Document Information

|  |  |
| --- | --- |
| Document Title: | Stock Prediction and Reporting – Python Project |
| Version: | Draft v0.01 |
| Revision Date: | 02/27/2020 |

**Document History Control Log**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Version | Date | Status\* | Author | Description of Change |
| 0.01 | 01/17/20 | N | Nicholas Loffer | Baseline Working Draft |
| 0.01 | 02/25/20 | U | Nicholas Tidwell | First Iteration |
|  |  |  |  |  |
|  |  |  |  |  |
| \* New, Revision, Update, or Cancelled | | | |  |

Table of contents

[1. Purpose .. 1](#_Toc32860085)

[2. Requirements 2](#_Toc32860086)

[3. Design & Components 3](#_Toc32860087)

[4. Division of Labor 4](#_Toc32860088)

[5. Team Members 5](#_Toc32860089)

[6. Python Library Tracking 6](#_Toc32860090)

# Purpose

Our group will be developing a python application that will capture and analyze stock data from 3rd party sources and report their findings to the user.

The purpose of this document is to define the projects:

* Requirements
* Design
* Division of Labor
* Python Library Tracking

# Requirements

|  | |
| --- | --- |
| Section | Requirements |
| 1. Data Acquisition | * Must scrape data from internet sources. * Must be able to format data in multiple file forms. * Must have a GUI to configure acquisition. |
| 1. Data Storage | * Must store large amounts of data. * Must be able to interact with multiple app components. |
| 1. Data Processing and Analysis | * Must provide predictive analytics. * Must provide descriptive analytics. * May provide prescriptive analytics. |
| 1. Data Reporting and Presentation. | * Must provide a GUI for reporting. * Must provide push notifications to email or text. * Must provide data visualization. |

# Design & Components

|  | |
| --- | --- |
| Section | Solution Design |
| 1. Data Acquisition | * Backend program using appropriate Python libraries to scrape data. * Dashboard to configure backend script. |
| 2. Data Storage | * Cloud, local server, or other database solution to be configured. * Appropriate python code, libraries, and API’s to interact with the DB and the stock application. |
| 3. Data Processing and Analysis | * Will use of appropriate python libraries to build data analysis modules. * Use of appropriate python libraries to build parallel processing modules. |
| 4. Data Reporting | * Will use of either HTML or GUI dashboard with appropriate Python libraries. * Will use appropriate Python libraries to build push notifications to email or text. * Will use appropriate Python libraries for data visualization. I.E. charts & graphs. |

# Division of Labor

|  | |
| --- | --- |
| Section | Solution Design |
| 1. Data Acquisition | * . Nicholas Tidwell |
| 2. Data Storage | * Nicholas Loffer – Database Lead   + Darren Kopacz – Database Assist |
| 3. Data Processing and Analysis | * Nicholas Loffer – Push Notification Lead * Oscar Kosar-Kosarewicz – Stock prediction and data analytics * Ben Roth – Add functionality to current stock prediction libraries currently in python like Stocker |
| 4. Data Reporting | * Darren Kopacz - UI |

# Python Library Tracking

|  |  |  |
| --- | --- | --- |
| **Library Name** | **Library Functionality** | **Library Link** |
| PyQt5/Tkinter | GUI | <https://sourceforge.net/projects/pyqt/files/PyQt5/> |
| Sqlite3/SQLAlchemy | Storing/managing data in a DB. |  |
| Yfinance | Getting Stock Data |  |
| Pandas/Numpy | Data Formatting |  |
| Sklearn/Keras | Data Processing |  |

# Team Members

| Team Info | | |  |
| --- | --- | --- | --- |
| Name | Email | Phone | Git User Name |
| Nicholas Loffer | * [NDL17@my.fsu.edu](mailto:NDL17@my.fsu.edu) * [nickloffer@gmail.com](mailto:nickloffer@gmail.com) | 410-603-1836 | TheLoff |
| Darren Kopacz | dk16d@my.fsu.edu | 850-868-0983 | dk16d |
| Nicholas Tidwell | [Nbt16b@my.fsu.edu](mailto:Nbt16b@my.fsu.edu) | 407-808-3785 | NickTiddy52 |
| Oscar Kosar-Kosarewicz | [opk18@my.fsu.edu](mailto:opk18@my.fsu.edu) | 727-409-4088 | Kosaro |
| Ben Roth | [Bmr16b@my.fsu.edu](mailto:Bmr16b@my.fsu.edu) | 386-451-4208 | Ben-Roth-1 |

## GITHUB Repository

git@github.com:NickTiddy52/StockMarket\_GroupProject.git

https://github.com/NickTiddy52/StockMarket\_GroupProject.git