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Completed the project named as phase 5

TECHNOLOGY PROJECT NAME : REAL TIME STOCK TICKER

SUBMITTED BY:

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1. Final Demo Walkthrough

The Real-Time Stock Ticker demonstrates a live streaming dashboard where users can:

•   View real-time updates of stock prices.

•   Maintain a personal watchlist for selected stocks.

•   Set alerts when stock prices cross thresholds.

•   Access charts and trends for better visualization.

Walkthrough Steps:

1.   User logs into the dashboard.

2.   A live ticker bar displays major stock updates (AAPL, MSFT, TSLA, etc.).

3.   User adds a stock (e.g., INFY) to watchlist.

4.   System fetches real-time data via API and updates continuously using WebSockets.

5.   User sets an alert for INR 2000; notification triggers when stock crosses.

6.   Interactive chart displays historical + intraday trends.

Demo video link :

https://drive.google.com/drive/folders/1jMXP_42oPdTRn0XvqYc1IX-0BCBWXDAs?usp=drive_link

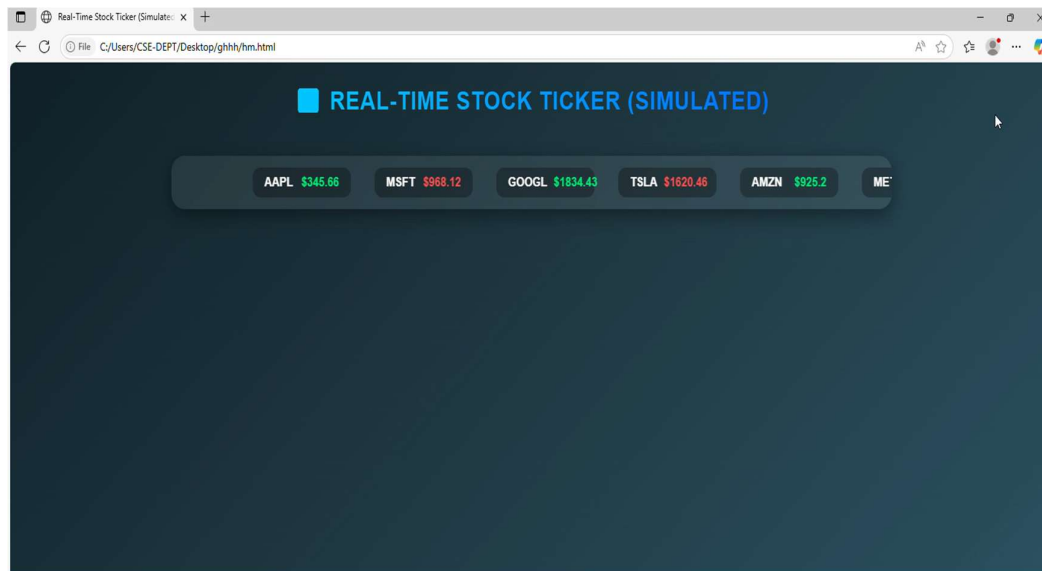## 2. Project Report

Objective:

To design and implement a scalable, real-time stock tracking system using React.js, Node.js, and APIs.

Key Features:

- Real-time updates via WebSockets.

- API integration with Alpha Vantage / Yahoo Finance.

- Watchlist and alerts.

- Mobile-friendly responsive UI.

- Secure user authentication with JWT.

- Technology Stack:

- Frontend: HTML, CSS, React.js

- Backend: Node.js + Express

- Database: MongoDB / PostgreSQL

- Realtime: Socket.io

- Cloud Deployment: AWS/GCP

Screenshots (Placeholder)

- Dashboard View: Shows live ticker bar.

- Watchlist Page: User's selected stocks.

- Alert Popup: Triggered when stock crosses limit.

- Deployment Architecture Diagram: Frontend → Backend → DB → API → WebSocket.

4. Challenges and Solutions

Challenge	Solution
Frequent API rate-limits	Introduced caching with Redis to reduce external calls.
High latency in updates	Implemented WebSockets for push-based updates.
UI responsiveness	Used React hooks and lazy loading for smoother performance.
Authentication & security	Added JWT tokens + HTTPS deployment.
Deployment cost	Used serverless + autoscaling on AWS.

5. GitHub README & Setup Guide

README.md

Real-Time Stock Ticker

A real-time stock monitoring app with watchlists, alerts, and charts.

Features

- Live ticker updates

- Stock watchlist

- Alerts & notifications

- Interactive charts

Setup Guide

1. Clone repo: `git clone https://github.com/yourname/stock-ticker.git`

2. Install dependencies: `npm install`

3. Create `.env` file with API keys.

4. Run backend: `npm run server`

5. Run frontend: `npm start`

6. Final Submission Repository

The **final source code repository** contains:

- **frontend** → Html, css.
- **backend** → javascript
- **tests** → Unit + integration tests.
- **docs** → Report, screenshots, diagrams.

Repository Link (placeholder):

https://github.com/rajeshkumar-2005/naan-mudhalvan.git

https://github.com/dmnyson4-design/naan-mudhalvan.git

https://github.com/HarishManikandanR/naan-mudhalvan

https://github.com/Arulkumaran17/Naan_mudhalvan.git