Project 3 Testing
Stock Exchange Prediction Using Machine Learning

Team Members

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Methods used for Testing

- We used following github repository for testing:
  https://github.com/Amoghrd/StockPrediction
- Software Tools such as Docker and pip packages from requirements.txt
- Zoom to facilitate testing and support.

Materials used for Testing

Language: Python 3, HTML, CSS
Web Application Framework: Docker, Flask
Test Framework: pytest
Database: MySQL
Tools: Visual Studio Code
Syntax Checker & Style Checker: flake8, pylint
Code Formatter: black, prettier
Version Control: git

Test metrics

Testers tested the project on following attributes:
- Test all functionalities of the website.
- Compare stock predictions results with similar tools such as Wallet Investor, AI Stock Finder.
- Ability to find stock predictions for the companies that they are interested in.
- Reporting bugs or issues if any.

Observations

- The testers performance was analysed based on the interest shown by them during testing in each application.
- We also asked testers the differences they found between the three applications and analysed their responses
- We also provided points on the comments given by the testers and how similar were their reviews based on the feedback received
- The performance was also gauged on the background knowledge by the testers.

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Statistics for this test can be found at:

https://github.com/Amoghrd/StockPrediction/blob/master/Evaluation_Phase3SE2020.xlsx

Keys	StockPrediction				
	Ease of Use	Accuracy	Range of Choice	Remarks	Review
s556706	high	Less Accurate	I can pick any company I want	It only showed for 2020	2
s546874	Medium	Reasonably Accurate	I can pick only popular companies	N/A	4
s149767	high	Reasonably Accurate	I can pick any company I want	N/A	4
s706458	high	Reasonably Accurate	I can pick only popular companies	Did not find some companies	3
s557371	Medium	Reasonably Accurate	I can pick any company I want	N/A	5
s988466	Medium	Less Accurate	I can pick any company I want	Did not get data for year wise	3
s350521	high	Very Accurate	I can pick any company I want	N/A	4
s817430	Medium	Reasonably Accurate	I can pick only popular companies	N/A	5
s792149	Medium	Very Accurate	I can pick any company I want	N/A	4
s194776	Medium	Reasonably Accurate	I can pick only popular companies	Didnt Find Citrix, wipro	3

Keys	Wallet Investor				
	Ease of Use	Accuracy	Range of Choice	Remarks	Review
s556706	Medium	Very Accurate	I can pick any company I want	N/A	5
s546874	Low	Reasonably Accurate	I can pick only popular companies	Too many ads to look at	3
s149767	Low	Reasonably Accurate	I can pick any company I want	N/A	4

Keys	Ease of Use	Accuracy	Range of Choice	Remarks	Review
s706458	Medium	Very Accurate	I can pick any company I want	More informative	5
s557371	high	Reasonably Accurate	I can pick any company I want	Could compare companies and its stocks	4
s988466	Low	Very Accurate	I can pick any company I want	N/A	4
s350521	Low	Reasonably Accurate	I can pick any company I want	Too many pop ups	4
s817430	Medium	Very Accurate	I can pick any company I want	More granular level forecast was provided	5
s792149	high	Very Accurate	I can pick only popular companies	Data could be exported in a required format	5
s194776	Low	Reasonably Accurate	I can pick any company I want	N/A	5

Keys	AIStockFinder				
	Ease of Use	Accuracy	Range of Choice	Remarks	Review
s556706	Medium	Reasonably Accurate	I can pick any company I want	Good UI Interface	5
s546874	high	Reasonably Accurate	I can pick only popular companies	No Citigroup	3
s149767	high	Reasonably Accurate	I can pick any company I want	N/A	5
s706458	Medium	Reasonably Accurate	I can pick any company I want	Provides predictions for future and later years	5
s557371	high	Reasonably Accurate	I can pick any company I want	More informative	5

s988466	Medium	Reasonably Accurate	I can pick any company I want	N/A	4
s350521	Medium	Reasonably Accurate	I can pick any company I want	N/A	4
s817430	high	Reasonably Accurate	I can pick any company I want	I liked the UI and provides better informations regarding stocks	5
s792149	Medium	Very Accurate	I can pick any company I want	N/A	4
s194776	Medium	Very Accurate	I can pick any company I want	N/A	4

Conclusion

- Testers were able to test the core functionality of the application.
- Testers were able to compare the results with Wallet Investor and AI Stock finder at their own convenience.

Threats to Validity

- Glitches in data collection due to ad hoc threats i.e the issue could present itself under a different name or category. Ex: Bad Internet connections, package version compatibility. To alleviate this, we could extensively come up with possible adhoc scenarios which we can preemptively address.
- Insufficient data collection because test subjects forgot to provide their valuable inputs even after their agreement to do so. Even though this is an adhoc threat, we can always politely request the test subject to provide their valuable inputs and suggestions.
- One major threat to validity is lack of diversity in test subjects. Most of our test subjects were already using AIStockFinder, therefore our analysis was biased towards such subjects who found our project to be less convenient. This was not in our control as test subjects were volunteers. To address this, we can create focus groups and have people volunteer for the focus group provided they meet the constraint of that group.