Citi Bridge Program 2022

Project Documentation

Group No.: 12

Mentor: Ms. Nishi Bothra

Topic: Sector based Trade Recommendation System

Group Details:

1) Anandamayee Modak - Anandamayee.modak@cumminscollege.in
2) Samiksha Patil - Samiksha.patil@cumminscollege.in
3) Srushti Sulgudle - Srushti.sulgudle@cumminscollege.in
4) Nisha Deshmukh - Nisha.deshmukh@cumminscollege.in
5) Ieesha Deshmukh - Ieesha.deshmukh@cumminscollege.in

Table of Contents

1. Introduction 3
    1.1 Project Overview 3
    1.2 Project Objections 3
    1.3 Project Scope 3
    1.4 Roles and Responsibilities 3
    1.5 Project Schedule 4
2. Requirements Specifications 5
    2.1 Requirements 5
    2.2 Analysis 5
3. References 6

Introduction

1.1 Project Overview:

The trade recommendation system recommends stocks to user from Nifty100 stocks from the user's selected sector.
The Software recommends stocks based on their closing prices over past 2 weeks.

1.2 Project Objectives:

The objective is to build a trade recommendation software to recommend Nifty stocks filtered based on their sectors. The requirements, constraints and features of the system are given in this documentation.

1.3 Project Scope:

This system recommends Nifty100 stocks to registered users from user-selected sector.
The user can select from 17 different sectors and get stock recommendations for the top 5 best performing stocks based on their closing prices in the past 2 weeks.
Key statistics are displayed to the user for the top 5 stocks.
Along with this, the user also has an option to store some stocks along with their quantity to his/her watchlist.
The watchlist can be accessed by the user later to check the current prices of stocks along with their quantity.
An interactive UI is provided for a good user experience.

1.4 Roles and Responsibilities:

a) Data Collection– Nisha Deshmukh
   Collection of Nifty100 stocks including the ticker symbols and industry sectors into a CSV files.

b) Frontend – Anandamayee Modak
   Including UI design and Connectivity.

c) Middle-ware
   Fetching and retrieving user information – Samiksha Patil, Srushti Sulgudle
   Fetching quotes (yFinance) and recommendation – Anandamayee Modak

d) Backend
   Database – Samiksha Patil, Srushti Sulgudle

e) Documentation – Anandamayee Modak, Ieesha Deshmukh

f) Presentation – Anandamayee Modak

1.5 Project Schedule

Time period for the project was 50 days. Phase 1 of the project included data collection(Nifty100 stocks) and business logic building. Phase 2 included design and coding for Middleware layer. Phase 3 included the UI design and development along with the connectivity with middleware layer. The final phase included the presentation and documentation along with some refinements.

Requirements specifications

2.1 Requirements:

The technologies used in the Project are as follows:

a) Frontend –
   - HTML/CSS/JS/Bootstrap: Creates an Interactive UI for the software
   - AngularJS: Runs the application on localhost:4200 and allows the creation of dynamic web pages with multiple components.

b) Middleware –
   - Spring boot: Consists of the Controller, Repository, Service layers and DTOs. Contains the main business logic.
   - yFinance API: Allows the fetching of Stock quotes (historic and latest).

c) Backend –
   - Mongo: Persistent database to store User details of registered users along with their stock watchlist.

2.2 Analysis:

- Registered users can login to their accounts.
- Users can select a sector from 17 sectors to view the 5 best performing stocks in that sector.
- The stocks are taken from a list of Nifty100 stocks spread over 17 sectors.
- Key statistics like current closing price, stock score, closing prices over past 2 weeks are displayed to the user.
- The user can save any stock to his/her watchlist along with the quantity.
- The database is persistent and hence user can view the saved stocks anytime later.
- The watchlist is auto-refreshed after every 5 minutes to fetch the latest stock price.

References

- https://javadoc.io/doc/de.sfuhrm/YahooFinanceAPI/latest/index.html
- https://www.bezkoder.com/angular-10-spring-boot-crud/
- https://apexcharts.com/angular-chart-demos/line-charts/basic/
- https://www.w3schools.com/