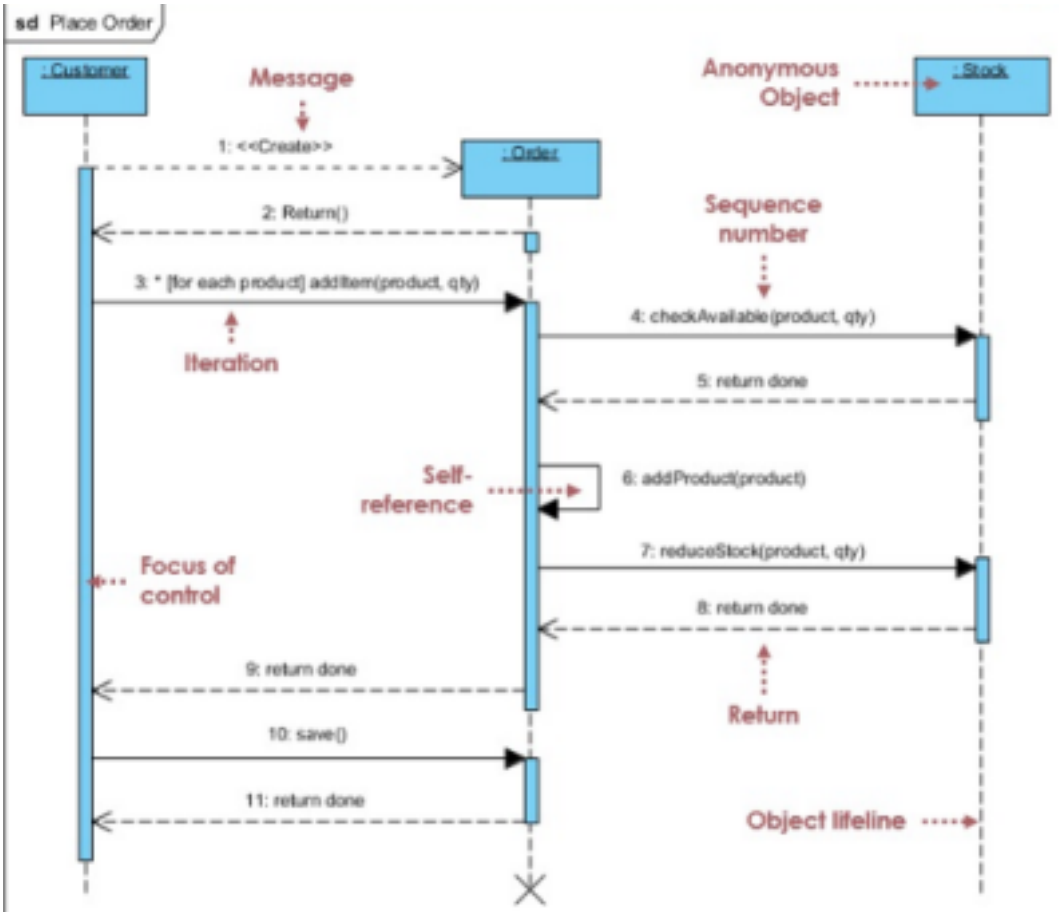

A collaboration diagram, also known as a communication diagram, is an illustration of the relationships and interactions among software objects in the Unified Modeling Language (UML). In this diagram we can see the communication between various objects of our software. It also shows the various processes that will be executed to produce the final output to the user.

Result:

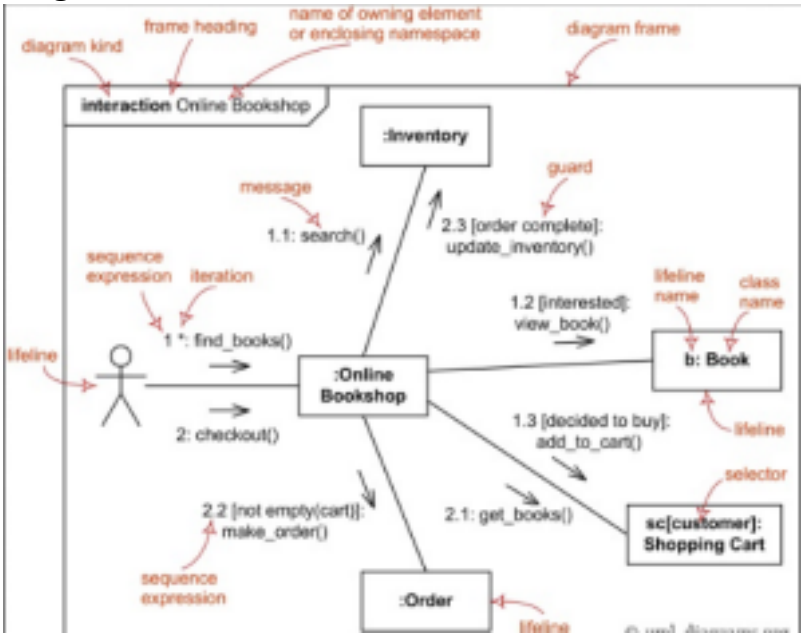
Thus, the sequence and collaboration diagrams were created for the <project name>.

***/ For Example**

**Sequence Diagram**




**Collaboration Diagram**



SRM INSTITUTE OF SCIENCE & TECHNOLOGY
(Deemed to be University u/s 3 of UGC Act, 1956)

# School of Computing

## SRM IST, Kattankulathur – 603 203

**Course Code: 18CSC206J**

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

| | |
|---|---|
| **Experiment No** | 10 |
| **Title of Experiment** | Develop a Testing Framework/User Interface |
| **Name of the candidate** | Sanskar Arora (311) |
| **Team Members** | Sakasham Aditya (308) , Kartik Jain (335) |
| **Register Number** | RA2011026010311, RA2011026010308, RA2011026010335 |
| **Date of Experiment** | 18/06/22 |

**Mark Split Up**

| S. No | Description | Maximum Mark | Mark Obtained |
|---|---|---|---|
| 1 | Exercise | 5 | |
| 2 | Viva | 5 | |
| | **Total** | **10** | |

**Staff Signature with date**

**Aim**

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

**Team Members:**

| S No | Register No | Name | Role |
|---|---|---|---|
| 1 | RA2011026010335 | KARTIK JAIN | Rep/Member |
| 2 | RA2011026010311 | SANSKAR ARORA | Member |
| 3 | RA2011026010308 | SAKASHAM ADITYA | Member |

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

# 1. Executive Summary

Our Project is Realizer. Realizer provides a platform that allows skilled and experienced professionals to connect with users looking for specific services. According to our algorithm and services we provide you with workers nearest to the customer's requirement at their desired date and time. We have set a few milestones to keep track of the progress. They are: Project Outline, Frontend completion, Backend completion, Data Analysis and Testing. We aim to complete this project by 23 May 2022. We have identified a few risks associated with this project the details of which are mentioned below.

# 2. Test Plan

A Test Plan is a detailed document that describes the test strategy, objectives, schedule, estimation, deliverables, and resources required to perform testing for a software product. Test Plan helps us determine the effort needed to validate the quality of the application under test. The test plan serves as a blueprint to

conduct software testing activities as a defined process, which is minutely monitored and controlled by the test manager

## 2.1. Scope of Testing

The goal of utilizing numerous testing methodologies in the development process is to make sure that your software can successfully operate in multiple environments and across different platforms. These can typically be broken down between functional and non-functional testing

1. **Functional** Functional testing involves testing the application against the business requirements.
2. It incorporates all test types designed to guarantee each part of a piece of software behaves as expected.
3. These testing methods are usually conducted in order and include:

- Unit testing
- Integration testing
- System testing
- Acceptance testing

**Non-Functional:** Non-functional testing methods incorporate all test types focused on the operational aspects of a piece of software. These include:

- Performance testing
- Security testing
- Usability testing
- Compatibility testing

## 2.2. Types of Testing , Methodology , Tools

| Category | Methodology | Tools Required |
|---|---|---|
| Functional Requirements | Manual | Excel Template |
| Non-Functional Requirements | Manual | Excel Template |

## 2.3. Test Deliverables

- Test plan
- Test strategy
- Bug report
- Test execution report
- Test summary
- User guide
- Installation and configuration guide
- Release note

# 3. Test Case

## 3.1. Functional Test Cases

| Test ID (#) | Test Scenario | Test Case | Execution Steps | Expected Outcome | Actual Outcome | Status | Remarks |
|---|---|---|---|---|---|---|---|
| 1 | User switches to News tab | Relevant news to be called from API | 1. Click the news tab | Relevant news to be displayed to the user | Relevant news is shown to the user | Pass | success |
| 2 | User switches to fixtures tab | Relevant fixtures to be called from API | 1. Click the fixtures tab | Relevant fixtures to be displayed | Relevant fixtures to be displayed | Pass | success |
| 3 | User switches to Positions' tab | Relevant positions' to be called from API | 1. Click the positions tab | Relevant positions to be displayed | Relevant positions are being displayed | Pass | success |
| 4 | User switches to Realizer tab | Best 15 services shown near you called from F.L.A.P API | 1. Click the Realizer tab | Best 15 services to be displayed | Best 15 pocket friendly services are displayed | Pass | success |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 5 | Server collects data and sends it to Mobile client | Server collects data and sends data to the mobile app | | Relevant data is sent to the mobile client | Relevant data is sent to the mobile client | Pass | success |

## 1.1. Non-Functional Test Cases

| Test ID (#) | Test Scenario | Test Case | Execution Steps | Expected Outcome | Actual Outcome | Status | Remarks |
|---|---|---|---|---|---|---|---|
| 1 | Page | Test page loading speed | Open application | Satisfactory speed | Satisfactory speed | pass | Will have to recheck once more load can be applied |
| 2 | API | Server performance | Run server | Server running smoothly | Server running smoothly | pass | Will have to recheck once more load can be applied |
| 3 | Compatibility | Check if the app is compatible with all devices | Try out apps in different devices | App running on most android phones running on version 6.0 upwards. App not running on any IOS device | App running on most android phones running on version 6.0 upwards. App not running on any IOS device | pass | IOS compatibility not added yet |

# 2. Defect Log

| Requirement # | Defect ID # | Defect Description | Assignee | Status |
|---|---|---|---|---|
| M1R1 | Sorting | Sorting Algorithm not producing ideal result | Data Analyst | Completed |
| M1R2 | Backend | Server hosting issues | Backend Developer | Under Progress |

# 3. Test Report

| 4. Category | Progress Against Plan | Status |
|---|---|---|
| Functional Testing | Successful | Completed |
| Non-Functional Testing | Successful | Completed |
| | | |

| Functional | Test Case Coverage (%) | Status |
|---|---|---|
| Verifying Data | 100% | Completed |
| | | |

Result:

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


## School of Computing

## SRM IST, Kattankulathur – 603 203

**Course Code: 18CSC206J**

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

| | |
|---|---|
| **Experiment No** | 11 |
| **Title of Experiment** | Test Cases |
| **Name of the candidate** | Sakasham Aditya |
| **Team Members** | Kartik Jain, Sanskar Arora |
| **Register Number** | RA2011026010308, 311, 335. |
| **Date of Experiment** | 18 June 2022 |

**Mark Split Up**

| S. No | Description | Maximum Mark | Mark Obtained |
|---|---|---|---|
| 1 | Exercise | 5 | |
| 2 | Viva | 5 | |
| | **Total** | **10** | |

**Staff Signature with date**

**Aim**

To develop the test cases manual for the <project name>

**Team Members:**

| S No | Register No | Name | Role |
|---|---|---|---|
| 1 | RA2011026010335 | Kartik Jain | Rep |
| 2 | RA2011026010308 | Sakasham Aditya | Member |
| 3 | RA2011026010311 | Sanskar Arora | Member |

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

***/ For example**

# Test Case

# Functional Test Cases

| Test ID (#) | Test Scenario | Test Case | Execution Steps | Expected Outcome | Actual Outcome | Status | Remarks |
|---|---|---|---|---|---|---|---|
| | Verify User Registration from India | Accept Valid India Mobile Number on the Page#1 | 1. User clicks on User Registration link<br>2. Enter the mobile Number on the text box<br>3. Click Register button | User should be taken to the next page for entering more user details | | Pass / Failure | success |
| | Verify User Registration from India | Don't Accept Non IndianMobile Number on the Page#1 | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | User switches to News tab | Relevant news to be called from API | Click the news tab | Relevant news to be displayed to the user | Relevant news is shown to the user | Pass | success |
| | User switches to service tab | Relevant service to be called from API | Click the fixtures tab | Relevant service to be displayed | Relevant service to be displaye d | Pass | success |
| | User switches to Positions' tab | Relevant positions' to be called from API | Click the positions tab | Relevant positions to be displayed | Relevant positions are being displaye d | Pass | success |
| | User switches to service tab | Best 15 players shown, called from F.L.A.P API | Click the Dream team tab | Best 15 services to be displayed | Best 15 services are displaye d | Pass | success |
| | Server collects data and sends it to Mobile client | Server collects data and sends data to the mobile app | | Relevant data is sent to the mobile client | Relevant data is sent to the mobile client | Pass | success |
| | Weather forecast | Unwanted climatic issues | | Few services may be hauled | | Pass | success |
| | Available 24*7 | User can avail services anytime | | Few business es may be closed at certain period of time | Few business es may be closed at certain period of time | pass | success |
| | Login id | | | Should be existing user | Already registere d | pass | success Email: guru99@email.com Password: lNf9^Oti7*2h Login should be successful Login succe |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Invalid login | | Ask to register now | Ask to register now | | Pass | Success |
| | Discount coupons | Valid coupons | | Enters coupon | Enter coupon | pass | Success |
| | Invalid coupon | | | Not applicable | Not applicable | pass | success |
| | Payment detail | | | Already filled | Already filled | pass | success |
| | Credit card info | | | Entered correctly | Entered correctly | pass | success |
| | Invalid card info | | | No payment | No payment | pass | success |
| | Required services met | | | User got the nearest service possible | Nearest service | pass | success |
| | Chat bot | | | Ask query | Clear query | pass | succes |
| | 24*7 chat box | | | Available all the time | yes | pass | success |
| | Accuracy of chat bot | | | Should provide relevant answers | User will be happy | pass | success |

# Non-Functional Test Cases

| Test ID (#) | Test Scenario | Test Case | Execution Steps | Expected Outcome | Actual Outcome | Status | Remarks |
|---|---|---|---|---|---|---|---|
| | Page | Test page loading speed | Open application | Satisfactory speed | Satisfactory speed | pass | Will have to recheck once more load can be applied |
| | API | Server perfo | Run server | Server running | Server running | pass | Will have to recheck once more |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | rman ce | | smoothl y | smoothl y | | load can be applied |
| | Compati bility | Check if the app is comp atible with all devic es | Try out apps in different devices | App running on most android phones running on version 6.0 upwards . App not running on any IOS device | App running on most android phones running on version 6.0 upwards . App not running on any IOS device | pass | IOS compatibil ity not added yet |
| | Less storage | If app is less than 50Mb | | Runnin g on android and ios | Runnin g on android and ios | pass | success |
| | Running without lag | App shoul d not lag | | Smooth functio ning on all phones | | pass | success |
| | Logo should be clear | | | Shows same logo In all devices | Shows same logo In all devices | Pass | success |
| | All services should be displaye d in cart | | | No service is left out | No service is left out | Pass | success |
| | | | | | | | |

Result:

Thus, the test case manual has been created for the <realizer>.

## School of Computing

## SRM IST, Kattankulathur – 603 203

**Course Code: 18CSC206J**

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

| | |
|---|---|
| **Experiment No** | 12 |
| **Title of Experiment** | Manual Test Case Reporting |
| **Name of the candidate** | Kartik jain |
| **Team Members** | Kartik jain, sakasham Aditya and sanskar arora |
| **Register Number** | RA2011026010335,RA2011026010308,RA2011026010311 |
| **Date of Experiment** | 13th June 2022 |

**Mark Split Up**

| S. No | Description | Maximum Mark | Mark Obtained |
|---|---|---|---|
| 1 | Exercise | 5 | |
| 2 | Viva | 5 | |
| | **Total** | **10** | |

**Staff Signature with date**

**Aim**

To prepare the manual test case report for the <project name>

**Team Members:**

| S No | Register No | Name | Role |
|---|---|---|---|
| 1 | RA2011026010335 | Kartik jain | Rep/Member |
| 2 | RA2011026010308 | Sakasham Aditya | Member |
| 3 | RA2011026010311 | Sanskar arora | Member |

<Manual Test Case Report to be incorporated >

<< Summarize the current status of the Testing>

<<present obstacles to proceed further >>

<< Seek help from stakeholders to remove obstacles/constraints>>

# 1. Test Plan

A Test Plan is a detailed document that describes the test strategy, objectives, schedule, estimation, deliverables, and resources required to perform testing for a software product. Test Plan helps us determine the effort needed to validate the quality of the application under test. The test plan serves as a blueprint to conduct software testing activities as a defined process, which is minutely monitored and controlled by the test manager

## 1.1. Scope of Testing

The goal of utilizing numerous testing methodologies in the development process is to make sure that your software can successfully operate in multiple environments and across different platforms. These can typically be broken down between functional and non-functional testing

1. **Functional** Functional testing involves testing the application against the business requirements.
2. It incorporates all test types designed to guarantee each part of a piece of software behaves as expected.
3. These testing methods are usually conducted in order and include:

- Unit testing
- Integration testing
- System testing
- Acceptance testing

**Non-Functional:** Non-functional testing methods incorporate all test types focused on the operational aspects of a piece of software. These include:

- Performance testing
- Security testing
- Usability testing
- Compatibility testing

# 1.2. Types of Testing , Methodology , Tools

| Category | Methodology | Tools Required |
|---|---|---|
| Functional Requirements | Manual | Excel Template |
| Non-Functional Requirements | Manual | Excel Template |

# 1.3. Test Deliverables

- Test plan
- Test strategy
- Bug report
- Test execution report
- Test summary
- User guide
- Installation and configuration guide
- Release note

**Functional test cases-**

| Test ID (#) | Test Scenario | Test Case | Execution Steps | Expected Outcome | Actual Outcome | Status | Remarks |
|---|---|---|---|---|---|---|---|
| 1 | User switches to News tab | Relevant news to be called from API | 1. Click the news tab | Relevant news to be displayed to the user | Relevant news is shown to the user | Pass | success |
| 2 | User switches to services tab | Relevant seervices to be called from API | 1. Click the services tab | Relevant service to be displayed | Relevant service to be displayed | Pass | success |
| 3 | User switches to location' tab | Relevant location' to be called from API | 1. Click the positions tab | Relevant location to be displayed | Relevant location are being displayed | Pass | success |
| 4 | User switches to best prices tab | Best 5 prices shown, called from F.L.A.P API | 1. Click the service tab | Best 5 prices to be displayed | Best 5 prices are displayed | Pass | success |
| 5 | Server collects data and sends it to Mobile client | Server collects data and sends data to the mobile app | | Relevant data is sent to the mobile client | Relevant data is sent to the mobile client | Pass | success |
| | Verify User Registration from India | Accept Valid India Mobile Number on the Page#1 | 1. User clicks on User Registration link | User should be taken to the next page for entering | | Pass / Failure | success |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 2. Enter the mobile Number on the text box Click Register button | more user details | | | |
| | Invalid login | | Ask to register now | Ask to register now | | Pass | Success |
| | Discount coupons | Valid coupons | | Enters coupon | Enter coupon | pass | Success |
| | Invalid coupon | XYZ124 | | Not applicable | Not applicable | pass | success |
| | Payment detail | INVALID NAME | | Already filled | Already filled | pass | success |
| | Credit card info | Invalid cvv | | Entered correctly | Entered correctly | pass | success |
| | Invalid card info | Invalid card no. | | No payment | No payment | pass | success |
| | Required services met | | | User got the nearest service possible | Nearest service | pass | success |
| | Chat bot | Enter your service ticket number | | Ask query | Clear query | pass | succes |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | 24*7 chat box | How can we help you | | Available all the time | yes | pass | success |
| | Accuracy of chat bot | We will take your suggestions seriously | | Should provide relevant answers | User will be happy | pass | success |

# 1.1. Non-Functional Test Cases

| Test ID (#) | Test Scenario | Test Case | Execution Steps | Expected Outcome | Actual Outcome | Status | Remarks |
|---|---|---|---|---|---|---|---|
| 1 | Page | Test page loading speed | Open application | Satisfactory speed | Satisfactory speed | pass | Will have to recheck once more load can be applied |
| 2 | API | Server performance | Run server | Server running smoothly | Server running smoothly | pass | Will have to recheck once more load can be applied |
| 3 | Compatibility | Check if the app is compatible with all devices | Try out apps in different devices | App running on most android phones running on version 6.0 upwards. App not running on any IOS device | App running on most android phones running on version 6.0 upwards. App not running on any IOS device | pass | IOS compatibility not added yet |
| | Less storage | If app is less than 50Mb | | Running on androidand ios | Running on androidand ios | pass | success |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | Running without lag | App should not lag | | Smooth functioning on all phones | | pass | success |
| | Logo should be clear | | | Shows same logo In all devices | Shows same logo In all devices | Pass | success |
| | All services should be displayed in cart | | | No service is left out | No service is left out | Pass | success |

**DEFECT LOGS-**

| Requirement # | Defect ID # | Defect Description | Assignee | Status |
|---|---|---|---|---|
| M1R1 | Sorting | Sorting Algorithm not producing ideal result | Data Analyst | Completed |
| M1R2 | Backend | Server hosting issues | Backend Developer | Under Progress |

**TEST REPORT-**

| 2. Category | Progress Against Plan | Status |
|---|---|---|
| Functional Testing | Successful | Completed |
| Non-Functional Testing | Successful | Completed |
| | | |

Result:

Thus, the test case report has been created for the <realizer>.