Sprint 1 Deliverables

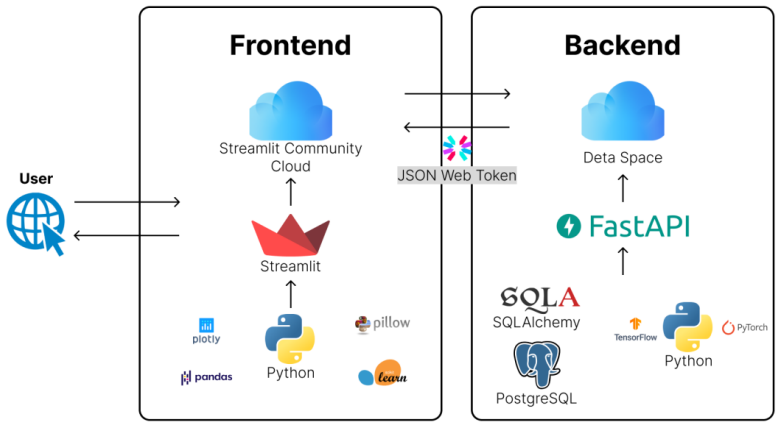
Research Section

- Business/User Aspect

Functionality that is needed and will be able to be served through our web app:
1. Predictive Analytics: Business users can leverage the web app to make predictions, such as sales forecasting, customer churn prediction, or demand forecasting. Hobbyists can explore datasets and make predictions on various topics of interest.
2. Image Recognition: Implement image classification or object detection for business applications like quality control or inventory management. Hobbyists can create image recognition models for artistic or educational purposes.
3. Time Series Forecasting: Businesses can automate the forecasting of financial data or stock prices. Hobbyists can explore time series datasets and build predictive models.
4. A/B Testing: Create automated A/B testing frameworks for business users to optimize website or product changes. Hobbyists can use this for experimentation and learning.
5. Data Visualization: Generate interactive dashboards for business analytics or create data visualization projects as a hobbyist.

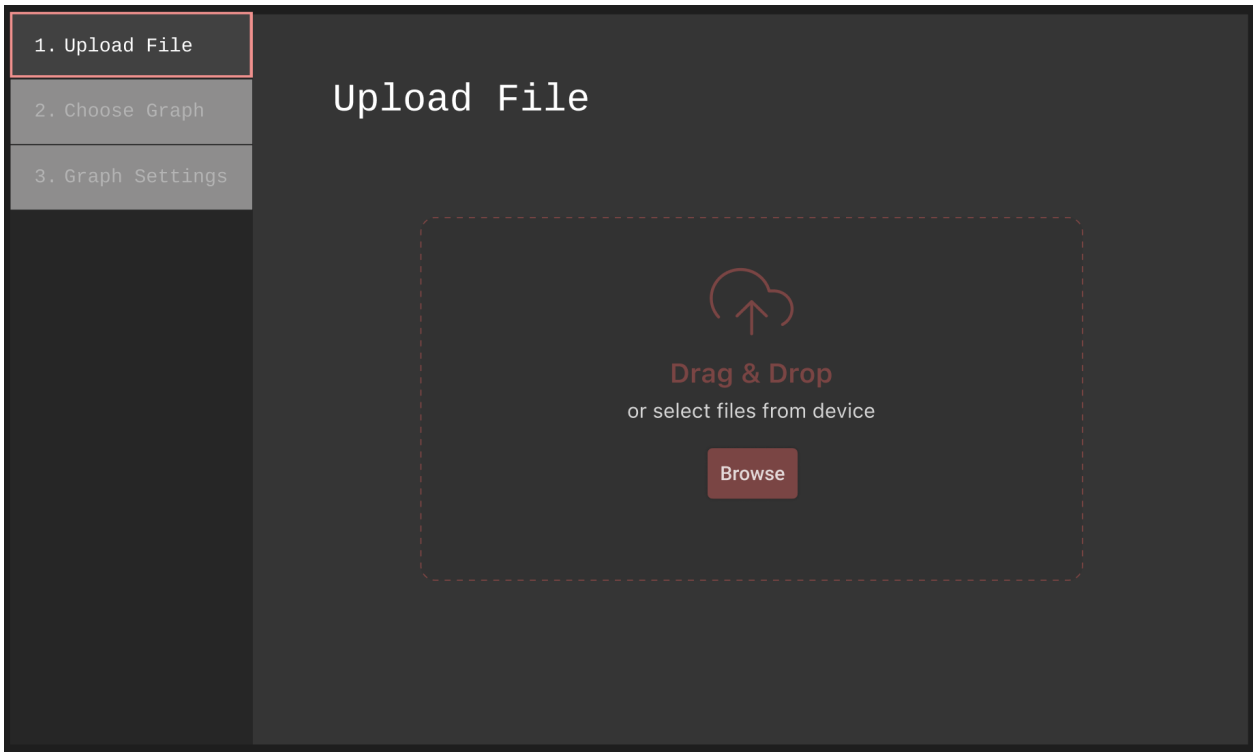
- Tech Stack and Architecture

Our web app will use Streamlit for the frontend framework and FastAPI to serve the backend. Some of the considerations that come into choosing these are as follows: (1) Ease-of-implementation, (2) Scalability, and (3) Functionality. Both the frontend and backend are going to be written in Python to make it easier to implement current machine learning libraries, as most of them are Python libraries. As for deployment, the web app will be deployed through a cloud service provider recommended by each framework. This will ensure compatibility and faster deployment. Our choice of database is PostgreSQL because it is supported by SQLAlchemy (allows database handling in Python). For user authentication, we are going to implement it using JSON Web Token as it is supported by FastAPI, with really good documentation. JWT also has advantages over regular session-based authentication such as support across multiple servers (easier if down the line we decided to use multiple backend servers).

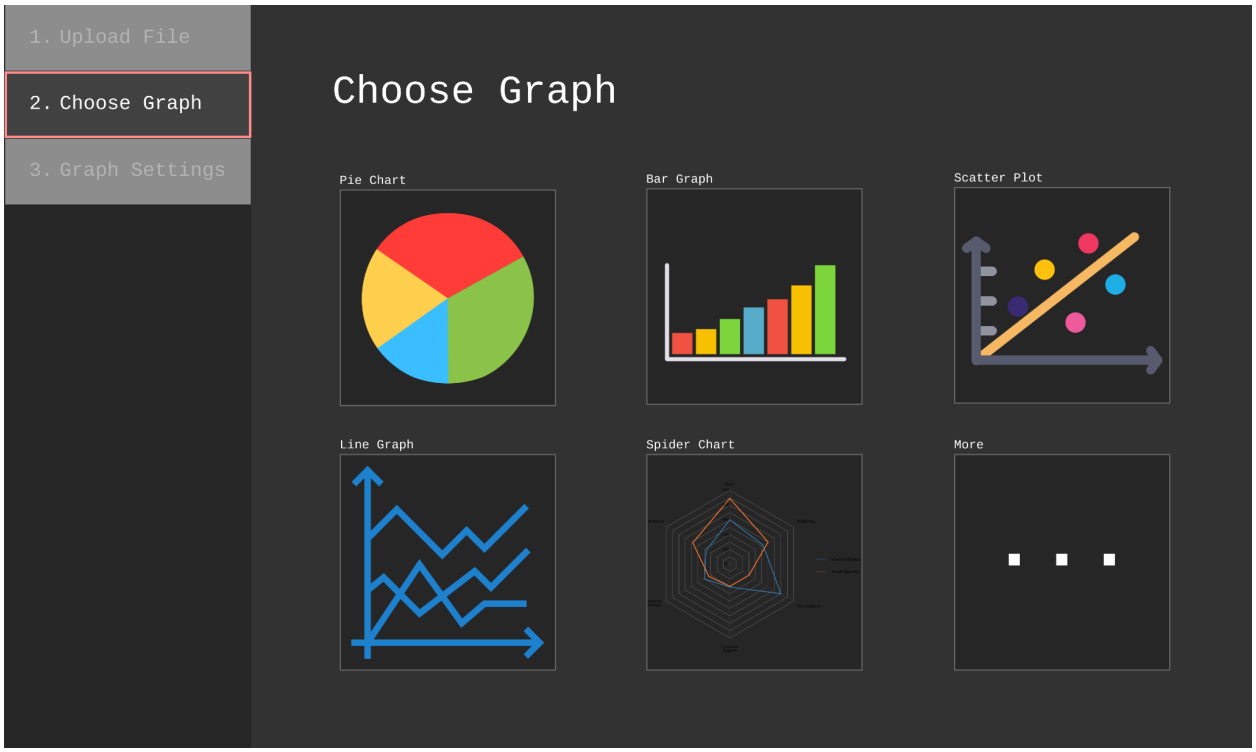


Design Section

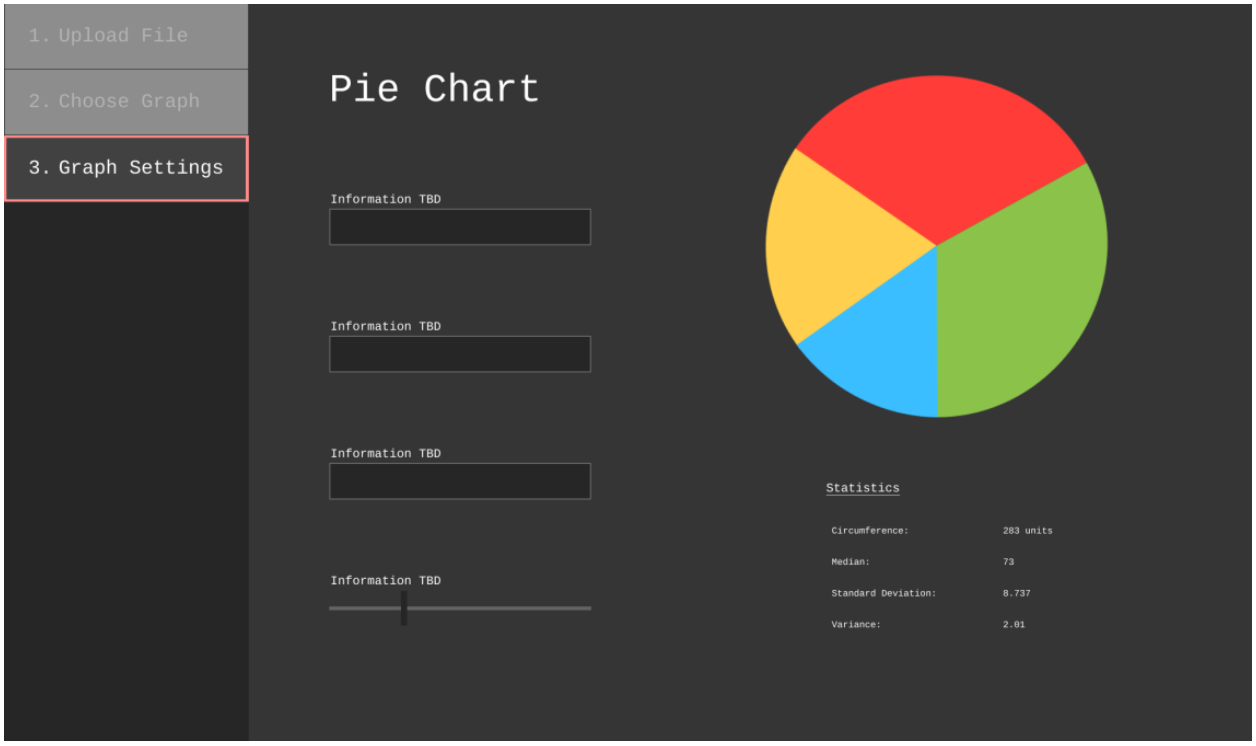
- Page 1



- Page 2



- Page 3


1. Upload File
2. Choose Graph
3. Graph Settings
Pie Chart
Information TBD
Information TBD
Information TBD
Information TBD
Statistics
Circumference: 283 units
Median: 73
Standard Deviation: 8.737
Variance: 2.01