Stock Analysis Dashboard Documentation

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1. Introduction

The Stock Analysis Dashboard is a comprehensive technical analysis tool designed for real-time stock market analysis. This application combines multiple technical indicators to provide traders and investors with actionable insights.

2. Features

Core Capabilities
- Real-time stock data visualization
- Multiple technical indicators
- Automated buy/sell signals
- Interactive charting
- Data export functionality

Technical Indicators
- Price Charts with Candlesticks
- Moving Averages (9 & 20 EMA)
- MACD (Moving Average Convergence Divergence)
- RSI (Relative Strength Index)
- VWAP (Volume Weighted Average Price)

3. Installation Guide

System Requirements
- Python 3.7 or higher
- 4GB RAM minimum
- Stable internet connection
- Modern web browser

Installation Steps

1. **Install Required Packages**
```bash
pip install streamlit pandas yfinance plotly numpy
```

2. **Verify Installation**
```bash
python --version
pip list
```

4. User Guide
Getting Started

1. **Launch Application**
```bash
streamlit run dt.py
```

2. **Basic Navigation**
   - Enter stock symbol
   - Select date range
   - View analysis

Using Technical Indicators

Price Chart
- Green candles: Price increase
- Red candles: Price decrease
- EMA lines: Trend confirmation
- VWAP: Institutional interest

MACD
- Blue line: MACD
- Orange line: Signal
- Histogram: Momentum
- Crossovers: Trading signals

RSI
- Overbought level: 70
- Oversold level: 30
- Trend confirmation

5. Technical Details

Data Processing
- Real-time data fetching
- Technical indicator calculation
- Signal generation
- Visualization rendering

Signal Generation Logic
1. MACD Crossover
2. RSI Confirmation
3. Trend Validation
4. Buy/Sell Signal Display

6. Troubleshooting

Common Issues and Solutions

1. **Installation Problems**
   - Use alternative pip commands
   - Check Python version
   - Verify internet connection

2. **Data Loading Issues**
   - Verify stock symbol
   - Check internet connection
   - Confirm date range

3. **Performance Issues**
   - Close other applications
   - Clear browser cache
   - Restart application

7. Maintenance

Regular Updates
```bash
pip install --upgrade streamlit pandas yfinance plotly numpy
```

Data Management
- Regular cache clearing
- Database optimization
- System updates

8. Support

Documentation Resources
- Streamlit: https://docs.streamlit.io
- YFinance: https://pypi.org/project/yfinance/
- Plotly: https://plotly.com/python/

Technical Support
- GitHub Issues
- Email Support
- Community Forums

Disclaimer: This tool is for educational purposes only. Always conduct thorough research before making investment decisions.

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