“PAWZ” APPLICATION

18CSC206J-SOFTWARE ENGINEERING AND PROJECT MANAGEMENT REPORT

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in fulfillment for the award of the degree

BACHELOR OF *in* TECHNOLOGY

COMPUTER SCIENCE AND ENGINEERING

of

FACULTY OF ENGINEERING AND TECHNOLOGY

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RAMAPURAM CAMPUS, CHENNAI -600089

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SRM INSTITUTE OF SCIENCE AND TECHNOLOGY

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FACULTY OF ENGINEERING AND TECHNOLOGY

Department of Computer Science and Engineering

BONAFIDE CERTIFICATE

Certified that this is the bonafide record of work done by **SARTHAK TYAGI (RA2011003020053)**, **AKSHAY KUMAR (RA2011003020083)** , **SAIDATTA MUSALE (RA2011003020007)**, of IV Semester B.Tech Computer Science and Engineering during the academic year 2021-2022 Even Semester in 18CSC206J – SOFTWARE ENGINEERING AND PROJECT MANAGEMENT

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Staff In-charge *Head of the Department*

Submitted for the End Semester Practical Examination held on ____

at SRM Institute of Science and Technology, Ramapuram, Chennai-89.

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Examiner-1 *Examiner-2*

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SOFTWARE ENGINEERING AND PROJECT MANAGEMENT

"PAWZ" - One stop destination for all pet needs

Submitted by: -

Akshay Kumar - RA2011003020083
Sarthak Tyagi - RA2011003020053
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EX NO: 1 DATE:	***Identify the software project, create a business case, arrive at a problem statement***

1.1.1 Problem Statement

Identifying the problem statement

With the increasing dependence of the world on technology and people becoming more and more orientated towards technology for all their basic needs, we have decided to build a platform where people can come together for all their pet needs, where they can buy as well as sell their pets. Just like various dating apps, we have decided to build a one-stop platform **"Pawz"** which will provide an interface to the people. Like dating apps, the owner of the pets can post a description about the pets and can set up their profile, where they can describe their interest, basics and can put up their images. Identifying the problems faced by the people while selling their pets when they want, as they run behind various people and end up getting irritated, we believe that "Pawz" will help eradicate this problem.

PROBLEMS

The following problems were faced before the existence of the application "Pawz":

- ***Lack of Application:***
  Before our idea of making "Pawz" application there was no such user-friendly application that can deal with all the pet needs and can help people in finding the right individual for the pets and vice versa
- ***Time Consumption:***
  It was witnessed, a lot of time consumption takes place as people roam here and there and try out several phone calls in order to sell their pets or get a new one. This forms the basis for our idea of developing such an application.
- ***Lack of Information:***
  Less information is provided by the pet owner to the buyer, on calls as well as on chat, information if provided is not brief and can result in future problems in regards with the pets as well as the buyer. Our application provides the feature where all the necessary information about the pets can be uploaded and hence eases the life of an individual.
- ***Location:***
  The information about the location of the owner and the seller was not provided as such in particular before, but our application has addressed this problem and hence provides the location of both seller and the owner as a part of the pet's information.

PROPOSAL

All of the above problems can be addressed and overcome by "Pawz" application designed to meet all pet needs. The application will be helpful, and user-friendly as well as save users time and will provide them with brief information about the pet.

1.1.2 Business Case Template

THE PROJECT

- There are millions of people who face the issue of a job transfer from one place to another at least once or twice in their life, or they get a job that demands travel.
- Such people face a problem, as they cannot travel with their pets everywhere and hence, they decide to sell them but they are not able to find the right individual to whom they can sell it with assurance.
- The development of "Pawz" will provide them with an interface where they can meet, chat, share information about their pets and can sell them comfortably, once they are assured.
- Our application will also provide the flexibility to the user to decide the price of their pets on their own.

HISTORY

- In the past, there was no such application present that could provide an interface to the users where they can share information about their pets and can buy or sell pets in a comfortable manner.
- There used to be a lot of wastage of time and individuals used to get frustrated. One used to call hundreds of people and used to tell them to refer to someone who is interested in buying a pet.
- The location of the pet owner was also not known in the past and one used to talk to the buyer for knowing about their location, which used to cost a lot of time.

CONSTRAINTS

- A mobile phone or a PC is required by the user in order to use the application.
- An individual should have some prior knowledge about the dogs and the biodata which suits them.
- Although, our prime focus is going to provide firm security to the application, in the modern world everything is possible and hence it requires constant monitoring.
- The user should write and edit their pet's bio-data carefully as the application will provide them with a suitable match accordingly.

APPROACH

- We approach this solution from a technical point of view as we believe that the future is technology and it will hence reduce the complexity of the process which will help users comfortably deal with their problems.
- The development of the application will require both a strong frontend and backend programming knowledge, as the application will deal with huge sets of data as well as needs to be kept user friendly.

BENEFITS

- Number of options provided
- Ease of access
- Security provided
- Less time consumption
- Dog products provided

EX NO: 2 DATE:	***Stakeholder and user description, identify the appropriate process models, comparative study with agile model***

2.1.1 Identifying stakeholders

1. **USER**
   - The people who will use the project's service are known as users.
   - In this project, the end-user will be the one who will be setting up their pet profile on the application and will be using it to find the perfect match.

2. **SPONSOR**
   - Sponsor is the person or organization which provides financial support for the project.
   - Currently this project is self-sponsored.
   - Once we upgrade, we may require financial interference from management or a crowd-sourcing initiative.

3. **PORTFOLIO MANAGER**
   - Portfolio Managers are primarily responsible for creating and managing investment allocations for private clients.

4. **PORTFOLIO REVIEW BOARD**
   - The Portfolio Review Board is the overarching decision-making governing body, guiding and prioritizing product investments for existing products, products in development and future product projects.

5. **PROGRAM MANAGER**
   - A Program Manager articulates a program's strategy and objectives and assesses how it will impact a business.
   -

6. **PROJECT MANAGEMENT OFFICE**
   - A project management office (PMO) is a team or department that sets and maintains standards for project management throughout an organization.

7. **PROJECT MANAGER**
   - Project Managers (PMs) are responsible for planning, organizing, and directing the completion of specific projects for an organization while ensuring these projects are on time, on budget, and within scope.

8. PROJECT TEAM

- A project team is composed of the project manager, the project management team and the other members who carry out work.

9. FUNCTION MANAGER

- Functional Managers are tasked with controlling the resources that will support a project, such as financial backing and skilled employees.

2.1.2 User Story

1. **User Profile**

   User profile here refers to the profile of an individual's pet or individual.

2.1.3 Identifying the process modules

This project consists of 3 modules namely:

1. **LOGIN**
   In this module, the user can enter their user ID and password respectively. Users can log onto the app by entering the correct user ID and password. It is not necessary to log in every time if the user has not logged himself out.

2. SET UP YOUR PROFILE

After logging into the app, users can start setting up the profile of their pet or their profile (as per the requirement). The profile should be set up carefully, as users will be able to view other profiles accordingly.

3.SWIPING THE CARDS

Once done with setting up the profile, the user is ready to experience the app.
more flexible whereas the Waterfall model is rigid.
Customer interaction is very high in the Agile model and less in the Waterfall model.

2.1.4 Arriving at the problem statement problem statement:

- Application loading issues.
- Swiping cards issues.
- Fake Identity related issues.
- Address related issues.

2.1.5 Comparison between agile and waterfall model

- Agile model is an incremental delivery process whereas the Waterfall model is highly structured and systematic.
- The Agile model allows changes to change the requirements after the development process starts (i.e) it is more flexible whereas the Waterfall model is rigid.
- Customer interaction is very high in the Agile model and less in the Waterfall model.
- In Agile model progress is measured in terms of the developed and delivered functionalities whereas In Waterfall model progress is generally measured in terms of the number of completed and reviewed artifacts such as requirement specifications, design documents, test plans, code reviews, etc.

EX NO: 3 DATE:	*Identify the Requirements, System Requirements, Functional Requirements, Non-functional Requirements*

3.1.1 Requirements

Project requirements are conditions or tasks that must be completed to ensure the success or completion of the project. They provide a clear picture of the work that needs to be done.

3.1.2 Functional requirements

It describes the basic behavior of the system. In this project, login is the functional requirement. After checking the entity of login, we can show the detail of the pet that is entered by users based on

- Analysis
- Implementation
- Maintenance

3.1.3 Non-Functional requirements

- It is high portability, reliable, accepting failure rates and user friendly.
- The system can load at the speed of 50 Mbps
- Memory 4GB RAM
- Transferring data speed

3.1.4 HARDWARE REQUIREMENTS

- Processor: i5 5th gen
- RAM: 4 GB

3.1.5 SOFTWARE REQUIREMENTS

- Operating system: Android 6.0+
- Front-end
- Back-end: DBMS software

EX NO: 4 DATE:	***Prepare project plan based on scope, find job roles and responsibilities, calculate project effort based on resources***

4.1.1 Project Plan

Project Name: "PAWZ (APPLICATION)"

PROJECT MEMBERS:

Our Project consists of 3 members:

1] SARTHAK TYAGI – RA2011003020053

2] AKSHAY KUMAR – RA2011003020083

3] SAIDATTA NAGESH MUSALE – RA2011003020007

MODULES:

- Login
- Fill the required details (mobile number, email etc)
- Verification/cross checking of the details
- Setting up your profile
- Verification of your profile
- Start swiping the profiles

4.2. JOB ROLES AND RESPONSIBILITIES: -

MEMBERS	ROLE AND RESPONSIBILITIES
AKSHAY KUMAR **RA2011003020083**	• **Team leader**: Has the responsibility of coordinating the team, checking in for updates & guiding the team. • **Web Developer**: Has the responsibility of designing the website and interfacing with the server. • **Tester:** Has the responsibility to check if the actual result is matching with expected result.
SARTHAK TYAGI **RA20003020053**	• **Team Member**: Has the responsibility of contributing to the documentation. • **Developer**: Has the responsibility of coding modules Login and Update. • **Technical Lead**: is responsible for overall planning, execution, and success of overall complex software solutions to meet customer's needs.
SAIDATTA MUSALE **RA20003020007**	• **Team Member**: Has the responsibility of contributing to the documentation • **Developer**: Has the responsibility of coding modules Login and Update. • **Tester:** Has the responsibility to check if the actual result is matching with expected result.

4.3. PROJECT EFFORT BASED ON RESOURCES: -

COCOMO2 (Constructive Cost Model 2) is an algorithmic cost estimation technique proposed by Boehm, which works in a bottom-up manner.

• It is designed to provide some mathematical equations to estimate software projects.

• These mathematical equations are based on historical data and use project size in the form of KLOC.

The COCOMO model uses a multivariable size estimation model for effort estimation.

➢ **OBJECT POINT = ∑^3 i=1 ∑^3 i=j cij*wij**

	SIMPLE	**MEDIUM**	**COMPLEX**
SCREENS	1	3	2
REPORT	1	3	1
3GL	0	0	1

(1*1+3*2+2*3) +(1*2+3*5+1*8) +(1*10) = 13+25+10
= 48

➢ **NOP = Object Point*(1-% reuse/100)**
= 48* (1-0)
= 48

➢ **EFFORTS = NOP/ PROD**
= 48/13
= 3.7

NOP = New Object Point
PROD = Productivity
We have assumed nominal developer experience

EX NO: 5 DATE:	*Prepare the work breakdown structure based on timelines, Risk identification plan*

5.1.1 WORK BREAKDOWN STRUCTURE

A Work Breakdown structure is a deliverable – oriented hierarchical decomposition of the work to be executed by the project team to accomplish the project objectives and create the required deliverables. A WBS is the cornerstone of effective project planning, execution, controlling, monitoring and reporting. All the work contained within WBS is to be identified, estimated, scheduled and budgeted.

5.1.2 RISK MANAGEMENT

DESCRIPTION: In the modern world, risk management refers to the practice of identifying potential risks in advance by analyzing them and taking precautionary steps to curb the risk. Risk management is the identification, evaluation, and prioritization of risks, controlling the probability or impact of unfortunate events.

RISKS TO BE HANDLED:

- Hacker's intent to get user data.
- Limited audience.
- Management of database.

MANAGING RISKS:

- Performing periodic maintenance of the server.
- Using security protection.

EX NO: 6 DATE:	***Design a System Architecture, Use Case Diagram, ER Diagram, DFD Diagram, Class Diagram, Collaboration Diagram***

Estimation of various project parameters is a basic project planning activity. The important project parameters that are estimated include:

- Project size
- Cost
- Duration
- Effort 6.1

6.1.1 FUNCTION POINT ANALYSIS

Function Point Analysis (FPA) refers to the practice of using function points to size and estimate the cost of work on systems. Function Points are a normalized unit of measure used to: Quantify the amount of business functionality a system provides business users.

6.1.2 COCOMO MODEL

The COCOMO Model estimates the cost for software product development in terms of effort (resources required to complete the project work) and schedule (time required to complete the project work) based on the size of the software product. According to COCOMO, there are three modes of software development projects that depend on complexity. Such as:

1.ORGANIC PROJECT:

It belongs to small & simple software projects which are handled by a small team with good domain knowledge and few rigid requirements.

2.SEMI DETACHED PROJECT:

It is an intermediate (in terms of size and complexity) project, where the team has mixed experience (both experience & inexperienced resources) to deal with rigid/non-rigid requirements.

3.EMBEDDED PROJECT:

This project has a high level of complexity with a large team size by considering all sets of parameters (software, hardware and operational).

EX NO: 7 DATE:	*State and Sequence Diagram, Deployment Diagram, Sample Frontend Design*

7.1. STATECHART DIAGRAM: -

7.1.1. STATECHART DIAGRAM DESCRIPTION:

State diagram describes the behaviour of a single object in response to a series of events in a system. This UML diagram models the dynamic flow of control from state to state of a particular object within a system.

COMPONENTS ARE:

- **Initial State:**

A filled circle followed by an arrow represents the student's login (object's) initial state.

- **States**

States in state chart diagram represent situations during the life of an Object. You can easily illustrate a state in Smart Draw by using a rectangle with rounded corners.

- **Transition**

A solid arrow represents the path between different states of an object of Exam result management system.

- **Final State**

An arrow pointing to a filled circle nested inside another circle represents the (object's) result.

7.1.2. STATECHART DIAGRAM:

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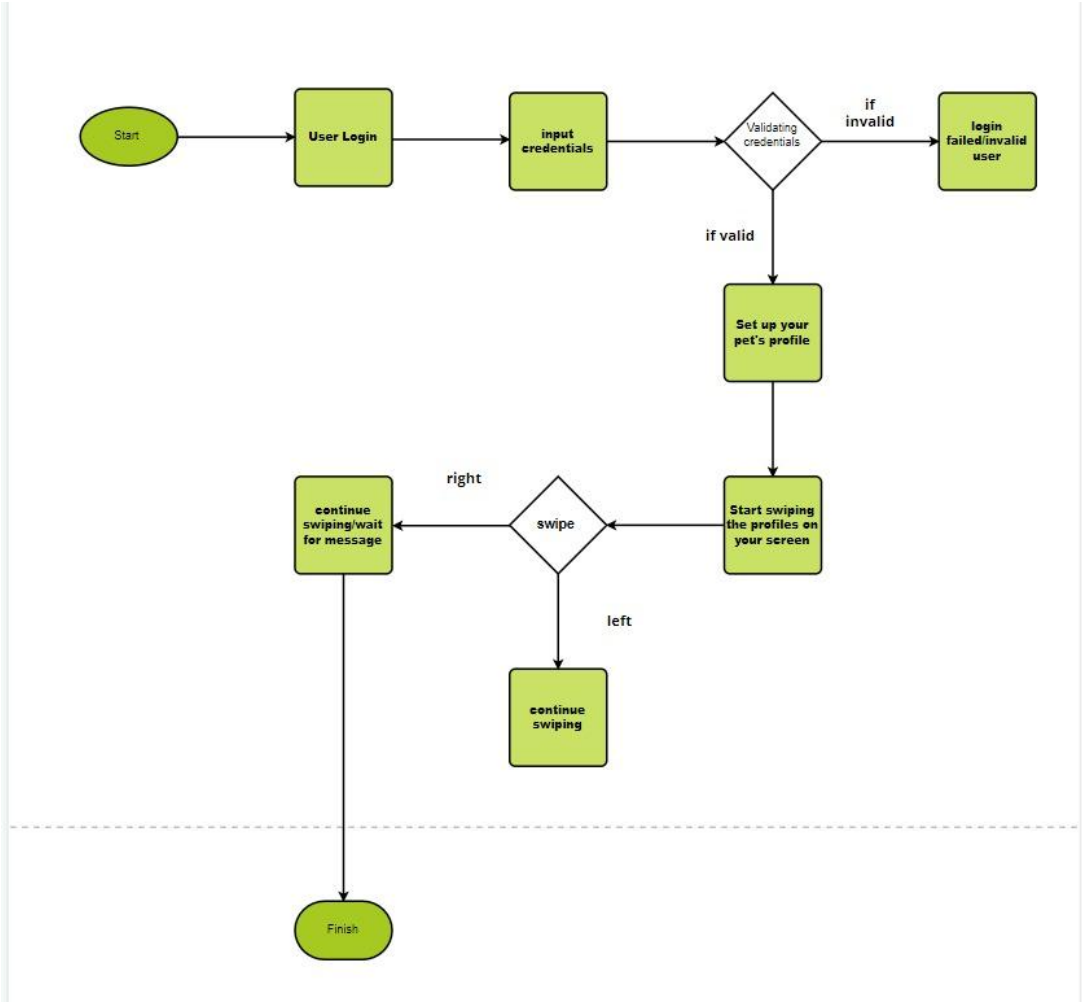


EX NO: 8 DATE:	*Module Description, Module Implementation (phase 1) Using Agile*

8.1.1 USE CASE DIAGRAM:

The purpose of a use case diagram in UML is to demonstrate the different ways that a user might interact with a system. USE CASE SYMBOLS AND NOTATION: The notation for a use case diagram is pretty straightforward and doesn't involve as many types of symbols as other UML diagrams.

1] SYSTEM:

A specific sequence of actions and interactions between actors and the system. A system may also be referred to as a scenario. 22/02/2021.

2] USE CASES:

Horizontally shaped ovals that represents an action that accomplishes some sort of task within the system.

3] ACTORS:

Stick figures that represent the people actually employing the use cases. It should be placed outside the system. There are two types of Actors namely:

· **PRIMARY ACTOR**: Initiates the use of the system. It should be placed on the left side of

the system.

· **SECONDARY ACTOR**: It is more reactionary and should be placed on the right side ofthe system.

4] RELATIONSHIPS:

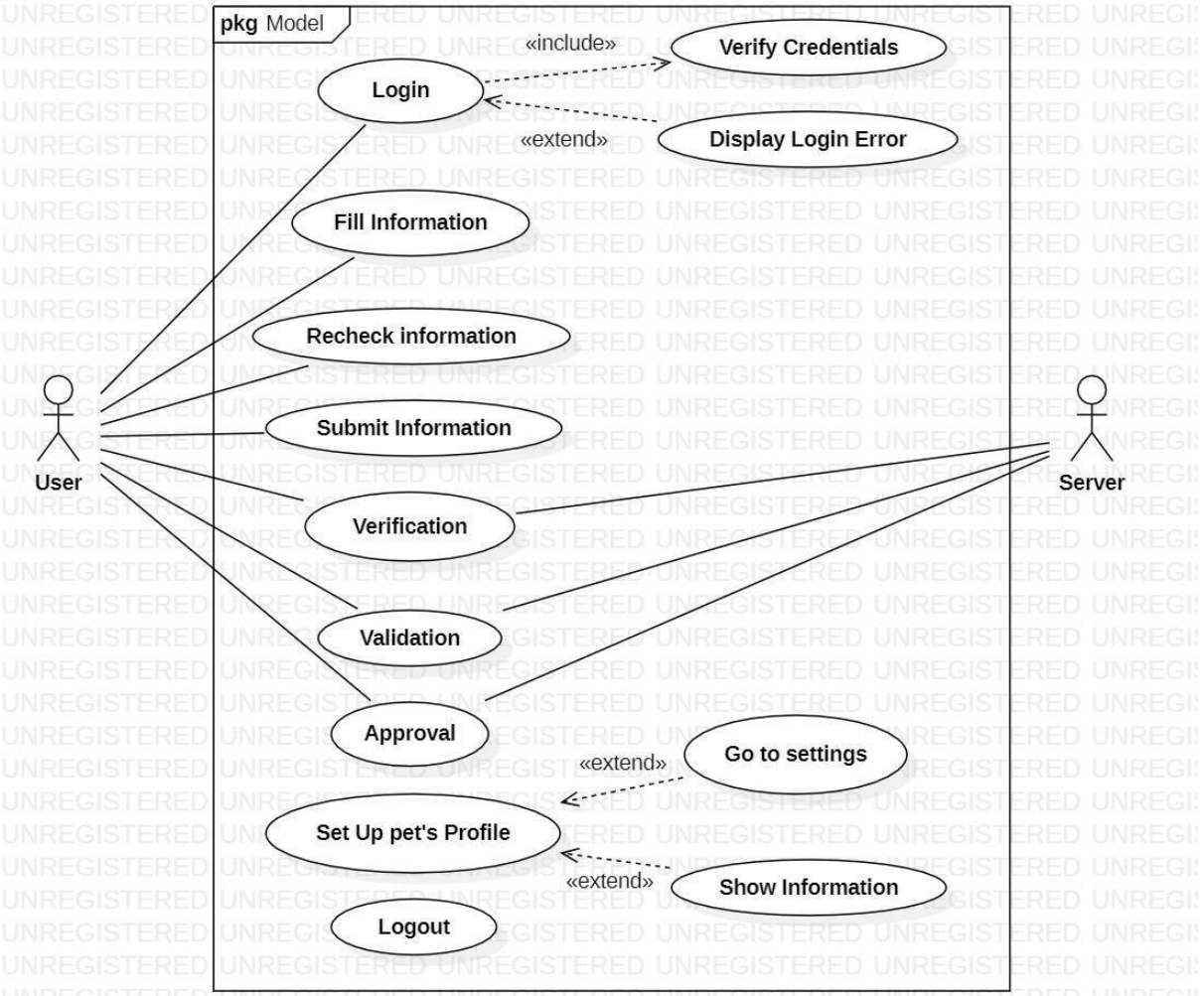
· **INCLUDE:** This shows the dependency between the base and included use case (it happens every time).

· **EXTENT:** This happens only when certain criterias are met.

5] ASSOCIATION:

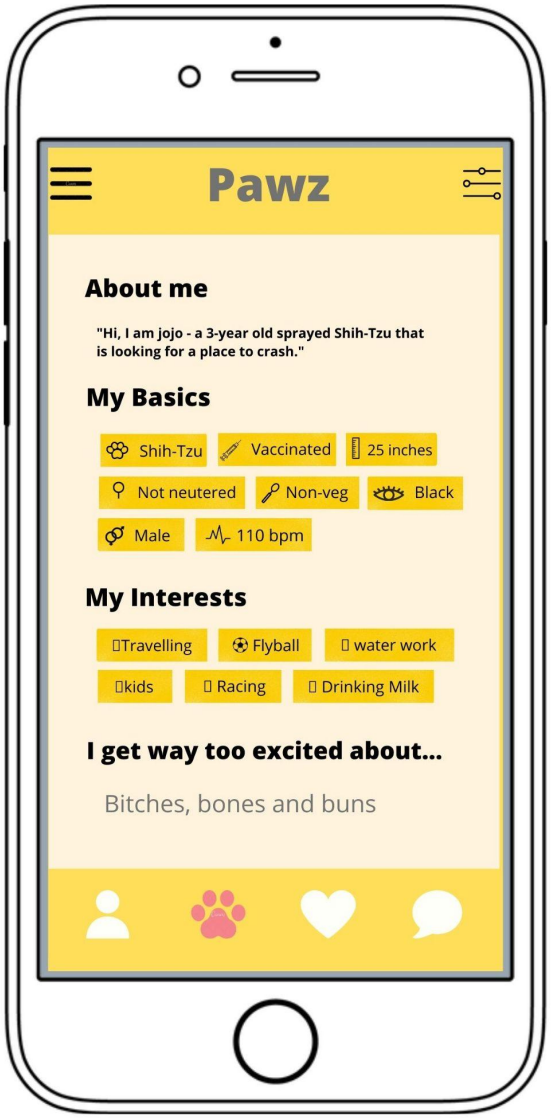
A line between actors and use cases. In complex diagrams, it is important to know which actors are associated with which use cases.

8.1.2 USE CASE DIAGRAM



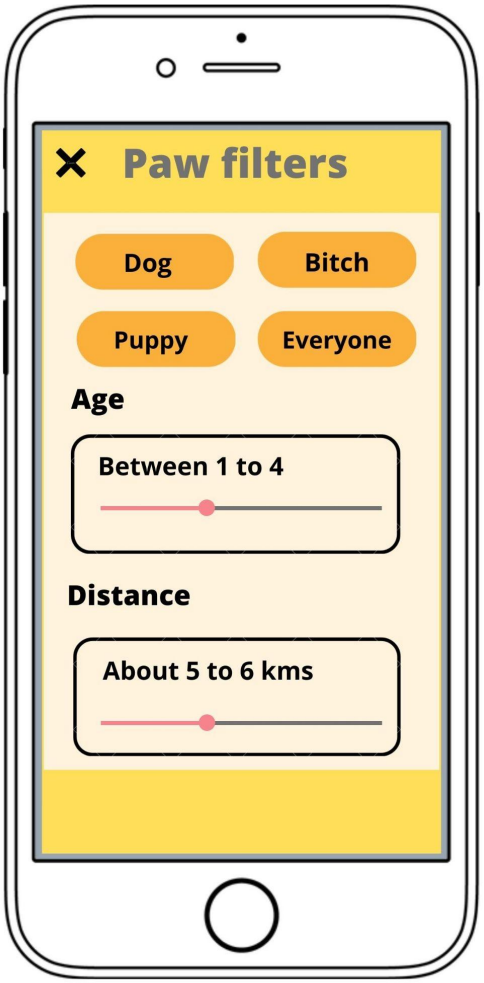
EX NO: 9 DATE:	*Module Implementation, Scrum Master to Induce New requirements in Agile Development*

EX NO: 10 DATE:	*Module Implementation (Phase 2), Scrum Master to Induce New Issues in Agile Development*



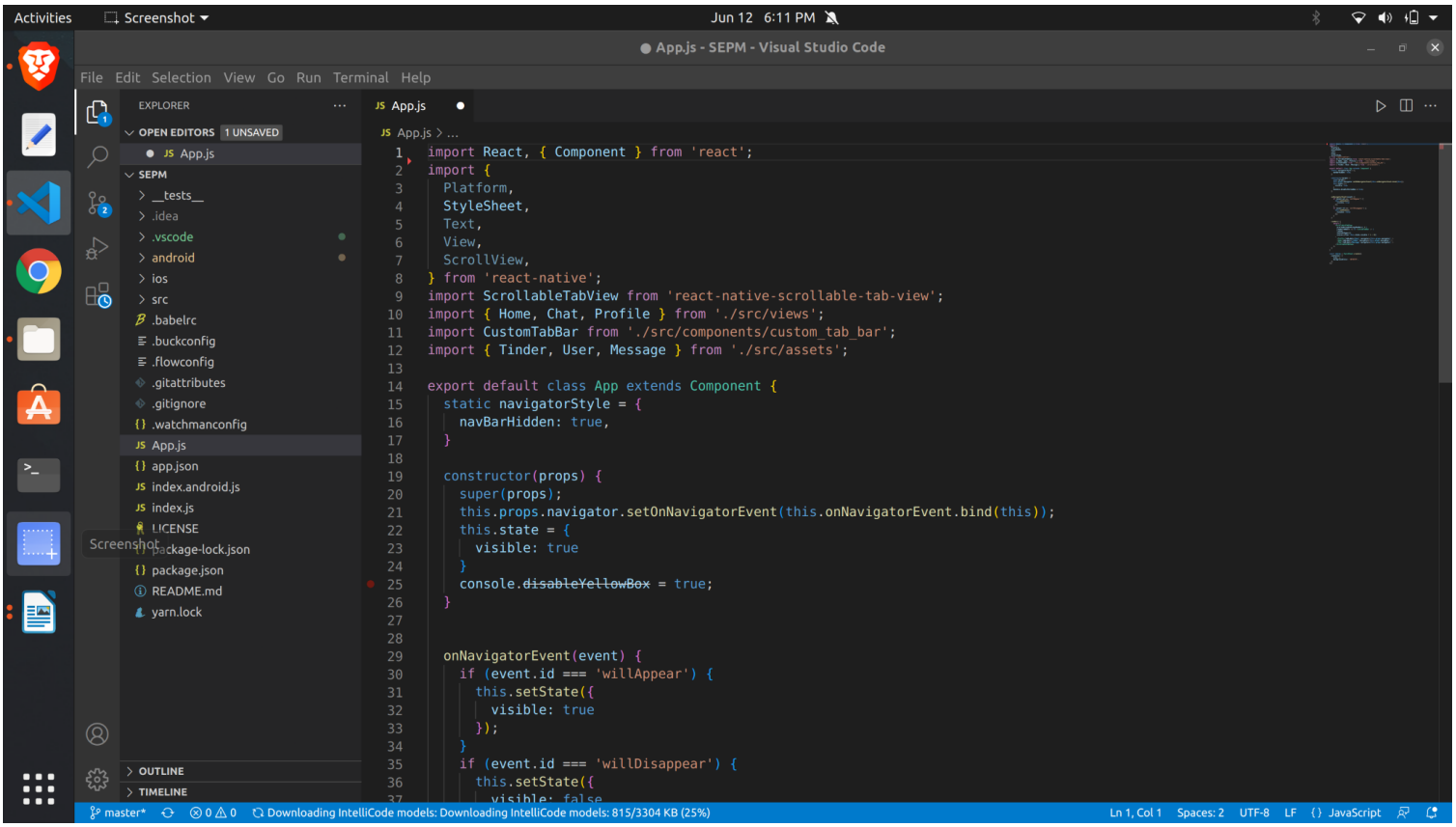
EX NO: 11 DATE:	*Module Implementation (Phase 3) Scrum Master to Induce New requirements in Agile Development, Scrum Master to Induce New Issues in Agile Development, Code development*

11.1. MODULE IMPLEMENTATION (PHASE 3): -



11.2. CODE DEVELOPMENT: -

"Pawz" is developed using Java. Functional decomposition of the system and its key modules are provided to explain the major functionalities proffered by the system. Also, use case diagram is presented to show the different categories of the system users and the various functionalities associated the different system user


Activities
Screenshot
Jun 12 6:11 PM
App.js - SEPM - Visual Studio Code
File Edit Selection View Go Run Terminal Help
EXPLORER
OPEN EDITORS 1 UNSAVED
App.js
SEPM
__tests__
.idea
.vscode
android
ios
src
.babelrc
.buckconfig
.flowconfig
.gitattributes
.gitignore
.watchmanconfig
App.js
app.json
index.android.js
index.js
LICENSE
package-lock.json
package.json
README.md
yarn.lock
OUTLINE
TIMELINE
App.js
App.js > ...
1 import React, { Component } from 'react';
2 import {
3 Platform,
4 StyleSheet,
5 Text,
6 View,
7 ScrollView,
8 } from 'react-native';
9 import ScrollableTabView from 'react-native-scrollable-tab-view';
10 import { Home, Chat, Profile } from './src/views';
11 import CustomTabBar from './src/components/custom_tab_bar';
12 import { Tinder, User, Message } from './src/assets';
13
14 export default class App extends Component {
15 static navigatorStyle = {
16 navBarHidden: true,
17 }
18
19 constructor(props) {
20 super(props);
21 this.props.navigator.setOnNavigatorEvent(this.onNavigatorEvent.bind(this));
22 this.state = {
23 visible: true
24 }
25 console.disableYellowBox = true;
26 }
27
28
29 onNavigatorEvent(event) {
30 if (event.id === 'willAppear') {
31 this.setState({
32 visible: true
33 });
34 }
35 if (event.id === 'willDisappear') {
36 this.setState({
37 visible: false
Screenshot
master*
0 0
Downloading IntelliCode models: Downloading IntelliCode models: 815/3304 KB (25%)
Ln 1, Col 1
Spaces: 2
UTF-8
LF
JavaScript

EX NO: 12 DATE:	***Master Test Plan, Test Case Design (Phase 1)***

12.1. MASTER TEST PLAN: -

TESTING OBJECTIVE	FOCUSING ON PERFORMANCE ISSUE
Test Items	Login system, Creating profile, Swiping
Features to be tested	Loginverification, Registrationfeature, Uploading images , Payment feature
Features not to be tested	Database Connectivity, Payment verifier, Two way pinging tool
Approach	Method – Manual Testing
Required Hardware/Software	A PC with 8 GB RAM, Internet Connectivity
Risks	Instability of the product
Testers & Schedule	Tester: SELIN RIONA V Scheduling Information: 25th April 2021, 3:00 PM
Estimate	Rs500/- (Excluding Tax and other charges)

12.2. TEST CASE DESIGN: -

➢ *Testing:*

• The process of executing a system with the intent of finding an error. • Testing is defined as the process in which defects are identified, isolated, subjected for rectification and ensured that product is defect free in order to produce the quality product and hence customer satisfaction. • Quality is defined as justification of the requirements

• Defect is nothing but deviation from the requirements.

• Testing --- The presence of bugs

• Testing can demonstrate the presence of bugs, but not their absence • Debugging and Testing are not the same thing!

• Testing is a systematic attempt to break a program or the AUT • Debugging is the art or method of uncovering why the script /program did not execute properly.

➢ Testing Methodologies:

- **Black box Testing**: is the testing process in which tester can perform testing on an application without having any internal structural knowledge of application. Usually Test Engineers are involved in the black box testing.
- **White box Testing:** is the testing process in which tester can perform testing on an application with having internal structural knowledge. Usually, The Developers are involved in white box testing.
- **Gray Box Testing:** is the process in which the combination of black box and white box techniques are used.

➢ Positive Test Case:

- The positive flow of the functionality must be considered
- Valid inputs must be used for testing.
- Must have the positive perception to verify whether the requirements are justified.

➢ Negative Test Case: -

- Must have negative perception.
- Invalid inputs must be used for test.

EX NO: 13 DATE:	*Manual Testing*

13.1. MANULE TESTING: -

TEST AREA	INPUT	TEST DESCRIPTION	OUTPUT/RESULT
Login Module	Username and Password	Permits the user to enter into the application	Tested
Application Module	Create profile	Allows the user to make profile	Tested
Upload images	Upload images	Allows the user to upload images	Tested
Swipe Module	Swiping	Checks whether the swiping feature is functioning	Tested

EX NO: 14 DATE:	*User Manual, Analysis of Costing, Effort and Resources*

14.1. USER MANUAL: -

14.1.1 Introduction:

“Pawz” is an application designed to meet all pet needs. The application is helpful, and user-friendly as well as save users time and will provide them with brief information about the pet.

14.1.2. Getting Started:

Download and install "Pawz" application available on play store or AppleStore. The application is compatible with Android versions 5.0 and above.

14.1.2a. Quick Start: Profile:

Setup your pets profile by adding all prmompts and basic details like breed and gender

14.1.2b. System Requirements:

- Smartphone with Android versions 5.0 and above.
- Internet connection for Application to function.

14.1.3. Troubleshooting:

Missing or Incorrect Password or E-Mail. A message will be displayed in the event Try again with proper credentials to access

14.2. ANALYSIS OF COSTING, EFFORT AND RESOURCES: -

➢ ***DEVELOPMENT OF PROJECT:***

RESOURCE REQUIREMENT	COST
Computer with core i7 8th gen processor, at least 8GB of RAM, running on windows 10.	Rs. 65000/-
Code	Open Source
Printing	Rs. 500/-

➢ ***SERVER-END:***

RESOURCE REQUIREMENT	COST
My SQL	Enterprise Edition Rs. 10000/-
http web services	Std edition Rs. 5000/-
UPS	Rs. 2500/-

➢ ***OTHER COSTS:***

Employee salary	-
Maintenance cost	Rs. 1000/- per month