Intelligent Trade System

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Chapter 1: Project Proposal

1.1 Abstract

Forex markets are the biggest ones with up to trillion dollars market capital. Professional people make millions of dollars in days and untrained lost millions of dollars in days. Most traders are unaware of market behavior so they make wrong decisions which results in loss of money. When big crashes occur well-established companies sometimes also gone out of business. Lots of companies in the market provide signals about the up and down of the market but most of the time signals are not accurate. We will make an app that will use an AI model to predict the next market move based on the current market situation. Its main purpose is to reduce losses and increase profit as well as encourage new traders. We will judge this application with the predicted result and actual result. If the result is the same then the system is working properly.

1.2 Background

Stock market is highly volatile. At the most fundamental level, it is said that supply and demand in the market determines stock price. But, it does not follow any fixed pattern and is also affected by a large number of highly varying factors The investors on the Wall Street are split in two largest factions of adherents; those who believe the market cannot be predicted and those who believe the market can be beat.

1.3 Statement of problem

Financial analysts investing in stock market usually are not aware of the stock market behavior. They are facing the problem of trading as they do not properly understand which stocks to buy or which stocks to sell in order to get more profits. In today's world, all the information pertaining to stock market is available. Analyzing all this information individually or manually is tremendously difficult. As such, automation of the process is required. This is where Data mining techniques help. Understanding that analysis of numerical time series gives close results, intelligent investors use machine learning techniques in predicting the stock market behavior. This will allow financial analysts to foresee the behavior of the stock that they are interested in and thus act accordingly. The input to our system will be historical data from Yahoo Finance. Appropriate data would be applied to find the stock price trends. Hence the

prediction model will notify the up or down of the stock price movement for the next trading day and investors can act upon it so as to maximize their chances of gaining a profit. The entire system would be implemented in 10 | Page Python/Java and R language using open source libraries. Hence it will effectively be a zero cost system.

1.4 Objectives

The aims of this project are as follows:

- To identify factors affecting stock/forex market.
- To predict accurate value of future market price.
- To provide analysis for users through web and mobile application.
- The machine learning model will be placed on cloud for using it on different applications.

1.5 Goals

The basic goal of our app is to provide companies and traders about the upcoming market behavior so they will make better decisions according to their trading balance. As people know about our app, they will start making decisions on the basis of our prediction. This helps people to utilize money in better way. It will encourage people invest money in stock markets instead of buying prize bond and keeping their money in banks.

1.6 Project Methodology

System Development Life Cycle (SDLC) phases are appropriate for the creation of this app. As there is a proper way and vision for the creation of this app. SDLC phases such that Requirement gathering, Analysis, Designing, Coding, Testing, Implement are appropriate for it. After gathering requirement relating to it, these requirements will be analyzed and further designed. After coding and testing this app will be able to continue further. As we are making a machine learning-based app so it requires a lot of back testing to ensure our model is working properly so we will use the iterative model. After getting the requirement model is trained based on requirement and tested. If the trained model works properly then we will make and publish the app otherwise redo the training.

1.7 Project Scope

This app is planned for a specific group of people or a certain organization. These people are highly involved in stock markets and forex. Traders and brokers can use this app. People who are passionate about making money through stocks and forex market and have high-income targets. It will be used by people who make upcoming money/stock forecasts. Therefore, this app is going to serve Traders, Brokers, and Finance Experts.

Chapter 2: Feasibility Study

2.1 Economic Feasibility

- System Cost

  -Development Cost

  1. Consultants
  2. Hardware ,Software Procurement
  3. Documentation
  4. Data Conversion
  5. Cloud Services

  -Production Cost

  1. Maintenance
  2. Software Upgrading
- System Benefits
  1. Reduced Risk of loss of money in Forex Market
  2. Increase Profit as well as encourage new traders

2.2 Technical & Legal Feasibility

1. System & Supplies

There will be an intelligent Module which will be trained to help traders to invest money without the fear/risk of loss of money. It will be delivered to users
Through a website and mobile application.

2. Location ,Site

Trained Module will held on Cloud which access by website and mobile application.

3. Neural Network , Big Data

2.3 Resource Feasibility

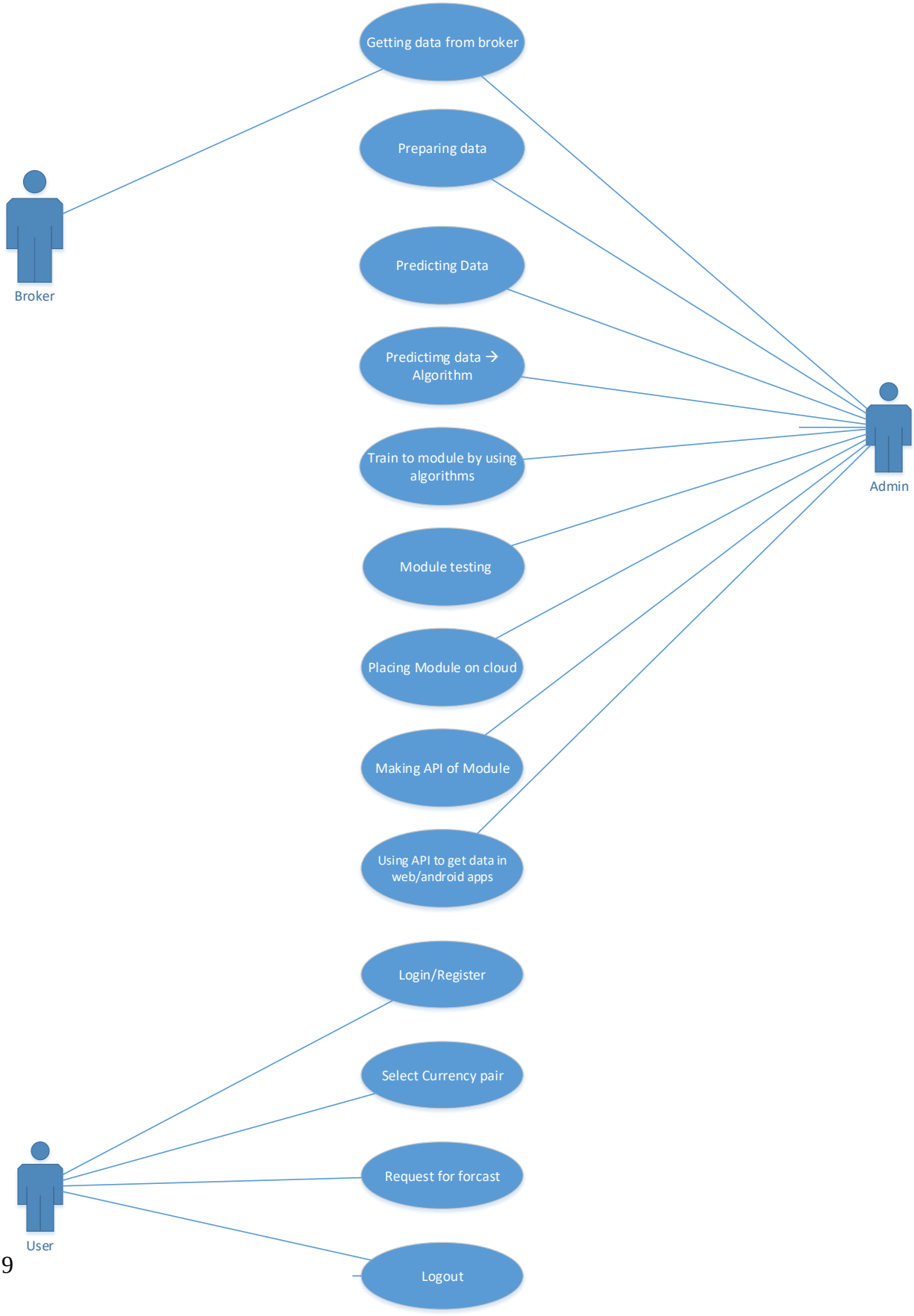
- Required time for completion

4-5 months

- Required Resources

Laptop, Cloud service , website, Mobile application

Chapter 3: Use Case Diagram


Getting data from broker
Preparing data
Predicting Data
Predictimg data → Algorithm
Train to module by using algorithms
Module testing
Placing Module on cloud
Making API of Module
Using API to get data in web/android apps
Login/Register
Select Currency pair
Request for forcast
Logout
Broker
Admin
User

Actors 

- Professional and non-profession users
- Employs
- Managers

Pre –Conditions

What are the conditions which should be satisfy before activity.

- Data gathering
- Data analysis
- Technical analysis

Post –Conditions

What are the things Accor after the activity complete?

- Testing
- Maintenance

Use case 1: Getting data from broker

Actor : Admin , Broker

ID :1

Pre-condition :

Contacting to forest broker and tell him the requirements of system .

Post-condition :

After getting data will make an report of all data.

Use case 2: Preparing data

Actor : Admin , Broker

ID :2

Pre-condition :

Contacting to forest broker and tell him the requirements of system .

Post-condition :

After getting data will make an report of all data.

Use case 3: Predicting data

Actor : Admin , Broker

ID :3

Pre-condition :

Contacting to forest broker and tell him the requirements of system .

Post-condition :

After getting data will make an report of all data.

Use case 4: Predicting data →Algorithms

Actor : Admin , Broker

ID :4

Pre-condition :

Contacting to forest broker and tell him the requirements of system .

Post-condition :

After getting data will make an report of all data.

Use case 5: Train module by using algorithms

Actor : Admin , Broker

ID :5

Pre-condition :

Contacting to forest broker and tell him the requirements of system .

Post-condition :

After getting data will make an report of all data.

Use case 6: Module testing

Actor : Admin , Broker

ID :6

Pre-condition :

Contacting to forest broker and tell him the requirements of system .

Post-condition :

After getting data will make an report of all data.

Use case 7: Placing module on cloud

Actor : Admin , Broker

Feature :

ID :1

Pre-condition :

Contacting to forest broker and tell him the requirements of system .

Post-condition :

After getting data will make an report of all data.

Use case 8: Making API of module

Actor : Admin , Broker

ID :8

Pre-condition :

Contacting to fore**st** broker and tell him the requirements of system .

Post-condition :

After getting data will make an report of all data.

Use case 9: Using API to get data in web/android apps

Actor : Admin , Broker

Feature :

ID :9

Pre-condition :

Contacting to forest broker and tell him the requirements of system .

Post-condition :

After getting data will make an report of all data.

Use case 10: Login/Register

Actor : Admin , Broker

ID :10

Pre-condition :

Contacting to forest broker and tell him the requirements of system .

Post-condition :

After getting data will make an report of all data.

Use case 11: Select Currency pair

Actor : Admin , Broker

Feature :

ID :11

Pre-condition :

Contacting to forest broker and tell him the requirements of system .

Post-condition :

After getting data will make an report of all data.

Use case 12: Request for forecast

Actor : Admin , Broker

ID :12

Pre-condition :

Contacting to forest broker and tell him the requirements of system .

Post-condition :

After getting data will make an report of all data.

Use case 13: Logout

Actor : Admin , Broker

ID :13

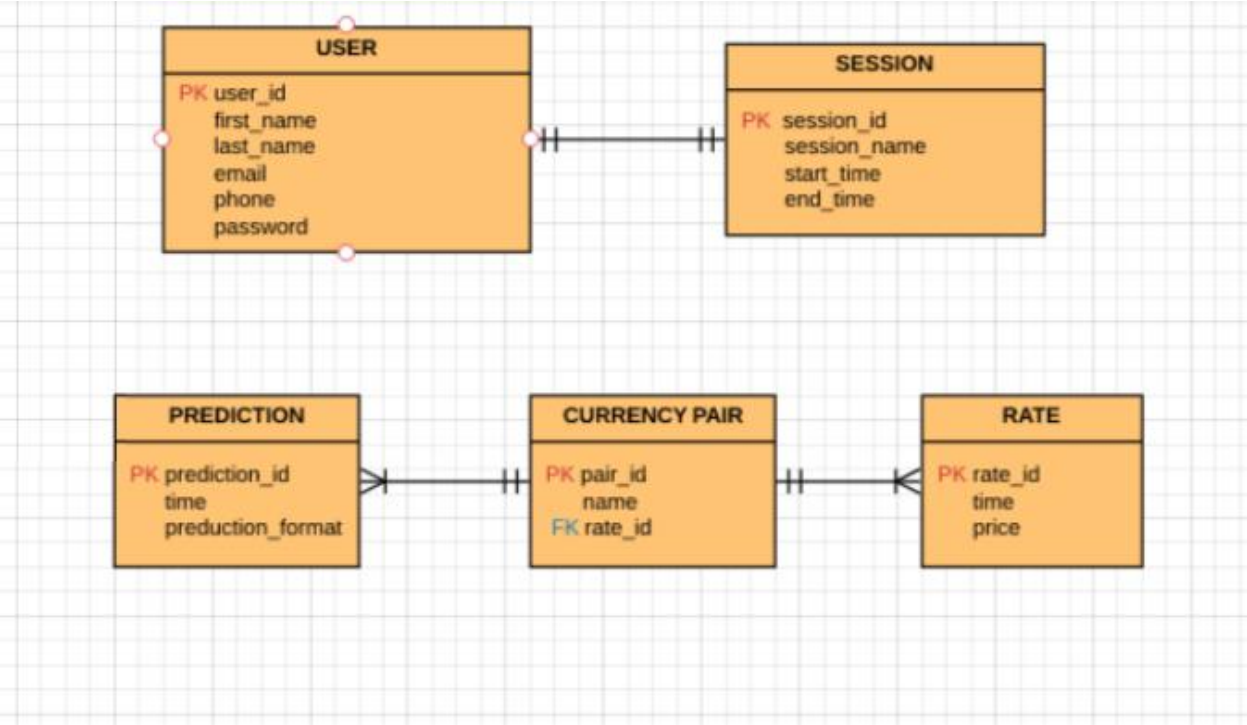
Pre-condition :

Contacting to forest broker and tell him the requirements of system .

Post-condition :

After getting data will make an report of all data.

Chapter 4: EER Diagram



[1]

Chapter 5: Software Specifications

5.1 Complex

1. Training Model of every Stock.
2. sGetting live data and processing it in seconds
3. Add Technical tools for users.
4. Using EWMA (exponentially weighted moving average) , ARIMA (Auto-\Integrated Moving Average), ACF , ETS algorithms for the training model .

[1] Screen shot of EER diagram From Visio

5.2 Innovation

1. Application to predict stocks accurately.
2. ML model will be a trained-on cloud for efficient use.
3. Live trading facility for users.

5.3 Applicable

1. Used by experience and non-experience traders
2. Used by stock trading companies.
3. Used by small and large brokers.

5.4 Significant Scope

1. Basic purpose of this app is to provide future prediction for stocks
2. Technical indicators for analyzing stocks.
3. Can provide email or Whats App notification for premium users.

5.5 Suitable Size

1. This app will be used globally by those who are interested in Stocks or Forex or work in this market.
2. We can also sell this to some specific company or person for his trading.