Department of Information Science and Engineering
Acharya Institute of Technology
Acharya Dr. Sarvepalli Radhakrishnan Road, Bengaluru – 560107

MINI PROJECT PROGRESS REPORT		
Batch No	**17**	
Guide	**Prof. Mary M Dsouza**	
Mini Project Title	**Stock Price Prediction**	
Progress Report No	**02**	
Date of Submission	**19/07/2024**	
Date	**From: 13/05/2024**	**To: 19/07/2024**

Sl. No.	Students Name	USN	Signature with date
1	Anmol Shubham	1AY21IS016	
2	Amod Kumar	1AY21IS012	
3	Ahzam Saba	1AY21IS007	
4	Manaswi Kumar	1AY21IS051	

Implementation Steps:

1. **Initial Setup:**
    - **Configured the development environment with necessary libraries including streamlit, pandas, yfinance, datetime, plotly, and prophet.**

2. **Meta Tag Addition:**
    - **Added Google Site Verification meta tag to the application for site verification.**

3. **Sidebar Implementation:**
    - **Designed and integrated the sidebar with options for different utilities: Stocks Performance Comparison, Real-Time Stock Price, Stock Prediction, and About section.**

4. **Date Input Fields:**
    - **Implemented date input fields to allow users to select the start and end dates for data retrieval.**

5. **Stocks Performance Comparison:**
    - **Developed functionality to compare stock performances using relative returns and provided options to display data in different chart formats.**

Progress:

- Successfully set up the development environment and integrated necessary libraries.
- Completed the sidebar design and implemented date input fields.
- Stock Performance Comparison feature is fully functional with multiple chart display options.
- Real-Time Stock Price retrieval and visualization completed.

Challenges:

- **Data Retrieval Delays:** Encountered delays in retrieving data from the Yahoo Finance API, necessitating optimization and caching strategies.
- **Chart Rendering Performance:** Initial chart rendering performance issues required code optimization and efficient data handling.
- **Prophet Model Training Time:** Training the Prophet model for longer periods took significant time, prompting exploration of model optimization techniques.
- **User Interface Complexity:** Ensuring a user-friendly interface while incorporating multiple features was challenging, requiring iterative design and user feedback.

References:

[1] Panwar, Bhawna, et al. "Stock market prediction using linear regression and SVM." 2021 International Conference on Advance Computing and Innovative Technologies in Engineering (ICACITE). IEEE, 2021.

[2] Bhandari, H. N., Rimal, B., Pokhrel, N. R., Rimal, R., Dahal, K. R., & Khatri, R.K. C. (2023). Predicting stock market index using LSTM. Journal of Financial Engineering, 7(2), 45-60.

[3] Nelson, David MQ, Adriano CM Pereira, and Renato A. De Oliveira. "Stock market's price movement prediction with LSTM neural networks." 2017 International joint conference on neural networks (IJCNN). Ieee, 2017.

[4] Garlapati, A., Krishna, D. R., Garlapati, K., Rahul, U., & Narayanan, G. (2021, April). Stock price prediction using Facebook Prophet and Arima models. In 2021 6th International Conference for Convergence in Technology (I2CT) (pp. 1-7). IEEE.

[5] Alshara, M. A. (2022). Stock forecasting using Prophet vs. LSTM model applying time-series prediction. IJCSNS International Journal of Computer Science and Network Security, 22(2), 185-192.

Guide	Project Coordinators	HOD-ISE
Prof. Usha Kumari V	**Prof. M K Dhananjaya**	**Dr. Kala Venugopal**
(Signature with Date)	**Prof. Yogesh N**	(Signature with Date)
	(Signature with Date)	