

## **Part 1**

1. Google Maps: We will use Google Maps to find locations of businesses we think require licenses so that we can estimate the cost to benefit ratio for different businesses and give better recommendations on how to proceed. Google maps data will also be used to price travel plans.
2. Postman: Postman is a great tool for testing endpoints of our web app. This will also help us create a CI for our endpoints.
3. Python: We are using python to develop our web app. We chose to use this since we will be integrating a lot of machine learning and statistical models into our app and python has great libraries to support this.
4. Django: Since we are using python due to it's incredible support for machine learning and data science, we have also decided to use it to develop the web app to make the integration of the front end and back end easier. In addition this means no microservices allowing for more maintainable, testable code.
5. Scrapy: A Python web based framework which will help gather data from various endpoints. Low overhead, combined with direct integration to backend makes it an ideal choice as we will not have to microservice scraping.
6. Numpy: This is a package for scientific computing in python. Vectorised code from this library also makes this very efficient. This is an absolutely essential library for machine learning and will help us develop our models efficiently. SciKit-Learn, our machine learning library of choice, uses Numpy extensively and therefore it has to be used by us.
7. SciKit-Learn: SciKit-Learn is a machine learning library in python. It includes models for regression, classification, clustering, SVM's, forests, etc. We have chosen this because of all the types of models it offers and the ease with which they can be integrated with our software.
8. Stripe: POS system of choice with direct integration to all major forms of payment. By using stripe, we can worry less about payment security as they are innovators in the industry and are dedicated to making POS reliable, fast, and scalable.
9. Firebase: Direct integration into Python makes this NoSQL database a perfect choice. Search is fast and uses an indexing method similar to Google allowing for low latency. Also has the benefit of allowing context casting to remodel JSON data into workable python objects easily.

10. Heroku: Heroku integrates really well with github and makes the process of deploying our web app extremely easy. After setting up heroku on our github project, a simply push to it's master branch deploys the updates. It's really simple to setup and use and it is absolutely free. Furthermore, it makes the web app accessible to everyone instead of deploying it locally which is a huge plus.
11. Google Drive: For all non-technical aspects, GDrive is used to store template emails, marketing material, business plans, and signed contract receipts. With Google's redundancy policy and cloud storage solution, our business critical documents will be available everywhere and always.
12. Slack: Slack is used for all internal messaging in the company. Especially for dev-work. With integration to Github, it is easy to send messages and link them to specific releases. Slack also provides many other add-ons which will be useful as our company scales and grows.
13. Github: Version control method of choice. Git is easy to use and has CI options available with Github Actions. Using git also makes it easier to push changes to Heroku, and has changes highlighting with VS code making it easy to handle code clashes.
14. Sentry: Sentry provides open-source error tracking to monitor and respond to bugs and crashes anywhere in our stack in real time. It aggregates and adds important context to stack traces and to tell us exactly the users, services, and servers affected by a bug. It allows us to get instant visibility into how our code affects real users and ahelps resolve issues.

## Data Sources



(API) HTTPS/443

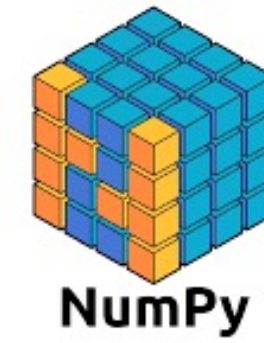


**Scrapy**  
Data  
Collection

## Data Processing

### Critical Tools

**stripe**



NumPy



### Application Rendering

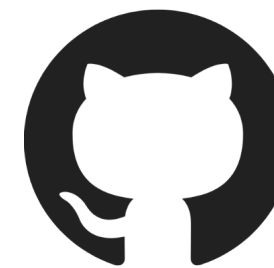


HTTPS/443

## Storage



## Monitoring, Testing, Version Control & Deployment



Dream **Tune**