Recyclotron: Destination to sell your e-Junk

A PROJECT REPORT

Submitted in partial fulfillment for the award of the degree of

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in

Computer Science and Engineering

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1. Introduction

1.1. Background

We live in a world which generates tonnes of e-Waste every year, and people generating it often are clueless about whom to sell it to and how to sell it. There exist several websites but they do not offer instant cash and act as medium between seller and buyer(like Quickr and OLX) , and the product needs to wait for ages before going to its buyer or sometimes does not get bought at all.
Our project --"RecyloTron—Destination to sell all your e-Junk" tries to address the above situation by creating an easy solution of disposal. On one hand, provides cash instantly to the sellers and on the other, connects to a network of buyers who recycle e-Junk and reuse them to their benefit.

1.2. Problem Statement

The purpose of the website as planned out upon development consisted of the following:

- To be able to register a buyer/seller
- To be able to perform authentication
- To be able to calculate the worth of the electronic good to be sold for the seller
- To be able to schedule a pick-up from home.
- To be able to register buyers

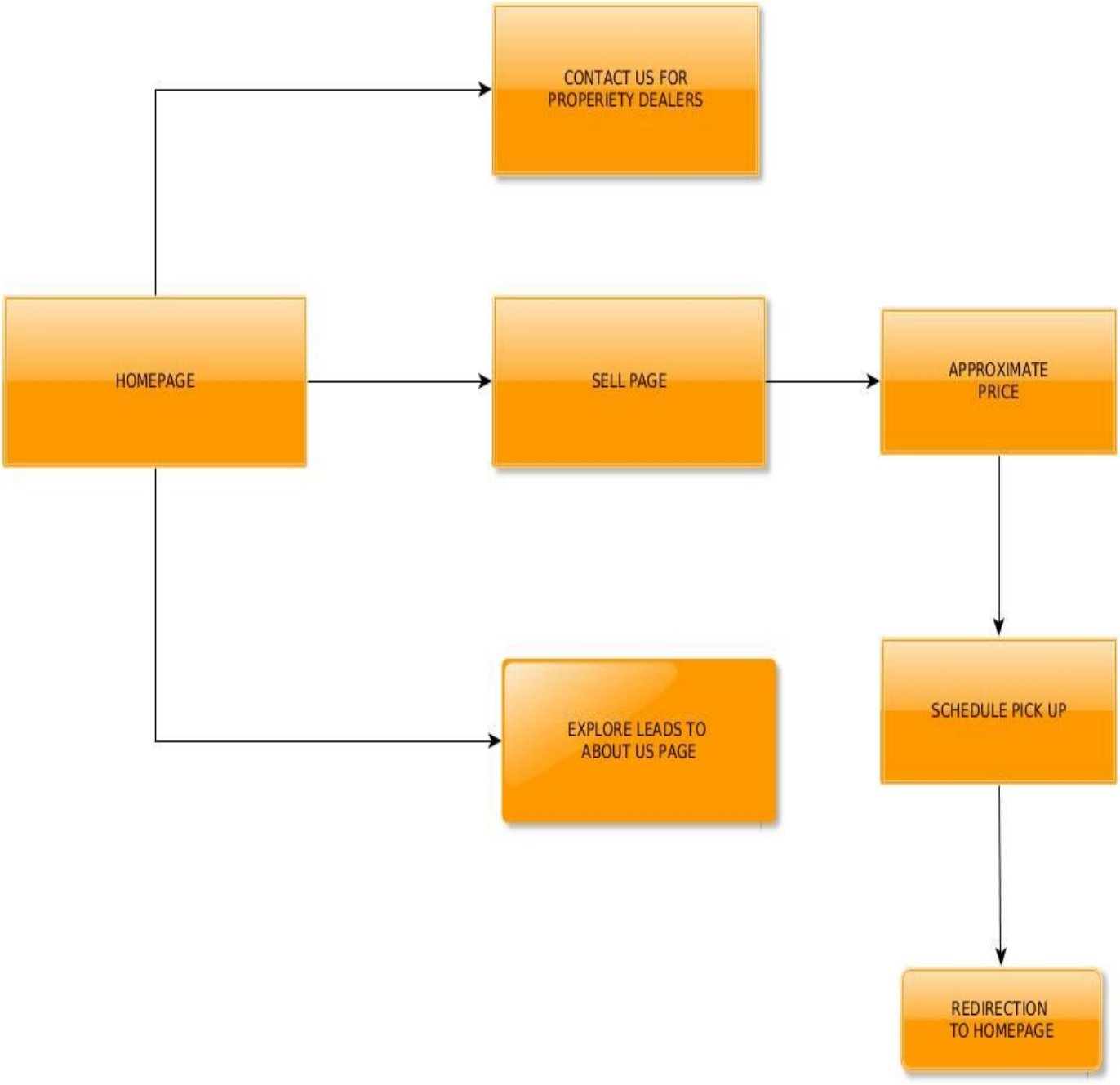
1.3. Importance

The project more than a being a challenge of web development is a challenge of creation of a proper business model.
The problem the website aims to address is unique and unparalleled, something that if implemented at a large scale will be a beginning to hassle free recycling of e-Waste.

2. Overview And Planning

2.1. Proposed System Overview

The planned system can be visualised by the following flowchart:



2.2. Challenges

The challenges faced were maintaining concurrency and integrity of the database. Difficulty was also faced during the usage of the NoSQL database that is MongoDB as it is a new technology and different from relational databases like SQL.

Creating a beautiful and user friendly UI was yet another challenge that was faced. Coherent colors, fonts and texts are necessary for an easy user-computer interaction.

Completing a project of this large a scale with complete front end and partial implementation of all backend functionalities in a short time was a challenge of its own.

2.3. Hardware Requirements

Currently the website is being developed on the system with following specifications:

Operating System	Ubuntu 16.04
Processor	Intel i5, 6th Generation
RAM	16 GB
GPU	ATI Radeon
Graphics Card Ram Size	8 GB

2.4. Software Requirements

The following is required to view the website on a given system:

- Node.js v8.4.0
- MongoDB 3.2
- Express 4
- NPM 5.5

3. System Implementation

3.1. Code Development

Stage 1: The first stage of code development consisted of flow diagram, various views and coherence with the backend.

Predominantly, the basic idea of working of the website was obtained and wireframes designed.

Stage 2: The second stage consisted of development of the front-end that is easy to use and reaching any page does not require more than 5 clicks, which in itself was difficult to ensure.

The views were made similar looking to ensure familiarity.

Stage 3: Forms and the mongoDB database was created.

Stage 4: This stage is yet to be accomplished that is creation of a fully functional backend.

Current code can be viewed on github:
https://github.com/abhilasha-96/Recyclotron

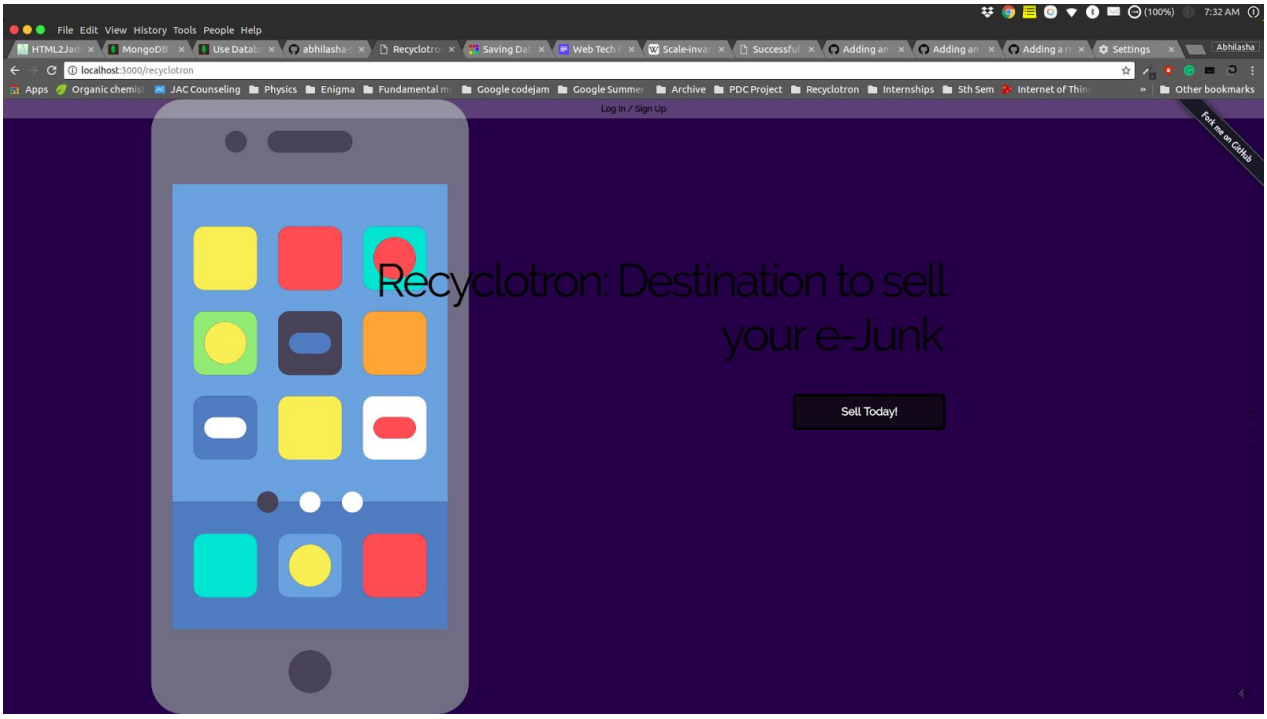
4. Results and Discussion

4.1. Snapshots of the result

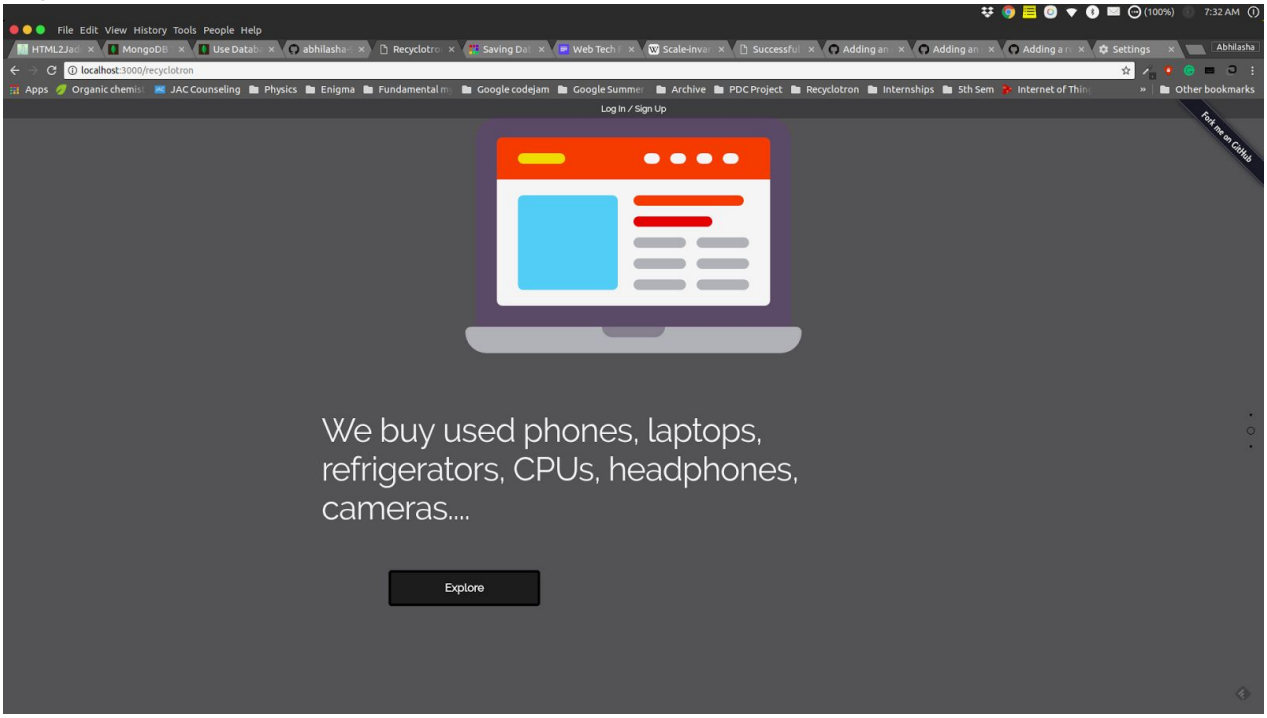
View 1: The Homepage

The homepage is animated using JQuery.
It consists of 3 pages.

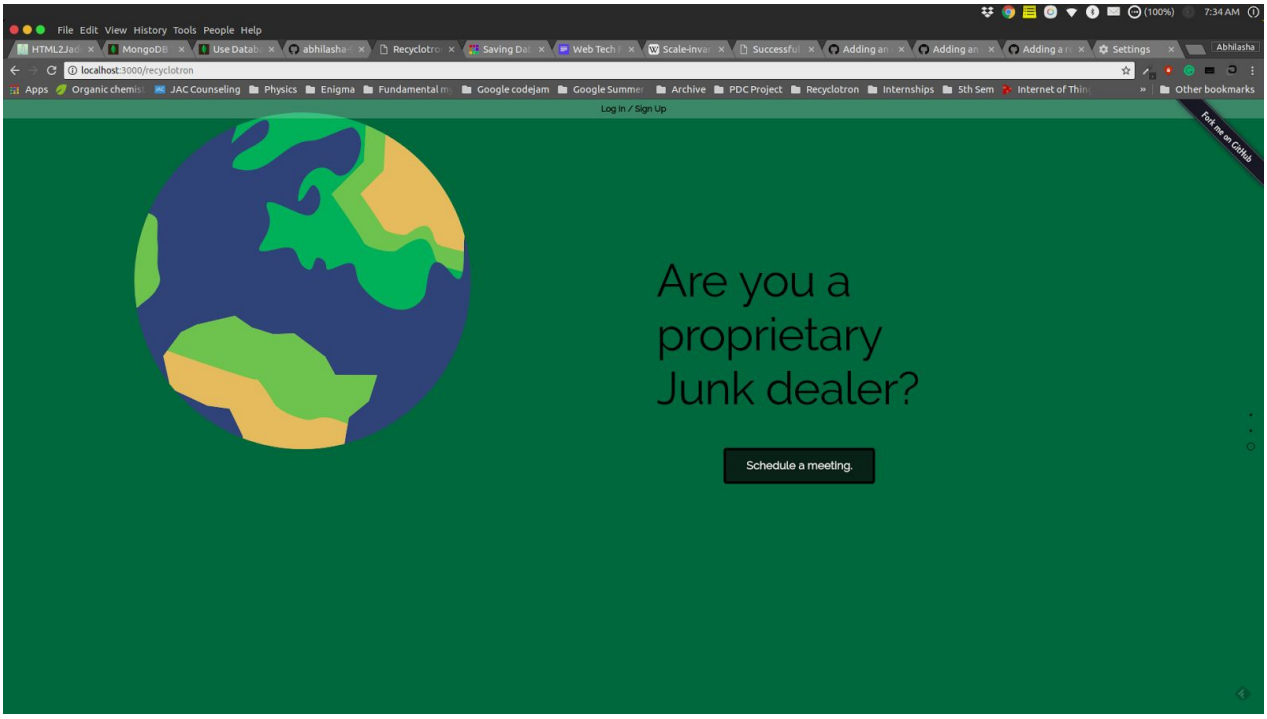
Page 1:



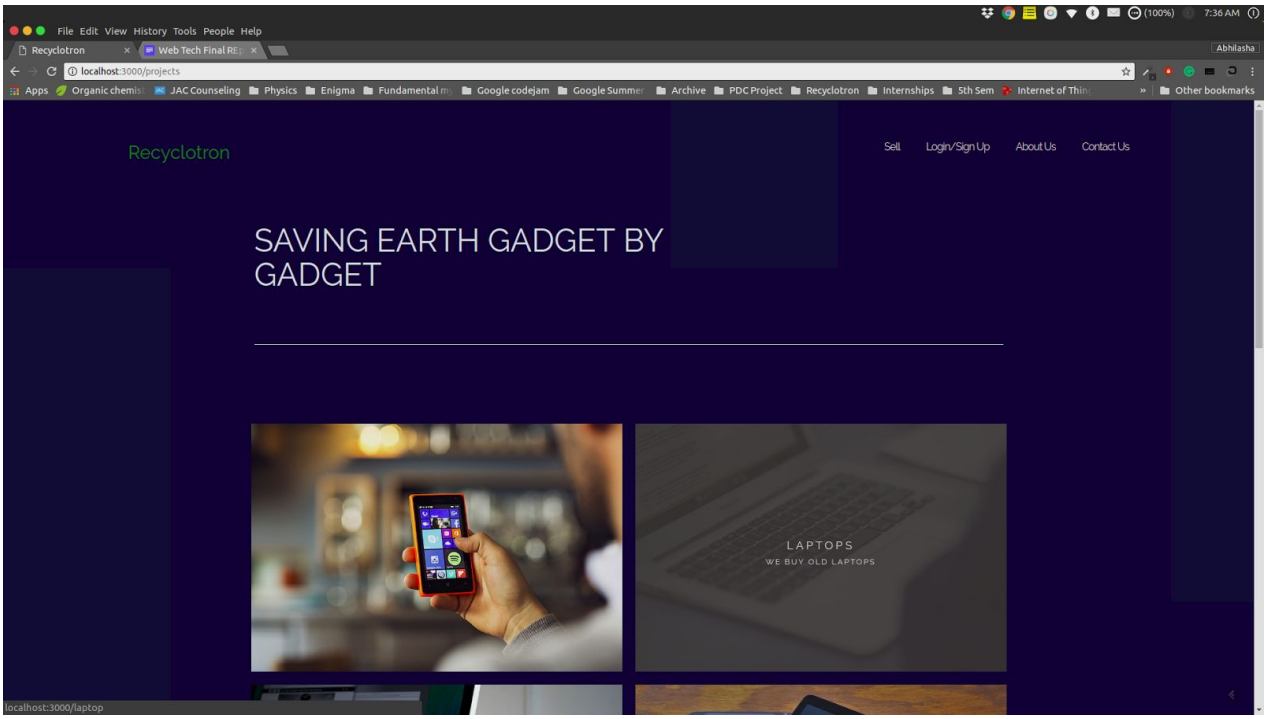
Page 2:


Log In / Sign Up
Fork me on GitHub
We buy used phones, laptops, refrigerators, CPUs, headphones, cameras....
Explore

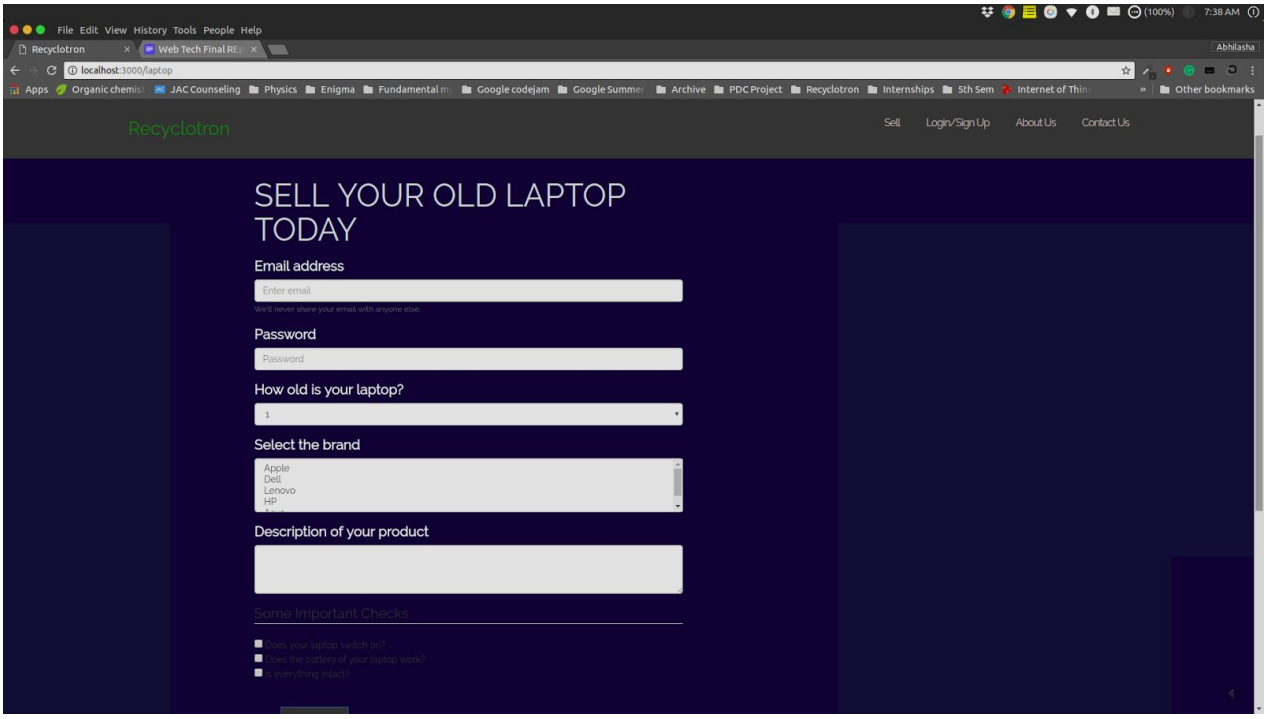
Page 3:


Log In / Sign Up
Fork me on GitHub
Are you a proprietary Junk dealer?
Schedule a meeting.

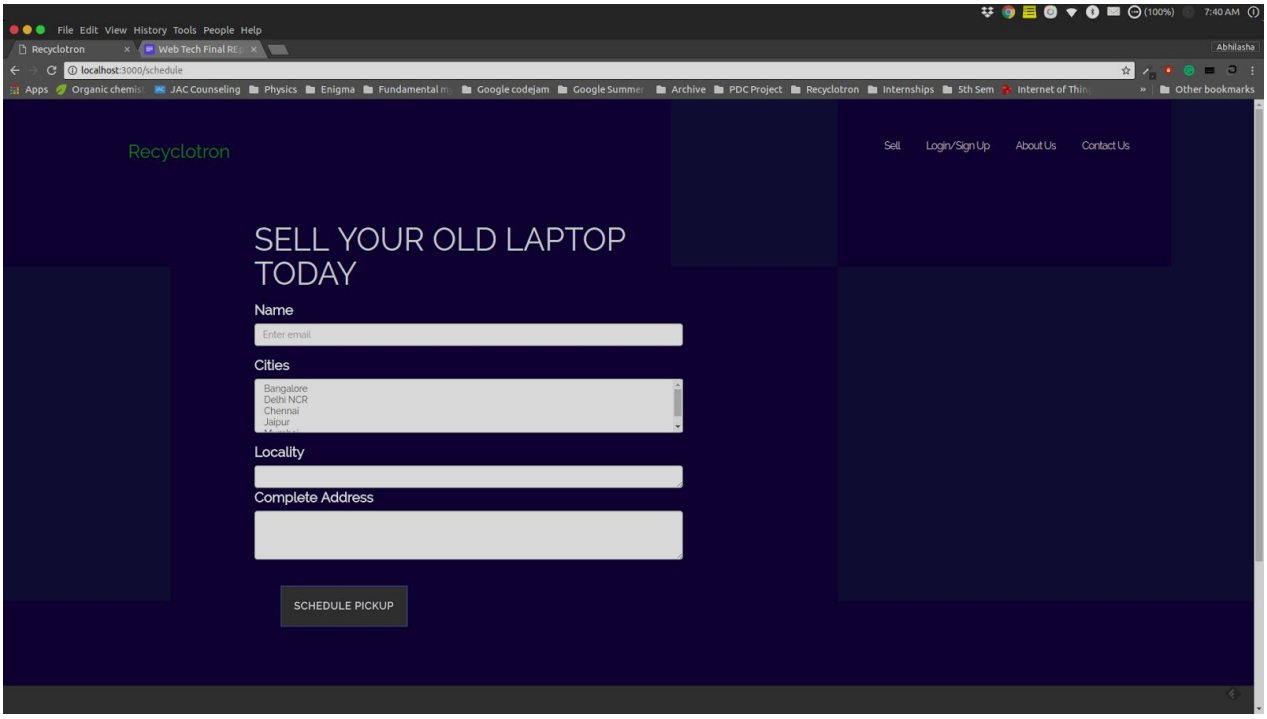
Upon clicking Sell Now! button the page showing various gadgets to sell are encountered.



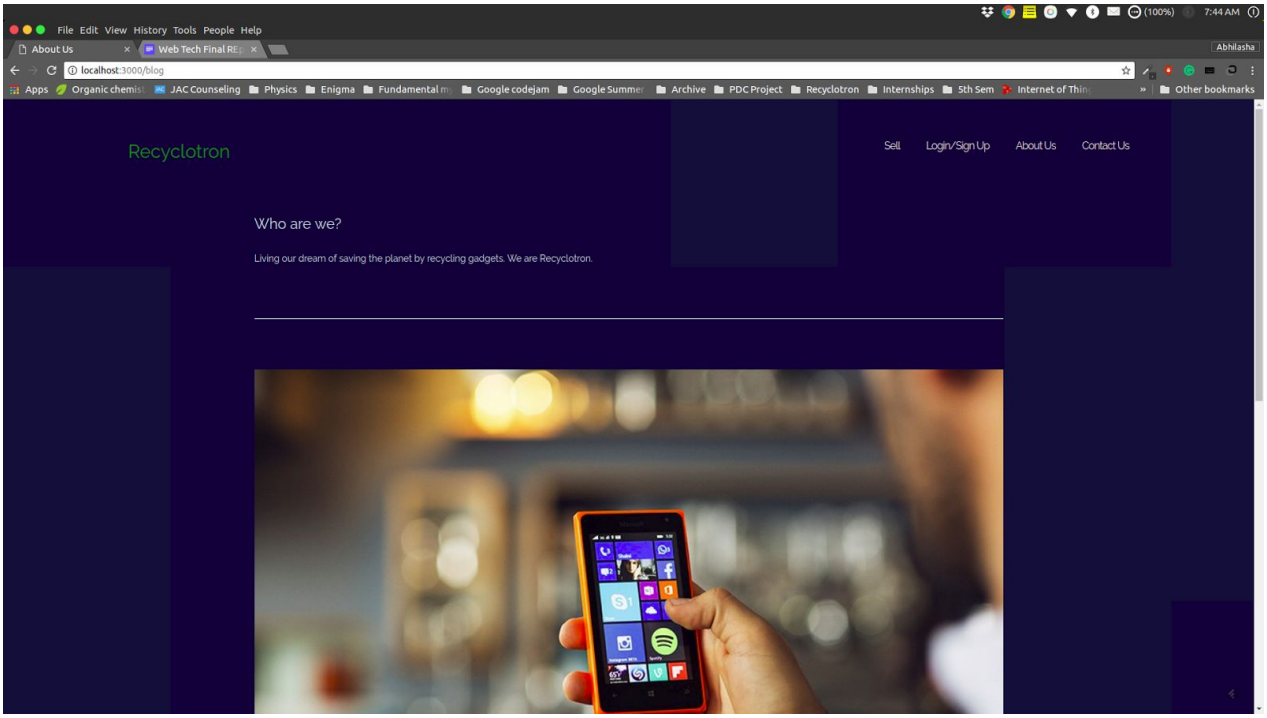
All the links are active and form works for Laptops



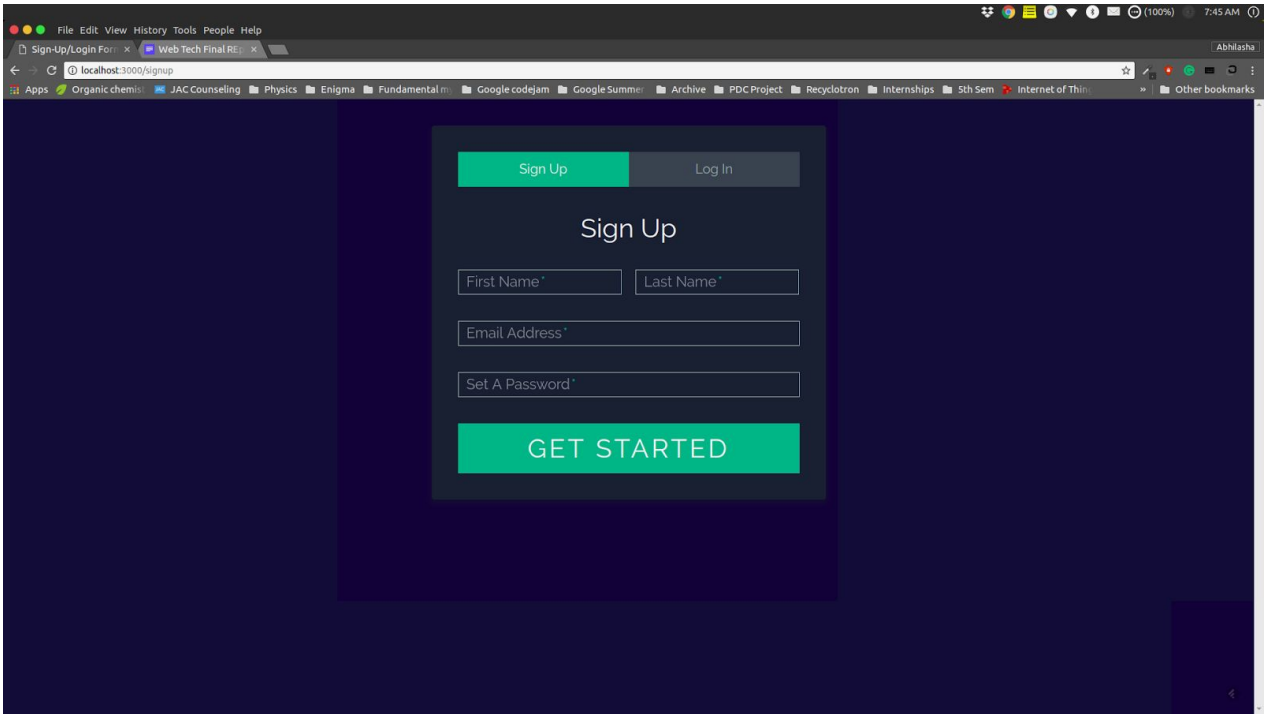
And upon placing the request for pickup the following page is encountered:



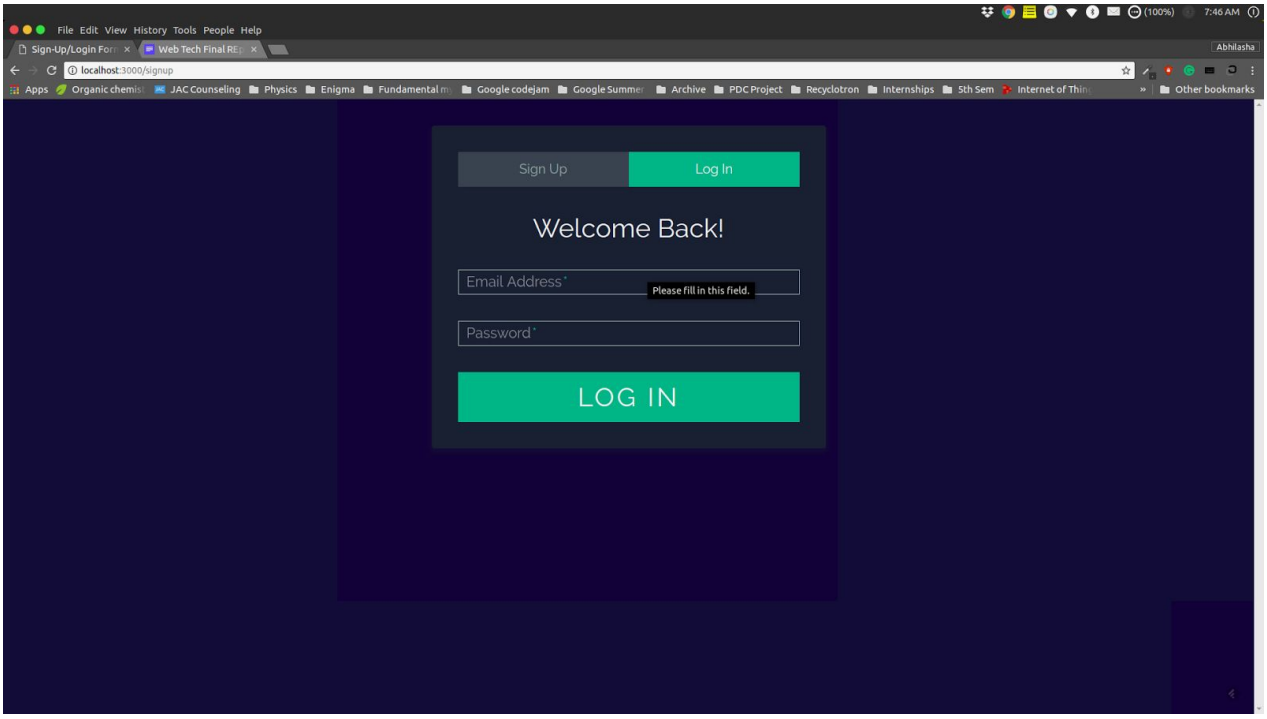
If on the homepage EXPLORE is clicked, the following page is encountered:



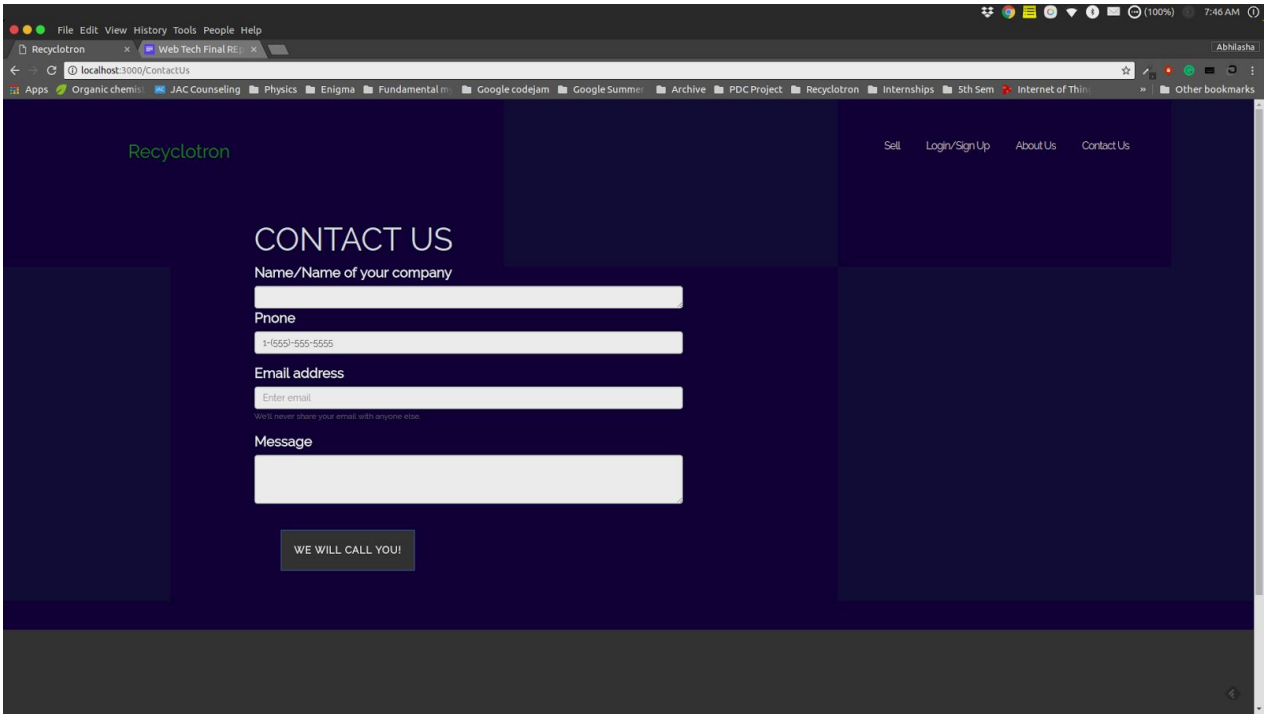
The Sign Up page looks like the following:



The same page is also used to Log In:



The contact us page for the propriety Junk dealers:



4.2. Discussion

Complete implementation of all the views was accomplished. Website is being hosted and developed using Express.

The given express app does not yet contain a fully functional backend and a complete database.

5. Conclusion and Future Work

The future work consists of being able to maintain a robust and fully functional express app along with advanced features like google analytics, and personalised dashboards for every user.

Creation of two more views that is admin and the person on the pickup are required.

6. References

1. www.udemy.com/the-web-developer-bootcamp/, The web developer bootcamp, Udemy
2. www.nodejs.org/api/index.html, The Node documentation
3. https://docs.npmjs.com/, The NPM documentation
4. www.scotch.io, The JQuery course