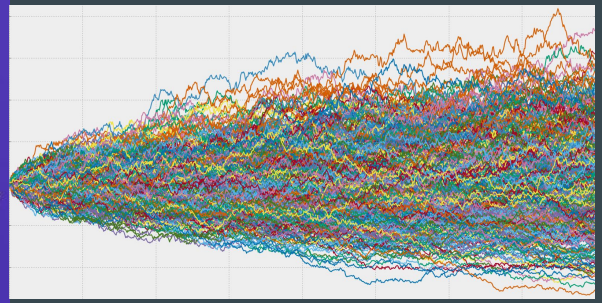
ARKF Individual Stock Analyzer:

Get the Best of What ARKF Has to Offer



February 16, 2022

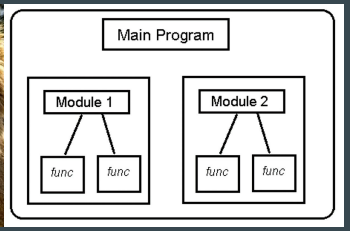
Executive Summary

In the ever-evolving world of Silicon Valley and abroad, exposure to the financial technology industry (FinTech) in an individual's portfolio can potentially lead to exponential gains in the mid to long-term future.

The Wall Street giant, ARK ETF Trust, has developed an ETF analyzing specific stock in the FinTech space, through the fund ARKF. For clients invested in ARKF, utilizing the fund's holdings, our team of developers have created an app with Python, that will allow users to select individual stocks from ARKF. From there, through our app's simulation developments and calculations, the selected stock will be a designated buy or sell relative to the ARKF and S&P 500.

This app TRULY gives clients the best that ARKF has to offer!

Setup: Data Collection & Preparation



ARKF Holdings

Directly from the ARK ETF Trust website, our app collects the ARKF fund holdings and stores them to a folder with associated tickers and price data.

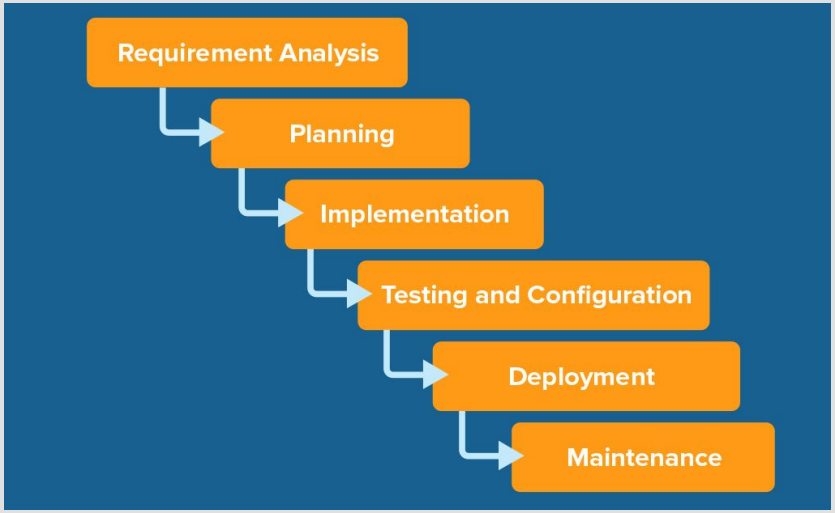
Alpaca Connection

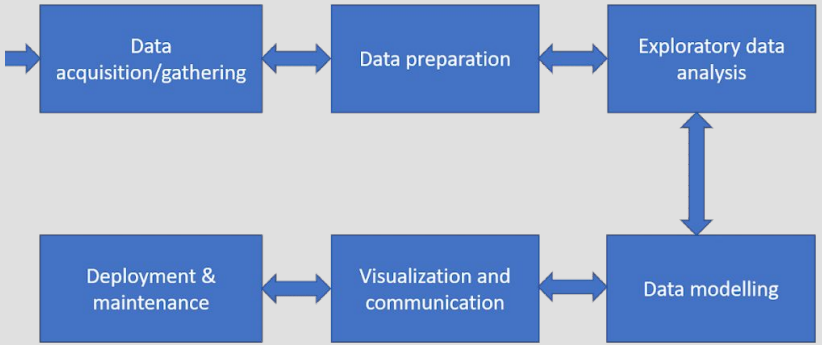
In order to access past market data of the ARKF tickers for the preliminary simulations, the Alpaca API is utilized and called for up to three years of past data based on ticker age. FinTech companies tend to be relatively new and have limited historical data.

Modularization

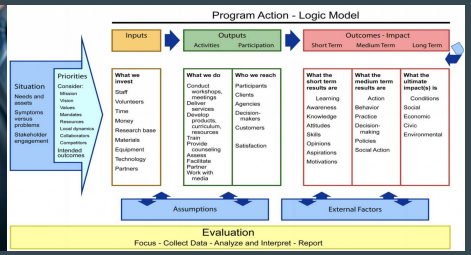
This is designed as a modularized application, wherein designated functions and calculations for ARKF connection data, Alpaca connection data, and our simulations using Monte Carlo forecasts are present within a utilities folder.

Goal Achievement: Group Approach & Application Modularization





The Group Approach



Target Audience & Scope

This application is targeted to clients with holdings in the ARKF fund wanting to potentially access greater exposure to recommended specific ticker gains relative to ARKF itself and the S&P 500.

Planning

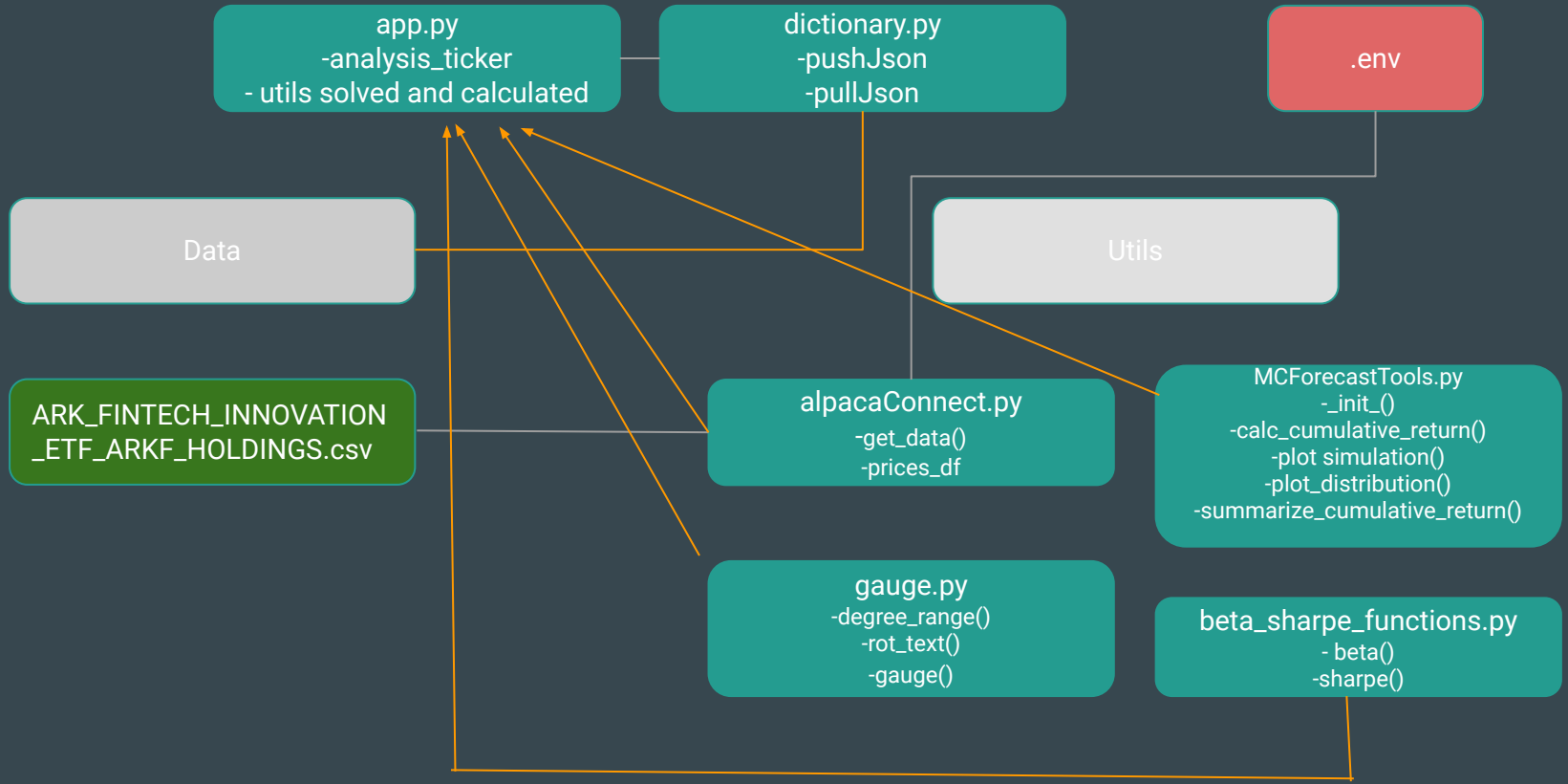
In creating roles for each developer team member, this application took specific considerations for:

- Imports, including from utilities
- Function structure and calling
- User Interface and interaction

Processing Logic

When developing the application, our developer group had to address specific chronological step progression for each specific ticker analysis.

Application Modularization & Logic



The Results: Conclusions & Client Recommendations

ARKF Individual Stock Analyzer Conclusions

- Utilizing processed simulations and calculations, our app creates a rating system of the analyzed ticker.
- To simplify the Buy or Sell recommendation, the client will be output a gauge chart, which displays a meter based on color-coded buy options relative to ARKF and the S&P 500.
- The gauge chart is divided into five recommendations for userface simplicity.

Client Recommendations

- Based on the analyzed ticker, the gauge chart will recommend the following:
  - Dark Red = Strong Sell
  - Light Red = Sell
  - Gray = Hold
  - Light Green = Buy
  - Dark Green = Strong Buy
- To explore their options, clients are later prompted if they would like to analyze another ticker.
- Based on the app's success, an update to include all ARK ETF Trust funds can be launched!

The Developer Team

Mark Zarutin

Computational neuroscience student at NYU graduating later this year with a minor in Computer science. Love sketchy Blockchain investments.

Tyler Castleberry

2015 Graduate of Texas A&M University and current Graduate student at Eastern University.

Steffano Sta. Lucia

Civil engineer with curiosity in the Fintech industry

Meina Bian

Quantitative Methods Doctoral Student and minor in Computer Network, developing career in Quant Trading and fintech field.

Gabriel Ferreri

2019 graduate of Penn State University with a B.S. in Civil Engineering and prior project management experience. Now part of the Columbia Engineering Fintech Bootcamp.

Questions for our developer team? Please ask!

Github link:
https://github.com/m4rker11/Project1_Fintech