Clean and Green

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Project Idea

Let's make a cleaner and better environment

The project is to develop a website that will allow users to recycle their trash with maximum efficiency. The website will allow users to register profiles and give them the ability to ping their location whenever they have a substantial amount of recyclables. It will also allow users to respond to the pinged location, indicating that they will be picking up the recyclables.

Our Solution: Web Application

Clean and Green
http://clean-and-green.herokuapp.com

A web application built using Google Cloud Platform.

User Types:

- Client
- Driver

Different user types have different capabilities and user interface.

Client:

- Send a pickup request by specifying:
  - Address
  - Things to be picked up (paper, plastic, glass etc.)
  - How many bags needed (1, 2 or 3)

Driver:

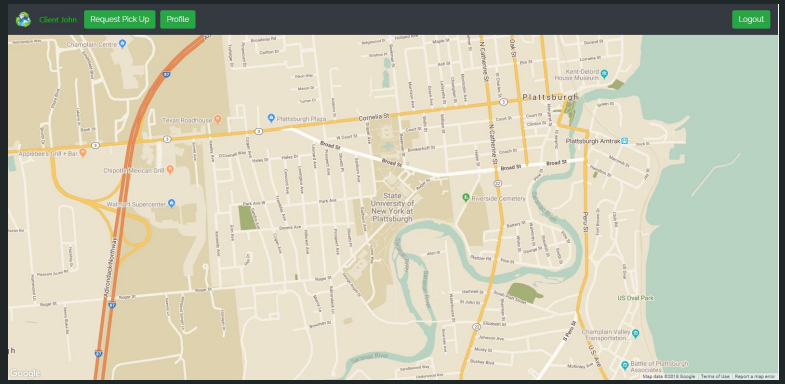
- Process a pick up request

User Types:

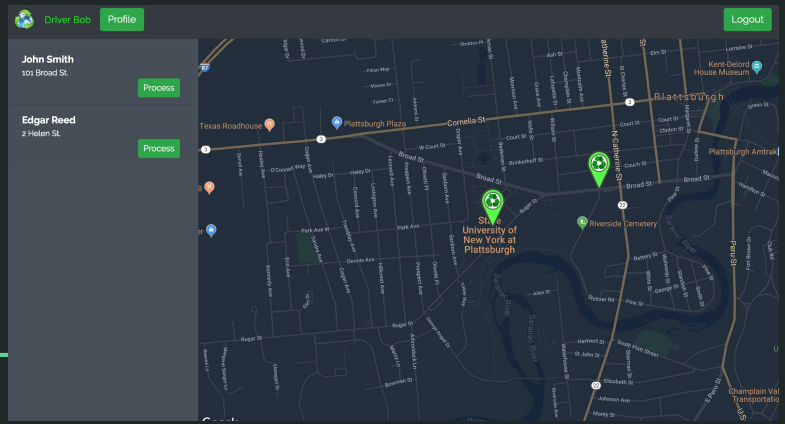
- Client
- Driver

Different user types have different capabilities and user interface.

Client user interface:

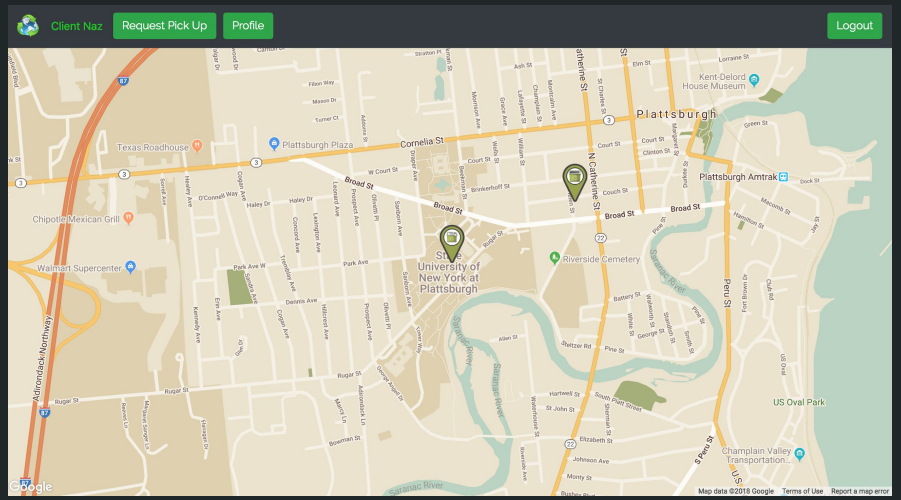


Driver user interface:



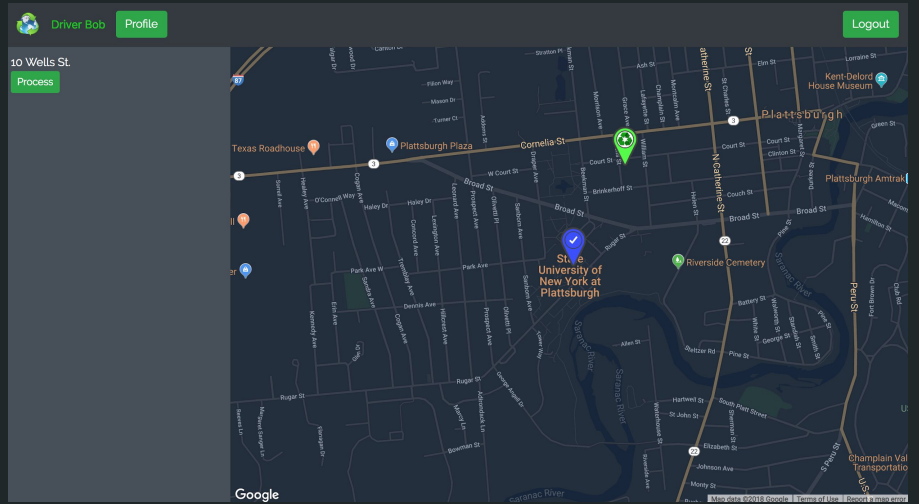
Client UI showing pinged locations on map

Markers to differentiate a pending and picked up request



Driver UI showing pinged locations on map

Markers to differentiate a pending and picked up request



Mobile Responsive

Automatically resizes to any screen size.

Team Member: Naz Islam

- Experience: JavaScript, Node.js, express.js, Google Cloud Platform.
- I contributed as a backend developer and implemented server side logic and functionalities.
  - User registration and authorization
  - Sending a pick up request
  - Processing a request
  - Making object mapping relationship between:
    - Recyclable object and Client
    - Recyclable object and Driver
  - Fetching addresses from datastore to render on user interface.
  - Adding a timer (4 min) to processed requests so that they don't clutter the map.
- Deployed app on Heroku. Link: http://clean-and-green.herokuapp.com

Team Member: Sam Tursunov

- Experience: Bootstrap, HTML, CSS, Pug (templating engine)
- Designed the user interface of the app.
  - Added navigation bar to navigate through the app.
  - Stylized buttons, forms, pop-up boxes, user-profile.
  - Added a sidebar on the driver-side and rendered pick-up requests so drivers can process by clicking a button.
  - Used Bootstrap front-end framework to make it mobile responsive.
  - The app resizes to screen size of devices.
  - Rendered Google Map API.

Team Member: Vasu Sharma

- Experience: Swift, XCode, HTML, C++.
- Came up with a plan for the project.
- Documented software engineering practice deliverables.
- Managed JIRA to create issues and tasks.
- Started iOS version of the app
    - Implemented user interface for iOS version.
    - Implemented user registration for iOS version.
    - Implemented user logging in functionality.

Demo

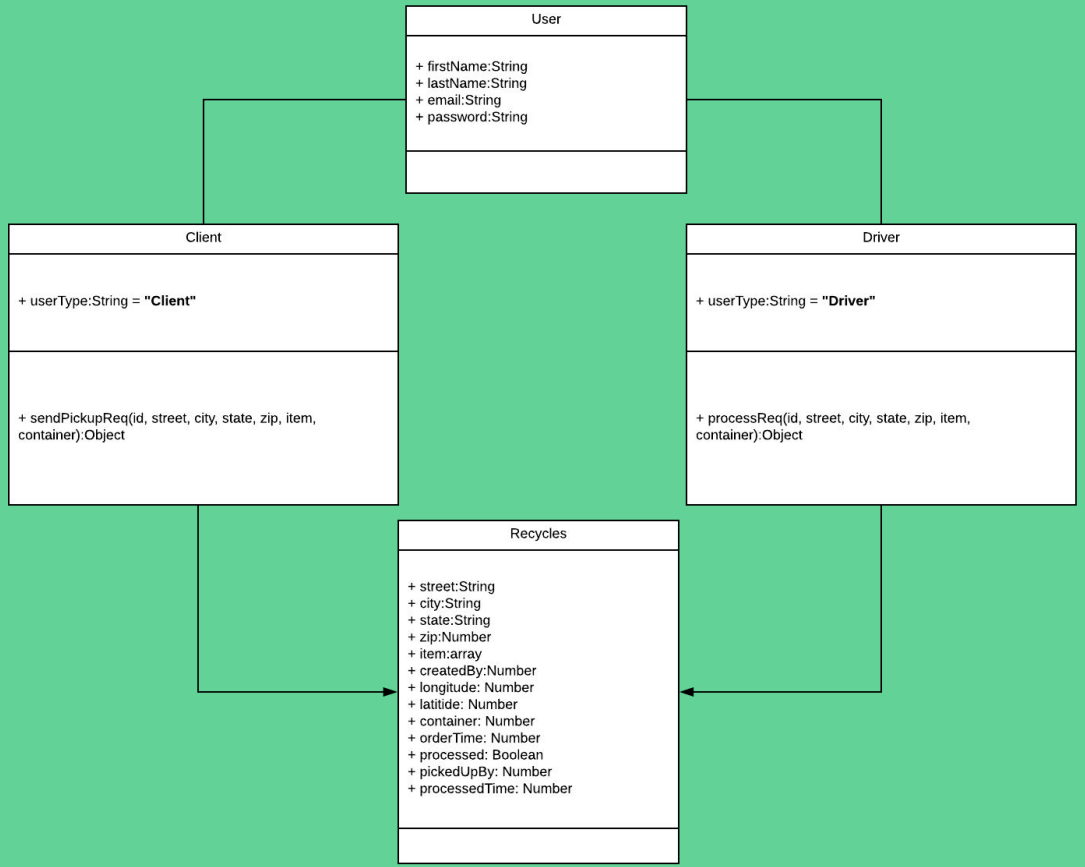
Design and Architecture: Functionalities

User registration	Separate view for Clients and Drivers
User authentication and sign in	Users will only be able to send a pickup request if they don’t have any request pending
User Profile	
Logout users	Remove old processed request
Submit a pickup request	Showing markers on the location on map
Google Map API	Process a pickup request

Design and Architecture

UML Class Diagram

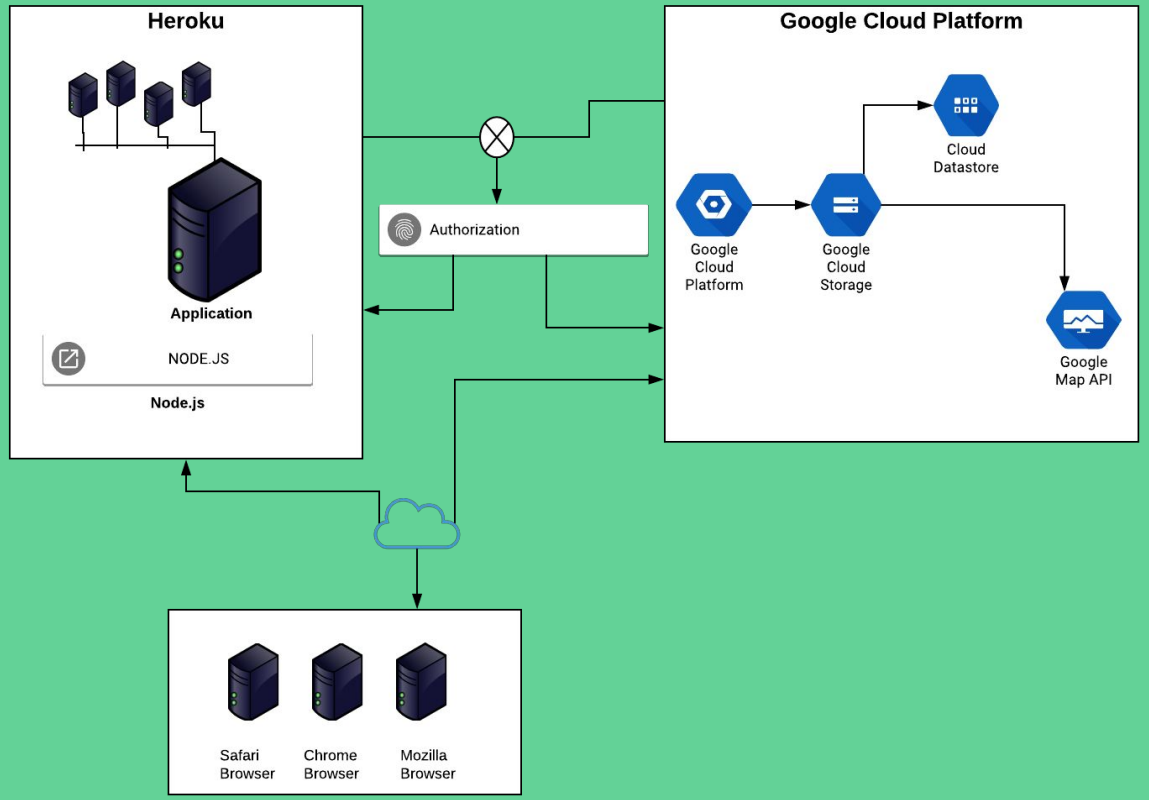
Clean and Green Class Diagram



Design and Architecture

Infrastructure View

Infrustructure Diagram



Technologies We Used

- **Web Development Platform:** Google Cloud Platform (GCP)
- **Backend:** Node.js
- **Backend framework:** Express.js
- **Frontend:** HTML, CSS, JavaScript
- **Frontend framework:** Bootstrap
- **Database:** Google Datastore

Software Engineering Practices

- We added new functionalities by creating a new branch in GitHub and once the functionality is fully implemented, we merged to master branch.
- Talked to other teammates every week about new functionalities and improvements in scrum.
- Logged our work on JIRA and tracked our progress to make sure we don’t lag behind.
- Created issues in Github for every functionality and implemented them in separate branch.
- Worked together to learn functionalities to be implemented and prioritized them.

Software Engineering Practices

- Created separate issues and tasks in JIRA, and put a comment of what worked well and what did not.
- As a result, we learned about other teammates progress and everyone were on the same page.
- Every 2 weeks, we documented our work, and tested our app individually to make sure the app is functional and it renders right view.

Thank you ....

Team Clean and Green