TEST DOCUMENTATION

1. Testing Objective

The objective of this document is to document the steps taken to test our system. The test cases listed will be used to verify if our system works properly.

2. Testing Scope

We will be doing both frontend testing and backend testing.

Backend Testing

To test the backend server , we will be using postman to test that the API endpoints are functioning as intended through Black Box Testing. This is to ensure that the integration with the frontend will be smooth.

Frontend Testing

We will conduct subsystem testing for frontend. This will be the last stage of testing when all integrations between components have been shown to work and the system is functional. We will be using white box testing such as control flow testing to determine the execution order of statements or instructions of the programme through a control structure.

3. Backend Test Cases

3.1 Black Box Testing

3.1.1 Integration Testing

Test Case	API / Test Input	Expected Result	Test Result	Pass / Fail
Create user account	POST: http://localhost:3000/api/users/register { "email": "test@gmail.com", "name": "test",	HTTP_201_CREATED	HTTP_201_CREATED	Pass

	"password": "test", "phone":"12345678" }			

Create user with duplicate email	POST: http://localhost:3000/api/users/register
	
	{
	  "email":"test@gmail.com",
	  "username":"test2",
	  "password":"yooo",
	  "phone":"12312414"
	}
		HTTP_400_BAD _REQUEST	HTTP_400_BAD _REQUEST	Pass

Login with valid credentials	POST: http://localhost:3000/api/users/login
	{
	  "username":
	"test", "password":
	"test"
	}
		HTTP_200_OK	HTTP_200_OK	Pass

Login with invalid username	POST: http://localhost:3000/api/users/login
	{
	  "username":
	"supp", "password":
	"test"
	}
		HTTP_404_NOT _FOUND	HTTP_404_NOT _FOUND	Pass

Login with wrong password	POST: http://localhost:3000/api/users/login
	
	{
	  "username":
	"test", "password":
	"testtt"
	}
		HTTP_401_UNA UTHORIZED	HTTP_401_UNA UTHORIZED	Pass

Upload a Post with correct fields filled	POST: http://localhost:3000/api/posts/
	 {
	     "itemName": "Lost phone"
	     "isLost": "true"
	     "images":
	     "location": "NTU"
	     "ListedBy": "test"
	     "date": "2023-04-04"
	     "time": "17:00:00"
	     "itemDescription": "black ,last seen near subway"
	     "category: "Electronics ID"
	     "isResolved": "false"
	 }
		HTTP_200_OK	HTTP_200_OK	Pass

Upload a post without location	POST: http://localhost:3000/api/posts/
	 {
	     "itemName": "Lost phone"
	     "isLost": "true"
	     "images":
	     "location":
	     "ListedBy": "test"
	     "date": "2023-04-04"
	     "time": "17:00:00"
	     "itemDescription": "black ,last seen near subway"
	     "category: "Electronics ID"
	     "isResolved": "false"
	 }
		HTTP_400_BAD _REQUEST	HTTP_404_ BAD _REQUEST	Pass

Upload a post without itemName	POST: http://localhost:3000/api/posts/
	 {
	     "itemName":
	     "isLost": "true"
	     "images":
	     "location": "NTU"
	     "ListedBy": "test"
	     "date": "2023-04-04"
	     "time": "17:00:00"
	     "itemDescription": "black ,last seen near subway"
	     "category: "Electronics ID"
	     "isResolved": "false"
		HTTP_400_BAD _REQUEST	HTTP_404_ BAD _REQUEST	Pass

	}			
Delete User with correct ID	DELETE: http://localhost:3000/api/users/<ID OF USER>	HTTP_200_OK	HTTP_200_ OK	Pass
Delete User with not existing ID	DELETE: http://localhost:3000/api/users/<ID OF USER>	HTTP_404_NOT _FOUND	HTTP_404_ NOT _FOUND	Pass

Edit User with correct ID	PUT: http://localhost:3000/api/users/<ID OF USER>
	
	{
	 "email":"test@gmail.com",
	 "username":"test5",
	 "password":"yoohoohoo",
	 "phone":"12312414"
	}
		HTTP_200_OK	HTTP_200_ OK	Pass

Edit User with not existing ID	PUT: http://localhost:3000/api/users/<ID OF USER>
	
	{
	 "email":"test@gmail.com",
	 "username":"test5",
	 "password":"yoohoohoo",
	 "phone":"12312414"
	}
		HTTP_404_NOT _FOUND	HTTP_404_ NOT _FOUND	Pass

Get posts with	GET: :http://localhost:3000/api/posts/	HTTP_200_OK	HTTP_200_ OK	Pass

authenticated token				
Get posts without authenticated token	GET: :http://localhost:3000/api/posts/	HTTP_401_UNA UTHORIZED	HTTP_401_ UNA UTHORIZE D	Pass
Get Users with authenticated token	GET: :http://localhost:3000/api/users/	HTTP_200_OK	HTTP_200_ OK	Pass
Get Users without authenticated token	GET: :http://localhost:3000/api/users/	HTTP_401_UNA UTHORIZED	HTTP_401_ UNA UTHORIZE D	Pass
Get posts of a user with existing ID	GET: http://localhost:3000/api/users/userposts/<ID OF USER>	HTTP_200_OK	HTTP_200_ OK	Pass
Get posts of a user with existing ID	GET: http://localhost:3000/api/users/userposts/<ID OF USER>	HTTP_404_NOT _FOUND	HTTP_404_ NOT _FOUND	Pass
Get list of Categories	GET: http://localhost:3000/api/categories	HTTP_200_OK	HTTP_200_ OK	Pass
Delete post with correct ID	DELETE:http://localhost:3000/api/posts/<POST ID>	HTTP_200_OK	HTTP_200_ OK	Pass
Delete post with not existing ID	DELETE:http://localhost:3000/api/posts/<POST ID>	HTTP_404_NOT _FOUND	HTTP_404_ NOT _FOUND	Pass

4.Frontend Test Cases

4.1 White Box Testing

<u>Sign up/Create new user</u>

Test Scenario ID	Register-1		Test Case ID	Register-1A
Test Case Description	Registration – Positive Test Case		Test Priority	High
Pre-Requisite	Stable Internet Connection		Post-Requisite	NA
Test Execution Steps:				

S. No	Action	Inputs	Expected Output	Actual Output	Test Device	Test Result	Test Comments
1	Launch application	-	Login Page	Login Page	IOS Emulator	Pass	Launch successful
2	Click signup	-	Register page	Register Page	IOS Emulator	Pass	Register
3	Sign up with valid credentials	"email":"test@gmail.com", "username":"test", "password":"yoohoohoo", "phone":"12312414"	Login page	Login Page	IOS Emulator	Pass	Password will be stored in a password hash to maintain security

Test Scenario ID	Register-2	Test Case ID	Register-2A

Test Case Description	Registration – Negative Test Case		Test Priority	High
Pre-Requisite	Stable Internet Connection		Post-Requisite	NA
Test Execution Steps:				

S.No	Action	Inputs	Expected	Actual	Test	Test	Test

			Output	Output	Browser	Result	Comments
1	Launch application	-	Login Page	Login Page	IOS Emulator	Pass	
2	Click signup	-	Register page	Register Page	IOS Emulator	Pass	
3	Enter used email, everything else valid	"email":"test@gmail.com", "username":"test123", "password":"yoohoohoo", "phone":"12312414"	Email Invalid	Email Invalid	IOS Emulator	Pass	
4	Enter everything except username	"email":"test123@gmail.com", "username": , "password":"yoohoohoo", "phone":"12312414"	Username not entered	Username not entered	IOS Emulator	Pass	
5	Enter everything except password	"email":"test123@gmail.com", "username": "test123", "password":, "phone":"12312414"	Password not entered	Password not entered	IOS Emulator	Pass	
6	Enter everything except phone	"email":"test123@gmail.com", "username": "test123", "password":"yoohoohoo", "phone":	Phone not entered	Phone not entered	IOS Emulator	Pass	

```
                                              ┌──────────────┐
                                              │ Click Sign up│
                                              │              │
                                              └──────┬───────┘
                                                     │ True
┌──────────────┐                              ┌──────▼───────┐
│   Display    │─────────────────────────────▷│    Enter     │
│ missing field│                              │ Registration │
└──────────────┘                              └──────┬───────┘
      ▲                                              │ True
      │                                              │
      │        false          ◇─────────────────────┴──────◇
      │      ◄──────────────── If username not empty
      │                        ◇────────────────────────────◇
      │                                     │ true
      │        false          ◇─────────────┴──────────────◇
      │      ◄──────────────── If email not empty
      │                        ◇────────────────────────────◇
      │                                     │ true
      │        false          ◇─────────────┴──────────────◇
      │      ◄──────────────── If phone not empty
      │                        ◇────────────────────────────◇
      │                                     │ true
      │        false          ◇─────────────┴──────────────◇
      └──────────────────────  If password not empty
                               ◇────────────────────────────◇
                                             │ true
                                      ┌──────▼───────┐
                                      │  Successful  │
                                      │ registration │
                                      └──────────────┘
```
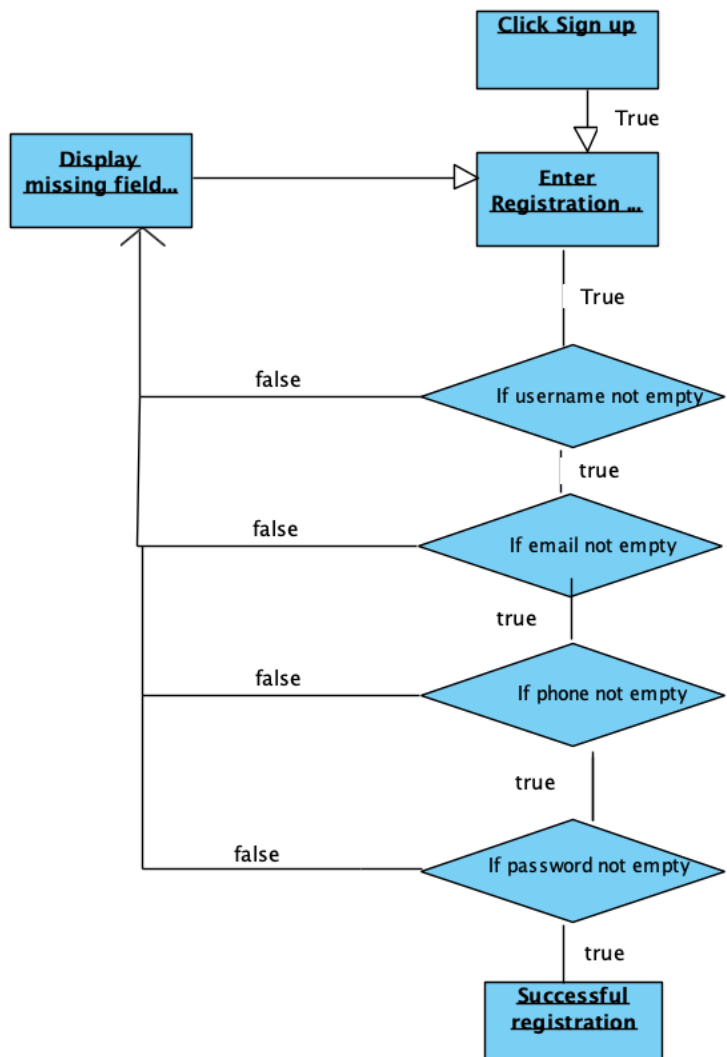
Login

Test Scenario ID	Login-1		Test Case ID	Login-1A	
Test Case Description	Login – Positive Test Case		Test Priority	High	
Pre-Requisite	Stable Internet Connection and Already Registered		Post-Requisite	NA	
Test Execution Steps:					

S. No	Action	Inputs	Expected Output	Actual Output	Test Browser	Test Result	Test Comments
1	Launch application	-	Login Page	Login Page	IOS Emulator	Pass	
2	Enter Valid Username and Password	"username":"test", "password":"yoohoohoo"	Home page	Home page	IOS Emulator	Pass	Token is generated and stored in this login instance

Test Scenario ID	Login-2		Test Case ID	Login-2A	
Test Case Description	Login – Negative Test Case		Test Priority	High	
Pre-Requisite	Stable Internet Connection		Post-Requisite	NA	

Test Execution Steps:

S. No	Action	Inputs	Expected Output	Actual Output	Test Browser	Test Result	Test Comments
1	Launch application	-	Login Page	Login Page	IOS Emulator	Pass	
2	Enter invalid username and a password	"username":"test342948", "password":"yoohoohoo"	Login failed	Login failed	IOS Emulator	Pass	Display invalid username pop up
3	Enter valid username and invalid password	"username":"test", "password":"yo"	Login failed	Login failed	IOS Emulator	Pass	Display wrong password pop up

```
Click log in
```

```
Enter Username
and password
```

If invalid
username

true → Display Invalid
username

false

If invalid
password

true → Display Invalid
Password

false

Log in Sucessful
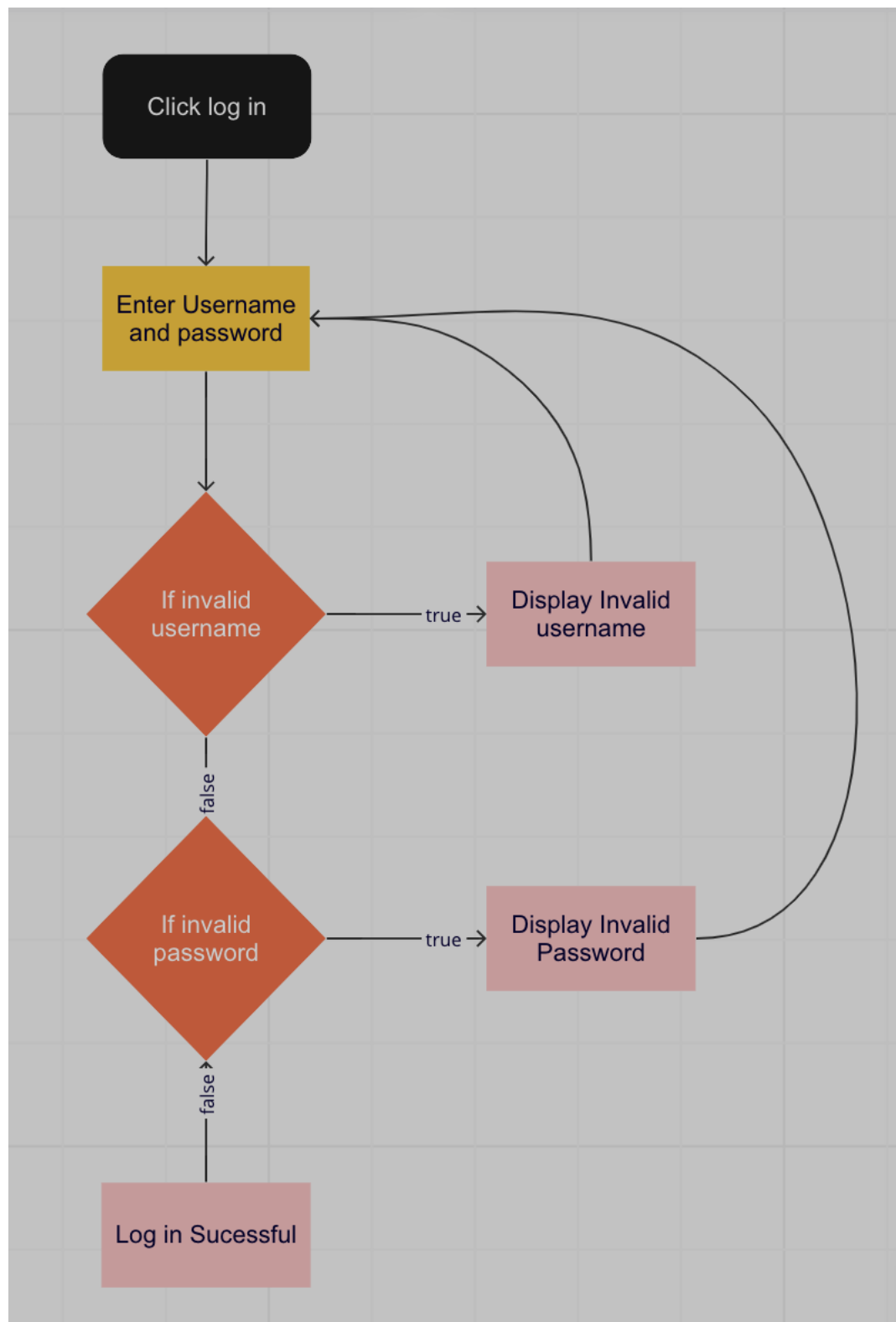
View Post

Test Scenario ID	View Post		Test Case ID	ViewPost	
Test Case Description	View Post – Positive Test Case		**Test Priority**	High	
Pre-Requisite	Stable Internet Connection and logged in		**Post-Requisite**	NA	

Test Execution Steps:							
S. No	**Action**	**Inputs**	**Expected Output**	**Actual Output**	**Test Browser**	**Test Result**	**Test Comments**
1	Login	Successful log in	Home page	Home page	IOS Emulator	Pass	
2	Scroll	-	Posts will be shown based on recency	Posts shown based on recency	IOS Emulator	Pass	

View Map

Test Scenario ID	View Map		Test Case ID	ViewMap	
Test Case Description	View Map – Positive Test Case		**Test Priority**	High	
Pre-Requisite	Stable Internet Connection and location services enabled		**Post-Requisite**	NA	

Test Execution Steps:							
S. No	**Action**	**Inputs**	**Expected Output**	**Actual Output**	**Test Browser**	**Test Result**	**Test Comments**

| 1	Click on the view Map icon	-	Home page	Home page	IOS Emulator	Pass	
2	Scroll the map	-	Current location shown in blue and post location shown in red for lost and green for found	Current location shown in blue and post location shown in red for lost and green for found	IOS Emulator	Pass	Post show up as clickable pins
2	Click on the post pins	-	Pins will show the title and description of the post	Pins will show the title and description of the post	IOS Emulator	Pass	

Create Post

Test Scenario ID	Create Post			Test Case ID		CreatePost-1A	
Test Case Description	Create Post – Positive Test Case			Test Priority		High	
Pre-Requisite	Stable Internet Connection and logged in			Post-Requisite		NA	
Test Execution Steps:							

S. No	Action	Inputs	Expected Output	Actual Output	Test Browser	Test Result	Test Comments
1	Click the Plus icon to create post	-	Create post page	Create post page	IOS Emulator	pass	

2	Enter valid Post details	{
		   itemName: Lost phone
		   isLost: true
		   images: ~
		   location: NTU
		   date: 2023-04-04
		   time: 17:00:00
		   itemDescription: black ,last seen near subway
		   category: Electronics
		}
			Post created successfully	Post created Successfully	IOS Emulator	pass	Fields are shown in json format but entered using the phone app which consist of textbox, drop down boxes and checkboxes.
							
							Post shows up on the view post page and on the user's profile page

Test Scenario ID	Create Post			Test Case ID	CreatePost-2A	
Test Case Description	Create Post – Negative Test Case			Test Priority	High	
Pre-Requisite	Stable Internet Connection and logged in			Post-Requisite	NA	
Test Execution Steps:						

S. No	Action	Inputs	Expected Output	Actual Output	Test Browser	Test Result	Test Comments
1	Click the Plus icon to create post	-	Create post page	Create post page	IOS Emulator	pass	

2	Enter all details except location	{
		    itemName: Lost phone
		    isLost: true
		    images:
		    location:
		    date: 2023-04-04
		    time: 17:00:00
		    itemDescription: black ,last seen near subway
		    category: Electronics
		}
			Location not filled, post not uploaded	Location not filled, post not uploaded	IOS Emulator	pass	Image and item description are optional fields. Category, date and time are have a fixed format and options with a default option. These fields will not be tested

3	Enter all details except itemName	{
		    itemName:
		    isLost: true
		    images:
		    location: NTU
		    listedBy: test
		    date: 2023-04-04
		    time: 17:00:00
			Item Name not filled, post not uploaded	Item Name not filled, post not uploaded	IOS Emulator	pass	

		itemDescription: black ,last seen near subway category: Electronics }					

```mermaid
flowchart TD
    A[Click create post] --> B[Enter post details]
    B --> C{If itemName blank}
    C -- true --> D[Display please fill in itemName]
    C -- false --> E{If location blank}
    E -- true --> F[Display please fill in location]
    E -- false --> G[Post uploaded]
    D --> B
    F --> B
```

Click create post

Enter post details

If itemName blank
- true → **Display please fill in itemName**
- false ↓

If location blank
- true → **Display please fill in location**
- false ↓

Post uploaded
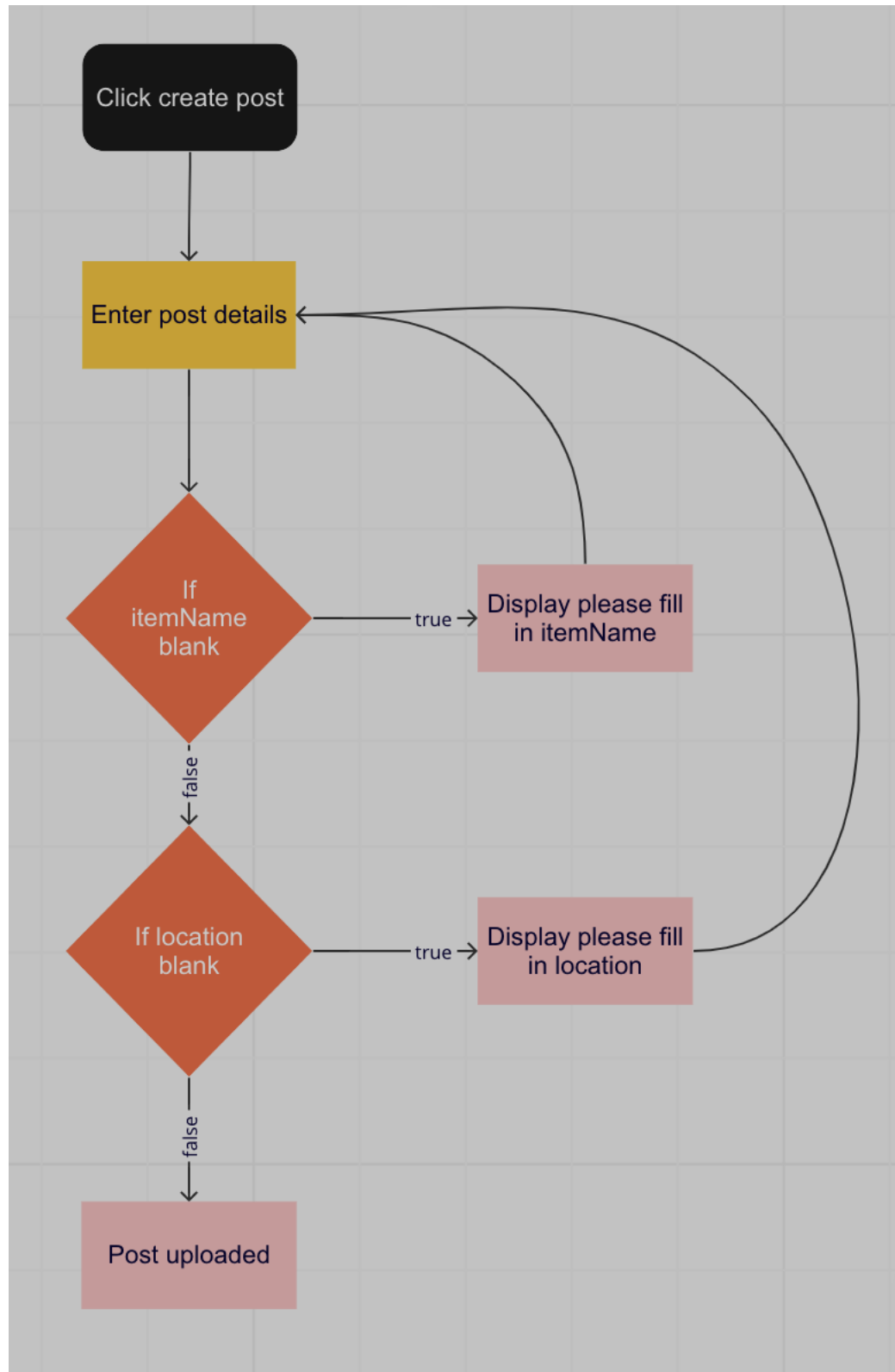
View User Post

Test Scenario ID	ViewUserPost		Test Case ID	View User Post
Test Case Description	View User Post		Test Priority	Medium
Pre-Requisite	Stable Internet Connection and Successful log in		Post-Requisite	NA
Test Execution Steps:				

S. No	Action	Inputs	Expected Output	Actual Output	Test Browser	Test Result	Test Comments
1	Click on User profile	-	User is shown with all past posts	User is shown with all past posts	IOS Emulator	Pass	Tested with both resolved and unresolved post
2	Click on unresolved in the drop down menu	-	User is shown with only unresolved posts	User is shown with only unresolved posts	IOS Emulator	Pass	
3	Click on resolved in the drop down menu	-	User is shown with only resolved posts	User is shown with only resolved posts	IOS Emulator	Pass	

View User Post Details

Test Scenario ID	ViewUserPostDetails		Test Case ID	ViewUserPostDetails
Test Case Description	View User Post details		**Test Priority**	High
Pre-Requisite	Stable Internet Connection and Successful log in		**Post-Requisite**	NA
Test Execution Steps:				

S. No	Action	Inputs	Expected Output	Actual Output	Test Browser	Test Result	Test Comments
1	Click on a user post in list view	-	User is shown post details with an image carousel	User is shown post details with an image carousel	IOS Emulator	Pass	
2	Click on a user post in map view	-	User is shown post details with an image carousel	User is shown post details with an image carousel	IOS Emulator	Pass	

Search Post

Test Scenario ID	SearchUser		Test Case ID	SearchUser
Test Case Description	Search user by name or category		**Test Priority**	Medium
Pre-Requisite	Stable Internet Connection and Successful log in		**Post-Requisite**	NA
Test Execution Steps:				

S. No	Action	Inputs	Expected Output	Actual Output	Test Browser	Test Result	Test Comments

1	Click on the search bar	-	User shown a box to type the search details in, as well as a categories option to search by category	User shown a box to type the search details in, as well as a categories option to search by category	IOS Emulator	Pass	
2	Search by item	phone	All items with phone in their name are displayed	All items with phone in their name are displayed	IOS Emulator	Pass	
2	Search by category	Electronics	All items in the electronics category displayed	All items in the electronics category displayed	IOS Emulator	Pass	Category shown as a dropdown

Request Resolved

Test Scenario ID	RequestResolved		Test Case ID	RequestResolved
Test Case Description	Request Resolved – Positive Test Case		Test Priority	High
Pre-Requisite	Stable Internet Connection and logged in		Post-Requisite	NA
Test Execution Steps:				

S. No	Action	Inputs	Expected Output	Actual Output	Test Browser	Test Result	Test Comments
1	Click on a post	-	Shows option to report or to request resolved	Shows option to report or to request resolved	IOS Emulator	Pass	This will be done on resolver user account
2	Click on resolve	-	Post will be shown with a marker resolve sent	Post will be shown with a marker resolve sent	IOS Emulator	Pass	The post has to be made by someone else
3	Click on request	-	Resolve request for <item> displayed in request screen	Resolve request for <item> displayed in request screen	IOS Emulator	Pass	Done on the poster user account
4	Click on accept resolve request	-	Item post changed to resolved, resolver user account gains 1 reputation. Delete request from	Item post changed to resolved, resolver user account gains 1 reputation. Delete request from	IOS Emulator	Pass	

			request page	request page			

Test Scenario ID	RequestResolved		Test Case ID	RequestResolved		
Test Case Description	Request Resolved – Negative Test Case		Test Priority	High		
Pre-Requisite	Stable Internet Connection and logged in		Post-Requisite	NA		
Test Execution Steps:						

S. No	Action	Inputs	Expected Output	Actual Output	Test Browser	Test Result	Test Comments
1	Click on a post	-	Shows option to report or to request resolved	Shows option to report or to request resolved	IOS Emulator	Pass	This will be done on resolver user account
2	Click on resolve	I found it	Post will be shown with a marker resolve sent	Post will be shown with a marker resolve sent	IOS Emulator	Pass	The post has to be made by someone else. "I found it" option will be shown on lost items, and "I lost it" will be shown for found items
3	Click on request	-	Resolve request for <item> displayed in request screen	Resolve request for <item> displayed in request screen	IOS Emulator	Pass	Done on the poster user account

| 4 | Click on reject resolve request | - | Item remains unresolved, resolve request deleted. Marker of resolve sent from resolver will be removed | Item remains unresolved, resolve request deleted. Marker of resolve sent from resolver will be removed | IOS Emulator | Pass | |

```
Unresolved post
        │
        ▼
   User request                      ◄─────────────────────┐
     resolve                                                │
        │                                                   │
        ▼                                                   │
  Marker shows                                              │
 resolve request                              Marker of resolve request
      sent                                           removed
        │                                                   ▲
        ▼                                                   │
 Resolve request                                            │
   appears on                                               │
 poster's request                                           │
     page                                                   │
        │                                                   │
        ▼                                                   │
    ◇ if poster                          Delete request from
      accept        ── false → ──            request page
      resolve
      request ◇
        │
      true
        │
        ▼
  Post marked as
    resolved
        │
        ▼
  Resolver user
 account gains 1
```