**ST. TERESA'S COLLEGE**

**(AUTONOMOUS),ERNAKULAM**

**AFFILIATED TO MAHATMA GANDHI UNIVERSITY KOTTAYAM**

**PROJECT REPORT ON**

# SCRAPSY (Academic Project)

**In partial fulfillment of the requirements for the**

**Award of the degree of**

## B.Voc SOFTWARE DEVELOPMENT


By

**MEEM**

**III B.Voc Software Development**

**Register No: VB21SWD018**


Under the guidance of

**Ms. ELIZABETH PAUL**

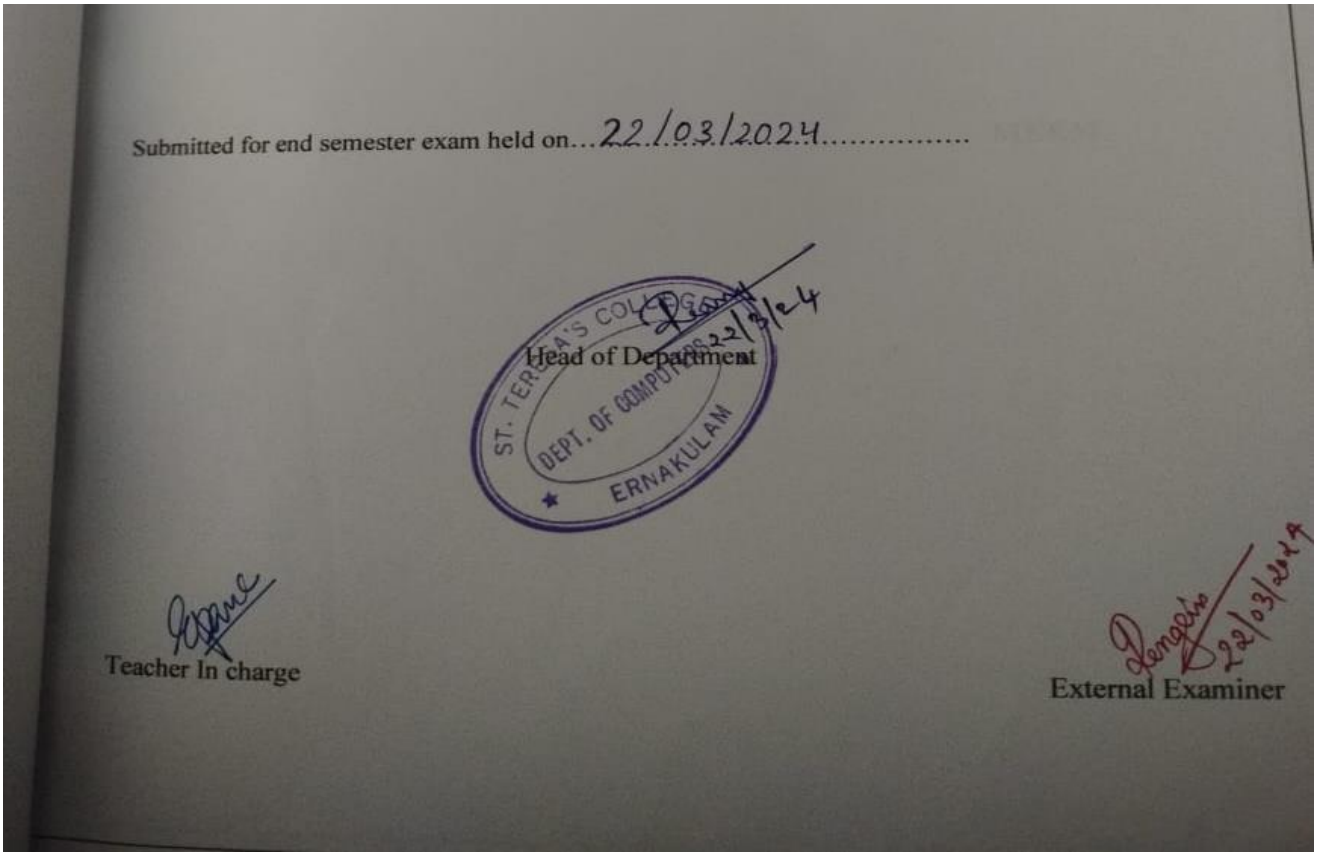
Department of Computer Applications

2021-2024

ST. TERESA'S COLLEGE
(AUTONOMOUS)
ESTD 1925

# CERTIFICATE

This is to certify that the project report on "**Academic Project (SCRAPSY)**"is a bona fide record of the work done by **MEEM (VB21SWD018)** during the year 2021-2024 and submitted in partial fulfillment of the requirement for the degree of **B.Voc Software Development** of Mahatma Gandhi University.



# DECLARATION

I , **MEEM (Register no: VB21SWD018)** , **B.Voc Software Development** final yearstudent of St. Teresa's College (Autonomous), Ernakulam, hereby declare that the project submitted named **ACADEMIC PROJECT (SCRAPSY)** for the Bachelor's of Vocation Degree in Software Development is my original work. I further declare that the said work has not previously been submitted to any other university or academic body.

Place : Ernakulam

Date : 22/03/2024 Meem

# ACKNOWLEDGEMENT

First and foremost, I would like to thank god almighty for the successful completion of my project.I express my sincere thanks to Provincial Manager Rev Dr Sr Vinitha CSST & Principal Dr. Alphonsa Vijaya Joseph of St. Teresa's college (AUTONOMOUS) for giving me an opportunity to undertake this project.I also extend my sincere gratitude to Ms. Elizabeth Paul, my project guide for her constant support which helped in the successful completion of my project. I'm grateful to all the faculties of Department of Computer Applications for their valuable helpand guidance during each stage of my project. Last but not the least, I would like to thank my parents and friends for motivating me and providing me the right environment for making this project work a great success.

**MEEM**

# SYNOPSIS

In an era marked by environmental concerns and a growing consciousness about sustainable living, "Scrapsy" emerges as a pioneering solution to tackle the global waste crisis. Scrapsy is a multifaceted mobile application designed to facilitate the buying, selling, and donating of recyclable waste materials. By harnessing the power of technology and community engagement, Scrapsy aims to revolutionize waste management practices and promote a circular economy.

At its core, Scrapsy serves as a user-friendly platform where people can seamlessly connect to exchange recyclable materials. Whether it's paper, plastics, metals, or electronic waste, Scrapsy provides a centralized marketplace for users to list, discover, and transact these materials with ease. Through innovative features such as photo uploading ,donation option , selling and buying option , easy pickup, and secure payment options, Scrapsy streamlines the process of waste exchange, making it both convenient and efficient.

# CONTENTS

# 1. INTRODUCTION

# 1.1 ABOUT PROJECT

SCRAPSY Revolutionizing Waste Management Through a Recycling Marketplace

Scrapsy – your all-in-one solution for buying, selling, and donating recyclable waste! At Scrapsy, we believe in the power of sustainability and community, and we're here to revolutionize the way you think about waste management.

With Scrapsy, you have the convenience of buying, selling, or donating recyclable materials right at your fingertips. Whether you're looking to declutter your home, earn some extra cash, or contribute to a greener planet, Scrapsy has you covered.

Sellers have the flexibility to choose their pickup date and time, ensuring a seamless and hassle-free experience. Plus, with the ability to upload pictures of your items, you can showcase exactly what you have to offer, making transactions smoother than ever before.

Join us in our mission to reduce waste, promote recycling, and build a more sustainable future for generations to come. Let's make a difference together with Scrapsy.

# 2. SYSTEM ANALYSIS

# 2.1 INTRODUCTION

System Analysis is a detailed study of the various operations performed by the system and their relationship within the modules of the system. This phase involves the study of the parent system and identification of the system objectives . The main objective of this phase involves gathering of necessary information and using the structured tool for analysis. This includes designing the system. In this project,the requirements are studied in detail and information are collected and documented.

# 2.2 EXISTING SYSTEM

A similar application is  is available on the playstore for selling recyclable wasate. That application is named as **scrapuncle.**

# 2.3 PROPOSED SYSTEM

Objectives of the Scrapsy an Academic project are:

- Promote Recycling
- Educational Outreach
- Convenience and Flexibility
- Facilitate Donation
- Reduce Waste

# 2.4 SYSTEM SPECIFICATION

System specification specifies the hardware and software configuration of the new system. It helps to define the operational and performance guidelines for a system. Scrapsy is a mobile application developed in WAMP,SQLYOG, VS CODE, ANDROID STUDIO, and PYTHON DJANGO for selling, buying and donating recyclable waste.

# 2.5 OPERATING SYSTEM

Windows is a series of operating system developed by Microsoft. Each version of Windows includes a graphical user interface, with a desktop that allows users to view files andfolders in windows. Microsoft introduced an operating environment named Windows on November 20,1985 as a graphical operating system shell for MS-DOS in response to the growing interest in graphical user interfaces (GUIs).For the past two decades, windows has beenthe most widely used operating system for personal computer PCs.

# 2.6 LANGUAGE OR SOFTWARE PACKAGE

The application is built using Django, which is a high-level Python web framework that enables rapid development of secure and maintainable websites. Built by experienced developers, Django takes care of much of the hassle of web development

SQLyog is a popular graphical user interface (GUI) tool for managing MySQL and MariaDB databases. It provides database administrators and developers with a convenient and intuitive interface for performing various database management tasks such as creating, editing, and deleting databases, tables, and queries.

Bootstrap is a free front-end framework for faster and easier web development

Bootstrap includes HTML and CSS based design templates for typography, forms, buttons, tables, navigation, modals, image carousels and many other, as well as optional JavaScript plugins Bootstrap also gives you the ability to easily create responsive designs

# 2.7 HARDWARE & SOFTWARE SPECIFICATIONS

- Front End for Web Application :
    - HTML, CSS and Bootstrap
- Back End for Web Application:

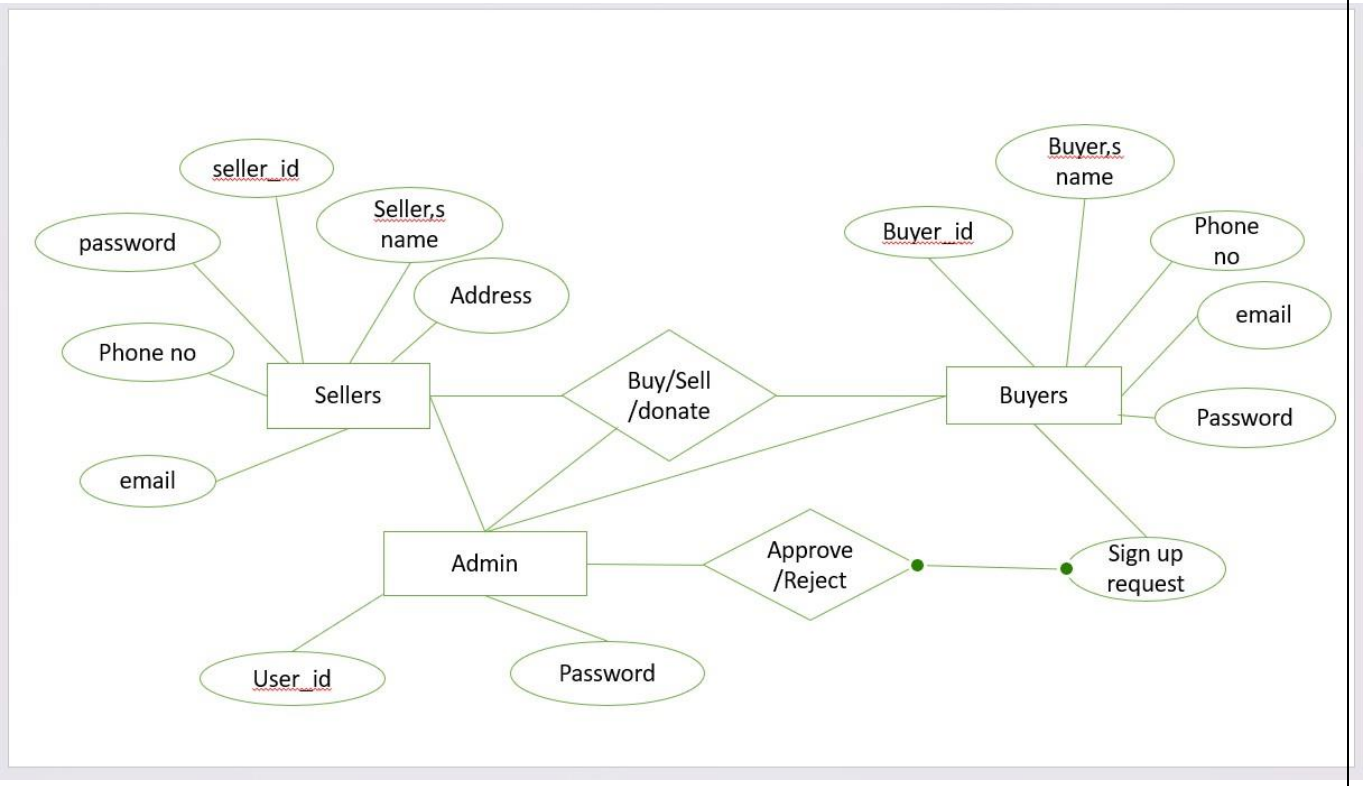
- My SQL

❖ Front End for Mobile Application:

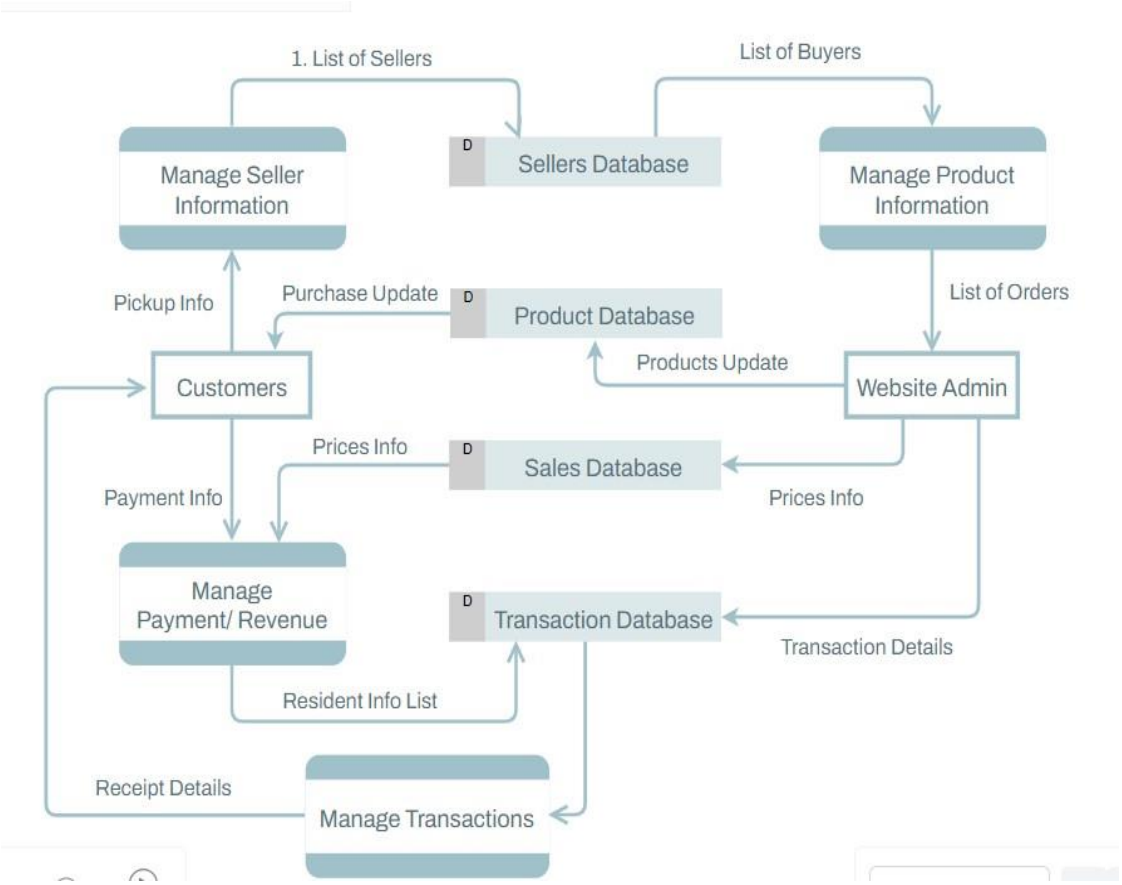
- XML

# 3. SYSTEM DESIGN

# 3.1 E R DIAGRAM



# 3.2 DFD DIAGRAM



# 3.3 DATABASE DESIGN

**admin**

| Fieldname | Type | Size | Description |
|---|---|---|---|
| id | integer | (11) | Primary Key |
| action_time | datetime | (6) | |
| object_id | longtext | | foreign key |
| object_repr | varchar | (200) | |
| Action_flag | smallint | (5) | |
| Change_message | longtext | | |
| Content_type_id | integer | (11) | |
| User_id | integer | (11) | foreign key |

**Myapp_buyer**

| auth_Fieldname | Type | Size | Description |
|---|---|---|---|
| id | integer | (11) | Primary Key |
| Buyer_name | varchar | (50) | |
| place | vachar | (50) | |
| post | varchar | (50) | |
| pin | varchar | (50) | |

| | | | |
|---|---|---|---|
| district | varchar | (50) | |
| Phone | vachar | (50) | |
| email | varchar | (50) | |

Myapp_seller

| **auth_Fieldname** | **Type** | **Size** | **Description** |
|---|---|---|---|
| id | Integer | (11) | Primary Key |
| name | Varchar | (50) | |
| place | Vachar | (50) | |
| post | Varchar | (50) | |
| pin | Varchar | (50) | |
| City | Varchar | (50) | |
| District | Vachar | (50) | |
| Latitude | Varchar | (50) | |
| longitude | Varchar | (50) | |
| phone | Varchar | (50) | |
| email | Varchar | (50) | |
| Login_id | Integer | (11) | |
| photo | Varchar | (300) | |
| House_name | Varchar | (50) | |

**django_session**

| Fieldname | Type | Size | Description |
|---|---|---|---|
| session_key | Varchar | (40) | Primary Key |
| session_data | longtext | | |
| expire_date | datetime | | |

# 4. SYSTEM DEVELOPMENT

# 4.1 INTRODUCTION

Systems development is the process of defining, designing, testing, and implementing a new software application or program. It could include the internal development of customized systems, the creation of database systems, or the acquisition of third party developed software.

# 4.2 PROCESS DESCRIPTION

- In the project, there are three types of users:-

- Administrator (Admin)
- Seller
- Buyer

1. Administrator:
    - Responsible for seller and buyer management
    - Manages the whole System.
    - Updating details and system.
    - Respond to all the complaint.
    - Approves buyer's request for creating account on application.
    - Can Create Update Read and Delete
2. Seller:
    - Sign up.
    - Choose sell or donate option.
    - Can upload pictures for the item they want to sell or donate.

- Can choose their convenient date and time for pickup.
- Can text back to the interested buyer.

3. Buyer:
    - Sign up.
    - Choose sell or donate option.
    - Can click on the item and see whether the item is available for donation.
    - Can see the pictures uploaded by the sellers.
    - Can reply through the picture ,if they are interested to buy that item.

# 4.3 CODING

**Admin_manage_category**

```
{% include 'admin_header.html' %}
<script
src="https://cdn.jsdelivr.net/npm/@popperjs/core@2.10.2/dist/umd/popper.min.js"
integrity="sha384-7+zCNj/IqJ95wo16oMtfsKbZ9ccEh31eOz1HGyDuCQ6wgnyJNSYdrPa03rtR1zdB"
crossorigin="anonymous"></script>
<script  src="https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/js/bootstrap.min.js"
integrity="sha384-QJHtvGhmr9XOIpI6YVutG+2QOK9T+ZnN4kzFN1RtK3zEFEIsxhlmWl5/YESvpZ13"
crossorigin="anonymous"></script>
<div class="container" style="margin-left: 360px">
    <div class="row">
        <div class="col-lg-12">
        <br>
        <br>
        <br>

<style>
    .google-search-container {
        display: flex;
        align-items: center;
        width: 300px; /* Adjust the width as needed */
        margin: 0 auto;
        border: 1px solid #ccc;
        border-radius: 5px;
        overflow: hidden;
    }

    .google-search-input {
        flex: 1;
        padding: 10px;
        border: none;
        outline: none;
    }
```

```
    .google-search-button {
        padding: 10px 15px;
        background-color: #4285f4;
        color: #fff;
        border: none;
        cursor: pointer;
    }
</style>

<body>
<div class="container">
    <div class="row">
        <div class="col-lg-12">

    <center>

    {% if q %}
      <h1>Edit Category</h1>
    <table class="table table-bordered table-hover" >
        <form method="post" enctype="multipart/form-data">
          {% csrf_token %}
          <tr>
            <td><label for="product_name">Category Name:</label></td>
            <td><input type="text" id="product_name" class="form-control"
name="product_name" value="{{q.Category_name}}"required></td>
          </tr>
          <tr>
            <td><label>Category Image:</label></td>
            <td><input type="file" name="productimg" class="form-control" ></td>
          </tr>
          <tr>
            <td><label for="product_price">Category Price:</label></td>
            <td><input type="number" id="product_price" name="product_price"
class="form-control"  value="{{q.Price_per_kg}}" required></td>
          </tr>

          <tr>
```

```
            <td><label for="product_description">Category Description:</label></td>
            <td><input type="text" id="product_description"
name="product_description" class="form-control" value="{{q.Description}}"
required></td>
          </tr>
          <tr>
            <td colspan="2" align="center"><button type="submit" class="btn btn-
secondary">SAVE</button></td>

          </tr>
        </form>
      </table>
    </center>
    {%else %}
          <h1>Add Category</h1>
    <form method="post" enctype="multipart/form-data">
    <table class="table table-bordered table-hover">
          {% csrf_token %}
          <tr>
            <td><label for="product_name">Category Name:</label></td>
            <td><input type="text" id="product_name" name="product_name"
class="form-control" required></td>
          </tr>
          <tr>
            <td><label>Category Image:</label></td>
            <td><input type="file" name="pro" class="form-control" required></td>
          </tr>
          <tr>
            <td><label for="product_price">Category Price:</label></td>
            <td><input type="number" id="product_price" name="product_price"
class="form-control" required></td>
          </tr>
          <tr>

            <td><label for="product_description">Category Description:</label></td>
            <td><input type="text" id="product_description"
name="product_description" class="form-control" required></td>
          </tr>
```

```
          <tr>
            <td colspan="2" align="center"><button type="submit" class="btn btn-
primary">ADD CATEGORY</button></td>

          </tr>


      </table>

    </form>
    </center>



    <br><br>


    <table class="table table-bordered table-hover">
        <tr>
        <th>Index</th>
        <th>Category Name</th>
        <th>Category Image</th>
        <th>Category Price Per Kg</th>

        <th>Category Description</th>
        </tr>


        {% for i in data %}
        <tr>

            <td>{{forloop.counter}}</td>
            <td>{{i.Category_name}}</td>
            <td><img src="{{i.Photo}}" width="100px" height="100px"></td>
            <td>{{i.Price_per_kg}}</td>
            <td>{{ i.Description }}</td>

            <td><a href="/myapp/update_product/{{i.id}}" class="btn btn-primary btn-
xs">Update</a></td>
```

```
            <td><a href="/myapp/delete_category/{{i.id}}" class="btn btn-danger btn-
xs">Delete</a></td>



        </tr>
        {% endfor %}

    </table>
{% endif %}

        </div>
    </div>
</div>
</body>
{% include "admin_footer.html"  %}
```

# 5. SYSTEM TESTING AND IMPLEMENTATION

# 5.1 INTRODUCTION

System testing is defined as testing of a complete and fully integrated software product. This testing falls in black box testing wherein knowledge of the inner design of the code is not a pre-requisite and is done by the testing team. System testing tests the design and behavior of the system and the expectations of the customer.

# 5.2 DEBUGGING

Debugging is the process of finding and fixing errors or bugs in the source code of any software. When software does not work as expected, computer programmers study the code to determine why any errors occurred.

## 5.2.1 UNIT TESTING

Unit Testing is a level of software testing where individual units/ components of software are tested. The purpose is to validate that each unit of the software performs as designed. A unit is the smallest testable part of any software. It usually has one or a few inputs and usually a single output. Here each unit is tested.

## 5.2.2 VALIDATION TESTING

Validation Testing ensures that the product meets the client's needs. The sections such as username and password were checked by giving invalid values and made sure that in such cases it shows message corresponding to the error, so that the user may able to understand the mistake and change accordingly.

Here the phone no field and the password field are also validated.

## 5.2.3 INTEGRATION TESTING

Integration is a testing in which one or two modules which are unit tested are integrated

to test and verification is done to verify if the integrated modules work as expected or not.

## 5.3 SYSTEM SECURITY

System security is the control of access to a computer system's resources, especially its data and operating system. It includes restricting access to the application by unwanted users. In this application, the access to it is controlled by providing a login. Only the registered users can access the data. This facility is considered as a system security.

# 5.4 SCOPE FOR FUTURE ENHANCEMENT

This Scrapsy has a good scope in future enhancements;

1. **Improved User Experience (UX):**
    - Enhance the app's user interface (UI) to make it more intuitive and visually appealing.
    - Implement user feedback mechanisms to gather suggestions and identify pain points.
    - Streamline the buying, selling, and donation processes to make them more efficient and user-friendly.
2. **Expanded Marketplace Features:**
    - Introduce advanced search and filter options to help users find specific recyclable materials more easily.
    - Enable users to set up alerts for specific items they're interested in buying or selling.
    - Implement a rating and review system for buyers and sellers to build trust and reputation within the community.
3. **Integration with Recycling Facilities:**
    - Partner with recycling facilities to provide users with information on drop-off locations and recycling centers nearby.
    - Allow users to schedule pickups for large quantities of recyclable materials directly from their location.
4. **Gamification and Incentive Programs:**
    - Implement gamification elements such as badges, rewards, or points for users who actively participate in recycling activities.
    - Introduce referral programs to incentivize users to invite others to join the platform.
5. **Educational Resources:**
    - Develop educational content within the app to raise awareness about the importance of recycling and environmental sustainability.
    - Provide users with tips and guidelines on how to properly sort and prepare recyclable materials for collection.
6. **Localization and Global Expansion:**
    - Localize the app for different languages and regions to facilitate adoption in diverse communities.
    - Expand the app's reach to new markets and regions where recycling initiatives are gaining momentum.

7. **Data Analytics and Insights:**
    - Collect and analyze data on recycling trends, user behavior, and environmental impact to gain insights and inform future enhancements.
    - Provide users with personalized recommendations based on their recycling habits and preferences.

By focusing on these areas for future enhancement, Scrapsy can continue to evolve as a comprehensive platform for promoting recycling and sustainable waste management practices.

# 6. CONCLUSION

In conclusion, Scrapsy (Academic Project) emerges as a versatile and innovative application designed to revolutionize the way individuals interact with recyclable waste. By providing a centralized platform for buying, selling, and donating recyclable materials, Scrapsy not only fosters a culture of sustainability but also creates economic opportunities for users.

Through its intuitive user interface and robust features, Scrapsy streamlines the process of recycling, making it more accessible and convenient for everyone involved. The integration of advanced search functionalities, community-building features, and educational resources enhances user engagement and promotes a sense of collective responsibility towards environmental conservation.

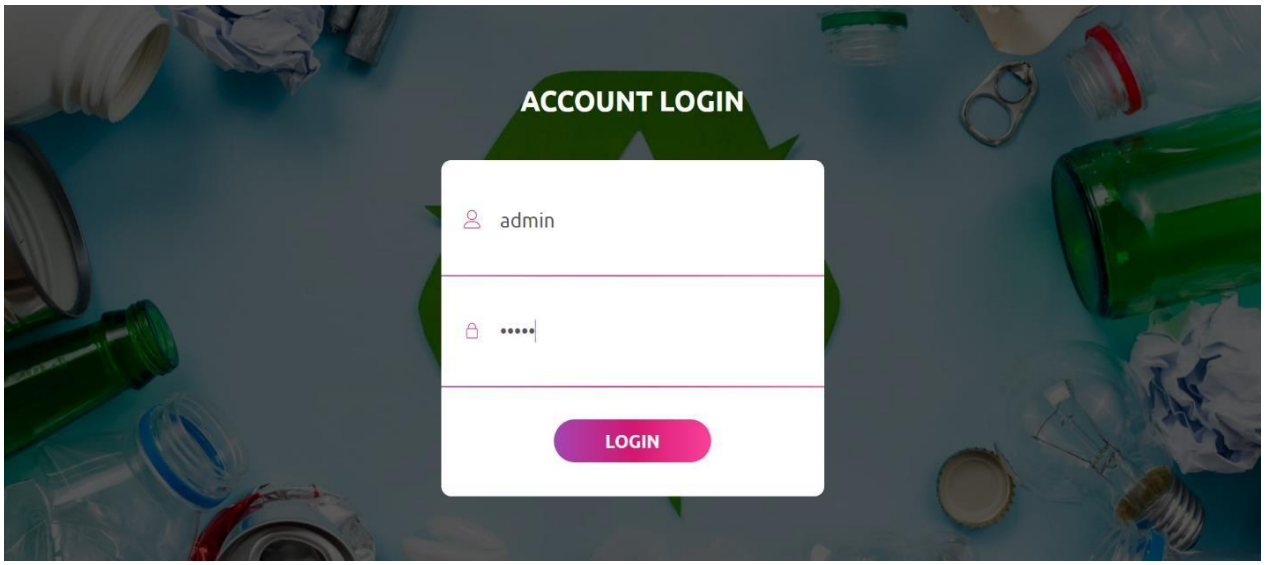
Furthermore, Scrapsy's potential for future enhancements is vast, with opportunities ranging from gamification and social features to IoT integration and global expansion. By continuously evolving and adapting to the needs of its users and the broader recycling community, Scrapsy is poised to make a significant impact on waste management practices worldwide, ultimately contributing to a cleaner, greener, and more sustainable future for generations to come.

# 7. APPENDIX

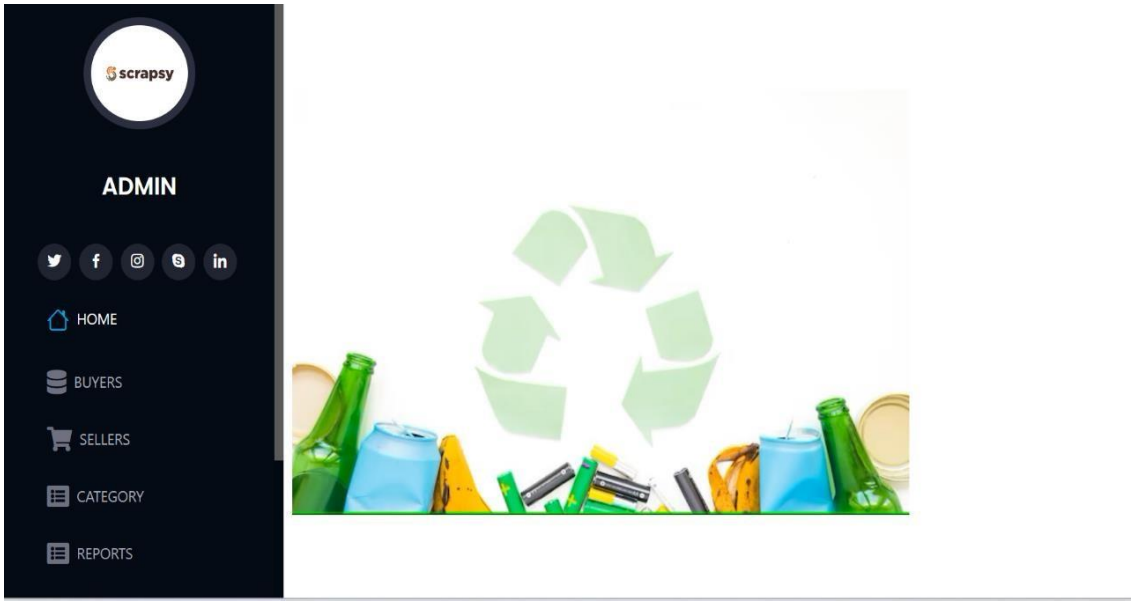
# 7.1 INPUT & OUTPUT SCREEN

**Admin**

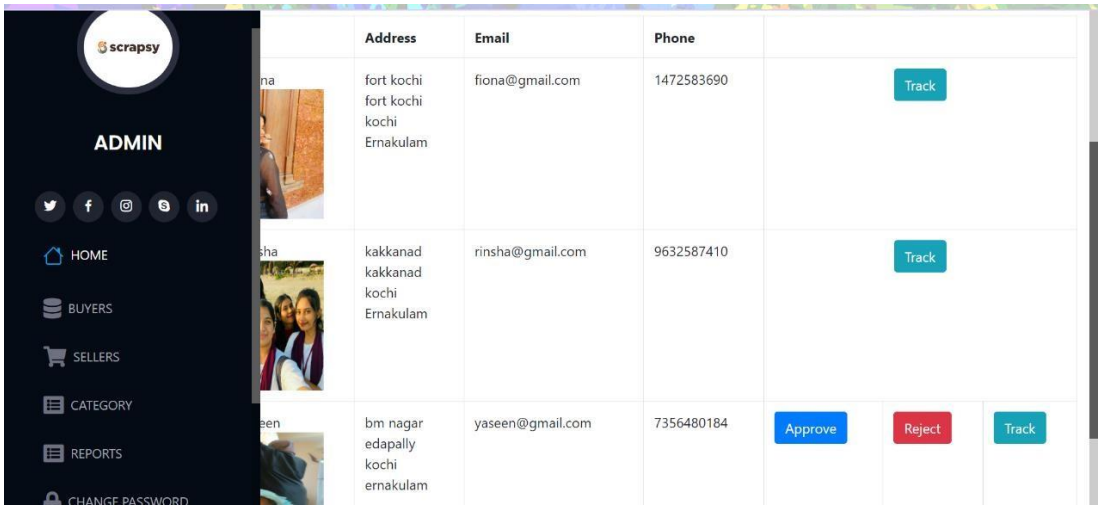
**Login and Sign up**



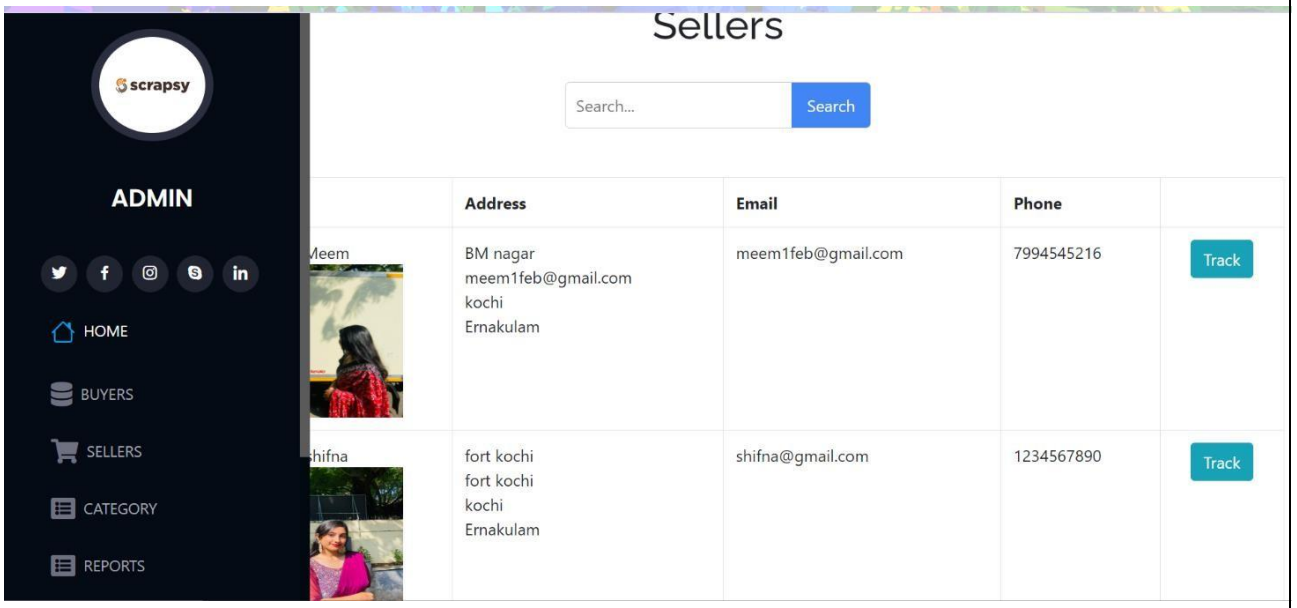

**Admin Homepage**


scrapsy
ADMIN
HOME
BUYERS
SELLERS
CATEGORY
REPORTS

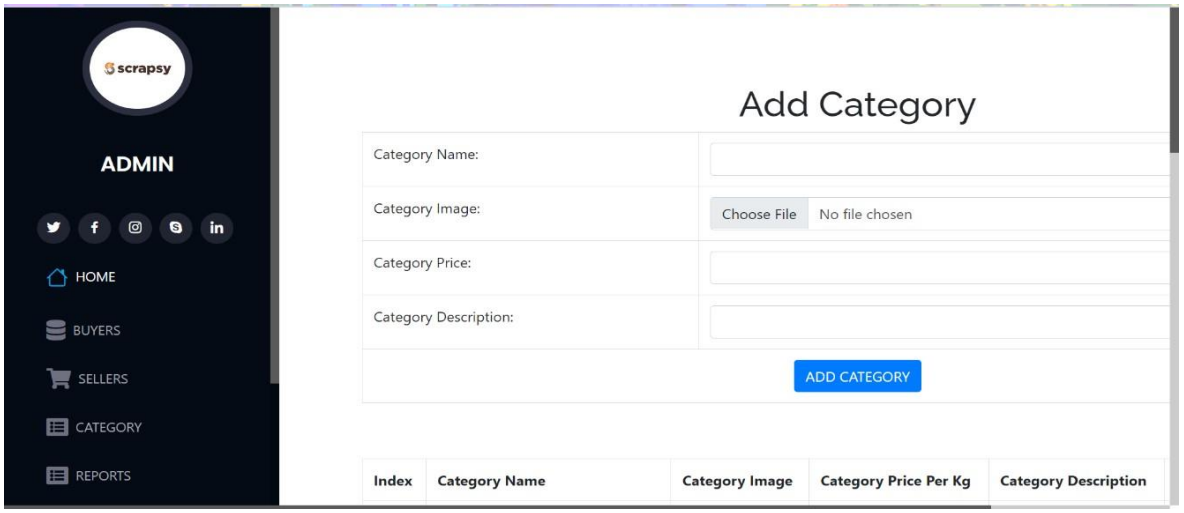
## Buyers

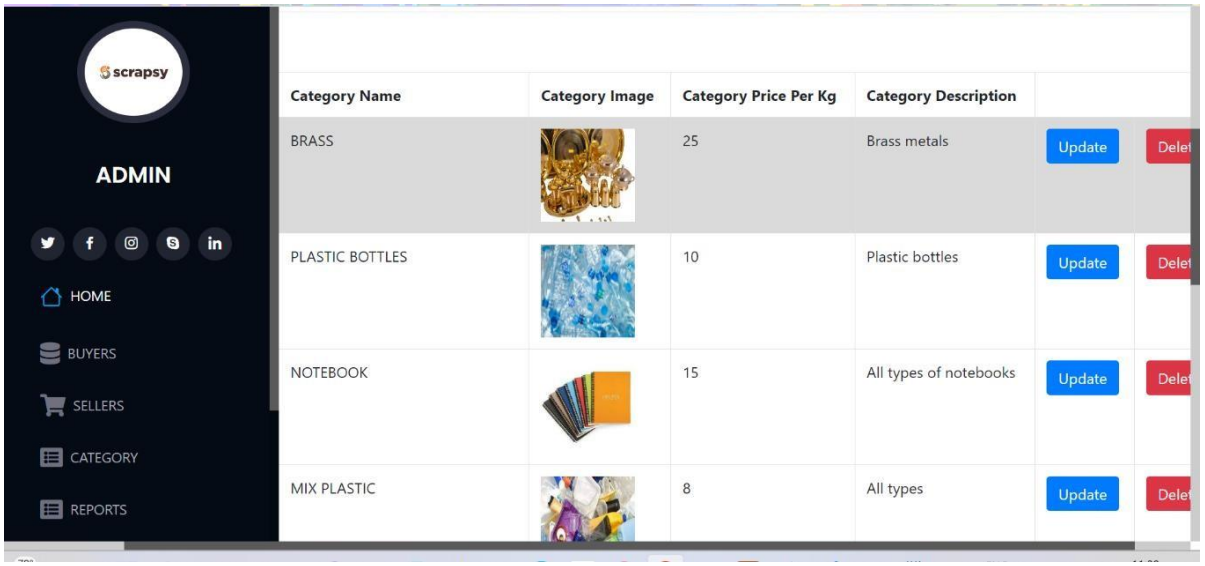



## Sellers

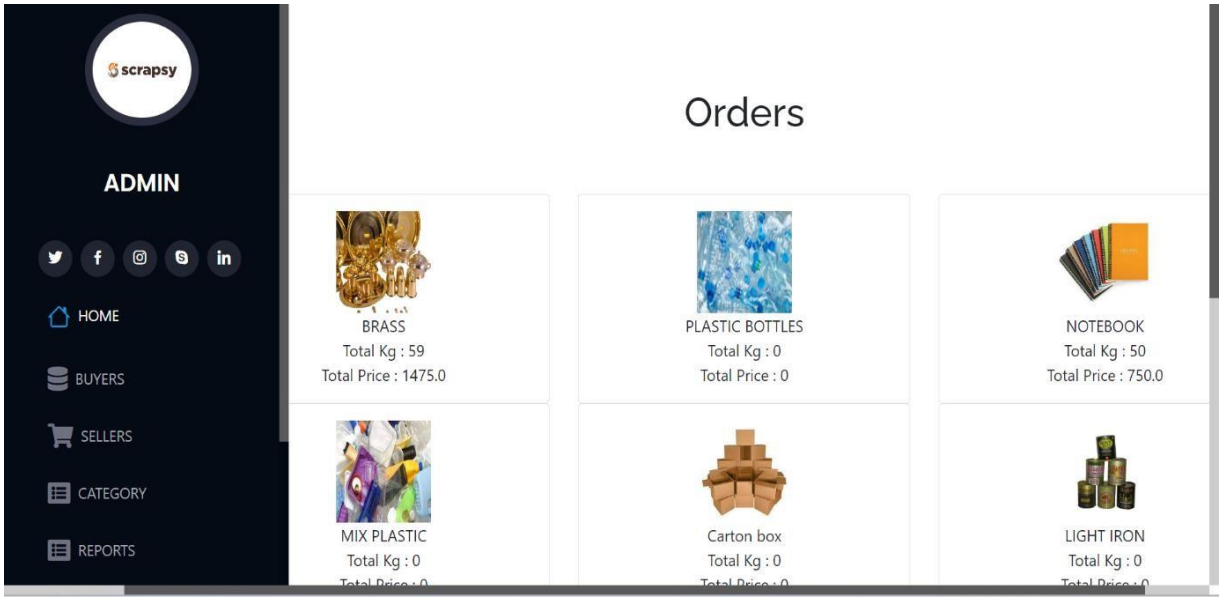



## Category

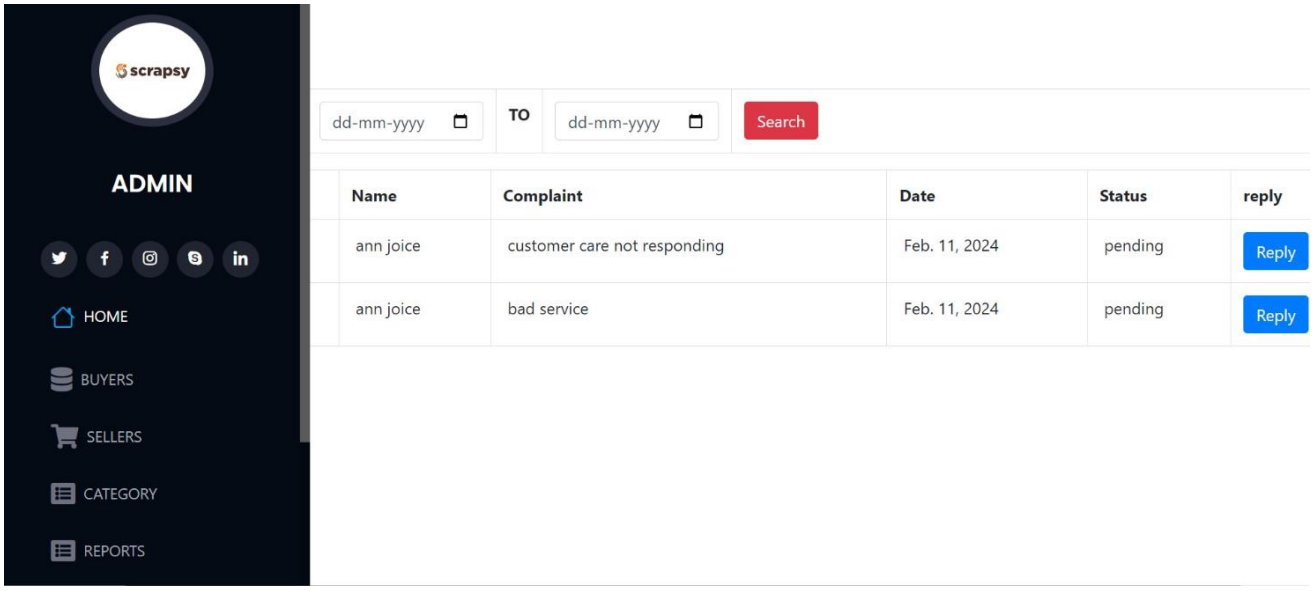

scrapsy
ADMIN
HOME
BUYERS
SELLERS
CATEGORY
REPORTS
Add Category
Category Name:
Category Image:
Choose File
No file chosen
Category Price:
Category Description:
ADD CATEGORY
Index
Category Name
Category Image
Category Price Per Kg
Category Description


scrapsy
ADMIN
HOME
BUYERS
SELLERS
CATEGORY
REPORTS
Category Name
Category Image
Category Price Per Kg
Category Description
BRASS
25
Brass metals
Update
PLASTIC BOTTLES
10
Plastic bottles
Update
NOTEBOOK
15
All types of notebooks
Update
MIX PLASTIC
8
All types
Update

**Report**

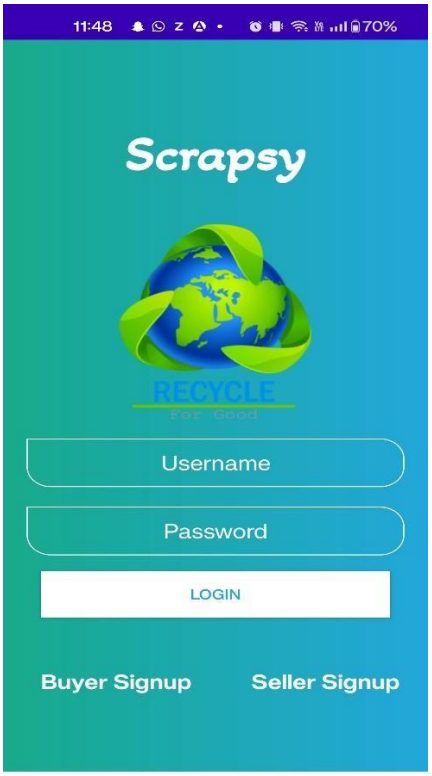


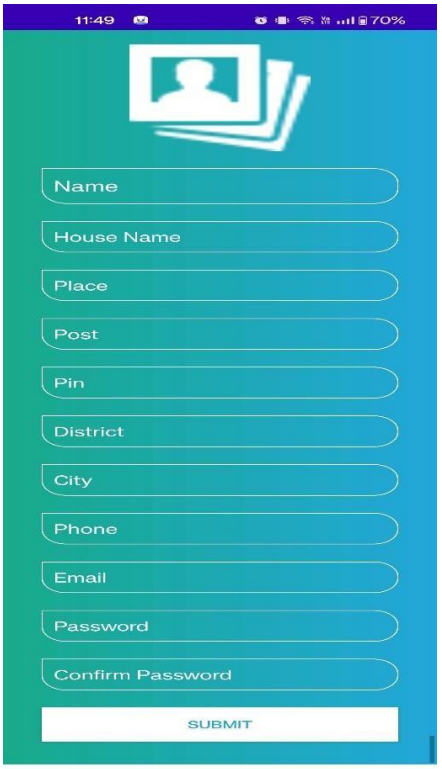

**Complaints**




**My App**

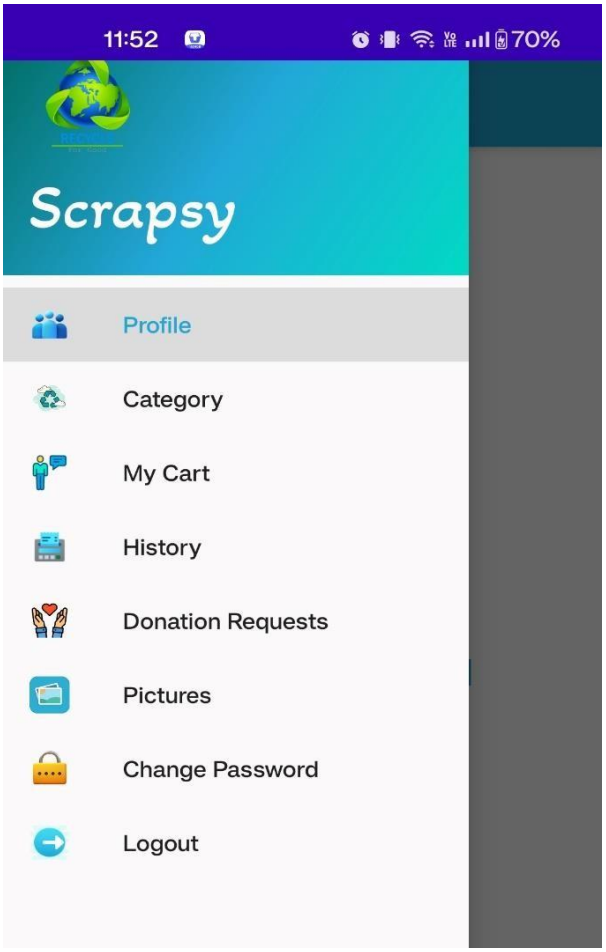
**Buyer signup**


11:48
70%
Scrapsy
RECYCLE
For Good
Username
Password
LOGIN
Buyer Signup
Seller Signup

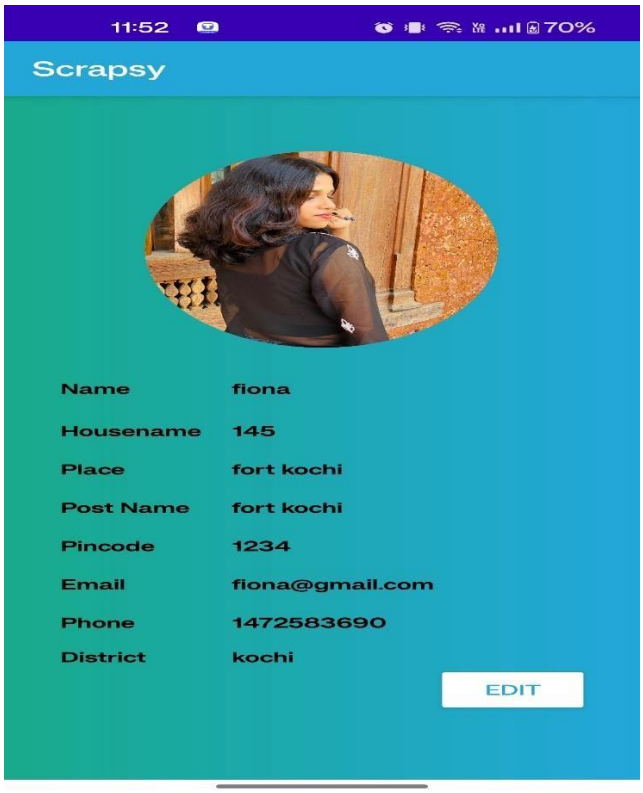

11:49
70%
Name
House Name
Place
Post
Pin
District
City
Phone
Email
Password
Confirm Password
SUBMIT

**Buyer's Home**

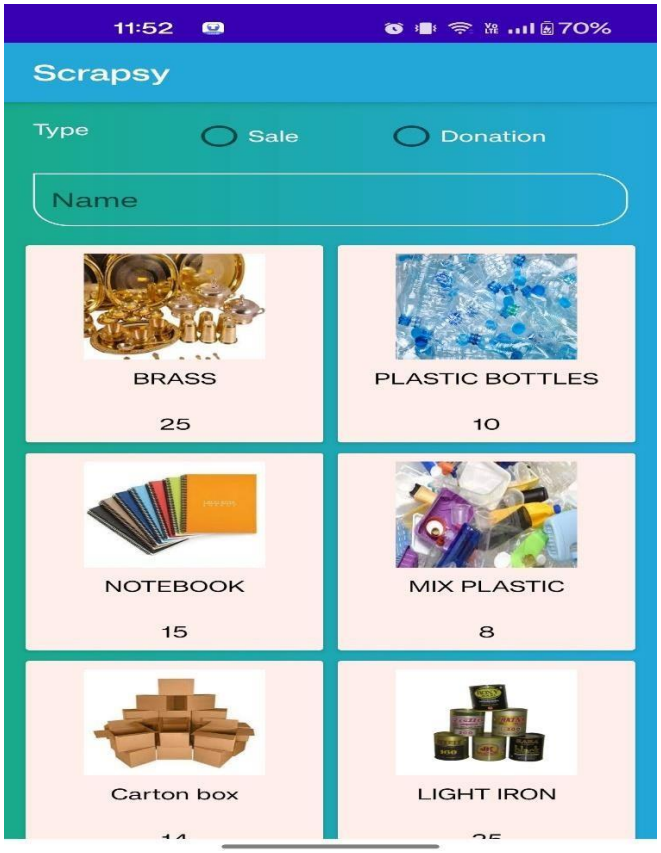

11:52
70%
Home
Buyer Home
RECYCLE
You have purchased
BRASS
25.Kg
PLASTIC BOTTLES
0.Kg
NOTEBOOK
50.Kg
MIX PLASTIC
0.Kg
Carton box
0.Kg
LIGHT IRON
0.Kg


11:52
70%
Scrapsy
Profile
Category
My Cart
History
Donation Requests
Pictures
Change Password
Logout

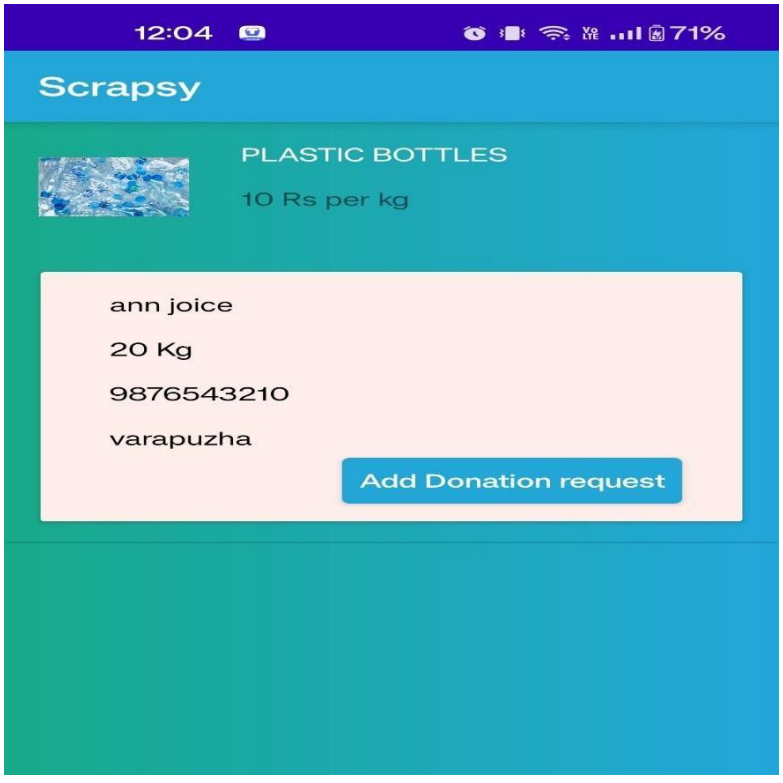
**Profile**


11:52
70%
Scrapsy
Name
fiona
Housename
145
Place
fort kochi
Post Name
fort kochi
Pincode
1234
Email
fiona@gmail.com
Phone
1472583690
District
kochi
EDIT

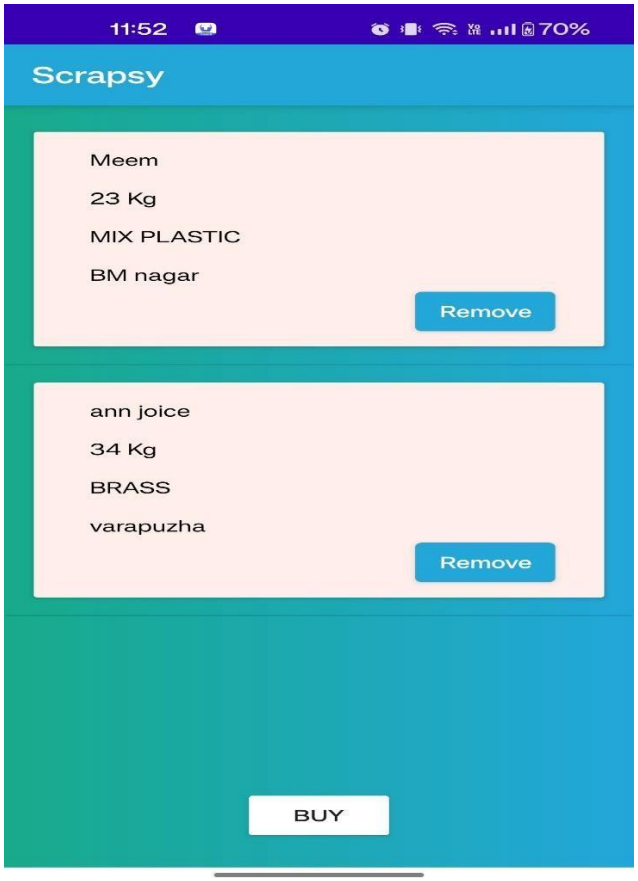
**Category**



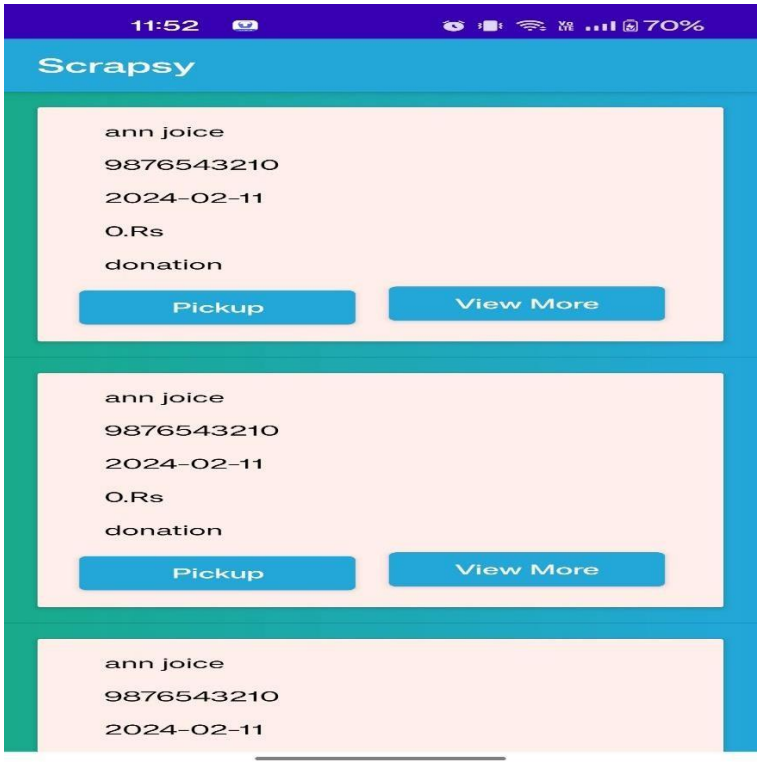

**Add donation Request**



**My Cart**




**History**

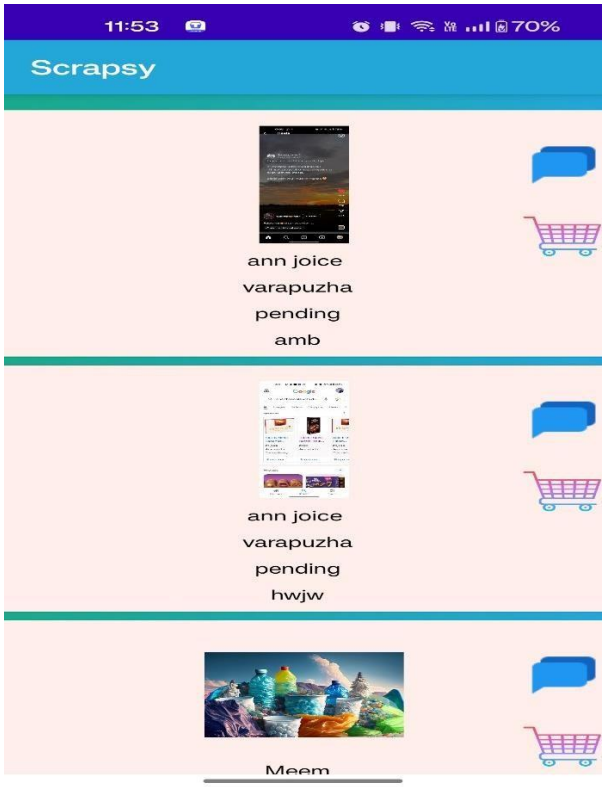



**Donation Request**


**u**

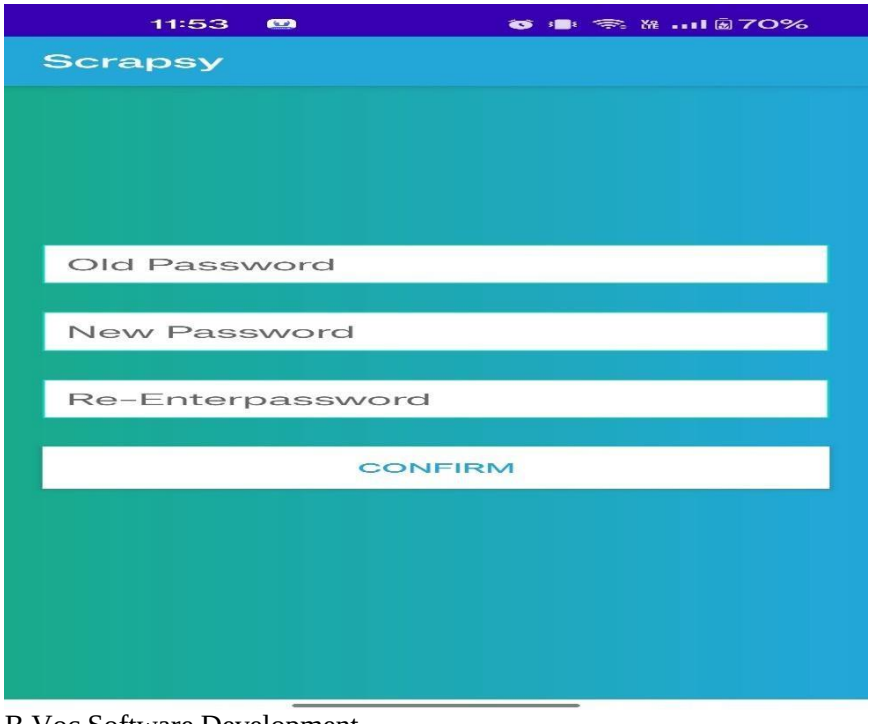
**Picture**

B.Voc Software Development

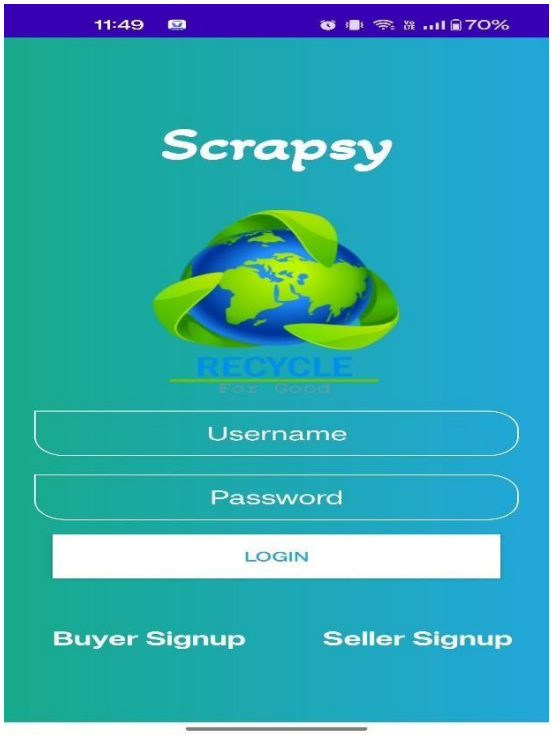

11:53
70%
Scrapsy
ann joice
varapuzha
pending
amb
ann joice
varapuzha
pending
hwjw
Meem

**Chat**

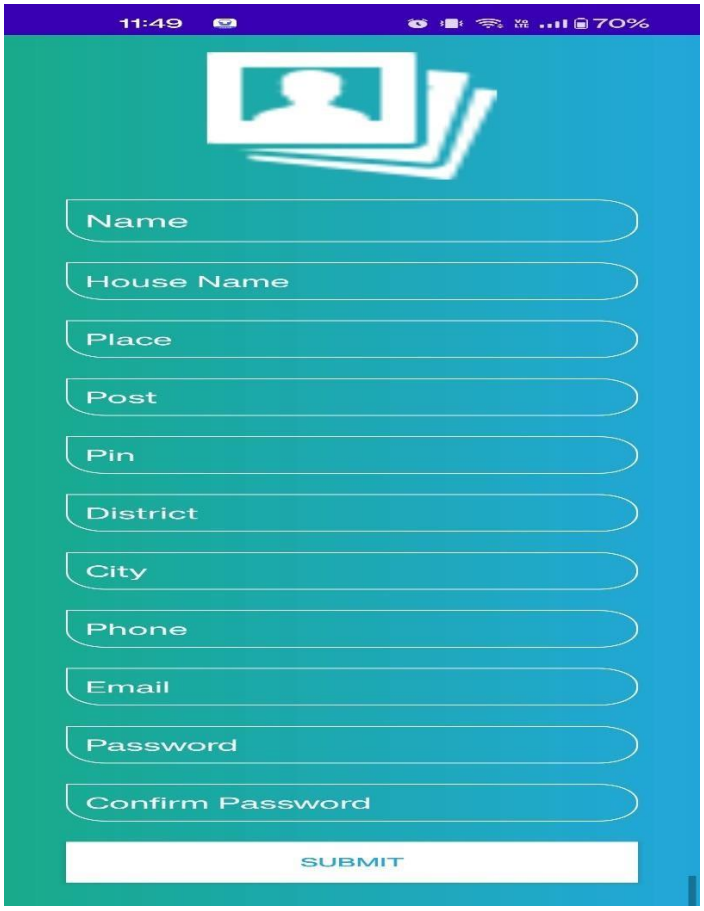

**Change Password**



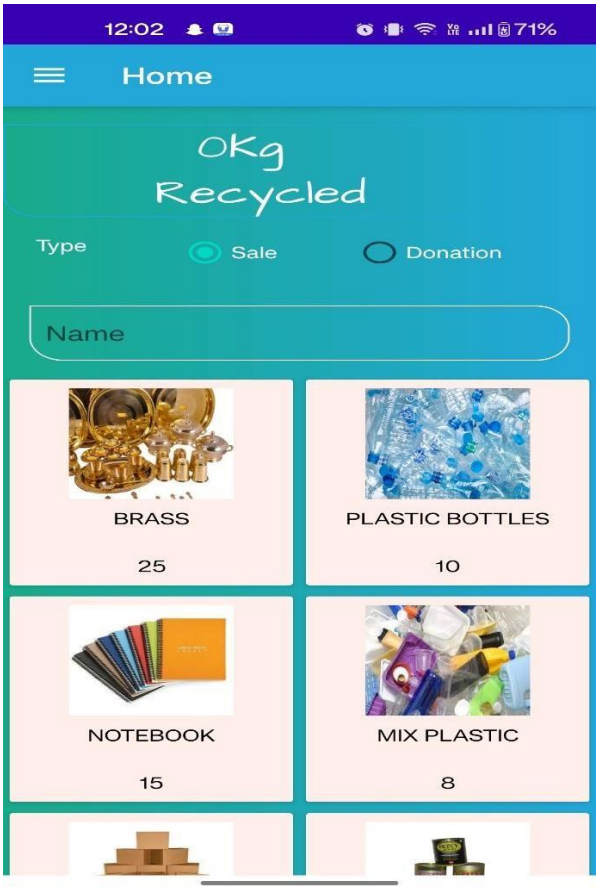
**Seller's Page**




**Seller Signup**


11:49
70%
Name
House Name
Place
Post
Pin
District
City
Phone
Email
Password
Confirm Password
SUBMIT

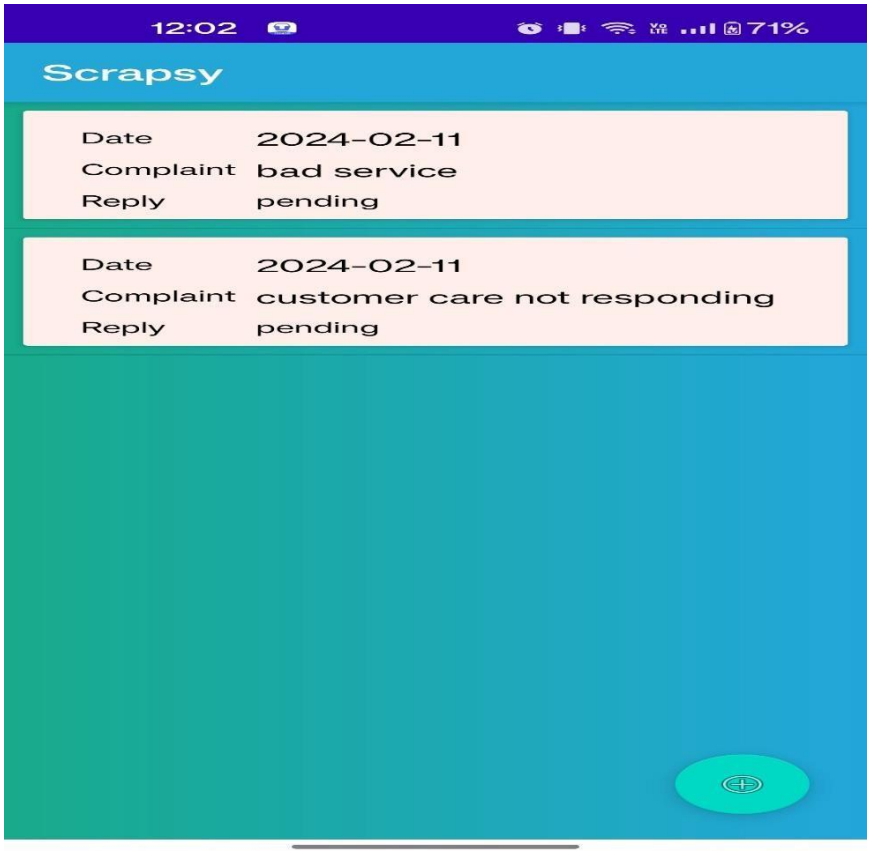
**Seller's Home**



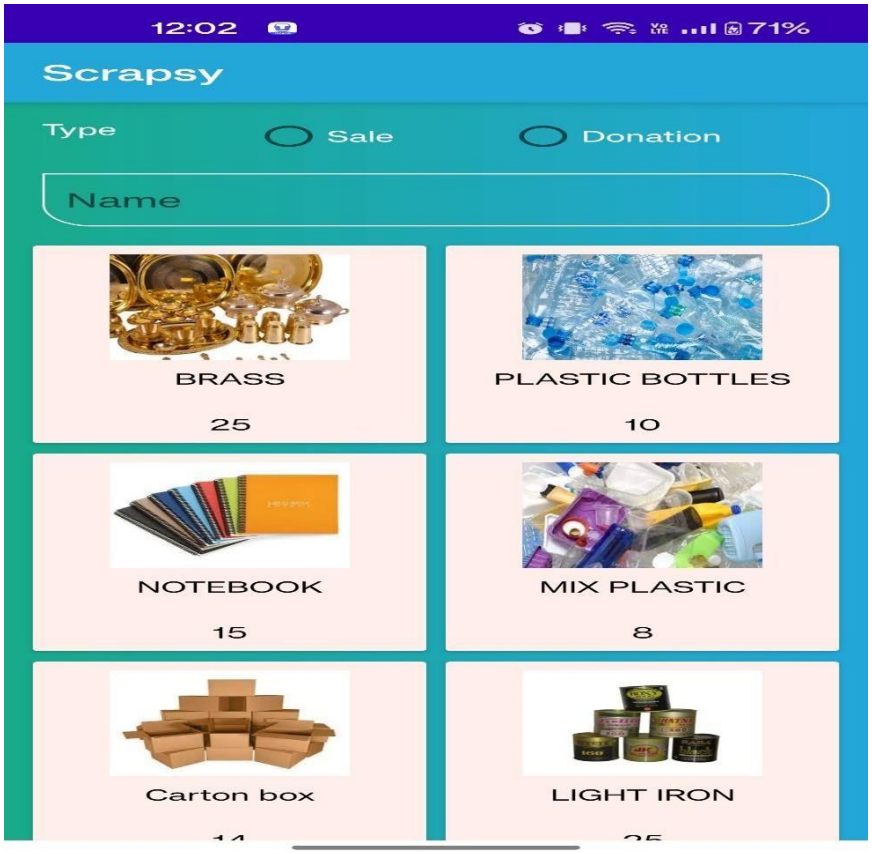

**Profile**


12:02
71%
Scrapsy
Name
ann joice
Housename
123
Place
varapuzha
Post Name
varapuzha
Pincode
123456
Email
ann@gmail.com
Phone
9876543210
District
kochi

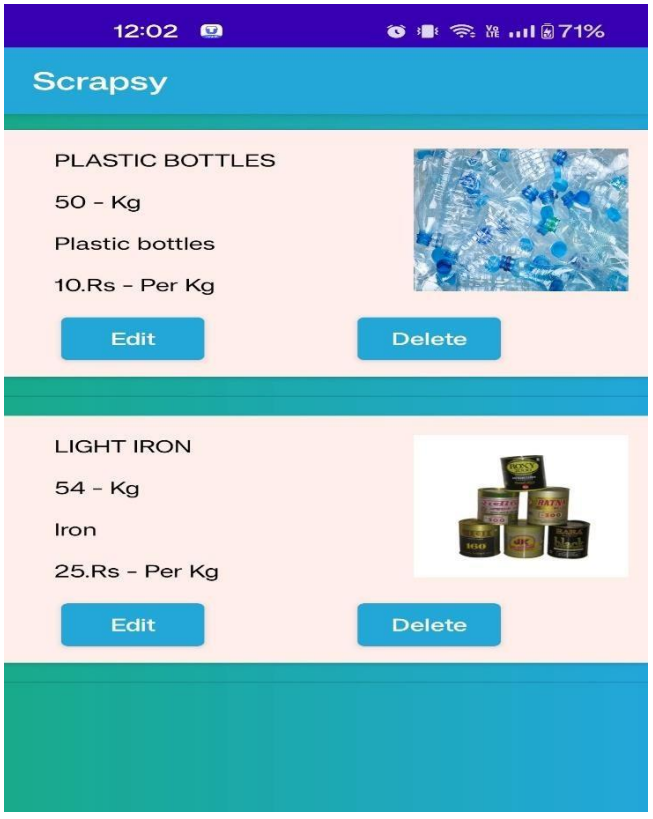
**Complaint**


12:02
71%
Scrapsy
Date
2024-02-11
Complaint
bad service
Reply
pending
Date
2024-02-11
Complaint
customer care not responding
Reply
pending

**Category**

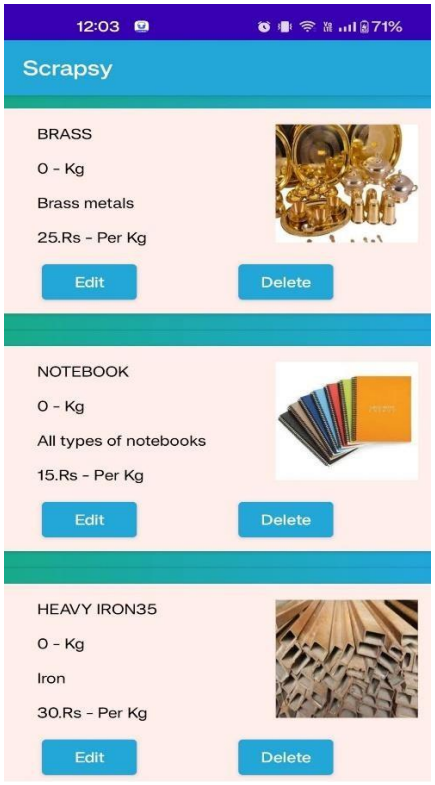



**My items**

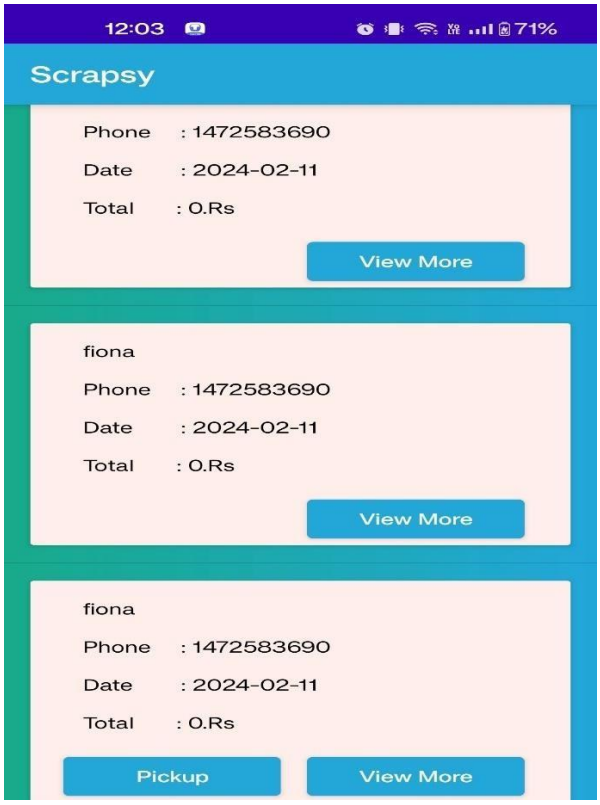



B.Voc Software Development

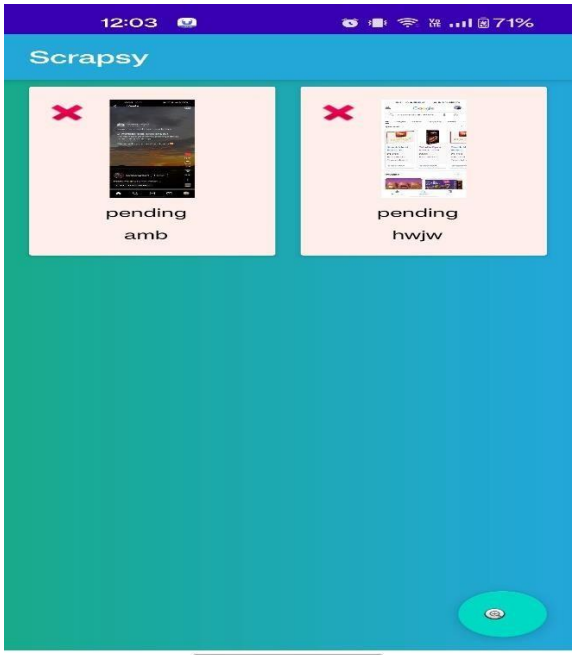
## My items for donation



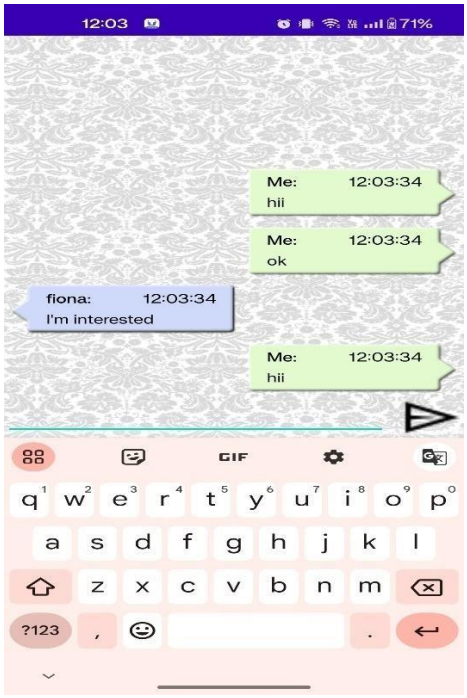

## History



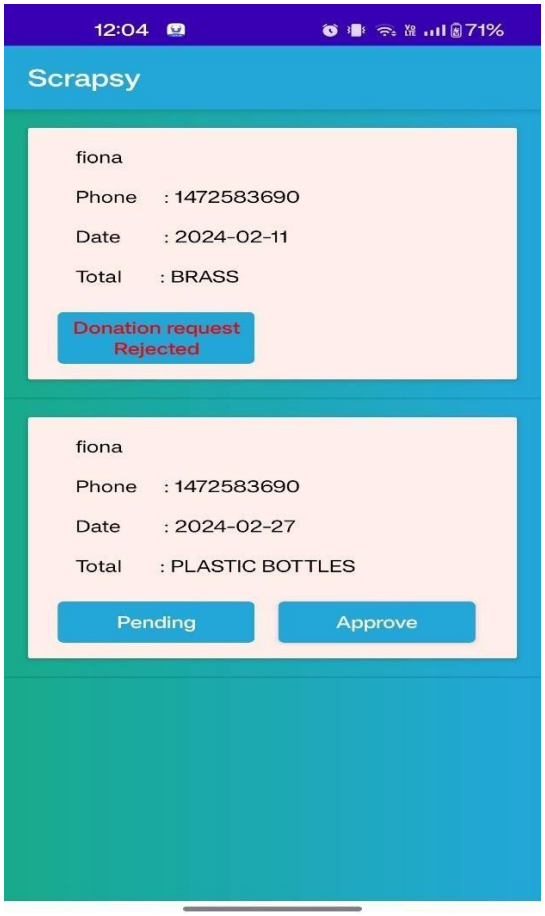

**Pictures**




**Chat box**




**Requests for donation**



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- https://www.w3schools.com/html/html_css.asp - W3Schools
- https://developer.android.com/codelabs/build-your-first-android-app#0 – Android Developers