# Scrapnet:Scrapping of cars

PROJECT REPORT

Submitted by

**SCISSNA TK**

**KMC21MCA-2022**

**to**

the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree

of

*Master of Computer Applications*

**Department Of Management Studies & Computer Applications**

**KMCT College of Engineering**

**Kallanthode, NITC P.O, Kozhikode-673601**

NOVEMBER 2022

# DECLARATION

I undersigned hereby declare that the project report "**Scrapnet:scrapping of cars**", submitted for partial fulfillment of the requirements for the award of degree of Master of Computer Applications of the APJ Abdul Kalam Technological University, Kerala is a bonafide work done by me under supervision of **Mrs. Sharafunisa** . This submission represents my ideas in my own words and where ideas or words of others have been included, I have adequately and accurately cited and referenced the original sources. I also declare that I have adhered to ethics of academic honesty and integrity and have not misrepresented or fabricated any data or idea or fact or source in my submission. I understand that any violation of the above will be a cause for disciplinary action by the institute and/or the University and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been obtained. This report has not been previously formed the basis for the award of any degree.

Place: Kallanthode SCISSNA TK

Date: 23-11-2022

**DEPARTMENT OF MANAGEMENT STUDIES & COMPUTER APPLICATIONS**

**KMCT COLLEGE OF ENGINEERING**

**Kallanthode, NITC P.O, Kozhikode-673601**

# CERTIFICATE

This is to certify that the report entitled "**Scrapnet:scrapping of cars**"submitted by **SCISSNA TK (KMC21MCA-2022)** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree of Master of Computer Applications is a bonafide record of the project work carried out by her under our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

Internal Supervisor

Project Coordinator

Head Of The Department

# ACKNOWLEDGEMENT

I would like to take this opportunity to extend my sincere thanks to people who helped me to make this project possible. This project will be incomplete without mentioning all the people who helped me to make it real.

First and foremost I thank **Dr. Sabiq P V (Principal of KMCT College of Engineering)** who gave me all support to this project. I also thank **Mr. Ajayakumar K K (Head of the Department, MCA)** for providing all the facilities and resources for my project. I would also like to express my gratitude towards **Mrs. REMMYA CB(Assistant Professor, MCA) and Mrs. ANJUSHA K (Assistant Professor, MCA)**, Project Coordinator and Project Guide for their continuous support, guidance and supervision without which the project wouldn't have been a reality. I would also take this opportunity to thank all my friends who took time out of their busy schedule to encourage, support and motivate me which has been the key reason for the successful completion of this project.

Above all I thank God, the almighty for his grace without which it would not have been possible to complete this work on time.

# Chapter 1

# SYSTEM ANALYSIS

## 1.1 Existing system

This paper concentrates on the scrapping of cars. There are some protocols associated with car scrapping. According to the norms, the car owner should approach the authorized Regional Transport Officer (RTO) and submit a letter expressing the intent to scrap the car. Once an agreement has been reached, the scrap dealer will dismantle the car partsand segregate them into iron, plastic, rubber, etc. During the scrapping process, the chassis number of the car is cut out before the scrap is sent for recycling. This chassis number has to be submitted to RTO as part of the deregistration process. After getting the vehicle scrapped, the car owner is supposed to submit the registration certificate along with the chassis number that is cut out of the car while scrapping.The scrapping of cars is the main topic of this essay. There are certain procedures involved in wrecking cars. In accordance with the rules, the owner of the vehicle must go to the designated Regional Transport Officer (RTO) and submit a letter stating their desire to scrap the vehicle. After a deal is made, the scrap dealer will remove the car parts and sort them into categories such as iron, plastic, rubber, etc. Before the scrap is shipped for recycling during the scrapping process, the vehicle's chassis number is removed.

The car owner will also have to submit an affidavit mentioning that the car is not under any loans, insurance claims or pending court cases. It should also mention that the car is not involved in any kind of criminal activity such as robbery. Once the documents

are verified by the RTO, the car will be deregistered. Even though such rules exist, many people are unaware of these legal procedures[1] to be followed for getting their vehicles scrapped. This traditional method is complex and centralized. It requires a huge amount of time and manual work which is one of the biggest drawbacks in today's world of digital technologies. Therefore, in this paper, we developa secure and automated system framework [2] to implement scrapping of cars to reduce human interaction. To the best of our knowledge, there is no previous work using blockchain and machine learning technologies for this application

### 1.2 Proposed System

Scrapnet is a system that educates people about the importance of scrapping and promotes a simple scrapping experience. The suggested solution includes machine learning technologies and a private Ethereum blockchain. A decentralised system is made possible by blockchain technology. As the record is updated automatically and accessible by all network members, it facilitates quicker and more transparent settlements . Three parties are included into the system: the scrap merchant, the car owner, and the RTO. A proof-of-work agreement technique is used to facilitate communication between the scrap dealer, car owner, and RTO. Firstly, the scrap dealer registers with his details and wait for approval from the RTO, who in turn authenticates the scrap dealer's details and allows the scrap dealer into the network. Secondly, the car owner has to register with his details and wait for approval by the scrap dealer as well as verification by RTO. On verifying both the scrap dealer and the car owner, RTO will approve the scrapping request.

The next step is detecting damage of the car and predicting the price conforming to the damage detected and other features of the car. After scrapping the car, the scrap dealer has to put forward all information about the scrapped car to the RTO. The RTO will verify the details and issue a certificate to the car owner stating that the vehicle is deregistered. The certificate is generated using blockchain, each certificate has a unique hash value, based on which the authenticity of transactions can be monitored. The system revolves around four smart contracts for car owner registration, scrap dealer registration, RTO verification and

certificate generation. The smart contracts are deployed in a local environment.

**Main activities of System are:**

**Registration:**

Admin needs to enter the id and password they were provided to access the website. Users and scrap dealers needs to register into the system .This can be done by entering basic information like name, phone number, email address etc. After successful registration User and scrap dealer can login to their account.

**Manage RTO's:**

The admin will create user names and passwords for the RTOs as well as add the RTOs to the website.

**Manage Scrap dealers:**

Admin can see the scrap dealer and provide their approval. The list of accepted and rejected scrap dealers is available to admin.The application allows the RTO to view the registered scrap dealers.

**Manage vehicles:**

Pictures of the user's own vehicle can be added and viewed. The photos of the vehicle are visible to the admin.

**Manage Request :**

The requests from the user may be viewed by the scrap dealer and sent to the RTO. RTO has access to user requests and can check them. Once verified, the scrap dealer can access RTO to view the verification status.

**Complaint and Reply:**

User and scrap dealer have sent and received responses. Admin and RTO have viewed and responded to the complaints.

## 1.3 Module Description

### 2.3.1 Admin

Admin needs to log in to the website using a username and password. The admin will control the RTOs and the scrap dealers. Admin can approve or reject the scrap dealers. The admin has access to the registered users' . The admin can view the vehicle images uploaded by the user and also view the stolen vehicles.

### 2.3.2 User

The system enables users to sign up for an account using personal information.Vehicle information and photographs can be added by the user. The user may see the request's status and make a request to the scrap dealer for the vehicle to be scrapped. The user can then get a certificate from the RTO following the procedure.

### 2.3.2 Scrap dealer

The system enables scrap dealer to sign up for an account using personal information.The profiles of scrap dealers can be updated. The request from the user is visible to the scrap dealer. After then, the RTO will receive the information. The status of the RTO's verification is known to the scrap dealer. The scrapper is then free to carry out the scrapping operations. Following that, the scrap dealer updated the RTO with the scrapped information.

### 2.3.2 RTO's

RTOs need to login in to the application using the admin's already-given username and password. RTOs have profile management options. The RTO has access to the approved scrap dealers' information. RTO evaluates requests it gets from scrap traders. The RTO can then see the scrap dealers' confirmation of the scrapping. The vehicle will be scrapped by the scrap dealer so the RTO may deregister it. RTO is capable of reviewing the complaints and respond as well.

## 1.4 Feasibility study

A feasibility study is an assessment of the practicality of a proposed plan or project. A feasibility study analyzes the viability of a project to determine whether the project or venture is likely to succeed. The study is also designed to identify potential issues and problems that could arise while pursuing the project. A feasibility analysis evaluates the project's potential for success; therefore, perceived objectivity is an essential factor in the credibility of the study for potential investors and lending institutions.

### 1.4.1 Operational feasibility

This assessment involves undertaking a study to analyze and determine whether and how well the organization's needs can be met by completing the project. Operational feasibility studies also examine how a project plan satisfies the requirements identified in the requirements analysis phase of system development. The new system or project can be used in day-to-day life which becomes more user-friendly for the customer. This system is operationally feasible as it is very easy to operate. It helps the Owner to manage the operations. Also, the customers can easily view and order the products.

### 1.4.2 Technical feasibility

Technical feasibility involves the evaluation of the hardware, software, and other technical requirements of the proposed system. The structure of the system will consist of a back end and a front end. The back end will be implemented using MYSQL. The front end should be completed using PYTHON, HTML, and CSS. The proposed system is supported by the existing computer system for the admin side and customers can access the system via a mobile device or computer system.

### 1.4.3 Economical feasibility

This assessment typically involves a cost/ benefits analysis of the project, helping organizations determine the viability, cost, and benefits associated with a project before financial resources are allocated. Customers can use any laptop or smartphone to order the products

and use the services. Thus, this system is economically feasible. There is no extra cost only need good internet access.

## 1.5 System Environment

Developer Requirement

**Hardware Requirement**

- Processor: Intel Core i3
- RAM: 4 GB
- Storage: 500GB Hard disk

**Software Requirement**

- Operating system: Windows 10 or above
- Front end: HTML, CSS,flutter,python
- Back end: MySQL
- Languages: Python
- IDE: Android studio, Pycharm community
- Web browser: Internet Explorer/Google chrome/Firefox

**User requirement**

- Any Smartphone/Computer/ Laptop
- Stable Internet Access

## 1.6 Actors and Their Roles

### Admin

The Admin is responsible for the overall management of this system.

- Login
- View and Manage scrap dealers
- View users
- View vehicles/scrapped vehicles
- Manage RTO's
- View/send reply to complaints

### RTO's

RTO's can access services on the application.

- Login
- View/Update Profile
- View scrap dealers
- Manage vehicles
- view request from scrap dealers
- view confirmation of scrapping from scrap dealers
- Deregister vehicles
- view/send complaints
- Logout

**scrap dealer**

Scrap dealer can access services on the application.

- Login
- View/Update Profile
- view request from users
- froward request from user to RTO
- View confirmation status from RTO
- update scrapping details to RTO
- send complaints and view reply
- Logout

**User**

User can access services on the application.

- Login
- View/Update Profile
- view own vehicles
- send scrapping request
- View status of request
- obtain certificate from RTO
- send complaints and view reply
- Logout

# Chapter 2

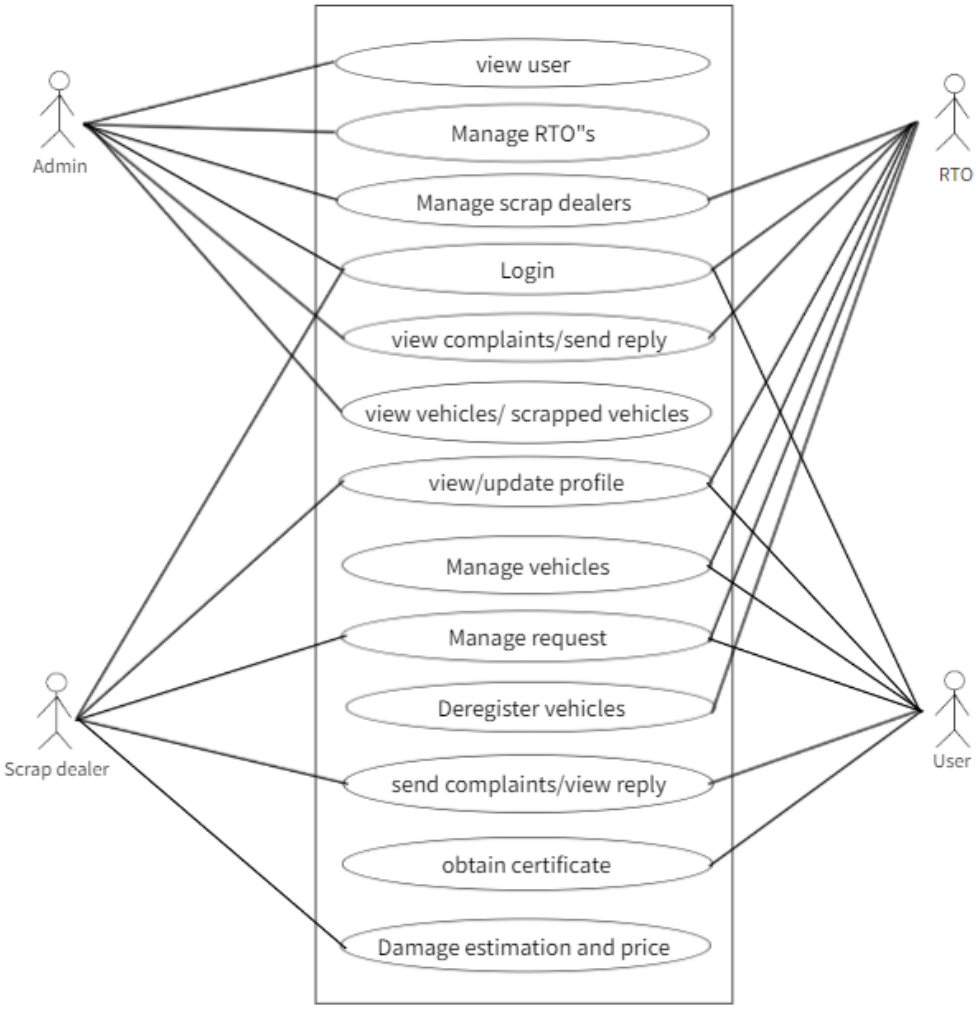
# METHODOLOGY

## 2.1 Introduction

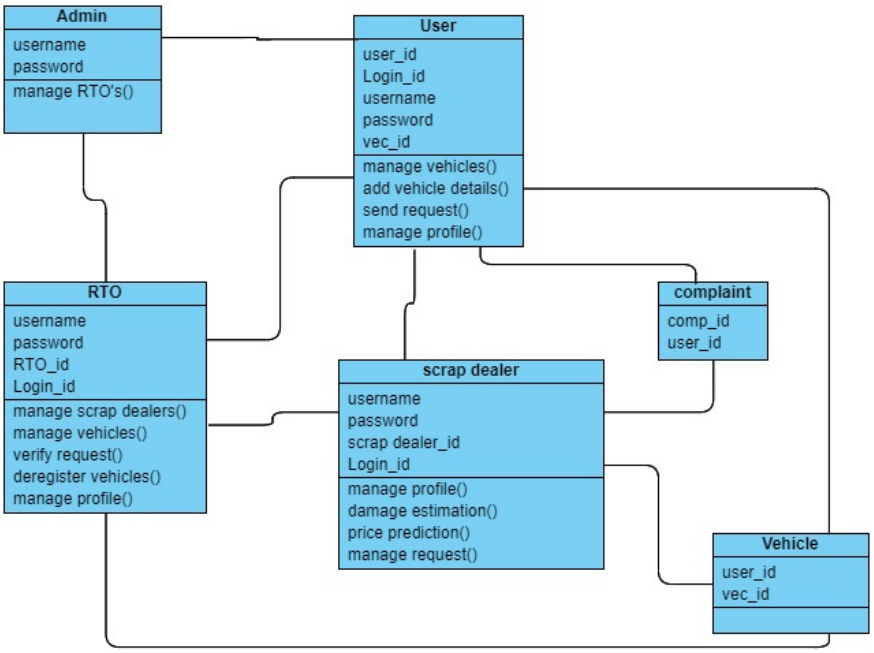
This project follows Agile methodology. Agile software development comprises various approaches to software development under which requirements and solutions evolve through the collaborative effort of self organizing and cross-functional teams and their customers/end users. It advocates adaptive planning, evolutionary development, early delivery and continuous improvement and it encourage rapid and flexible response to change. It's a process for managing a project that involves constant collaboration and working in iterations. Today, the word Agile can refer to these values and the frameworks for implementing them, including Scrum, Kanban, Extreme Programming (XP), and Adaptive Project Framework (APF). One thing that separates Agile from other approaches to software development is the focus on the people doing the work and how they work together. Solutions evolve through collaboration between self-organizing cross-functional teams utilizing the appropriate practices for their context.

## 2.2 UML Diagram

### 2.2.1 Use case Diagram



### 2.2.2 Class Diagram



## 2.3 User Story

| **User story ID** | **As a <Type of Users >** | **I want to <Perform some task >** | **So that I can <Achieve some goal >** |
|---|---|---|---|
| 1 | Admin | Home page | can view the system's entire page. |
| 2 | Admin,user,scrap dealer,RTO | Login | Access the system. |
| 3 | User,scrap dealer | Register | User can register into the system and create their profile. |
| 4 | User | Manage profile | user can view profile,update profile and also change password. |
| 5 | Admin | View Users | Admin can view Users. |
| 6 | Scrap dealer | Manage profile | Scrap dealer can view profile,update profile and change password. |
| 7 | Admin | View scrap dealers | Admin can view Scrap dealer and approve it. |
| 8 | Admin | View approved scrap dealers | Admin can view approved scrap dealers. |
| 9 | Admin | View rejected scrap dealers | Admin can view rejected Scrap dealers. |

| **User story ID** | **As a <Type of Users >** | **I want to <Perform some task >** | **So that I can <Achieve some goal >** |
|---|---|---|---|
| 10 | User | View own vehicles. | User can view own vehicles |
| 11 | Admin | View vehicles. | admin can view vehicles |
| 12 | User | Send request to the scrap dealer | user can send scrapping request to the scrap dealer. |
| 13 | Scrap dealer | View requests | Scrap dealer can view the requests from users |
| 14 | Scrap dealer | forward requests | Scrap dealer can forward the requests from users to RTO |
| 15 | RTO | Manage profile | can view profile. |
| 16 | Admin | Manage RTO | Admin can manage RTO's. |
| 17 | RTO | View Scrap dealers | RTO can view scrap dealers. |
| 18 | RTO | View requests | RTO can view requests from Scrap dealers. |
| 19 | RTO | Manage vehicles | RTO can manage vehicles. |

| **User story ID** | **As a <Type of Users >** | **I want to <Perform some task >** | **So that I can <Achieve some goal >** |
|---|---|---|---|
| 20 | RTO | verify requests | RTO can verify the requests from Scrap dealers. |
| 21 | Scrap dealer | view verification status | Scrap dealer can view verification status from RTO. |
| 22 | User | view status of request | user can view status of request. |
| 23 | Scrap dealer | update scraping details | Scrap dealer can update scraping details. |
| 24 | RTO | view confirmation details | RTO can view confirmation of scrapping fron scrap dealers. |
| 25 | RTO | De-register the vehicles | RTO can De-register the vehicles and also provide certificate. |
| 26 | User | obtain certificate | user can obtain certificate. |
| 27 | Admin | View scraped vehicles. | admin can view scraped vehicles |
| 28 | User ,scrap dealer | Add complaints | user can add the complaints and view replay . |
| 29 | Admin,RTO | Respond to complaints | Admin can view the complaints send replay. |

## 2.4 Database design

### 2.4.1 Login

The Login table contains the login id and password, and an already registered user can log in to the account.

| **Name** | **Type** | **Constraint** | **Description** |
|---|---|---|---|
| Login_id | Int | Primary key | Login id for user. |
| Username | varchar(20) | notnull | username for user. |
| Password | varchar(20) | notnull | User account Password |
| Type | Varchar(20) | notnull | Type of user. |

Table 2.1: Login table

### 2.4.2 User Table

The table explain the user details.

| **Name** | **Type** | **Constraint** | **Description** |
|---|---|---|---|
| user_id | Int | Primary key | Id of user |
| login_id | Int | foreign key | user login id |
| Name | Varchar(50) | Notnull | name |
| House_name | Varchar(50) | Notnull | house name |
| place | varchar(50) | Notnull | place |
| pin | int | Notnull | pin |
| phone_num | int | Notnull | phone nuber |
| Image | varchar(50) | Notnull | Image of the person |
| Aadhar_num | int | Notnull | Aadhar number of the user |
| Father's Name | varchar(50) | Notnull | Father's name |
| Email_id | varchar(50) | Notnull | user name |
| password | int | Notnull | password |

### 2.4.3 Scrap dealer

The table contains all details about the Scrap dealer.

| **Name** | **Type** | **Constraint** | **Description** |
|---|---|---|---|
| scrapdealer_id | Int | Primary key | Id of product category |
| login_id | Int | foreign key | scrapdealer login id |
| Name | Varchar(50) | Notnull | name |
| Organization_name | varchar(50) | Notnull | organization name |
| Organization_place | varchar(50) | Notnull | organization place |
| Organization_post | varchar(50) | Notnull | post of the organization |
| Organization_pin | int | Notnull | pin number of the organization |
| Org_District | Varchar(250) | Not null | district |
| Licence_num | int | Notnull | Licence number of the organization |
| status | varchar(50) | Notnull | status |
| Email_id | varchar(50) | Notnull | user name |
| photo | varchar(50) | Notnull | photo of the scrap dealer |

Table 2.2: scrap dealer details

### 2.4.4 RTO

The table contains details of RTO's.

| Name | Type | Constraint | Description |
|---|---|---|---|
| RTO_id | Int | Primary key | Id of the order |
| login_id | Int | foreign key | RTO login id |
| Name | Varchar(50) | Notnull | name |
| Reg_num | Int | not null | RTO registeration number |
| RTO address | Varchar(250) | Not null | Address of the RTO |
| Place | Varchar(250) | Not null | place |
| Post | Varchar(250) | Not null | post |
| Pin | int | Not null | pin |
| District | Varchar(250) | Not null | district |
| Email | Varchar(250) | Not null | email address |
| phone | int | Not null | phone number |

Table 2.3: RTO Details

### 2.4.5 Vehicle

The table contains order details.

| **Name** | **Type** | **Constraint** | **Description** |
|---|---|---|---|
| user_id | Int | Primary key | Id of the order details |
| vehicle_id | Int | not null | Id of the vehicle |
| Registration_num | Int | not null | registration number of the vehicle |
| Engine_num | Int | not null | engine number of the vehicle. |
| chassis_num | Int | not null | chassis number of the vehicle. |
| fuel_type | varchar(20) | not null | fuel type of the vehicle. |
| date_of_reg | date | not null | date of registration |
| owner's_name | varchar(20) | not null | name of the owner. |
| Aadharnumber | Int | not null | aadhar number of the user. |
| fitness_details | varchar(20) | not null | name of the owner. |
| Image | varchar(50) | Notnull | Image of the car |

Table 2.4: vehicle details

### 2.4.6 complaint

The table contains complaint details.

| **Name** | **Type** | **Constraint** | **Description** |
|---|---|---|---|
| comp_id | Int | Primary key | Id of complaint |
| complaint | varchar(20) | not null | complaints |
| User_id | Int | foreign key | Id of the user |
| Date | date | Not null | date of complaint. |
| Reply | varchar(20) | Not null | reply |
| status | varchar(20) | Not null | status |

Table 2.5: Feedback

## 2.5 FORM DESIGN

### 2.5.1 Login page

This is the login page for Admin of this system.

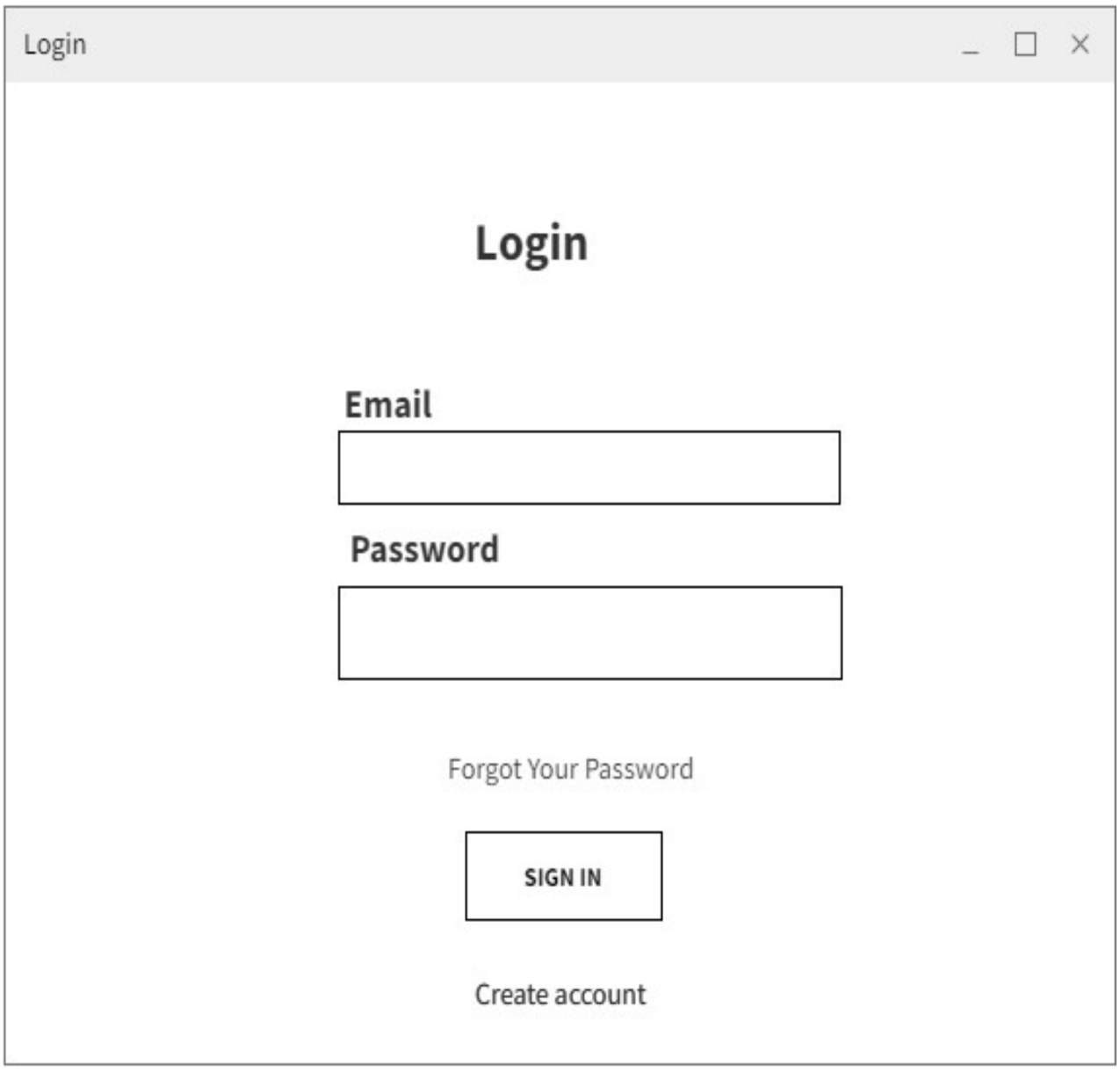



Figure 2.1: Login page

### 2.5.2 Admin dashboard

This is a home page or dashboard of admin. By clicking login, first enters to this page.

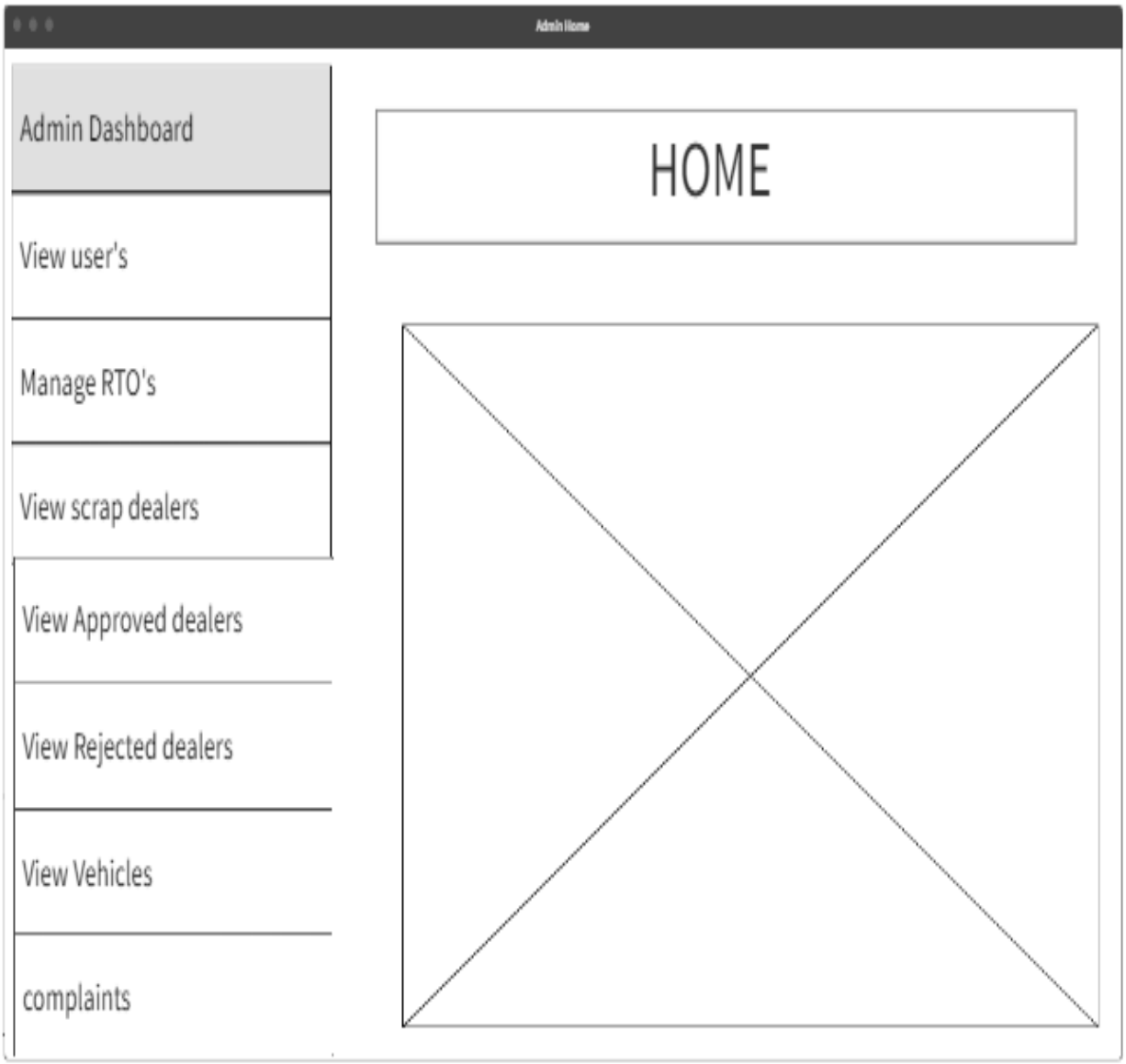



Figure 2.2: Admin dashboard

### 2.5.3 View User's

This is product view page.

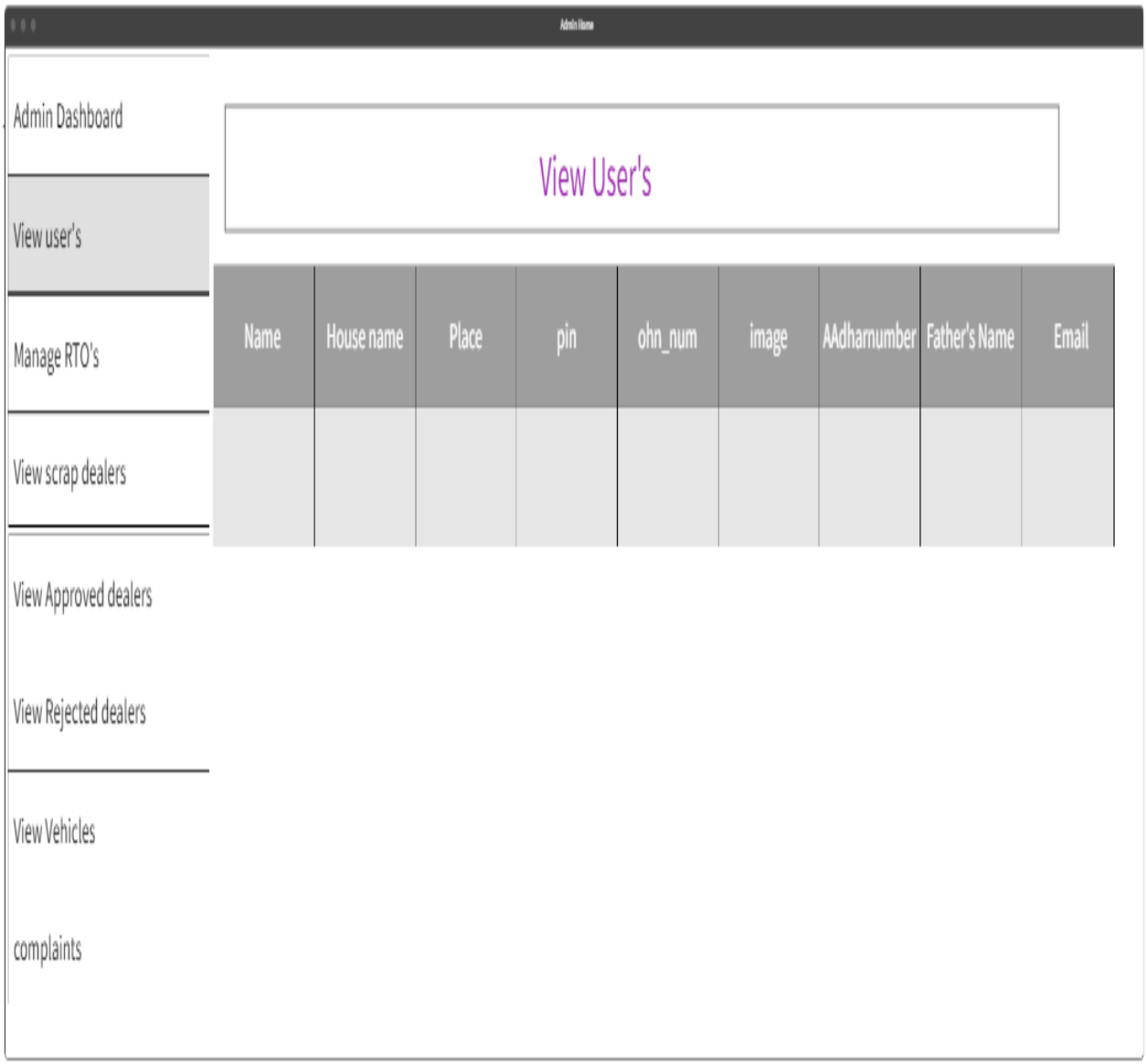



Figure 2.3: prodcts

### 2.5.4 manage RTO

This page for Adding the products.

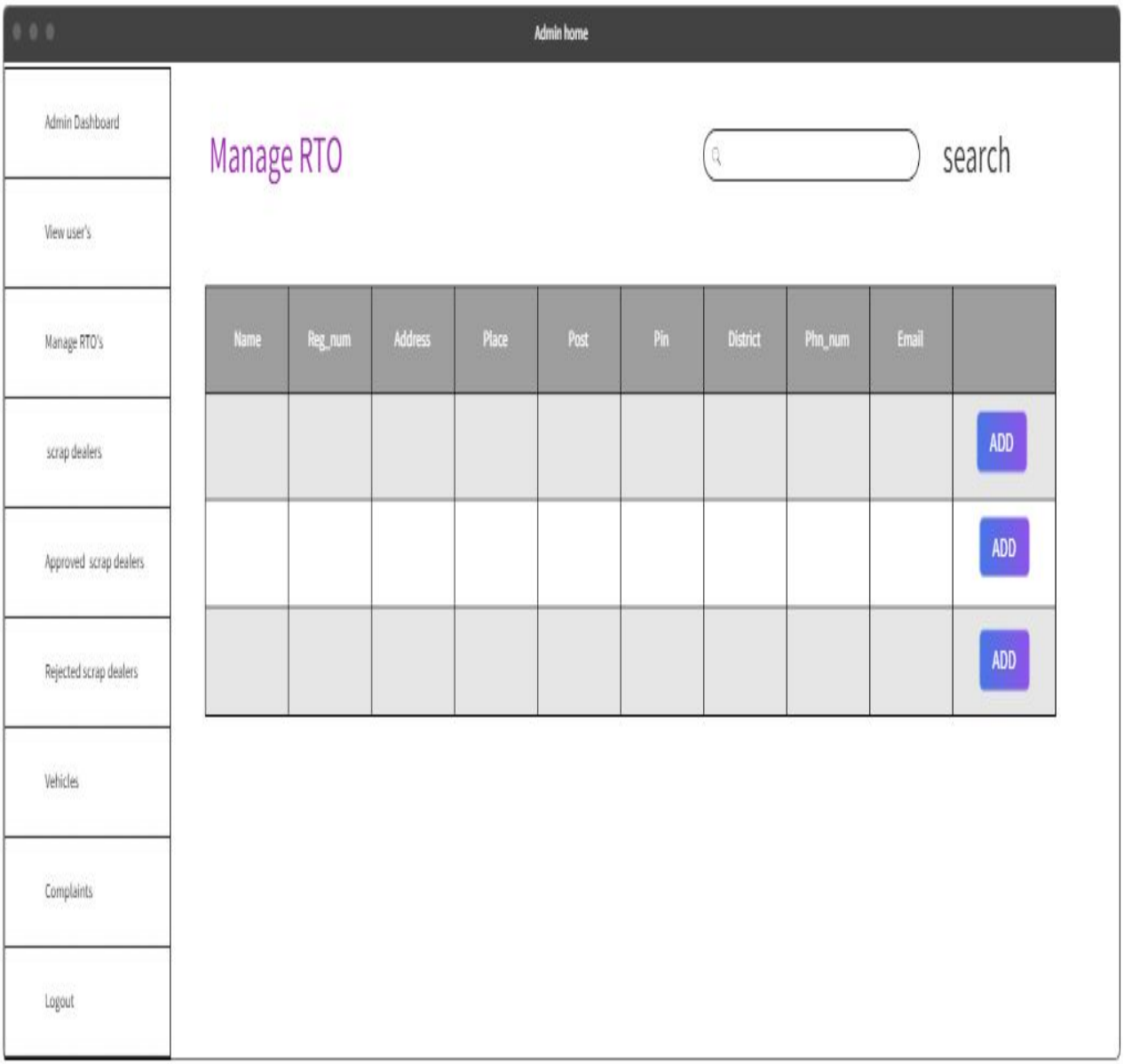



Figure 2.4: Manage RTO

### 2.5.5 View scrap dealers

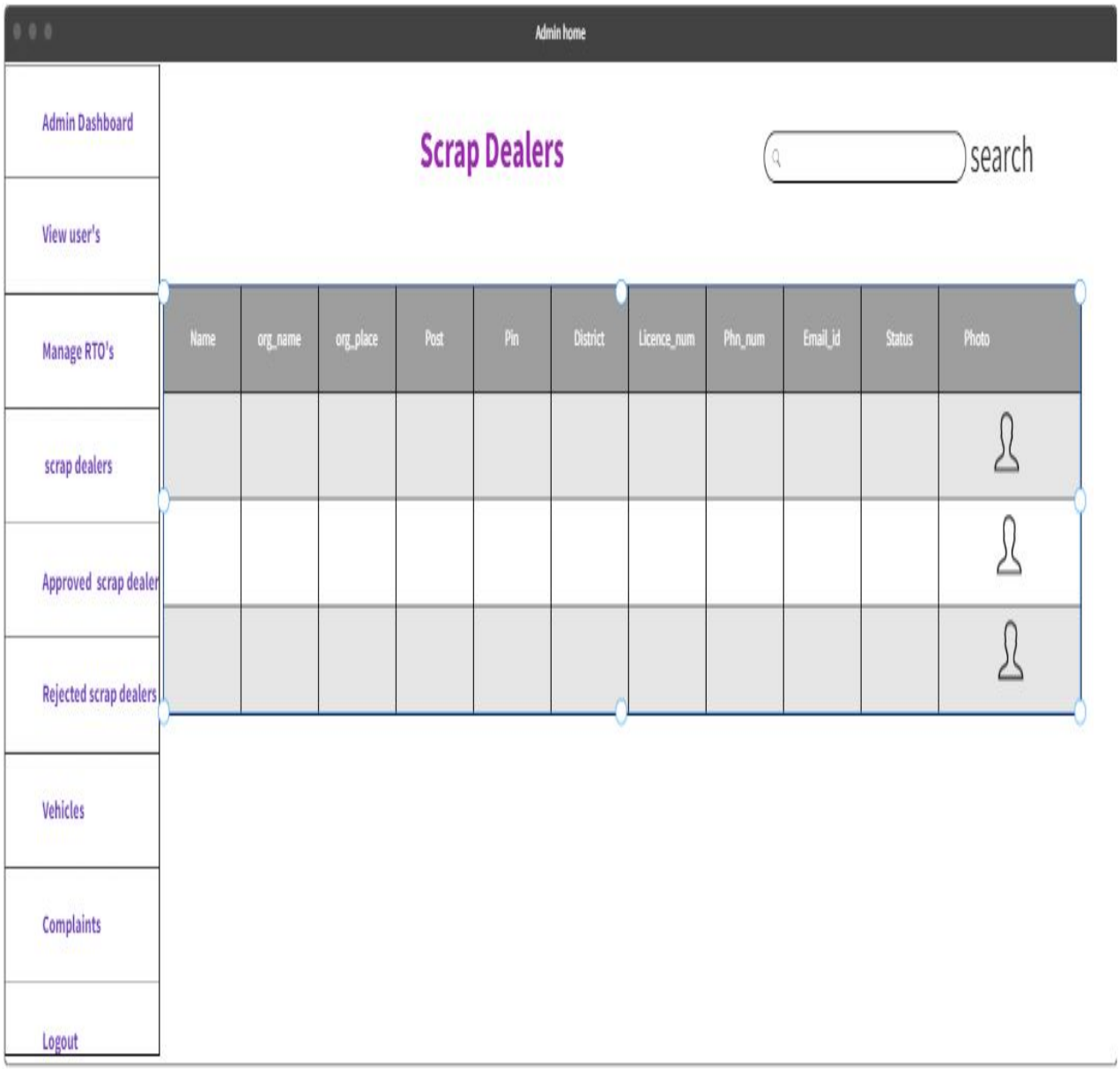



Figure 2.5: Scrap dealers

### 2.5.6 Approved Scrap dealers

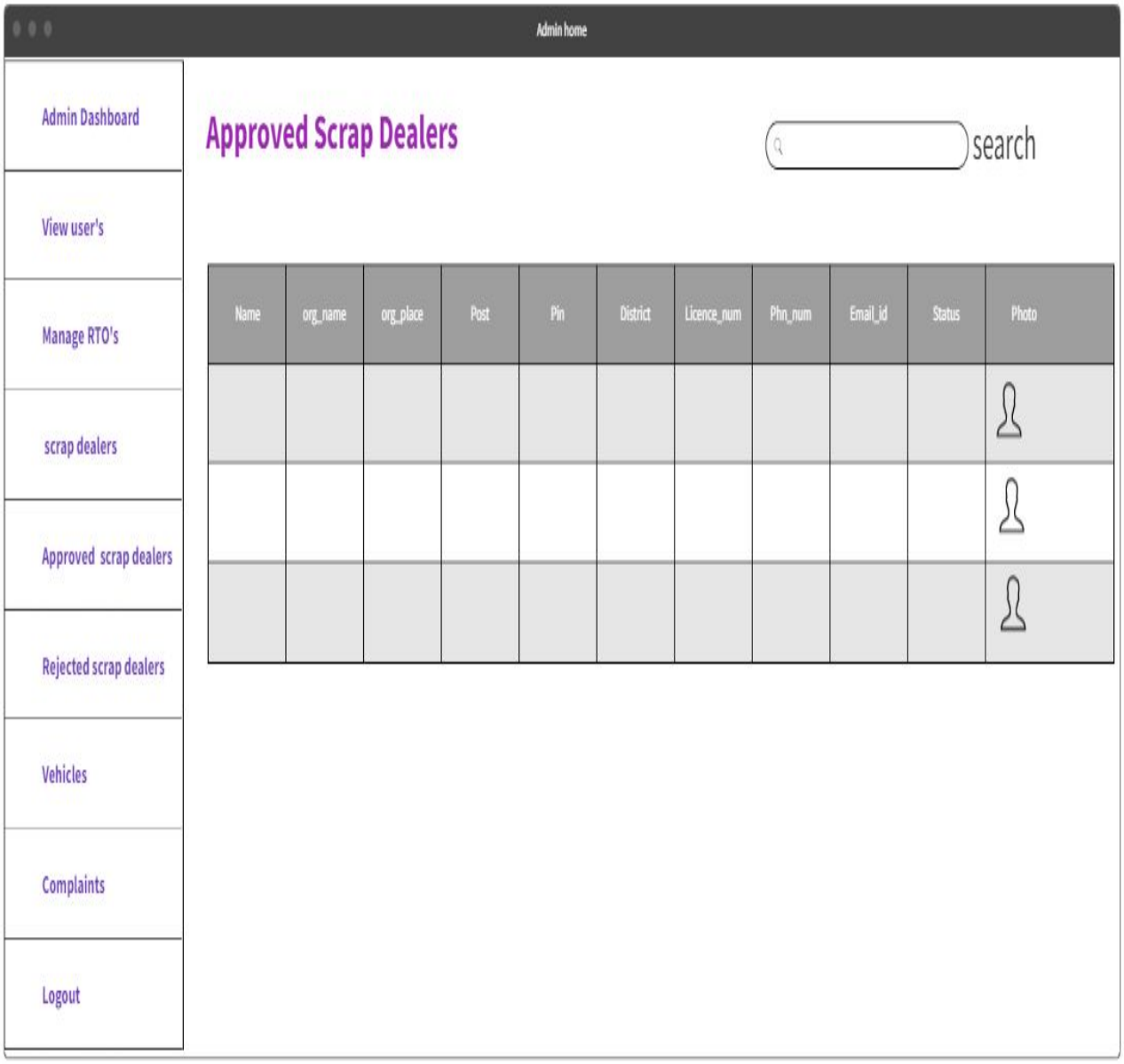



Figure 2.6: Approved scrap dealers

### 2.5.7 Rejected Scrap dealer

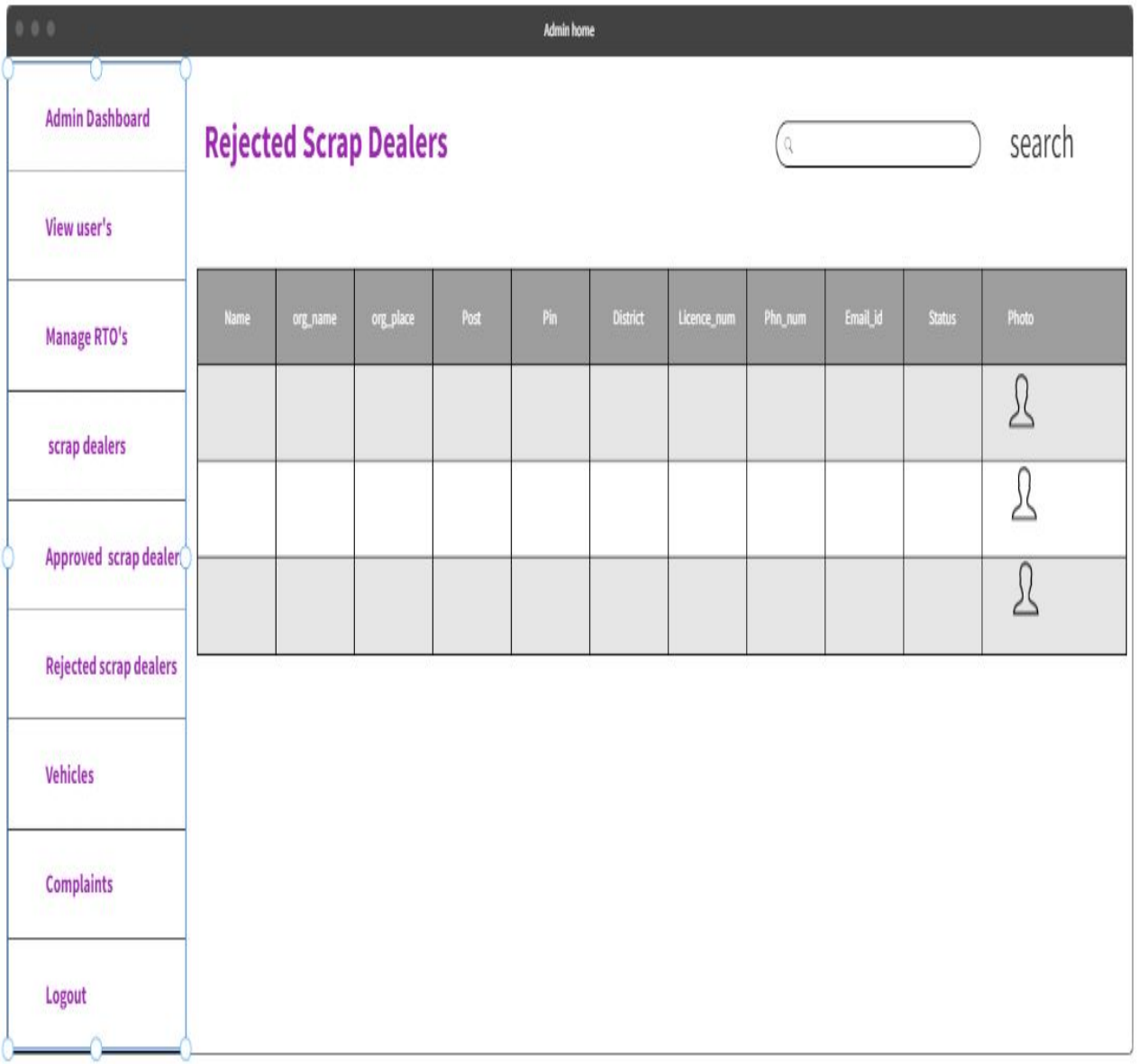



Figure 2.7: Rejected Scrap dealer

### 2.5.8 Vehicle Details

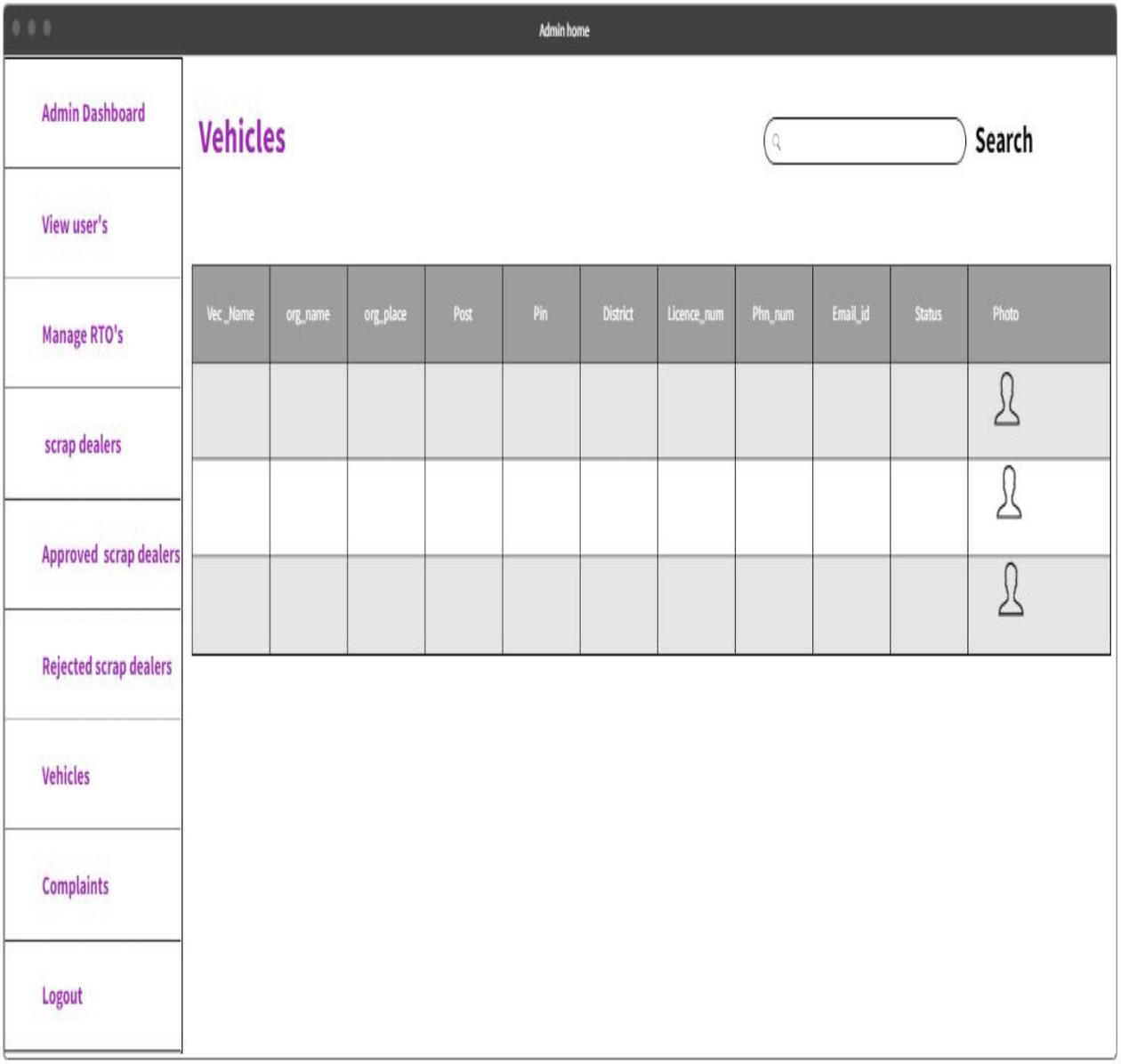



Figure 2.8: Vechicle Details

### 2.5.9 Login


Figure 2.9: Login page

### 2.5.10 Sign Up

This page for view complaints.


Figure 2.10: Sign UP

### 2.5.11 profile

This is customer page.


Figure 2.11: Profile page

### 2.5.12 Vehicle details

This is user home page.


Figure 2.12: Vehicle detail page

### 2.5.13 View vehicle details

This page for view the products .

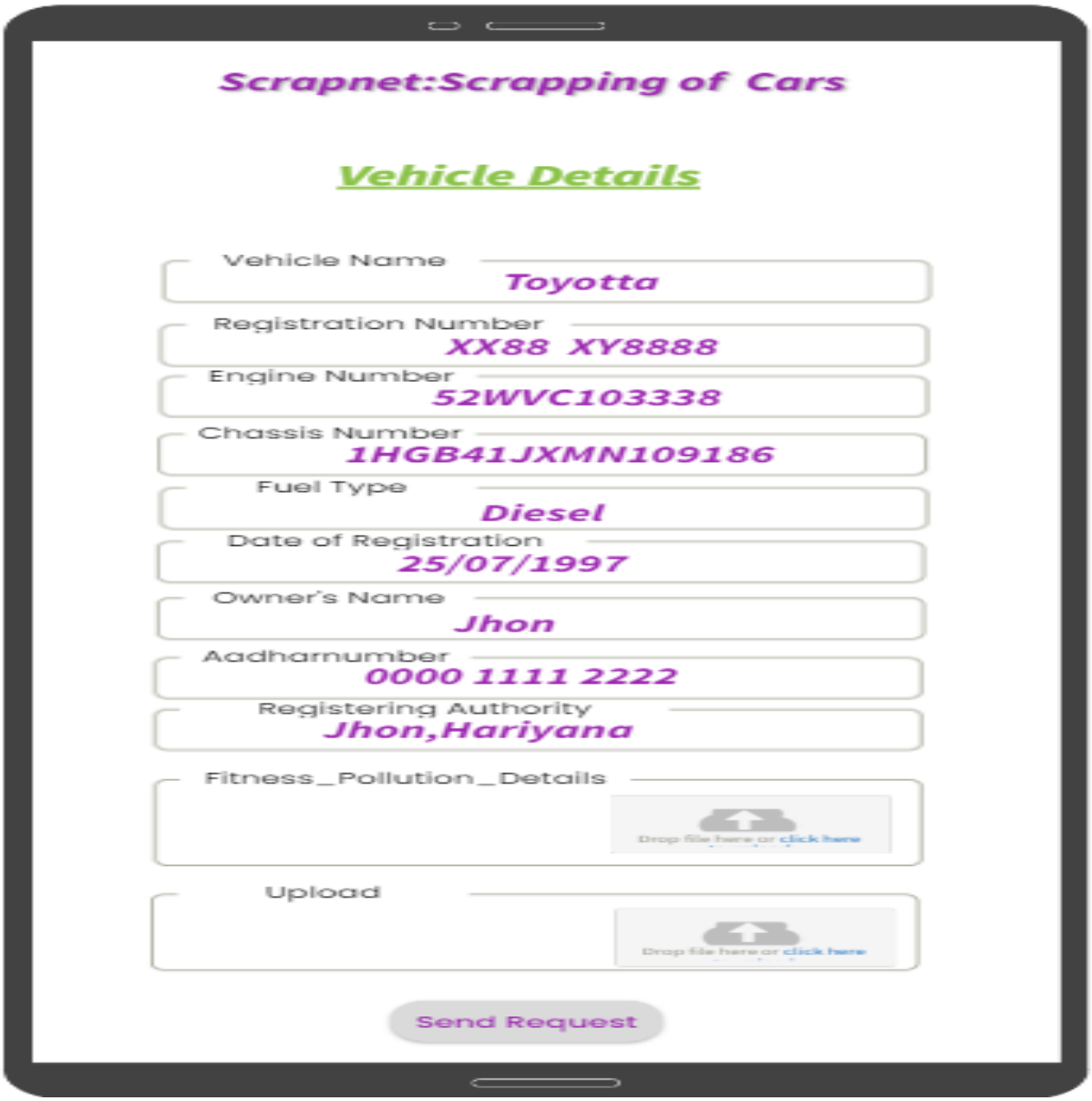



Figure 2.13: View vehicle details

### 2.5.14 Requests

This page for Requests.

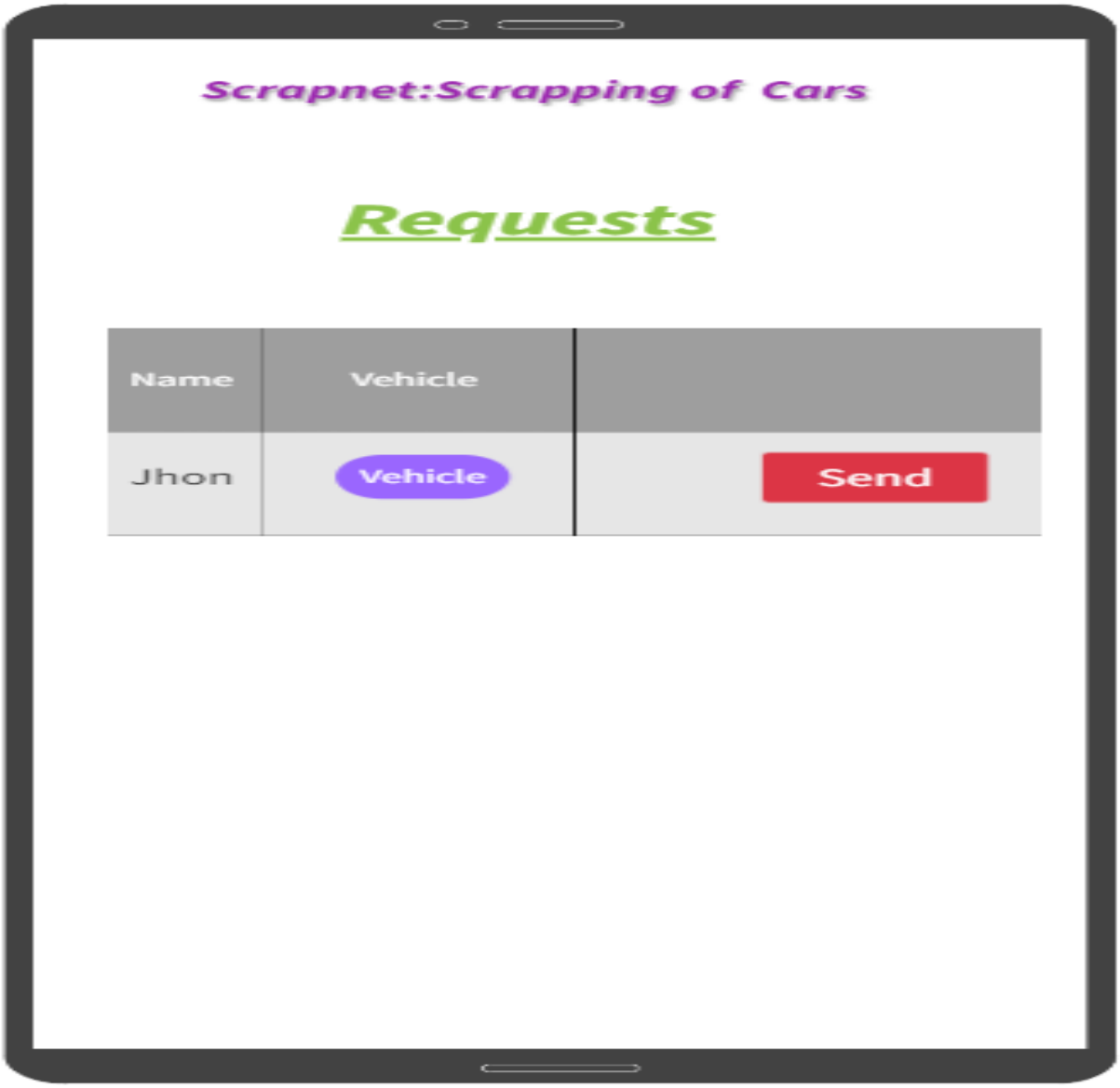



Figure 2.14: Requests

### 2.5.15 verified Details

This page for verified details.

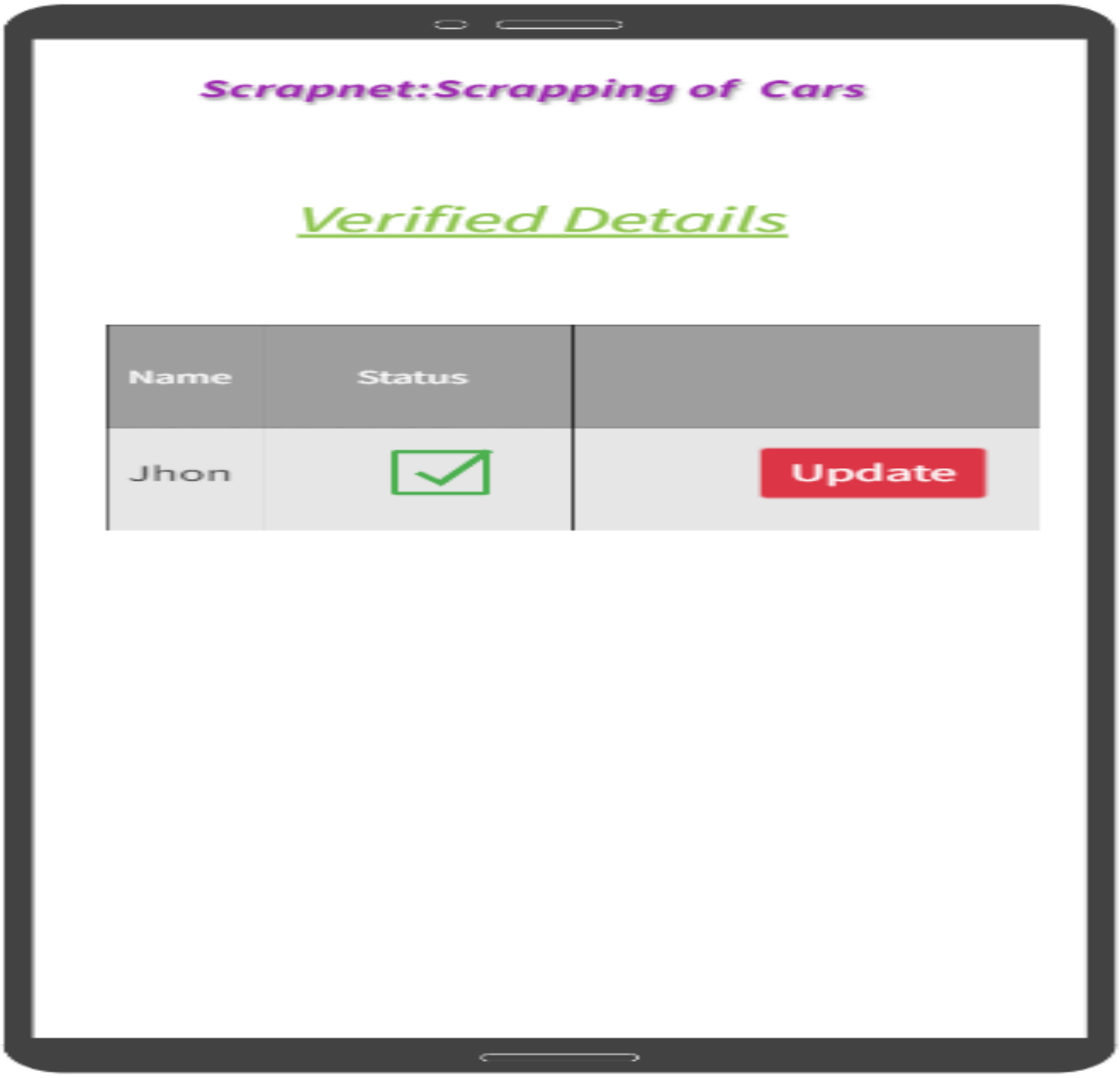



Figure 2.15: Verified Details

### 2.5.16 User status and download certificate

This page for user status and download certificate.


Figure 2.16: User status

### 2.5.17 Rto request status

This is view the status page.

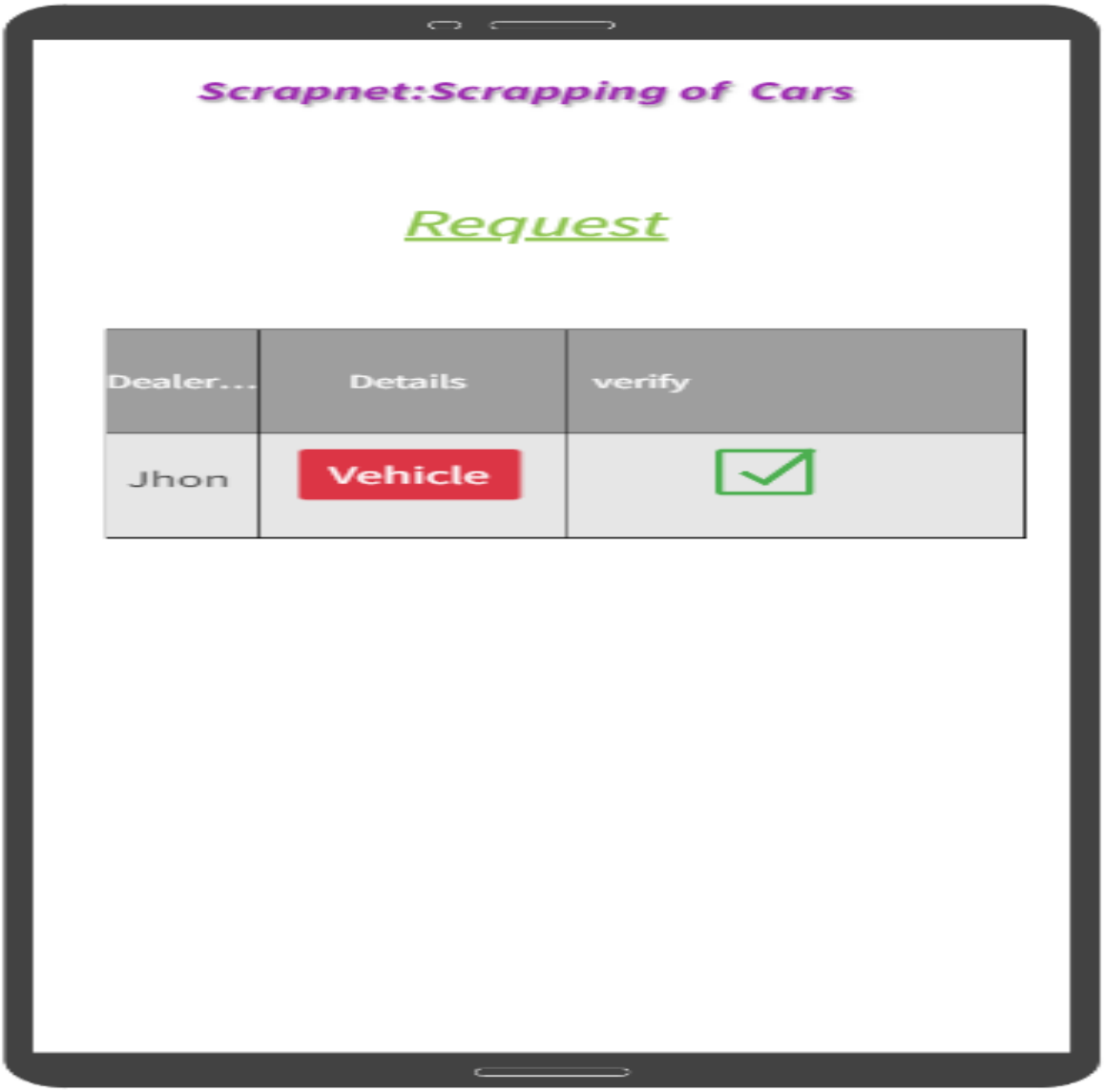



Figure 2.17: RTO status

### 2.5.18 Deregister

This is Deregister page.

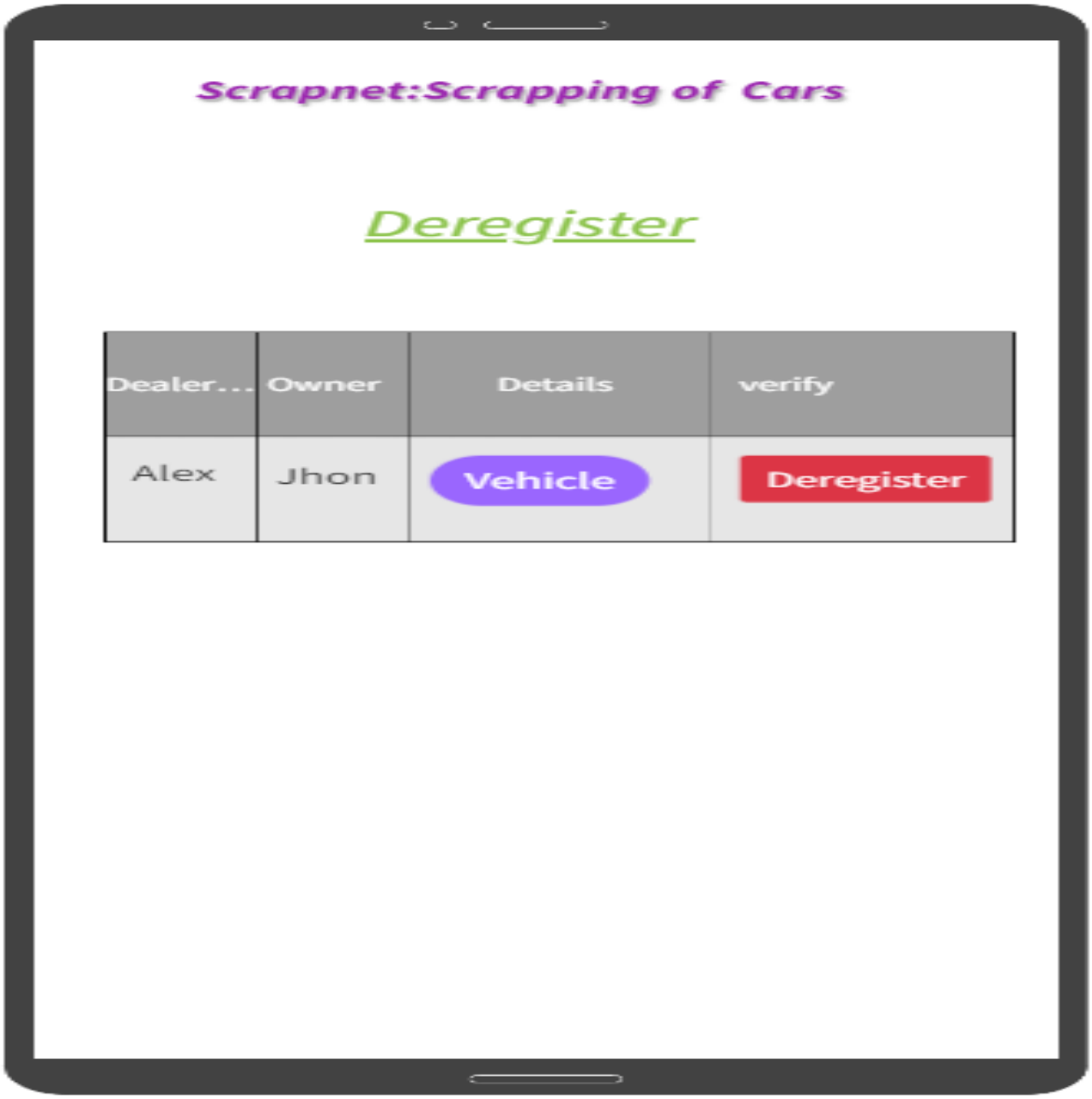



Figure 2.18: Deregister