A Report On

Live Stock Market Dashboard Application

Submitted by

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Abstract

Our Live Stock Market dashboard shows real time stock market trends and provides pretty looking, sleek and lightweight graphical components that consist of filters allowing users to query for all sorts of trends in order to analyse the stock market. To improve interpretability, visual aids are employed in the form of temporal analysis graphs. The currently highest priced stock is displayed. A comprehensive historical database of the stock prices (including the stock attributes Opening Price, Closing Price, High, Low) is included along with auto-updating live stock prices for three important stocks in particular: AAPL (Apple Inc.), AMZN (Amazon.com) and MSFT (Microsoft Corporation). The auto-updation period is decidable by the user. Live news is displayed on the dashboard that aids in the understanding of stock trends. Login features require no emails thereby enhancing privacy and can be used to store search history. Chatroom features improve connectivity by connecting users to financial experts.

This application is aimed at amateur finance hobbyists as well as financial and stock experts.

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I INTRODUCTION

Stocks and the stock market will never go out of style. But not everyone can keep track of and understand them easily. Our web application, through visual analysis of stock price history and by real-time (refreshable at a chosen interval) data on the stocks aids in the understanding of the same by amateur users and finance experts alike.

Stock Market Dashboard is a website with real time stock prices, graphical analysis, stock history of selected stocks and live news updates related to stocks and general things. Login capabilities enable personalization and saving of search history.
The purpose of this application is to present a detailed analysis of real time stocks.
This software system is a Web Application which is created for users to check real time stock prices along with stock history of selected stocks, live news updates related to stocks. This helps in better understand of the stock market and understanding what to invest in when. Visual aids simplify learning and improve interpretability.
The product originated from our interest in the stock market but lack of understanding of it. Using financial experts and graphical displays stock market trends can be analyzed more easily. This is our replacement for existing stock market dashboards as real-time news updates enable better up-to-date decisions.
This helps in better understand of the stock market and understanding what to invest in when.
The application aims to:

1. Populate local database with real time data fetched from APIs.
2. Fetch and send data to graphical components at regular time intervals.
3. Use relationships to generate interesting insights about the trend in stocks.

The Stocks we used for display purposes are Apple, Amazon and Microsoft.

II Software Requirements Specification

1. Introduction

1.1 Purpose

Stock Market Dashboard is a website with real time stock prices, stock history of selected stocks, live news updates related to stocks and graphical representations of data for discussing with experts. Login capabilities enable personalization. The purpose of this document is to present a detailed description of the E-commerce web application. It will explain the purpose and features of the system, the interfaces of the system, what the system will do, the constraints under which it must operate and how the system will react to external stimuli. This document is intended for both the stakeholders and the developers of the system.

Release 1, revision 1.

1.2 Document Conventions

- The document is prepared in standard IEEE template using Google Docs .
- All the headings in the document are in 18 point Times New Roman with single spacing.
- The sub-headings are 14 point Times New Roman.
- The font of the corresponding body is 11 point Arial.

1.3 Intended Audience and Reading Suggestions

The Software Requirements Specification document provided in intended for a plethora of readers. These include and not limited to,Developers,Project Managers,Database Managers,Marketing Staff,Quality Assurance testers,Interface Designers,Documentation Writers and the Users.
The intended order of reading to be followed is to start from the beginning,followed by the particular sections intended for each of the different types of readers.
For example,it is imperative for a Developer or Quality Assurance tester to read all the sections:Introduction,Overall Description,External Interface Requirements,System Features,Non-functional Requirements and Other Requirements along with the glossary,as they need to understand the project thoroughly to implement it further or test the various features that the project offers.
However,a User,Marketing Employee or Manager who will not directly be affecting the development of the project need not have a technical understanding of the project.They will however be required to read the sections of:Introduction,Overall Description and System Features to gain a good understanding of the workings of the project.

A Designer would have to understand the project in order to create the design language and features in the User Interface,therefore the sections pertinent to him/her are:Introduction,Overall Description,External Interface Requirements and System Features.

Audience	Use
Developers	They will use this document as a guidance for design and implementation phase.
Seller	They will see all the constraints are covered properly. Provide valuable input regarding the UI and other software features during the course of iterative software development
Buyer	They will see all the constraints are covered properly. Provide valuable input regarding the UI and other software features during the course of iterative software development
Admin	By reading the SRS they can ensure whether their needs are being met by the App or not.
Testers	They will test the implementation of the project according to the SRS base.
Documentation Writer	They will use this document during the documentation of the project.

1.4 Product Scope

This software system will be a Web Application which is created for users to check real time stock prices along with stock history of selected stocks, live news updates related to stocks and visual representations. This helps in better understand of the stock market and understanding what to invest in when.

1.5 References

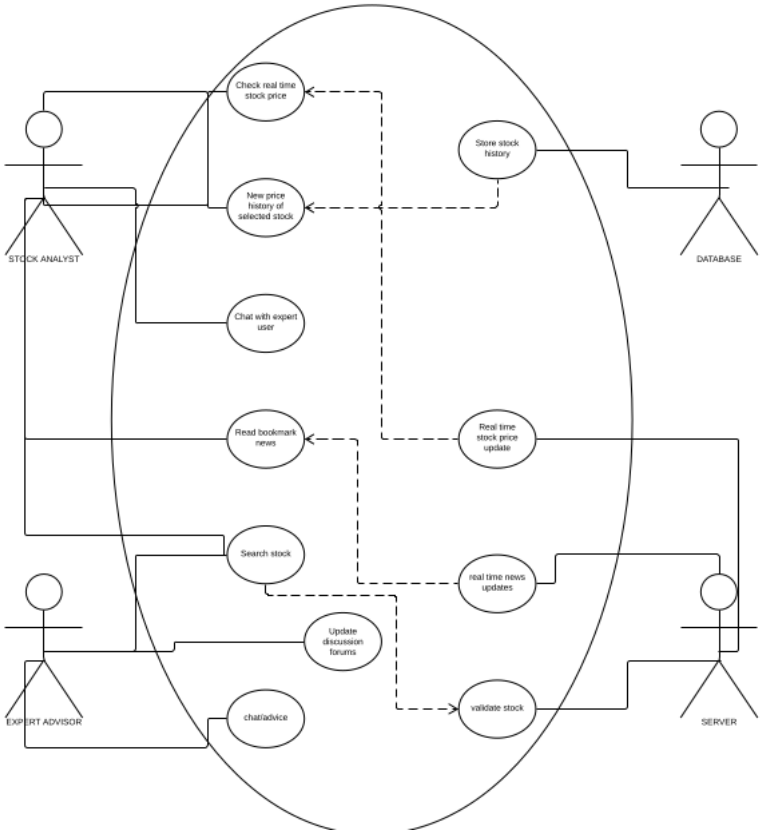
IEEE. IEEE Std 830-1998 IEEE Recommended Practice for Software Requirements Specifications. IEEE Computer Society, 1998.

2. Overall Description

2.1 Product Perspective

The product originated from our interest in the stock market but lack of understanding of it. Using financial experts and graphical displays stock market trends can be analyzed more easily. This is our replacement for existing stock market dashboards as real-time news updates enable better up-to-date decisions.

This software system will be a Web Application which is created for users to check real time stock prices along with stock history of selected stocks, live news updates related to stocks, visual representation of the same as well as current highest. This helps in better understand of the stock market and understanding what to invest in when.



2.2 Product Functions

Functions of our software include:
1. View live stock prices
2. View stock price history and trends
3. View real time news updates related to stocks
4. View graphical analyses and current highest stock val
5. Login and personalize- bookmark stocks

2.3 User Classes and Characteristics

User classes that would use this software:
1. Stock market analysts – login functions to save favourite stocks.
2. Financial experts – provide advise
3. Novice user requiring real time stock market updates- will require pictorial graphs for better understanding of financial trends. Require advise of financial experts

The most important user class of these is the Stock market analyst.

2.4 Operating Environment

Regarding Hardware and Software environments,the application has been optimized to run on all browsers. It has also been optimized to run on all devices,including Personal Computers,Laptops,Tablets and Mobile Phones.
The only other software required to run the application is any Web Browser(Mozilla Firefox,Google Chrome,Apple Safari,Opera etc).
The application is not resource- or graphics-intensive, so there are no practical hardware constraints. The application will rely on Django for the backend and Bootstrap for the frontend.

2.5 Design and Implementation Constraints

Our web application, being easy to use and requiring no programming, designing or financial skills, is usable by all users.
No items or issues will limit the options available to the developers. These include: corporate or regulatory policies; hardware limitations (timing requirements, memory requirements); interfaces to other applications; specific technologies, tools, and databases to be used; parallel operations; language requirements; communications protocols; security considerations; design conventions or programming standards.
Simply opening up the dashboard will get you started.

2.6 User Documentation

SRS will be delivered along with the website.

2.7 Assumptions and Dependencies

We assume that the user is capable physically and mentally of accessing the internet and therefore our application.

3. External Interface Requirements

3.1 User Interfaces

The website is user friendly, easily navigable by novice users and intuitive. The colour schemes, positioning of text, images, news updates etc are all aesthetic, understandable and follows logical sequencing or positioning. Standard buttons and functions (e.g., help) will appear on every screen, keyboard shortcuts, error message display standards, and so on and any user familiarizing with this website will understand it easily and adapt to using it.

3.2 Hardware Interfaces

Our website deals with front end and database and therefore hardware interfaces are irrelevant here.

3.3 Interfaces

Software interfaces used:

- We use svg html API for graphing of the stock prices
- We use News API for obtaining real time news updates
- We use alphavangage API for obtaining live stock information
- We use Push API for chatroom facilities
- For designing Web App we will be using Django and as for mobile the web app can be accessed using any web browser commonly available.
- Website Development will require framework like Django.
- Most of the softwares used will be Open Source.
- Communication between server and Database is done using MySQL
- Automation testing is done using Selenium
- Performance testing is done using Google Chrome extentions.

3.4 Communications Interfaces

- APIs will inherently use various communication protocols like HTTP or database might employ FTP
- Communicating with the database of the server requires MySQL
- Push API

4. System Features

The multitude of usages our product provides are evident in its manyfold features which are listed below.

4.1 Live Stock Prices

4.1.1 Description and Priority

This high priority feature is the focus of our website. Real-time stock prices are fetched by the server using an API and returned to the user at a time interval that is selectable by the user. These stock prices are constantly updated even without prompting from the user. The time period of updation is also selectable by the user. Graphs are displayed and the current highest valued stock is displayed too. Stock attributes include Opening, Closing, High and low.

4.1.2 Stimulus/Response Sequences

Opening up of the main page I.e the dashboard on the web browser will display a list of live stock prices to the side. This can either be viewed right there or can be enlarged to a full screen. In response to this, all live stock prices will show up on the screen and the user is free to scroll and browse.

4.1.3 Functional Requirements

- This feature uses a predefined API in order to fetch the live stock prices. The API in recurringly accessed in order to keep stock prices up-to-date.
- On the user end, only a web browser is needed and a good wifi connection.

4.2 Stock Search and History

4.2.1 Description and Priority

This high priority feature is another focus of our website. By using the search bar to search for a particular stock of user interest, real-time stock prices are fetched by the server using an API and returned along with a stock history for a selectable time period. Stock history for selected stocks is stored in the database.

4.2.2 Stimulus/Response Sequences

Opening up of the main page I.e the dashboard on the web browser will display a search bar on top. The stock name can be entered in this search bar, and in case of a valid search, the said details of the particular stock will be returned.

4.2.3 Functional Requirements

- This feature uses a predefined API in order to fetch the live stock prices. The API in recurringly accessed in order to keep stock prices up-to-date.
- MySQL is required in order to fetch stock price history of the particular stored stocks from the database.
- On the user end, only a web browser is needed and a good wifi connection.

4.3 Real-time News Updates

4.3.1 Description and Priority

This high priority feature is another focus of our website. Through an API,

4.3.2 Stimulus/Response Sequences

Opening up of the main page I.e the dashboard on the web browser will display a search bar on top. The stock name can be entered in this search bar, and in case of a valid search, the said details of the particular stock will be returned.

4.3.3 Functional Requirements

- This feature uses a predefined API in order to fetch the live news updates.
- On the user end, only a web browser is needed and a good wifi connection.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

- Data from the server should be fetched within 2 seconds.
- Query results must return within 5 seconds
- News updates must be fetched within 2 seconds

5.2 Safety Requirements

- Under failure, system should be able to come back at normal operation in one or two hours.
- Stock prices should be made available within 5 seconds of change in actual index

5.3 Security Requirements

- All external communications between the data's server and client must be encrypted.
- All data must be stored and protected.

5.4 Software Quality Attributes

- The website is easy to use.
- All the features present in the website are easy to locate.
- The website uses simple English so that the user does not get confused with the terms

5.5 Business Rules

- System Admin - It will be the system administrator. He will maintain the overall website.
- Stock analyst - It includes the people who will view stock-related information.
- Financial expert- Academia who gives advice about stocks and trends

6. Other Requirements

Appendix A: Glossary

Term	Description
SRS	Software Requirements Specification
IEEE	Institute of Electrical and Electronics Engineers
User/Customer	Person using the App.
API	Application Program Interface
GUI	Graphical User Interface
IDE	Integrated Development Environment

III MANUAL TEST CASE DESIGN

TEST 1: Live news search

Test Case ID	Test1	Test Case Description	Test Case for Live News search		
Created By	Vaishnavi Mishra, Farris Suhale	Reviewed By		Version	1.1
QA Tester's Log					
Tester's Name	Farris Suhale	Date Tested	27-Mar-19	(Pass/Fail)	Pass

S#	Prerequisites
1	Browser access
2	Django
3	Python3

S#	Test Data
1	Text="AAPL"
2	Text="AAAPL"
3	Text=" "

	Verify that live news is fetched accurately
Test Scenario	Verify text entered

Scenario 1

Step #	Step Details	Expected Results	Actual Results	Pass/Fail/Suspended
1	Navigate to	Site opens	As expected	Pass
2		Display live news	As expected	Pass
	Enter stock (S#1 from Test Data)	Display accurate info	As expected	Pass

Scenario 2

Step #	Step Details	Expected Results	Actual Results	Pass/Fail/Suspended
1	Navigate to	Site opens	As expected	Pass
2	Enter stock (S#2,3 from Test Data)	Display INVALID	As expected	Pass

Test 2: Dashboard testing

Test Case ID	Test2	Test Case Description	Test Case for Dashboard		
Created By	Vaishnavi Mishra, Farris Suhale	Reviewed By		Version	1.1
QA Tester's Log					
Tester's Name	Farris Suhale	Date Tested	27-Mar-19	(Pass/Fail)	Pass
S#	Prerequisites		S#	Test Data	
1	Browser access		1	Action="Open"	
2	Django		2	Action="Open"	
3	Python3				
	Verify that live stock prices, graphs are displayed				
Test Scenario	Verify that live news is displayed				
Scenario 1					
Step #	Step Details	Expected Results	Actual Results		Pass/Fail/Suspended
1		Site opens	As expected		Pass
2		Display live stock info	As expected		Pass
	Navigate to	Display news	As expected		Pass
Scenario 2					
Step #	Step Details	Expected Results	Actual Results		Pass/Fail/Suspended
1	Navigate to	Site opens	As expected		Pass
2		Display live stock info	Not fetched		Fail

Test 3 : User login

Test Case ID	Test 3	Test Case Description	Test Case for Login		
Created By	Vaishnavi Mishra, Farris Suhail	Reviewed By		Version	1.1

QA Tester's Log					
Tester's Name	Vaishnavi	Date Tested	#########	(Pass/Fail)	Pass

S#	Prerequisites
1	Browser access
2	Django
3	Python3

S#	Test Data
1	Text="valid username+ right pswd"
2	Text="valid username+ wrong pswd"
3	Text="invalid username"

	Verify username
Test Scenario	Verify password

Scenario 1

Step #	Step Details	Expected Results	Actual Results	Pass/Fail/Suspended
1	Navigate to	Site opens	As expected	Pass
2	Select login	Display login page	As expected	Pass
3	Enter username and pswd (S#1)	Open user profile	As expected	Pass

Scenario 2

Step #	Step Details	Expected Results	Actual Results	Pass/Fail/Suspended
1	Navigate to	Site opens	As expected	Pass
2	Select login	Display login page	As expected	Pass
3	Enter username and pswd (S#2)	Pswd re-entry promp	As expected	Pass

Scenario 3

Step #	Step Details	Expected Results	Actual Results	Pass/Fail/Suspended
1	Navigate to	Site opens	As expected	Pass
2	Select login	Display login page	As expected	Pass
3	Enter username and pswd (S#3)	Re-entry prompt	As expected	Pass

Test 4 : Stock History

Test Case ID	Test4	Test Case Description	Test Case for Stock History		
Created By	Vaishnavi Mishra, Farris Suhale	Reviewed By		Version	1.1

QA Tester's Log					
Tester's Name	Vaishnavi Mishra	Date Tested	29-Mar-19	(Pass/Fail)	Pass

S#	Prerequisites
1	Browser access
2	Django
3	Python3
4	MySQL

S#	Test Data
1	Click="GOOGL"
2	Click="AAPL"

Test Scenario	Verify that stock history is displayed

Scenario 1

Step #	Step Details	Expected Results	Actual Results	Pass/Fail/Suspended
	Navigate to	Dashboard opens	As expected	Pass
1		Display live stock info	As expected	Pass
2	Click chosen stock (S#1)	Display history	As expected	Pass

Scenario 2

Step #	Step Details	Expected Results	Actual Results	Pass/Fail/Suspended
	Navigate to	Dashboard opens	As expected	Pass
1		Display live stock info	As expected	Pass
2	Click chosen stock (S#2)	Display history	As expected	Pass

IV TOOLS USED

1. Selenium

Selenium is a set of different software tools each with a different approach to supporting test automation. Most Selenium QA Engineers focus on the one or two tools that most meet the needs of their project, however learning all the tools will give you many different options for approaching different test automation problems. The entire suite of tools results in a rich set of testing functions specifically geared to the needs of testing of web applications of all types. These operations are highly flexible, allowing many options for locating UI elements and comparing expected test results against actual application behavior. One of Selenium's key features is the support for executing one's tests on multiple browser platforms.

Selenium 2 is the future direction of the project and the newest addition to the Selenium toolkit. This brand new automation tool provides all sorts of awesome features, including a more cohesive and object oriented API as well as an answer to the limitations of the old implementation.

Selenium was used by us to automate the working of our entire web applcation in order to ease testing.

2. Django

Django is a high-level Python Web framework that encourages rapid development and clean, pragmatic design. Built by experienced developers, it takes care of much of the hassle of Web development, so you can focus on writing your app without needing to reinvent the wheel. It's free and open source.

Django was designed to help developers take applications from concept to completion as quickly as possible. It is reassuringly secure. Django takes security seriously and helps developers avoid many common security mistakes. It is exceedingly scalable. Some of the busiest sites on the Web leverage Django's ability to quickly and flexibly scale. Although you can use Django without a database, it comes with an object-relational mapper in which you describe your database layout in Python code. The data-model syntax offers many rich ways of representing your models – so far, it's been solving many years' worth of database-schema problems.

Django was used by us as to develop and design our website.

3. MySQL

MySQL is the world's most popular open source database. With its proven performance, reliability, and ease-of-use, MySQL has become the leading database choice for web-based applications, used by high profile web properties including Facebook, Twitter, YouTube, and all five of the top five websites*. Additionally, it is an extremely popular choice as embedded database, distributed by thousands of ISVs and OEMs.
MySQL is one of the best RDBMS being used for developing various web-based software applications.

MySQL was used by us to store stock price history.

V AUTOMATED TEST CASE DESIGN

TEST 1 : Login and Logout

Test Case ID	Test 5	Test Case Description	Automated Test Case for Login and Logout		
Created By	Vaishnavi Mishra, Farris Suhail	Reviewed By		Version	1.1
QA Tester's Log					
Tester's Name	Farris	Date Tested	#########	(Pass/Fail)	Pass

S#	Prerequisites
1	Browser access
2	Django
3	Python3
4	Selenium

S#	Test Data
1	Text="valid username+ right pswd"
2	Text="valid username+ wrong pswd"
3	Text="invalid username"

Test Scenario	Verify username
	Verify password

Scenario 1

Step #	Step Details	Expected Results	Actual Results	Pass/Fail/Suspended
1	Navigate to	Site opens	As expected	Pass
2	Select login	Display login page	As expected	Pass
3	Enter username and pswd (S#1)	Open user profile	As expected	Pass

Scenario 2

Step #	Step Details	Expected Results	Actual Results	Pass/Fail/Suspended
1	Navigate to	Site opens	As expected	Pass
2	Select login	Display login page	As expected	Pass
3	Enter username and pswd (S#2)	Pswd re-entry promp	As expected	Pass

Scenario 3

Step #	Step Details	Expected Results	Actual Results	Pass/Fail/Suspended
1	Navigate to	Site opens	As expected	Pass
2	Select login	Display login page	As expected	Pass
3	Enter username and pswd (S#3)	Re-entry prompt	As expected	Pass

TEST 2 : Live News Search and Retrieval

Test Case ID	Test6	Test Case Description	Test Case for Live News search & retrieval		
Created By	Vaishnavi Mishra, Farris Suhale	Reviewed By		Version	1.1

QA Tester's Log					
Tester's Name	Farris Suhale	Date Tested	27-Mar-19	(Pass/Fail)	Pass

S#	Prerequisites
1	Browser access
2	Django
3	Python3

S#	Test Data
1	Text="AAPL"
2	Text="AAAPL"
3	Text=" "

Test Scenario	Verify that live news is fetched accurately
	Verify text entered

Scenario 1

Step #	Step Details	Expected Results	Actual Results	Pass/Fail/Suspended
1	Navigate to	Site opens	As expected	Pass
2		Display live news	As expected	Pass
	Enter stock (S#1 from Test Data)	Display accurate info	As expected	Pass

Scenario 2

Step #	Step Details	Expected Results	Actual Results	Pass/Fail/Suspended
1	Navigate to	Site opens	As expected	Pass
2	Enter stock (S#2,3 from Test Data)	Display INVALID	As expected	Pass

TEST 3 : Sign up

Test Case ID	Test 7	Test Case Descript	Test Case for Sign up		
Created By	Vaishnavi Mishra, Farris Sul	Reviewed By		Version	1.1

QA Tester's Log

Tester's Nam	Vaishnavi Mishra	Date Tested	######	(Pass/Fail	Pass

S#	Prerequisites
1	Browser access
2	Django
3	Python3
4	Selenium

S#	Test Data
1	Text="Name+valid pswd"
2	Text="Name+invalid pswd"
3	Text="Repeat pwd not matchi

Test Scenari	Verify that password validation occurs - display error message if not
	Verify that repeat password validation occurs

Scenario 1

Step #	Step Details	Expected Results	Actual Results	Pass/Fail/Suspended
1	Navigate to	Dashboard opens	As expected	Pass
		Display signup ico	As expected	Pass
2	Click signup icon (S#1)	Display signup pa	As expected	Pass
3	Enter username	Username accepte	As expected	Pass
4	Enter password	Password validate	As expected	Pass

Scenario 2

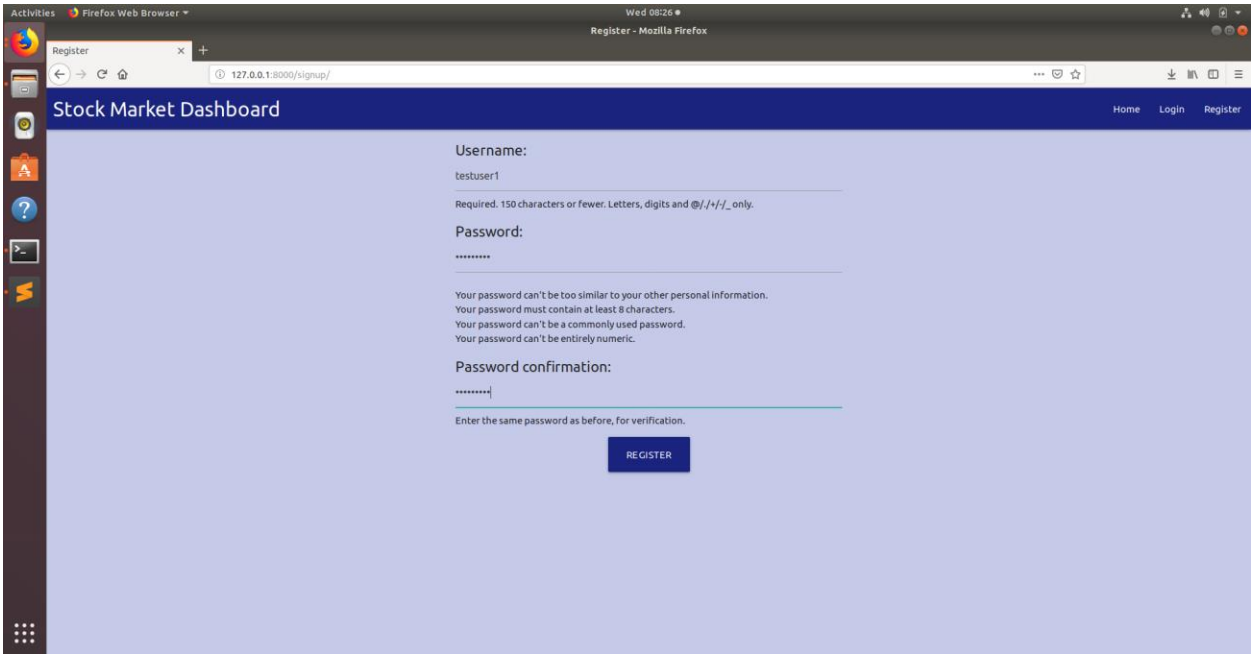
Step #	Step Details	Expected Results	Actual Results	Pass/Fail/Suspended
1	Navigate to	Dashboard opens	As expected	Pass
		Display signup ico	As expected	Pass
2	Click signup icon	Display signup pa	As expected	Pass
3	Enter username (S#2)	Username accepte	As expected	Pass
4	Enter password	Pswd invalid, reen	As expected	Pass

Scenario 3

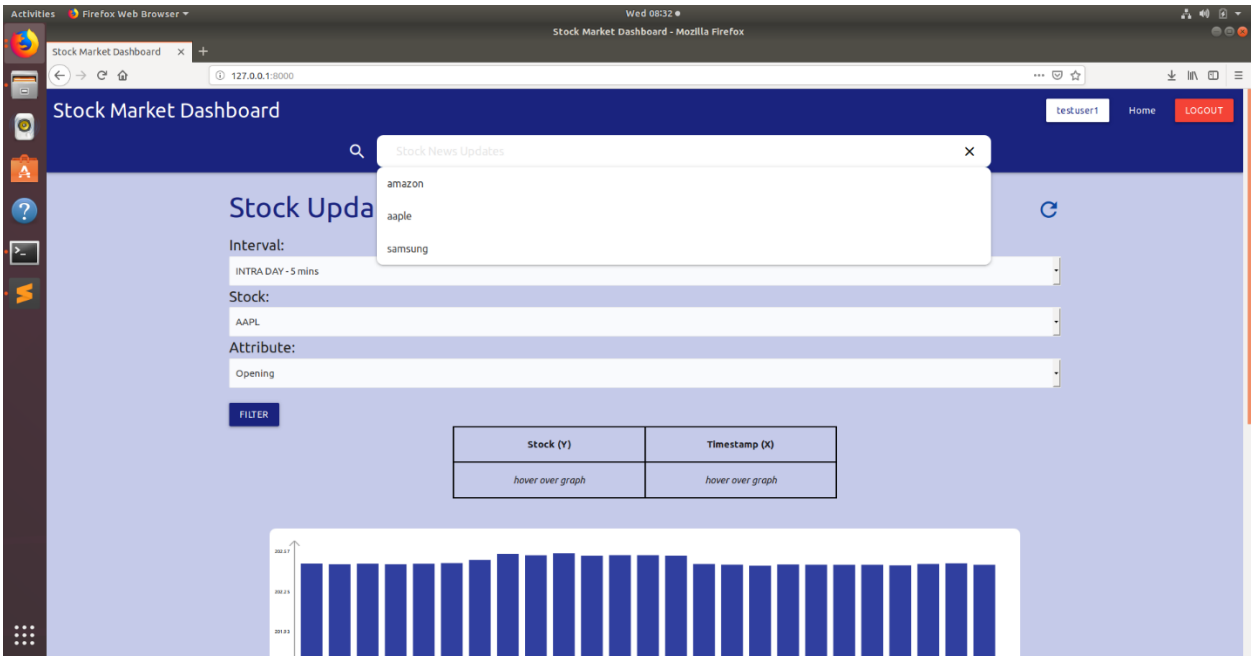
Step #	Step Details	Expected Results	Actual Results	Pass/Fail/Suspended
1	Navigate to	Dashboard opens	As expected	Pass
		Display signup ico	As expected	Pass
2	Click signup icon	Display signup pa	As expected	Pass
3	Enter username (S#3)	Username accepte	As expected	Pass
4	Enter password	Password validate	As expected	Pass
5	Re-enter password	Not same, reentry	As expected	Pass

VI SCREENSHOTS

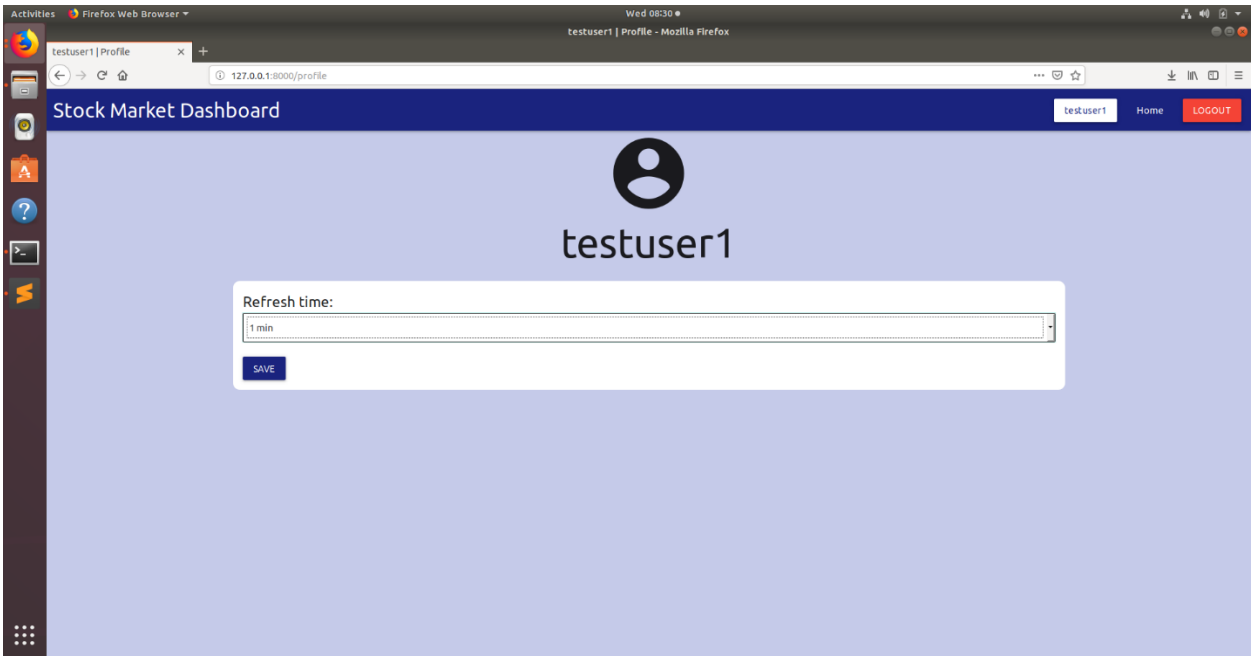
1. User Sign Up



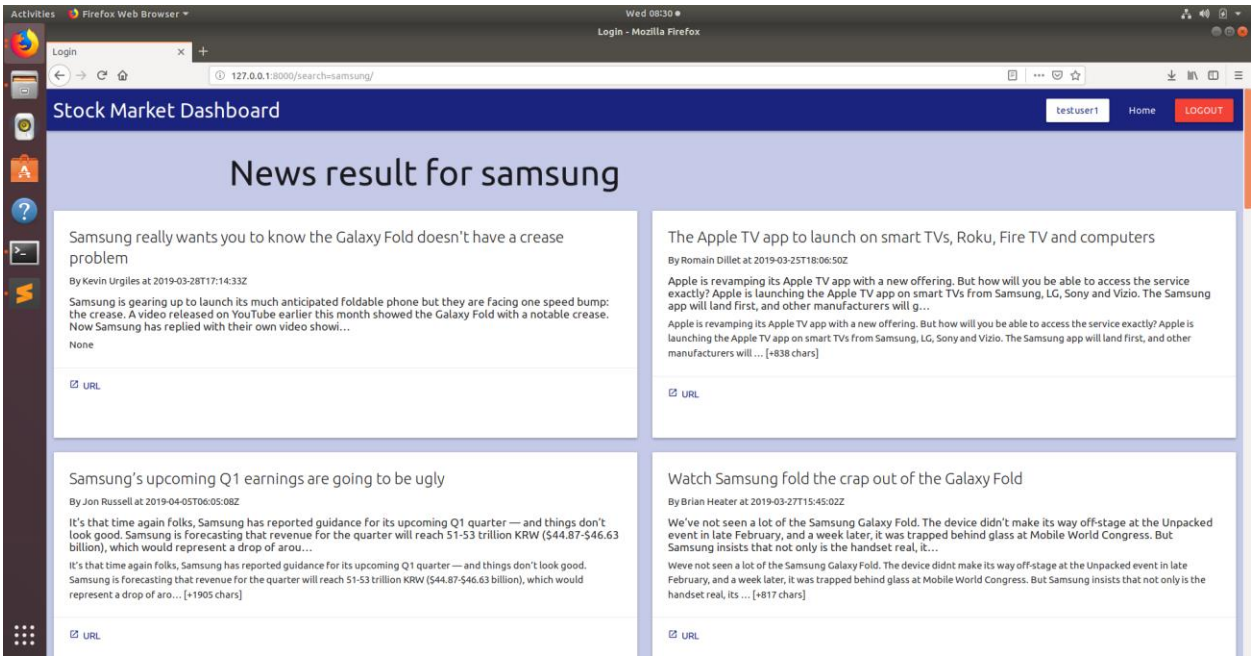
2. Save Search History



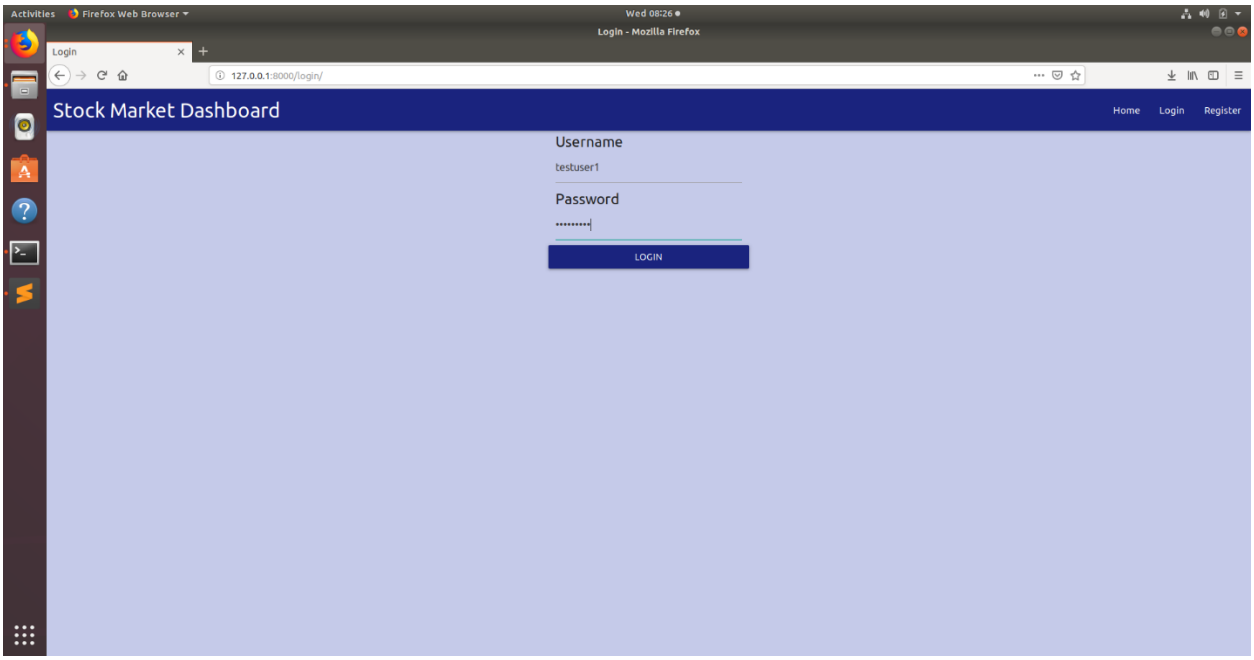
3. Refresh Rate



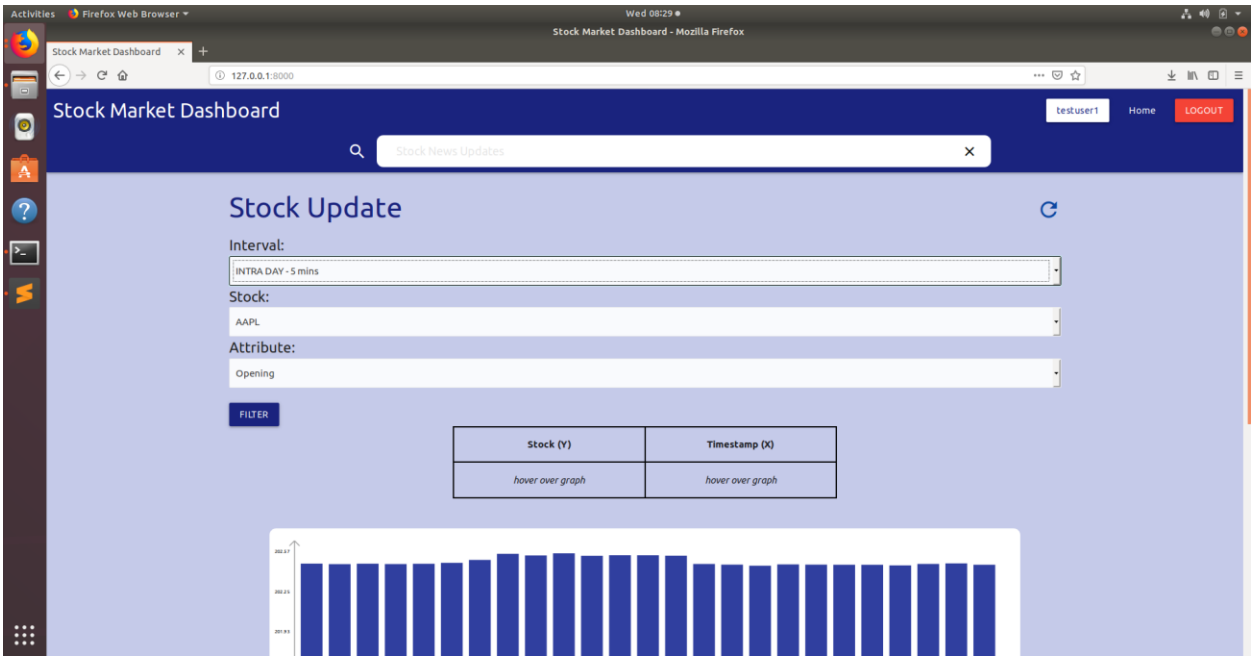
4. News


Activities
Firefox Web Browser
Wed 08:30
Login - Mozilla Firefox
Login
127.0.0.1:8000/search=samsung/
Stock Market Dashboard
testuser1
Home
LOGOUT
News result for samsung
Samsung really wants you to know the Galaxy Fold doesn't have a crease problem
By Kevin Urgiles at 2019-03-28T17:14:33Z
Samsung is gearing up to launch its much anticipated foldable phone but they are facing one speed bump: the crease. A video released on YouTube earlier this month showed the Galaxy Fold with a notable crease. Now Samsung has replied with their own video showi…
None
URL
The Apple TV app to launch on smart TVs, Roku, Fire TV and computers
By Romain Dillet at 2019-03-25T18:06:50Z
Apple is revamping its Apple TV app with a new offering. But how will you be able to access the service exactly? Apple is launching the Apple TV app on smart TVs from Samsung, LG, Sony and Vizio. The Samsung app will land first, and other manufacturers will g…
Apple is revamping its Apple TV app with a new offering. But how will you be able to access the service exactly? Apple is launching the Apple TV app on smart TVs from Samsung, LG, Sony and Vizio. The Samsung app will land first, and other manufacturers will … [+838 chars]
URL
Samsung's upcoming Q1 earnings are going to be ugly
By Jon Russell at 2019-04-05T06:05:08Z
It's that time again folks, Samsung has reported guidance for its upcoming Q1 quarter — and things don't look good. Samsung is forecasting that revenue for the quarter will reach 51-53 trillion KRW ($44.87-$46.63 billion), which would represent a drop of arou…
It's that time again folks, Samsung has reported guidance for its upcoming Q1 quarter — and things don't look good. Samsung is forecasting that revenue for the quarter will reach 51-53 trillion KRW ($44.87-$46.63 billion), which would represent a drop of aro… [+1905 chars]
URL
Watch Samsung fold the crap out of the Galaxy Fold
By Brian Heater at 2019-03-27T15:45:02Z
We've not seen a lot of the Samsung Galaxy Fold. The device didn't make its way off-stage at the Unpacked event in late February, and a week later, it was trapped behind glass at Mobile World Congress. But Samsung insists that not only is the handset real, it…
Weve not seen a lot of the Samsung Galaxy Fold. The device didnt make its way off-stage at the Unpacked event in late February, and a week later, it was trapped behind glass at Mobile World Congress. But Samsung insists that not only is the handset real, its … [+817 chars]
URL

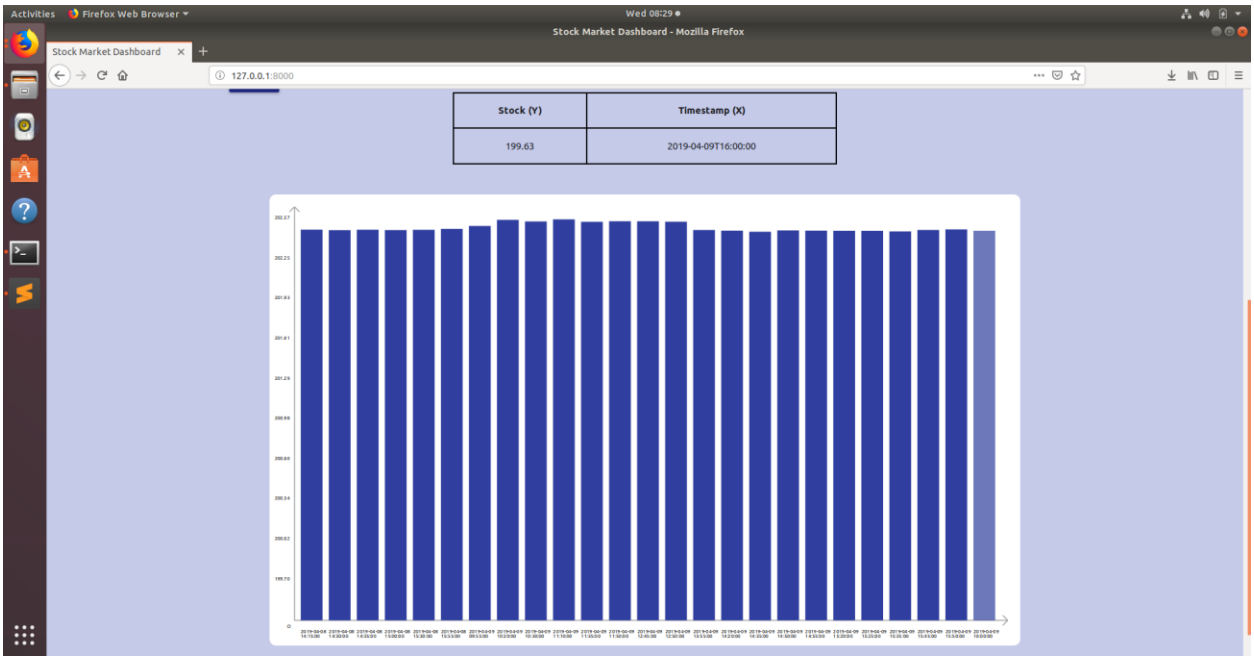
5. Login


Activities
Firefox Web Browser
Wed 08:26
Login - Mozilla Firefox
Login
127.0.0.1:8000/login/
Stock Market Dashboard
Home
Login
Register
Username
testuser1
Password
LOGIN

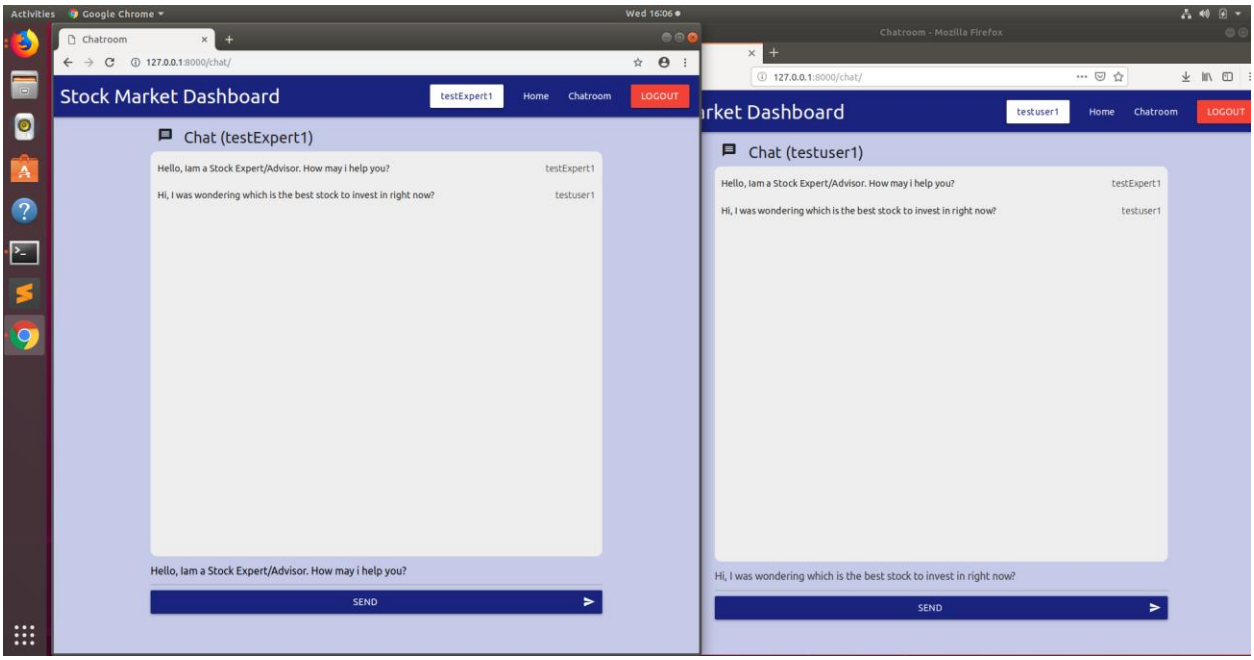
6. Dash board


Activities
Firefox Web Browser
Wed 08:29
Stock Market Dashboard - Mozilla Firefox
Stock Market Dashboard
127.0.0.1:8000
Stock Market Dashboard
testuser1
Home
LOGOUT
Stock News Updates
Stock Update
Interval:
INTRA DAY - 5 mins
Stock:
AAPL
Attribute:
Opening
FILTER
Stock (Y)
Timestamp (X)
hover over graph
hover over graph

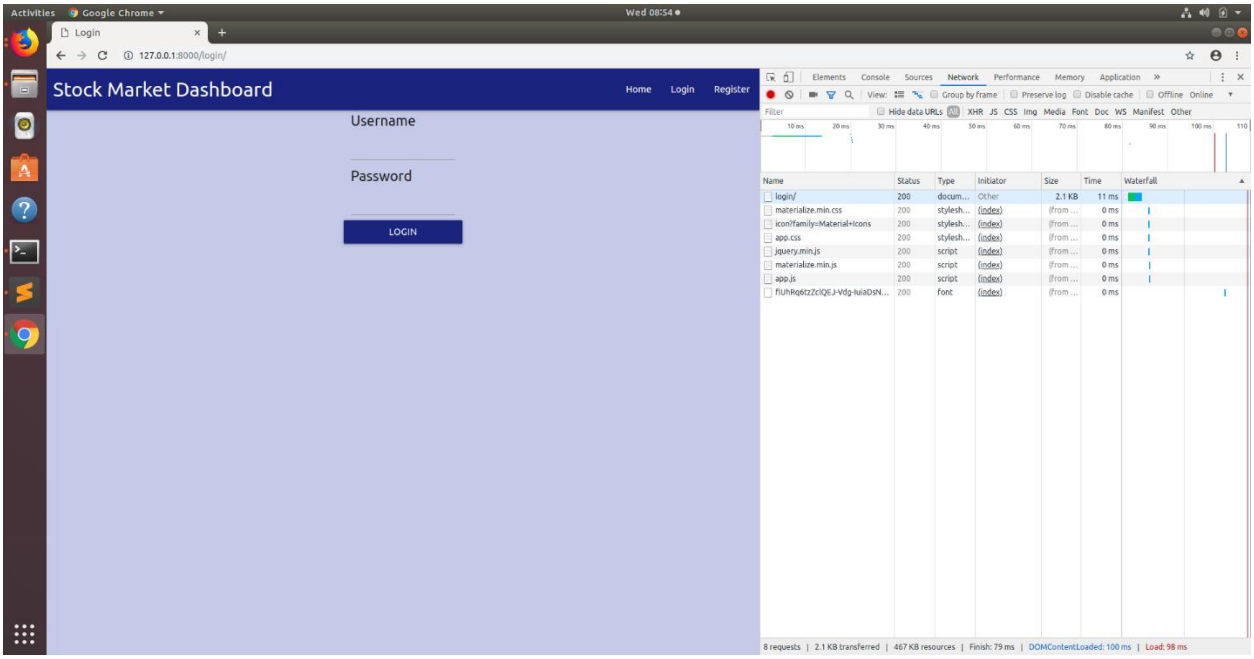
7. Live Stocks

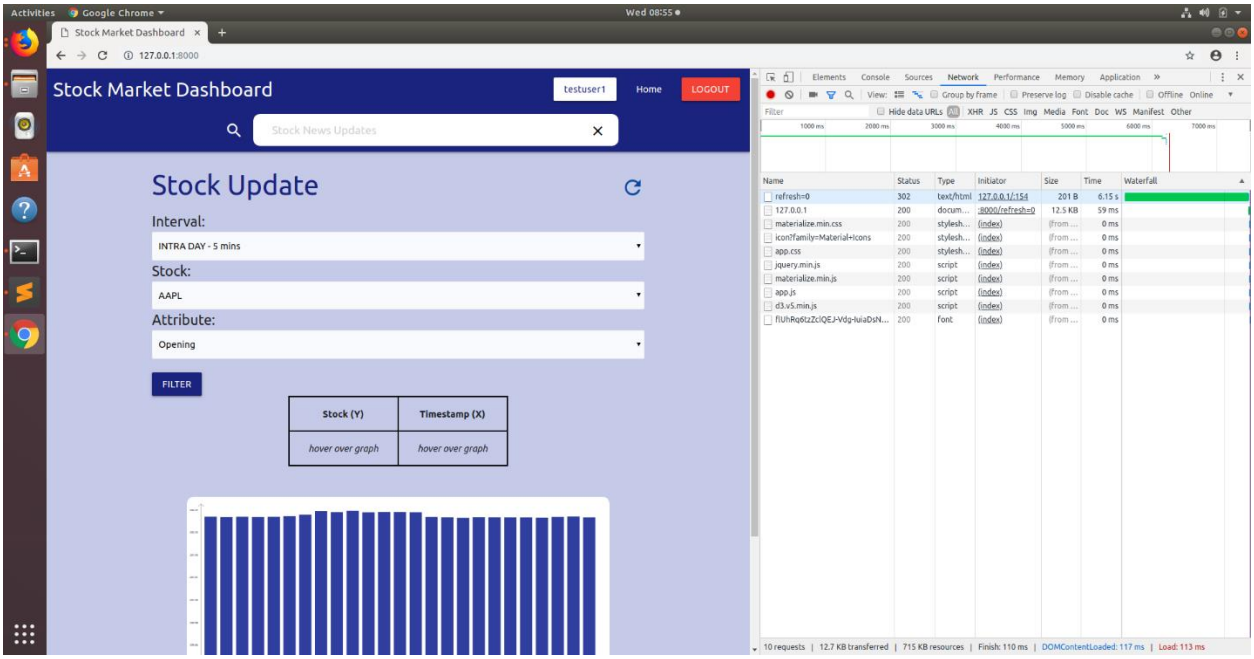


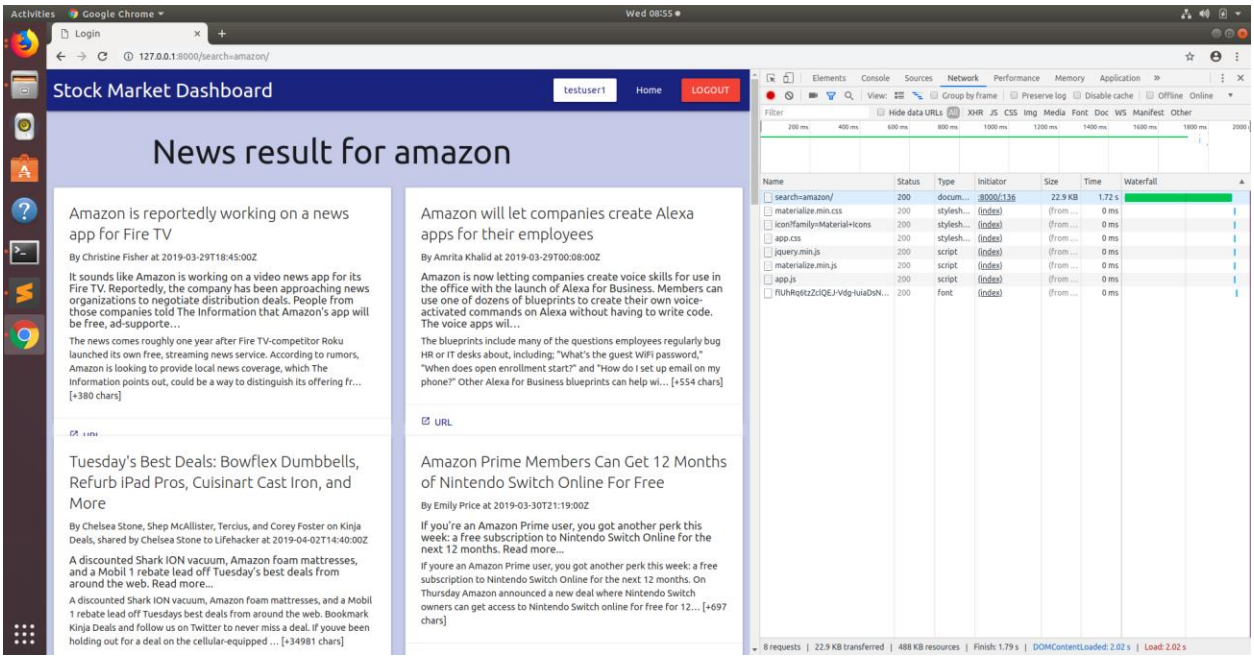
8. Chatroom facility

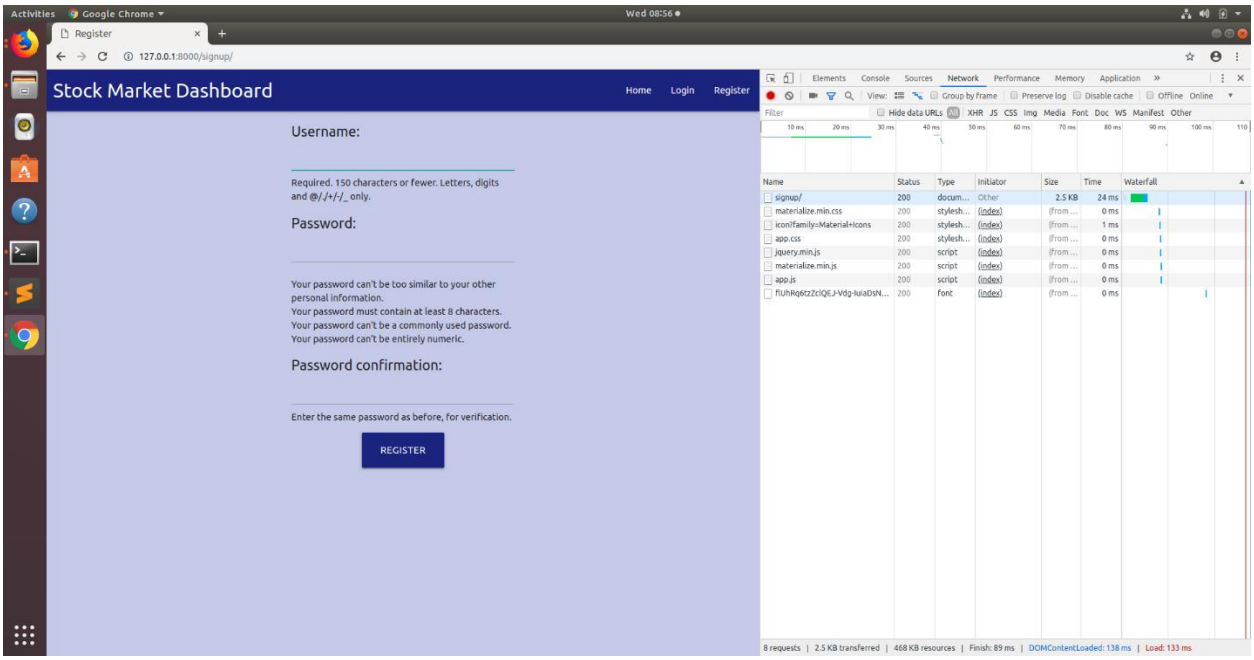


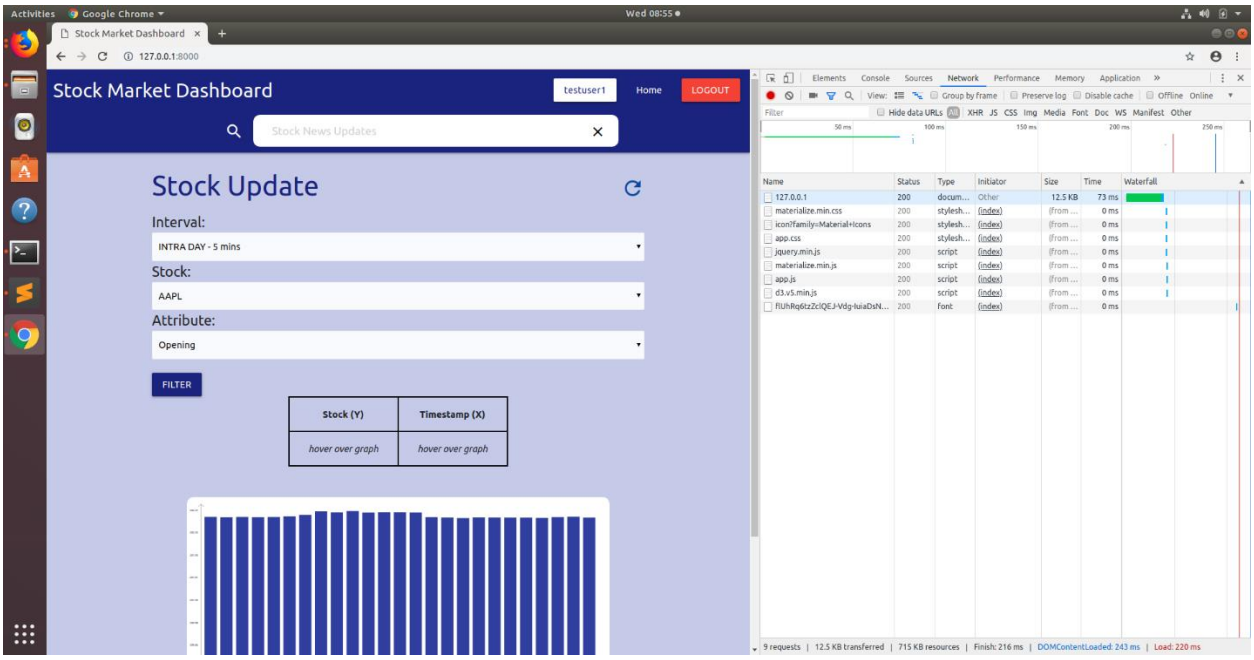
VII PERFORMANCE TESTING

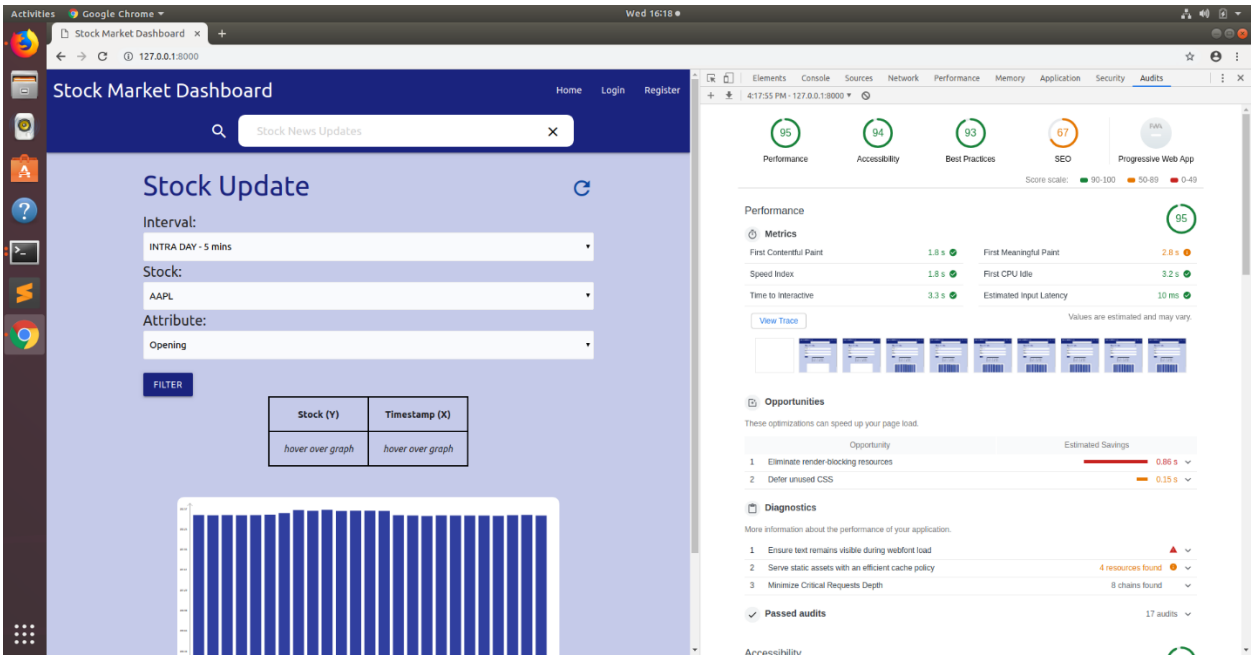


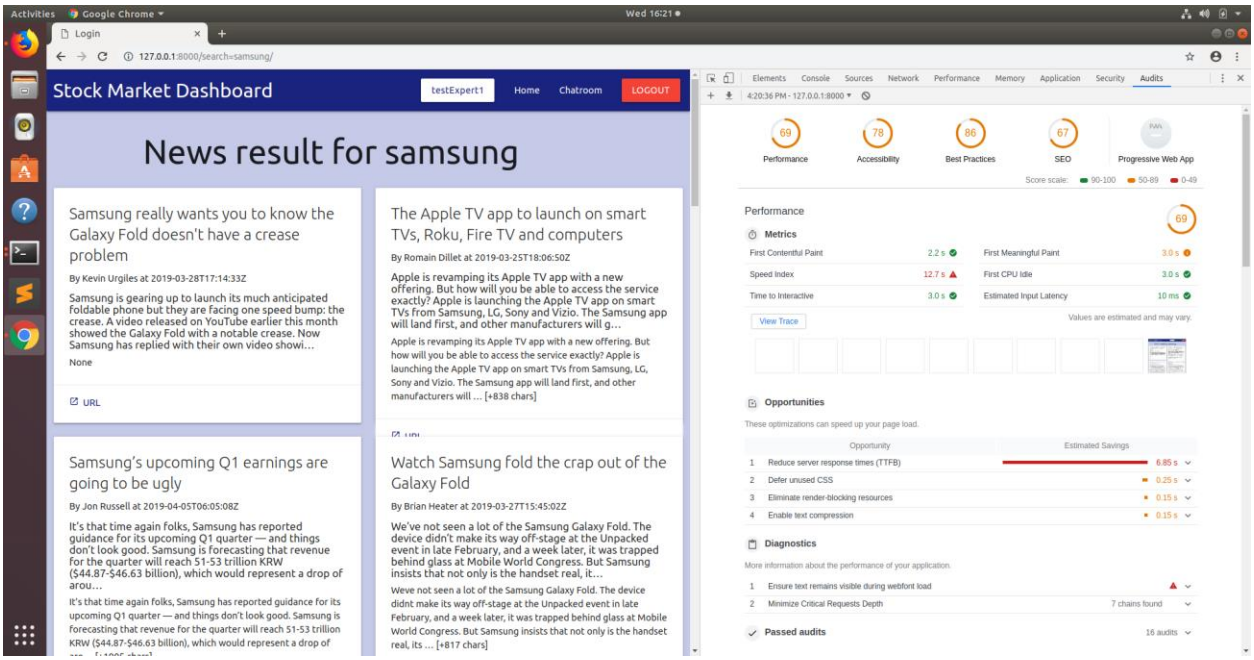


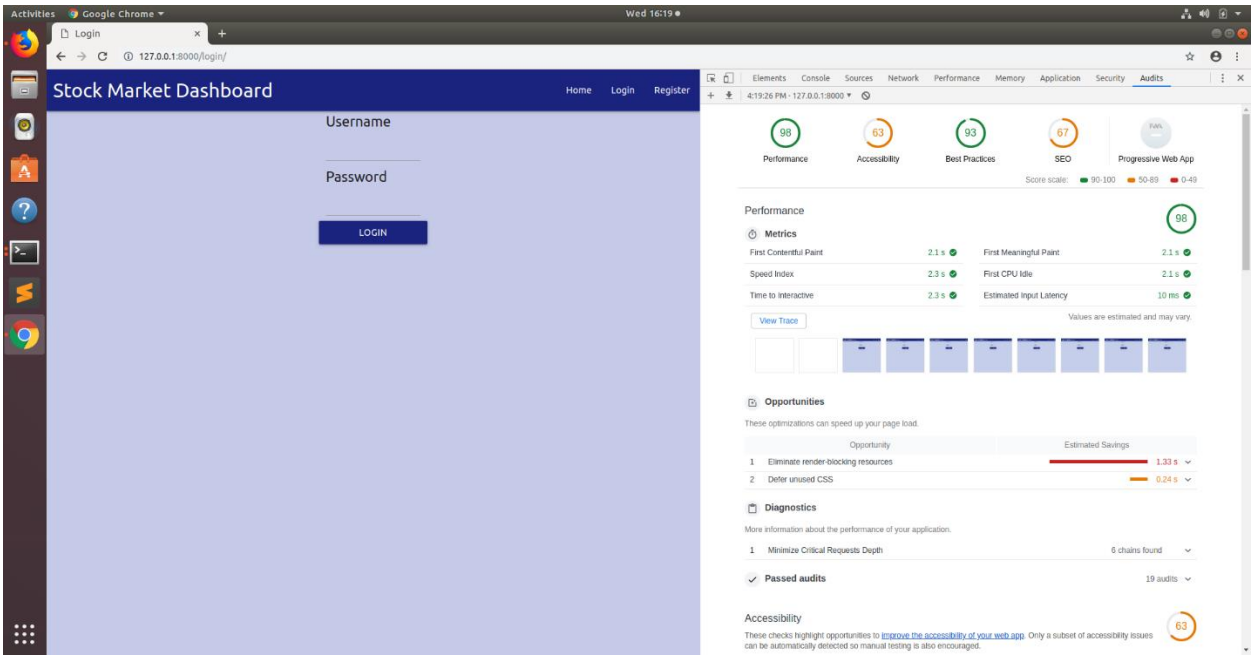

Activities
Google Chrome
Wed 08:55
Login
127.0.0.1:8000/search=amazon/
Stock Market Dashboard
testuser1
Home
LOGOUT
News result for amazon
Amazon is reportedly working on a news app for Fire TV
By Christine Fisher at 2019-03-29T18:45:00Z
It sounds like Amazon is working on a video news app for its Fire TV. Reportedly, the company has been approaching news organizations to negotiate distribution deals. People from those companies told The Information that Amazon's app will be free, ad-supporte…
The news comes roughly one year after Fire TV-competitor Roku launched its own free, streaming news service. According to rumors, Amazon is looking to provide local news coverage, which The Information points out, could be a way to distinguish its offering fr… [+380 chars]
Amazon will let companies create Alexa apps for their employees
By Amrita Khalid at 2019-03-29T00:08:00Z
Amazon is now letting companies create voice skills for use in the office with the launch of Alexa for Business. Members can use one of dozens of blueprints to create their own voice-activated commands on Alexa without having to write code. The voice apps wil…
The blueprints include many of the questions employees regularly bug HR or IT desks about, including: "What's the guest WiFi password," "When does open enrollment start?" and "How do I set up email on my phone?" Other Alexa for Business blueprints can help wi… [+554 chars]
URL
Tuesday's Best Deals: Bowflex Dumbbells, Refurb iPad Pros, Cuisinart Cast Iron, and More
By Chelsea Stone, Shep McAllister, Tercius, and Corey Foster on Kinja Deals, shared by Chelsea Stone to Lifehacker at 2019-04-02T14:40:00Z
A discounted Shark ION vacuum, Amazon foam mattresses, and a Mobil 1 rebate lead off Tuesday's best deals from around the web. Read more...
A discounted Shark ION vacuum, Amazon foam mattresses, and a Mobil 1 rebate lead off Tuesdays best deals from around the web. Bookmark Kinja Deals and follow us on Twitter to never miss a deal. If youve been holding out for a deal on the cellular-equipped … [+34981 chars]
Amazon Prime Members Can Get 12 Months of Nintendo Switch Online For Free
By Emily Price at 2019-03-30T21:19:00Z
If you're an Amazon Prime user, you got another perk this week: a free subscription to Nintendo Switch Online for the next 12 months. Read more...
If youre an Amazon Prime user, you got another perk this week: a free subscription to Nintendo Switch Online for the next 12 months. On Thursday Amazon announced a new deal where Nintendo Switch owners can get access to Nintendo Switch online for free for 12… [+697 chars]
Elements
Console
Sources
Network
Performance
Memory
Application
8 requests | 22.9 KB transferred | 488 KB resources | Finish: 1.79 s | DOMContentLoaded: 2.02 s | Load: 2.02 s

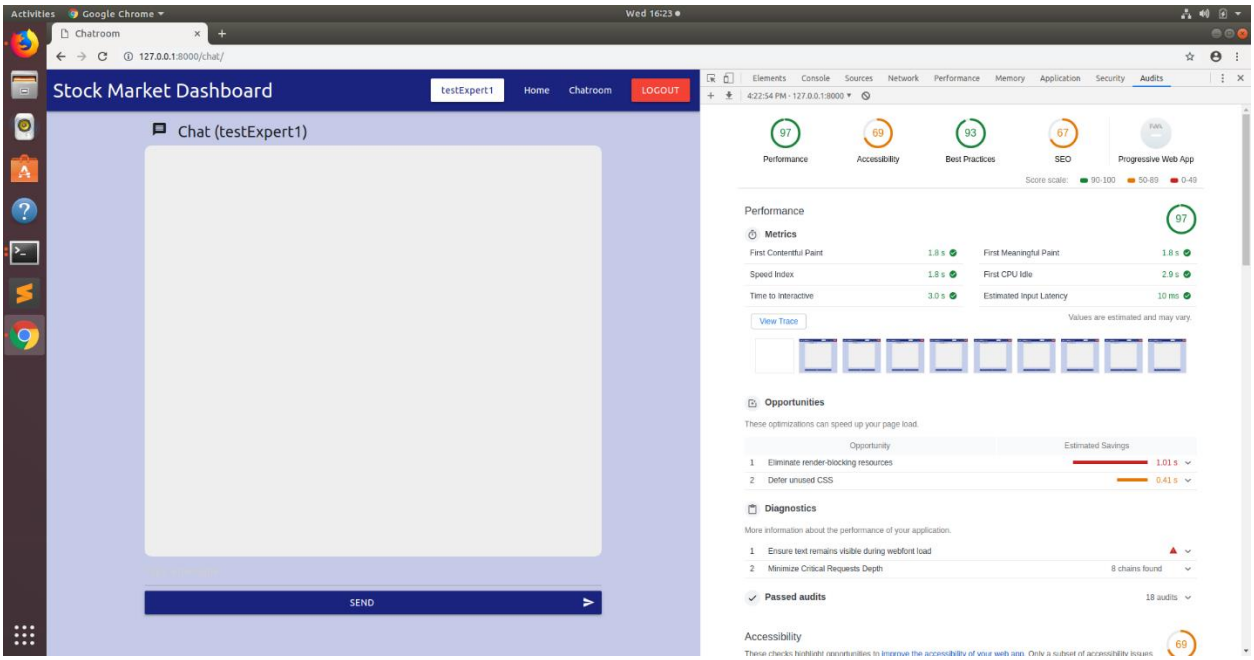

Activities
Google Chrome
Wed 08:56
Register
127.0.0.1:8000/signup/
Stock Market Dashboard
Home
Login
Register
Username:
Required. 150 characters or fewer. Letters, digits and @/./+/-/_ only.
Password:
Your password can't be too similar to your other personal information.
Your password must contain at least 8 characters.
Your password can't be a commonly used password.
Your password can't be entirely numeric.
Password confirmation:
Enter the same password as before, for verification.
REGISTER
Elements
Console
Sources
Network
Performance
Memory
Application
8 requests | 2.5 KB transferred | 468 KB resources | Finish: 89 ms | DOMContentLoaded: 138 ms | Load: 133 ms

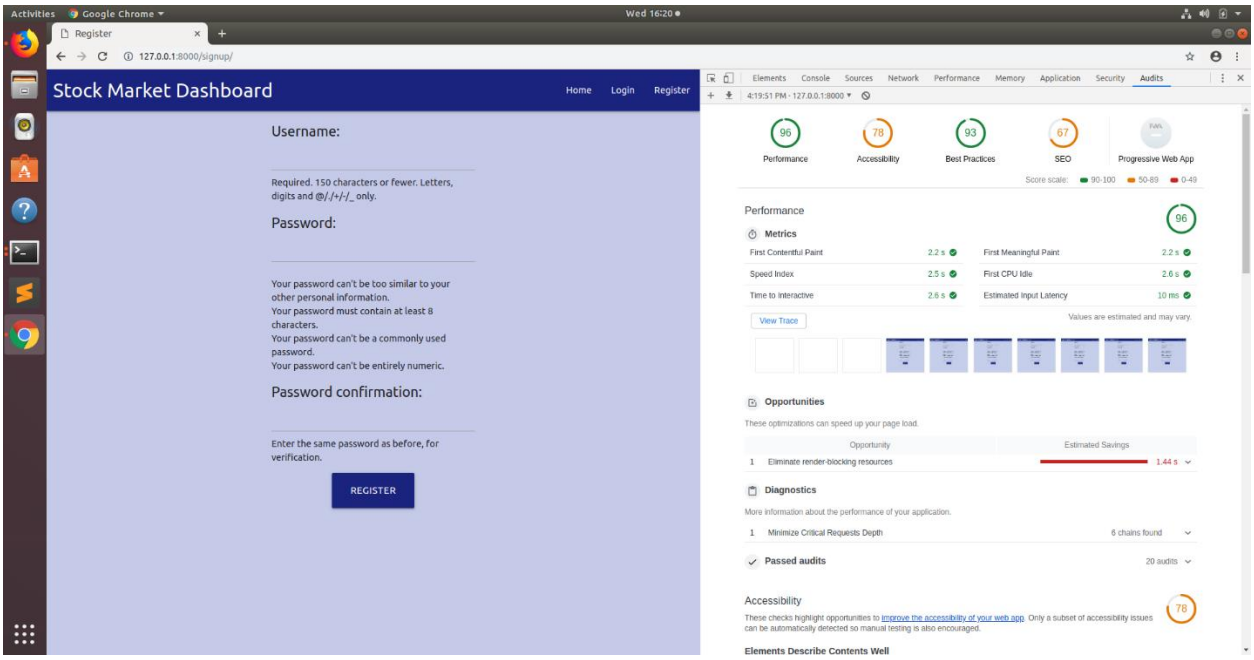

Activities
Google Chrome
Wed 08:55
Stock Market Dashboard
127.0.0.1:8000
Stock Market Dashboard
testuser1
Home
LOGOUT
Stock News Updates
Stock Update
Interval:
INTRA DAY - 5 mins
Stock:
AAPL
Attribute:
Opening
FILTER
Stock (Y)
Timestamp (X)
hover over graph
hover over graph
Elements
Console
Sources
Network
Performance
Memory
Application
Name
Status
Type
Initiator
Size
Time
Waterfall
127.0.0.1
materialize.min.css
app.css
jquery.min.js
materialize.min.js
app.js
d3.v5.min.js
9 requests | 12.5 KB transferred | 715 KB resources | Finish: 216 ms | DOMContentLoaded: 243 ms | Load: 220 ms

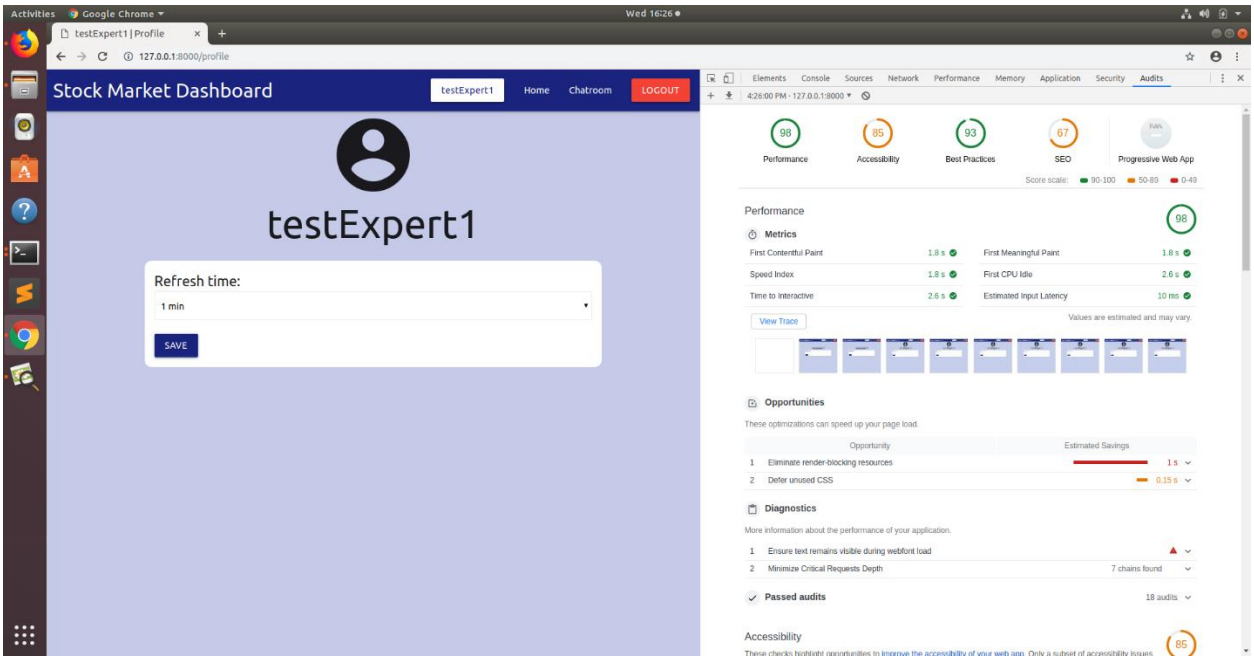

Activities
Google Chrome
Wed 16:18
Stock Market Dashboard
127.0.0.1:8000
Stock Market Dashboard
Home
Login
Register
Stock News Updates
Stock Update
Interval:
INTRA DAY - 5 mins
Stock:
AAPL
Attribute:
Opening
FILTER
Stock (Y)
Timestamp (X)
hover over graph
hover over graph
Elements
Console
Sources
Network
Performance
Memory
Application
Security
Audits
95
94
93
67
Performance
Accessibility
Best Practices
SEO
Progressive Web App
Performance
Metrics
First Contentful Paint
1.8 s
First Meaningful Paint
2.8 s
Speed Index
1.8 s
First CPU Idle
3.2 s
Time to Interactive
3.3 s
Estimated Input Latency
10 ms
View Trace
Values are estimated and may vary.
Opportunities
These optimizations can speed up your page load.
Opportunity
Estimated Savings
1 Eliminate render-blocking resources
0.86 s
2 Defer unused CSS
0.15 s
Diagnostics
More information about the performance of your application.
1 Ensure text remains visible during webfont load
2 Serve static assets with an efficient cache policy
4 resources found
3 Minimize Critical Requests Depth
8 chains found
Passed audits
17 audits


Activities
Google Chrome
Wed 16:21
Login
127.0.0.1:8000/search=samsung/
Stock Market Dashboard
testExpert1
Home
Chatroom
LOGOUT
News result for samsung
Samsung really wants you to know the Galaxy Fold doesn't have a crease problem
By Kevin Urgiles at 2019-03-28T17:14:33Z
Samsung is gearing up to launch its much anticipated foldable phone but they are facing one speed bump: the crease. A video released on YouTube earlier this month showed the Galaxy Fold with a notable crease. Now Samsung has replied with their own video showi…
None
URL
The Apple TV app to launch on smart TVs, Roku, Fire TV and computers
By Romain Dillet at 2019-03-25T18:06:50Z
Apple is revamping its Apple TV app with a new offering. But how will you be able to access the service exactly? Apple is launching the Apple TV app on smart TVs from Samsung, LG, Sony and Vizio. The Samsung app will land first, and other manufacturers will g…
Apple is revamping its Apple TV app with a new offering. But how will you be able to access the service exactly? Apple is launching the Apple TV app on smart TVs from Samsung, LG, Sony and Vizio. The Samsung app will land first, and other manufacturers will … [+838 chars]
Samsung's upcoming Q1 earnings are going to be ugly
By Jon Russell at 2019-04-05T06:05:08Z
It's that time again folks, Samsung has reported guidance for its upcoming Q1 quarter — and things don't look good. Samsung is forecasting that revenue for the quarter will reach 51-53 trillion KRW ($44.87-$46.63 billion), which would represent a drop of arou…
It's that time again folks, Samsung has reported guidance for its upcoming Q1 quarter — and things don't look good. Samsung is forecasting that revenue for the quarter will reach 51-53 trillion KRW ($44.87-$46.63 billion), which would represent a drop of
Watch Samsung Fold the crap out of the Galaxy Fold
By Brian Heater at 2019-03-27T15:45:02Z
We've not seen a lot of the Samsung Galaxy Fold. The device didn't make its way off-stage at the Unpacked event in late February, and a week later, it was trapped behind glass at Mobile World Congress. But Samsung insists that not only is the handset real, it…
Weve not seen a lot of the Samsung Galaxy Fold. The device didnt make its way off-stage at the Unpacked event in late February, and a week later, it was trapped behind glass at Mobile World Congress. But Samsung insists that not only is the handset real, its … [+817 chars]
Elements
Console
Sources
Network
Performance
Memory
Application
Security
Audits
69
78
86
67
Performance
Accessibility
Best Practices
SEO
Progressive Web App
Performance
Metrics
First Contentful Paint
2.2 s
First Meaningful Paint
3.0 s
Speed Index
12.7 s
First CPU Idle
3.0 s
Time to Interactive
3.0 s
Estimated Input Latency
10 ms
View Trace
Values are estimated and may vary.
Opportunities
These optimizations can speed up your page load.
Opportunity
Estimated Savings
1 Reduce server response times (TTFB)
6.85 s
2 Defer unused CSS
0.25 s
3 Eliminate render-blocking resources
0.15 s
4 Enable text compression
0.15 s
Diagnostics
More information about the performance of your application.
1 Ensure text remains visible during webfont load
2 Minimize Critical Requests Depth
7 chains found
Passed audits
16 audits


Activities
Google Chrome
Wed 16:19
Login
127.0.0.1:8000/login/
Stock Market Dashboard
Home
Login
Register
Username
Password
LOGIN
Elements
Console
Sources
Network
Performance
Memory
Application
Security
Audits
98
63
93
67
Performance
Accessibility
Best Practices
SEO
Progressive Web App
Performance
Metrics
First Contentful Paint
2.1 s
First Meaningful Paint
2.1 s
Speed Index
2.3 s
First CPU Idle
2.1 s
Time to Interactive
2.3 s
Estimated Input Latency
10 ms
View Trace
Values are estimated and may vary.
Opportunities
These optimizations can speed up your page load.
Opportunity
Estimated Savings
1 Eliminate render-blocking resources
1.33 s
2 Defer unused CSS
0.24 s
Diagnostics
More information about the performance of your application.
1 Minimize Critical Requests Depth
6 chains found
Passed audits
19 audits
Accessibility
These checks highlight opportunities to improve the accessibility of your web app. Only a subset of accessibility issues can be automatically detected so manual testing is also encouraged.


Activities
Google Chrome
Wed 16:23
Chatroom
127.0.0.1:8000/chat/
Stock Market Dashboard
testExpert1
Home
Chatroom
LOGOUT
Chat (testExpert1)
SEND
Elements
Console
Sources
Network
Performance
Memory
Application
Security
Audits
97
69
93
67
Performance
Accessibility
Best Practices
SEO
Progressive Web App
Performance
Metrics
First Contentful Paint
1.8 s
First Meaningful Paint
1.8 s
Speed Index
1.8 s
First CPU Idle
2.9 s
Time to Interactive
3.0 s
Estimated Input Latency
10 ms
View Trace
Values are estimated and may vary.
Opportunities
These optimizations can speed up your page load.
Opportunity
Estimated Savings
1 Eliminate render-blocking resources
1.01 s
2 Defer unused CSS
0.41 s
Diagnostics
More information about the performance of your application.
1 Ensure text remains visible during webfont load
2 Minimize Critical Requests Depth
8 chains found
Passed audits
18 audits
Accessibility


Activities
Google Chrome
Wed 16:20
Register
127.0.0.1:8000/signup/
Stock Market Dashboard
Home
Login
Register
Username:
Required. 150 characters or fewer. Letters, digits and @/./+/-/_ only.
Password:
Your password can't be too similar to your other personal information.
Your password must contain at least 8 characters.
Your password can't be a commonly used password.
Your password can't be entirely numeric.
Password confirmation:
Enter the same password as before, for verification.
REGISTER
Elements
Console
Sources
Network
Performance
Memory
Application
Security
Audits
Performance
Accessibility
Best Practices
SEO
Progressive Web App
Opportunities
Diagnostics
Passed audits
Accessibility
Elements Describe Contents Well


Activities
Google Chrome
Wed 16:26
testExpert1 | Profile
127.0.0.1:8000/profile
Stock Market Dashboard
testExpert1
Home
Chatroom
LOGOUT
testExpert1
Refresh time:
1 min
SAVE
Elements
Console
Sources
Network
Performance
Memory
Application
Security
Audits
Performance
Accessibility
Best Practices
SEO
Progressive Web App
Opportunities
Diagnostics
Passed audits
Accessibility

VIII Conclusion

Stocks and the stock market will never go out of style. But not everyone can keep track of and understand them easily. Our web application, through visual analysis of stock price history and by real-time (refreshable at a chosen interval) data on the stocks aids in the understanding of the same by amateur users and finance experts alike. Our appliation is user-friendly

References

References:

1. https://link.springer.com/chapter/10.1007/11751649_5
2. http://padas.ices.utexas.edu/static/papers/knn.pdf
3. https://ieeexplore.ieee.org/document/5607480