

The background is a dark blue gradient. It features several thin, vertical white lines of varying lengths scattered across the slide. Interspersed among these lines are small squares in three colors: pink, orange, and teal. Some squares are solid, while others are outlined. The overall aesthetic is modern and tech-oriented.

STOCK MARKET DATA PIPELINE

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NEED

Establish a data pipeline which retrieves, cleans, and stores stock market data to be deployed in a web application.



DATA AND SCOPE

DATA

- Daily price at market close
- General company information (e.g. products, sector)
- Financial metrics (e.g. market cap, P/E)

SCOPE

- Companies traded on US stock market exchanges - NASDAQ, NYSE, AMEX
- Largest 2,000 companies by market cap
- 15 years of market data

5,512,745

total records

(...and counting...)

TOOLS

DATA ACQUISITION

- Yahoo Finance API (yfinance library)

DATA CLEANING

- Pandas
- NumPy

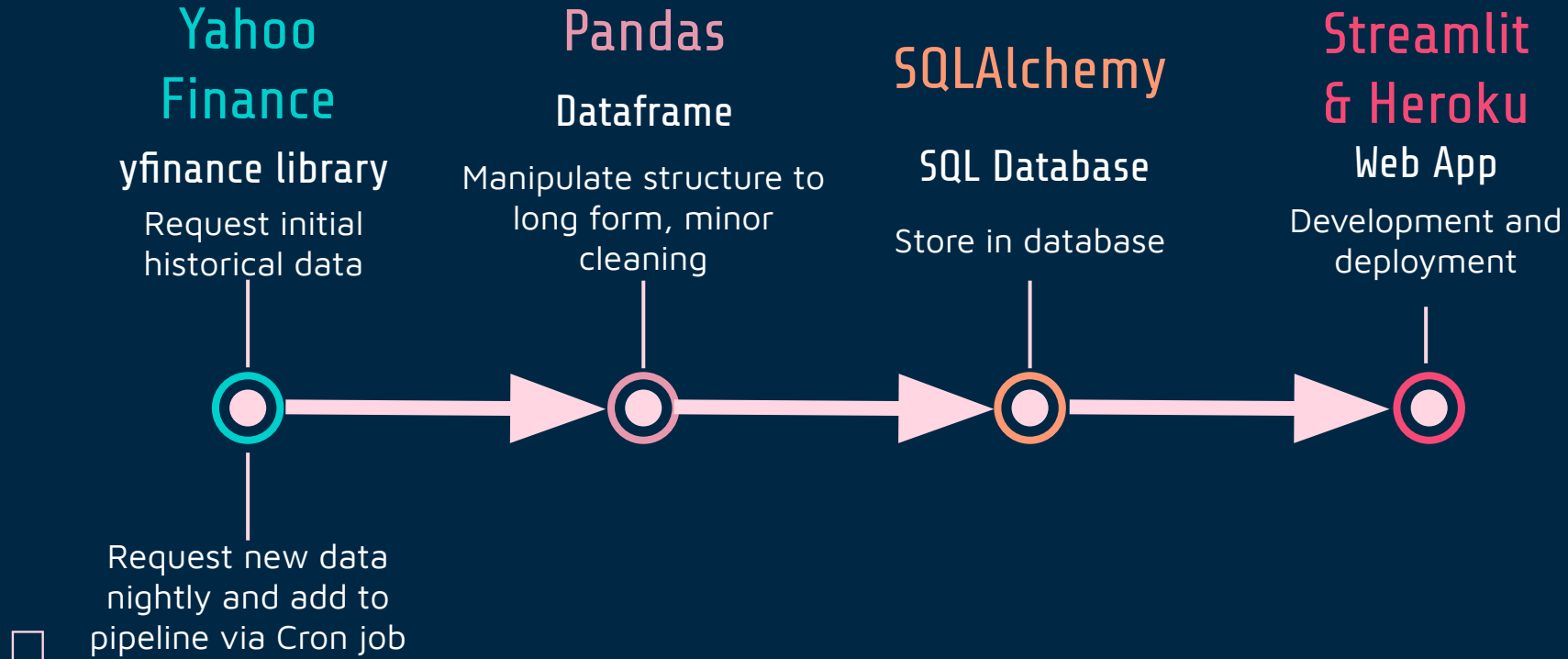
DATA STORAGE

- SQLAlchemy for SQL database connection

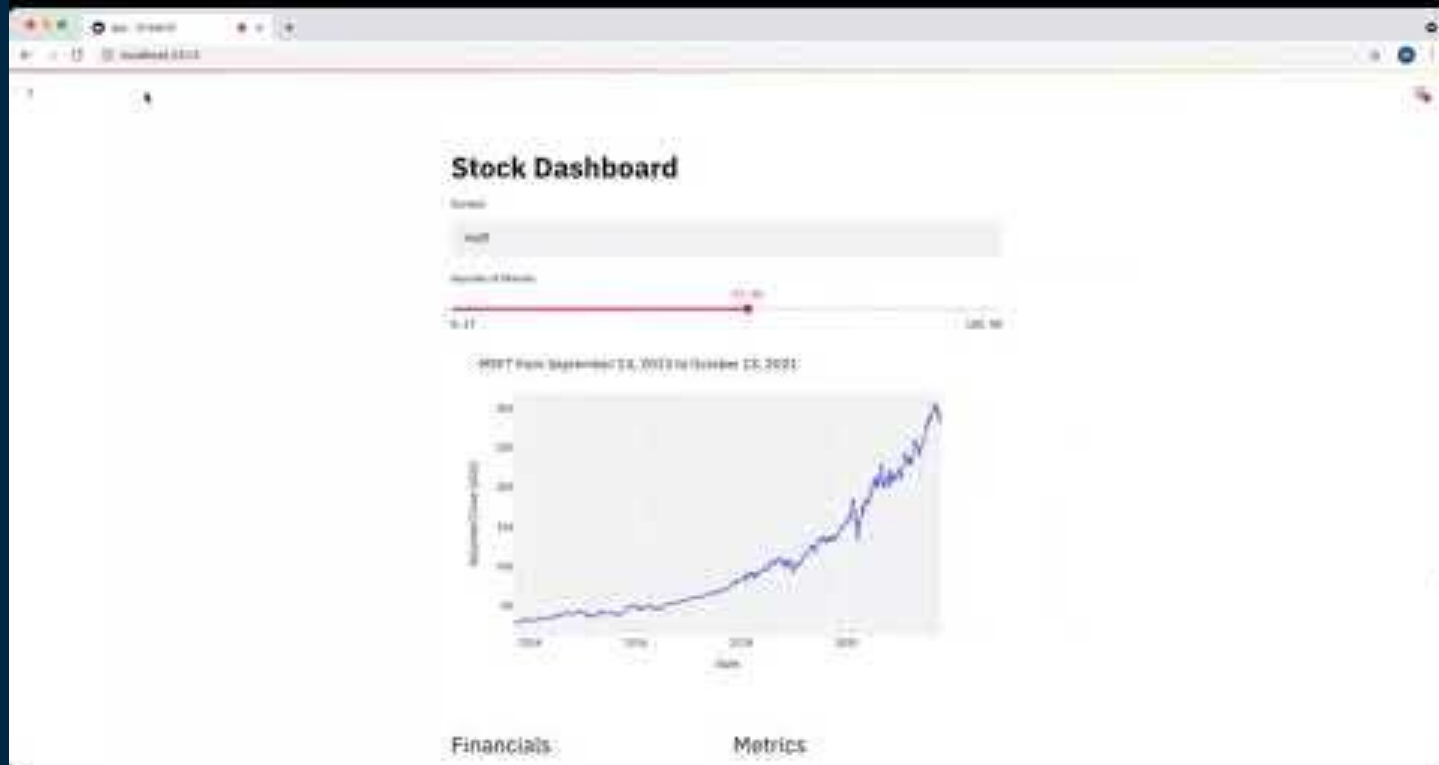
WEB APP DEPLOYMENT

- App developed with Streamlit
- Plotly for interactive chart
- Deployed via Heroku

PIPELINE OVERVIEW

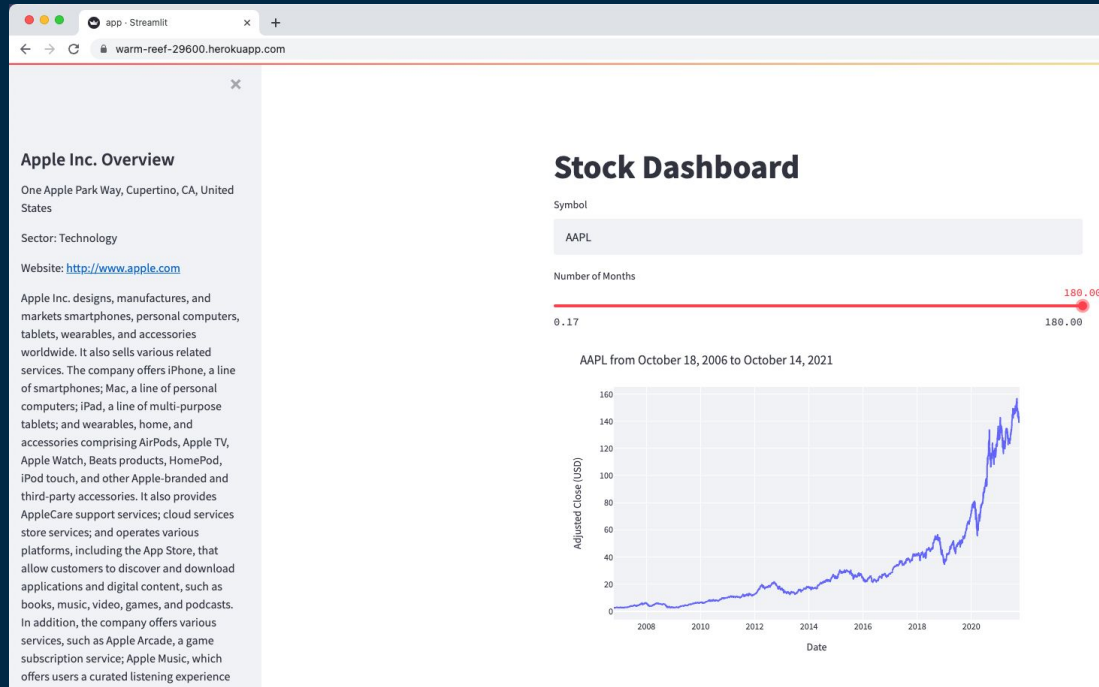


DEMO



HEROKU DEPLOYMENT

<https://warm-reef-29600.herokuapp.com/>



FURTHER WORK

- Additional data - market indices, cryptocurrency
- Functionality to allow user to build and track portfolio performance
- Data storage on a cloud platform
- Algorithmic analysis/modeling

APPENDIX

The background is a dark navy blue. It is decorated with various geometric elements: small squares in teal, orange, and pink, some of which are solid and others are hollow outlines. Thin, light-colored vertical lines of varying lengths are scattered across the page, some extending from the top or bottom edges.

Crontab Example

A terminal window with a title bar that says "final — crontab -e". The terminal content shows a crontab entry: "0 23 * * 1-5 /path/to/python3 /path/to/update_db.py".

```
0 23 * * 1-5 /path/to/python3 /path/to/update_db.py
```

Run update_db.py M-F at 11:00PM

Load new historical data, update metrics

Do you have any questions?

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THANKS



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