INVESTGENIE

A WEB APPLICATION FOR STOCK MARKET PREDICTION

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ARCHITECTURE DIAGRAM

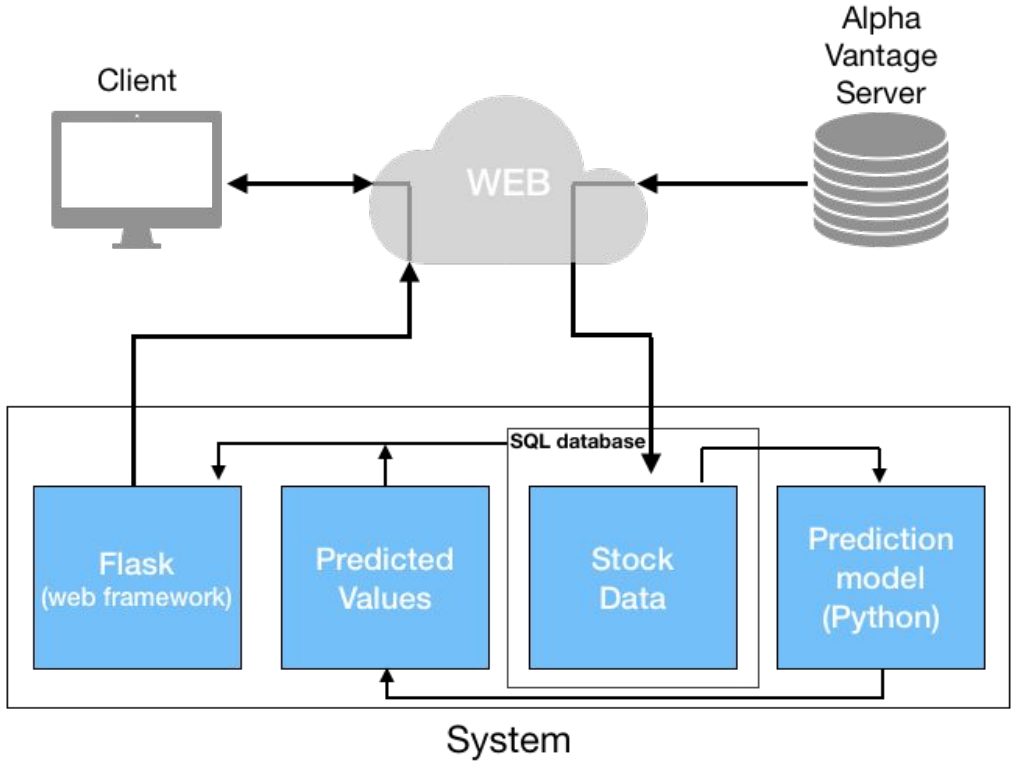

Fig1. Architecture Diagram for INVEST-GENIE APP

USE CASES

	Use Case	**Description**
Administrator	Manage the application	Add/remove stocks and manage user accounts.
User	Login	Input the user ID and password to login to the application.
User	Register	Register with a user ID and password to use the application.
User	Display graph	Displays the graph for historical data for the selected stock.
User	Select stock	Select a particular stock from a list of predefined stock list.
User	Stock prediction	The application predicts the future value of the stock depending on the previous values of the stock price.H
User	Select technical indicator(s)	Select recommendation with respect to a indicator and or group of indicators.
User	Comment	The user has an option of leaving his/her thoughts on a particular stock in a comments box provided below each stock.
User	Display stock price	Display the stock information including volume, close price and time at that particular minute.
User	Recommendation	The application advises the user whether it is a good time to buy, sell or hold on a particular stock.

TECHNOLOGIES

1.Languages: Python, HTML, SQL, CSS

2.Software: PyCharm, Mysql

3.Libraries: Flask, Requests, Firebase, Tulipy, numpy, pandas, mysql connector, matplotlib, sklearn

SPECIAL FEATURES

COMMENTS

The users are able to comment with their thoughts on the stock, which will redirect them to a blog page where they can view others comments.

WEB SOURCE

1. **ALPHA-VANTAGE- Data collection Source**
2. **Firebase**

PREDICTION METHODS

1. **Bayesian Curve Fitting**
2. **Artificial Neural Networks**
3. **SVM**

We predict the value for a particular stock using each of the above strategy. We then take an average of the three methods to return a final predicted value.

INDICATORS

1. **EMA (Exponential Moving Average)**
2. **Williams %R**
3. **Volatility Ratio**

Each of the indicators we employ recommends a suitable action over a desired lookback period. We then apply a voting system to get the final action to recommended to a user. If there is no clear majority for buy or sell, we suggest the user to hold on to their stocks.

WEB SERVICE INTERFACE

1) **getLogin**(String,String):Boolean
2) **Registe**r(String,String, String, String): Boolean *//Name, UserName, Password, Confirm*
3) **getGraph**(String,String):void
4) **selectStock**(String):JSON
5) **predictStockPrice**(String):double
6) **selectIndicator**(String):void
7) **addComments**(String, String, String):void *//Username, Comment, Timestamp*
8) **printStockPrice**(String): JSON
9) **recommendation**(String):String

APIs

Query to get the highest stock price for any company in the last 10 days:

localhost:5000/api2?stock_symbol=GOOG&query_type=high_val_ten

Result:

{
“date”: “Mon, 29 Apr 2019 00:00:00 GMT”,
“High”: 1287.58
}

THANK YOU!

REPORT

1) FROM TOPICS 1 - 7: ASHWIN SURAJ SARTHAK

   EVERYONE WILL MAKE UP THEIR GLOSSARY AND WE WILL ADD IT IN THE END.

2) TOPICS 8 and 10: Mareesh
3) Topics 9th: Kartik

   REPORT IS ON WHATSAPP:

   We are planning to finish by Tuesday night and maximum Wednesday Morning.