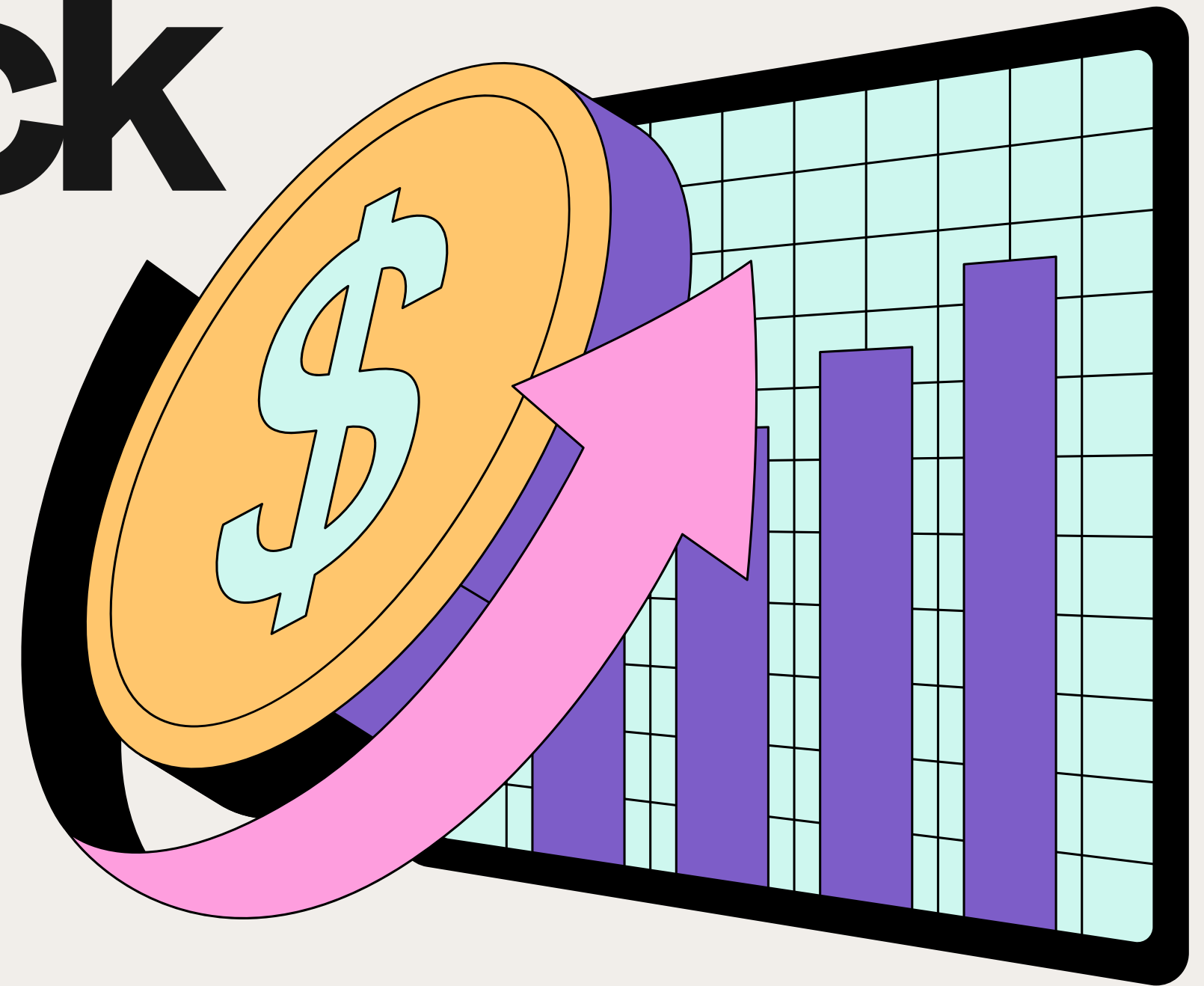


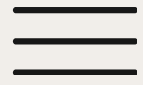


Tech Stock Tracker

Presented by:

David Williams
Melanie Liao
Dhruvi Yadav
Ilknur Toptas

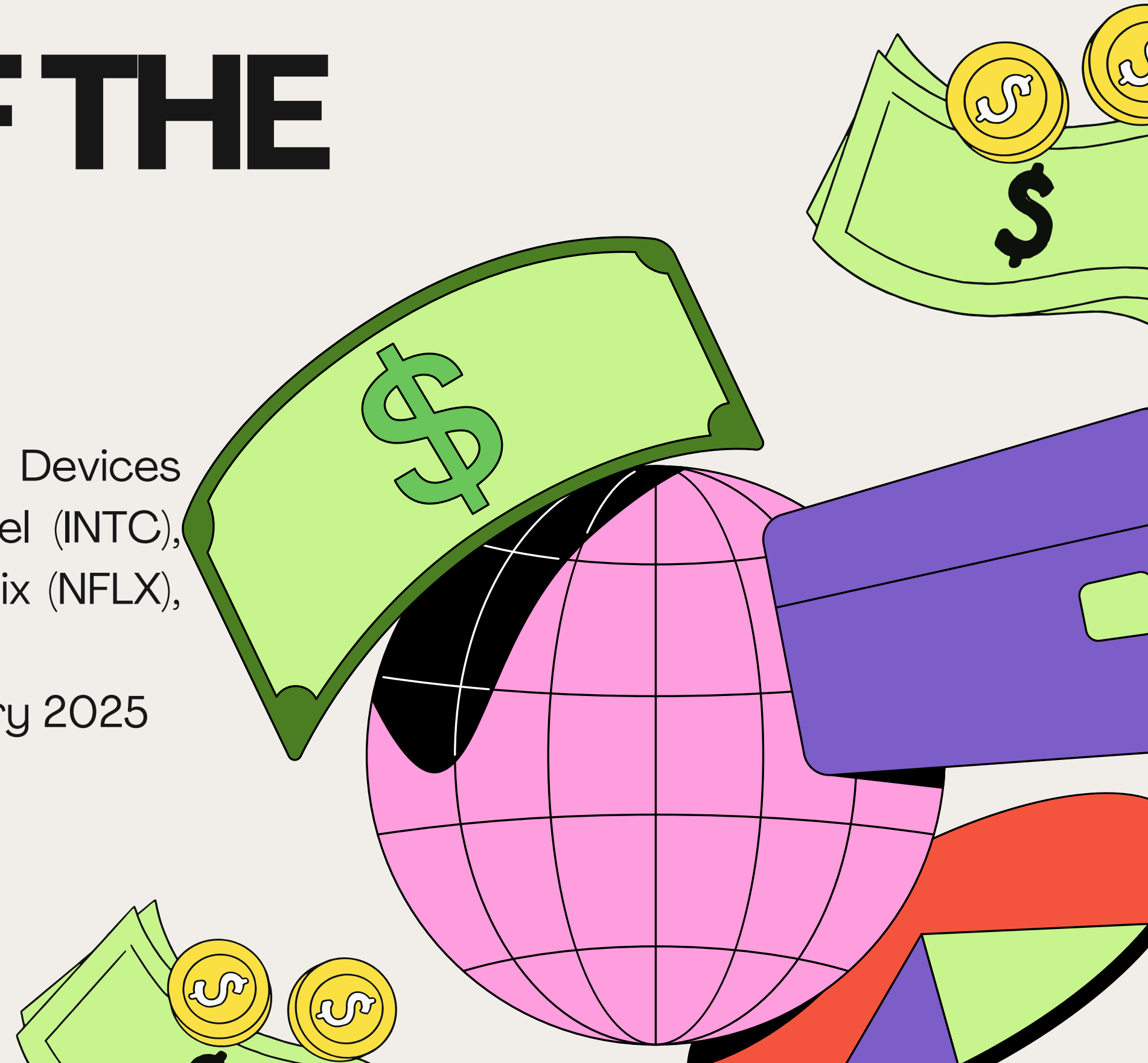




OVERVIEW OF THE DATASET

- **Data Source:** Yahoo Finance
- **Companies:** Apple (AAPL), Advanced Micro Devices (AMD), Amazon (AMZN), Alphabet (GOOGL), Intel (INTC), Meta Platforms (META), Microsoft (MSFT), Netflix (NFLX), Nvidia (NVDA), Tesla (TSLA)
- **Date Range:** 24th February 2015 – 24th February 2025
- **Data Frequency:** Daily trading data

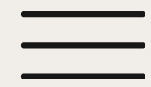
<https://finance.yahoo.com>





- **Analyze Historical Stock Data:** Retrieve and visualize stock performance over a specified period.
- **Assess Investment Growth:** Calculate potential returns on investments over the past 10 years.
- **Enable User Interaction:** Provide a user-friendly web interface for customized stock analysis.
- **Efficient Data Management:** Utilize PostgreSQL for data storage and management.
- **Enhanced Visualization:** Use Plotly.js and Matplotlib for interactive charts and data representation.
- **Build a Scalable API:** Develop a Flask API to serve real-time stock analysis data.

OBJECTIVES



TARGET AUDIENCE

Small Investors: Individuals looking to make informed investment decisions.





LIMITATIONS OF THE DATASET

Limitation: Dataset only includes market capitalization data for 2025, not for each year from 2015 to 2024

Impact: Missed opportunity to display dynamic market share value changes over time

Opportunity: Explore additional data sources or methods to reconstruct historical market caps for future enhancements



REGRESSION ANALYSIS: STOCK PRICE TRENDS

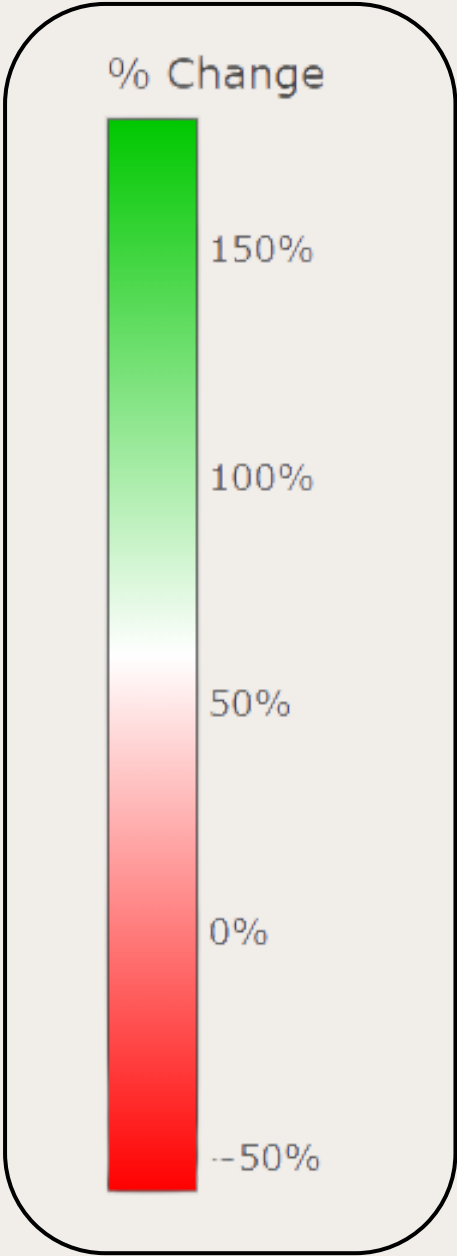
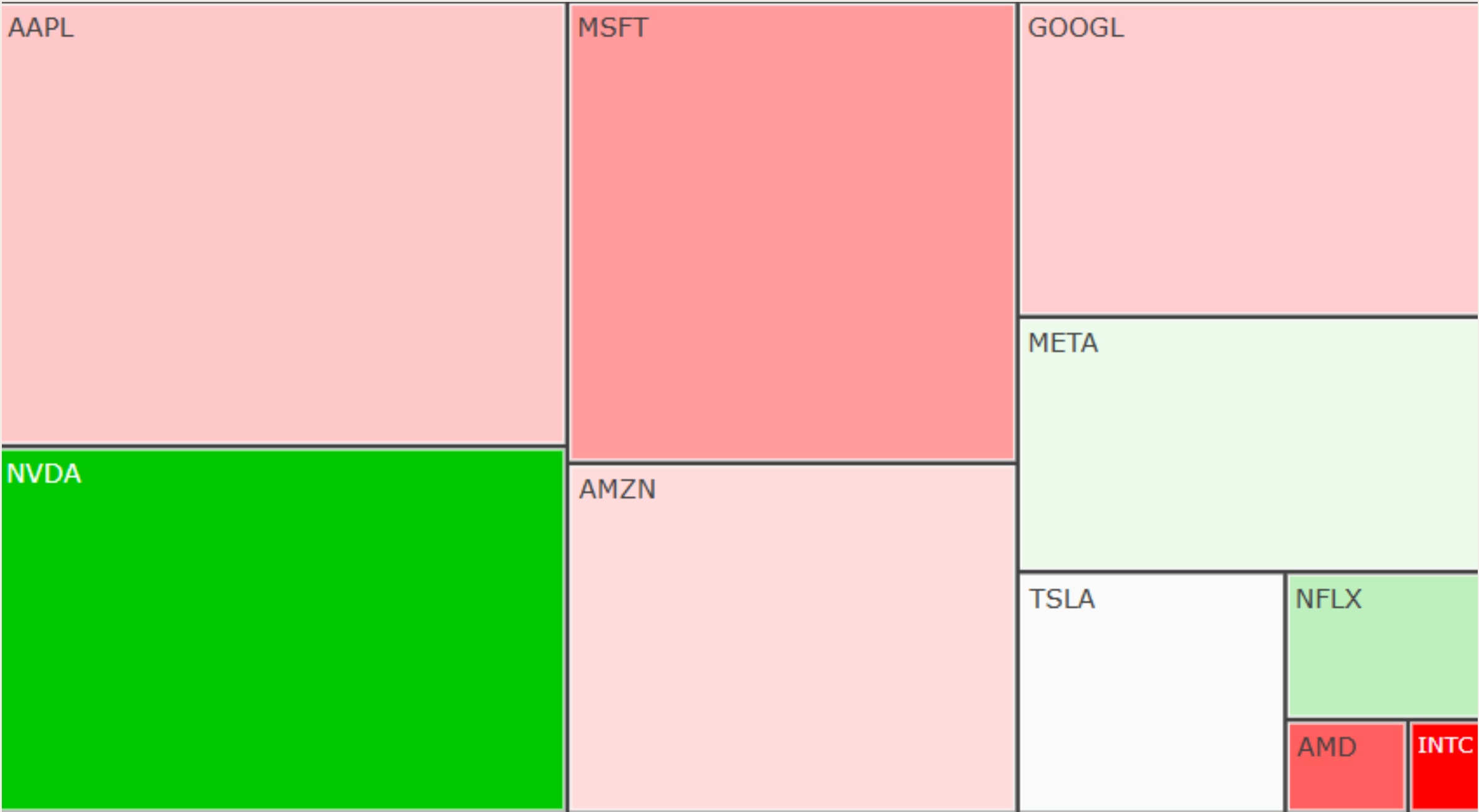
META Regression Graph (2023)



- The upward slope of the regression line indicates a strong growth trend for META stock during this period.



TREEMAP VISUALIZATION





TREEMAP VISUALIZATION

AAPL

AAPL Summary for 2024

Market Cap: \$3564.74 Billion

First Close: \$184.53

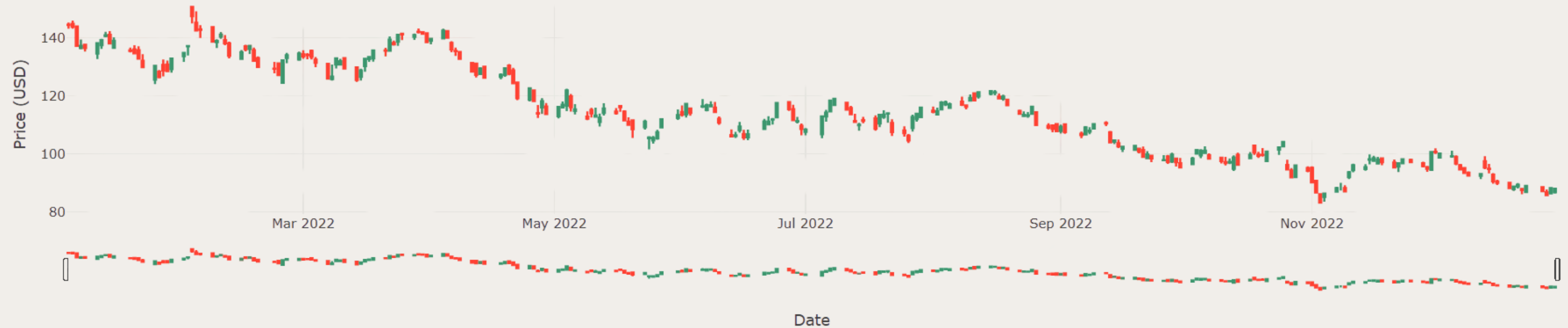
Last Close: \$250.14

Percentage Change: 35.56%

[Search AAPL on Yahoo Finance](#)



GOOGL Candlestick Chart (2022)



CANDLESTICK CHART ANALYSIS: STOCK PRICE TRENDS



Stock Value Calculator

Investment Amount (\$):

100000

Select Stock:

AAPL

Start Date:

2015-03-05

End Date:

2025-02-27

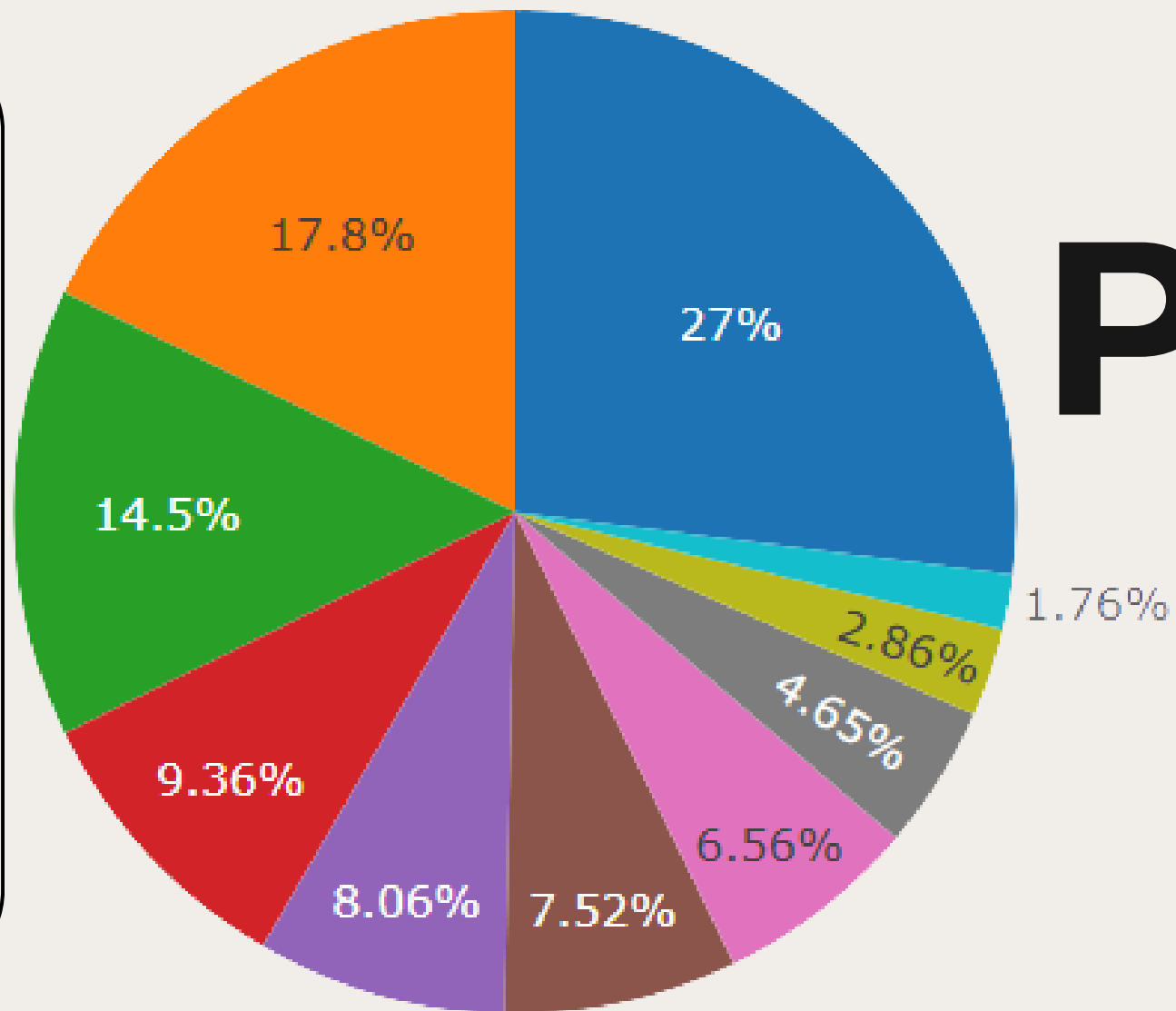
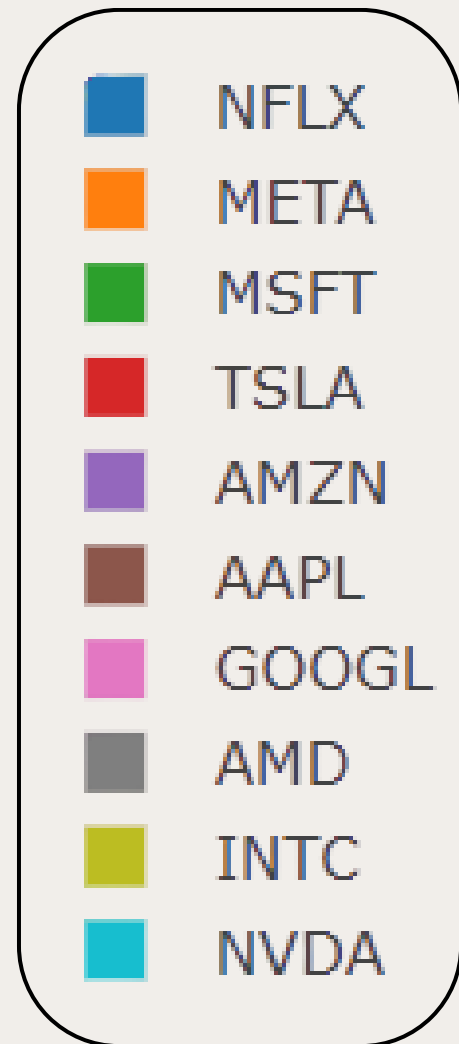
Calculate Value

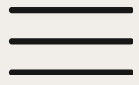
Investing \$100000.00 in AAPL on 2015-03-05 at \$28.23 per share would be worth \$840569.75 on 2025-02-27 (shares bought: 3542.2239).

INVESTMENT GROWTH CALCULATOR



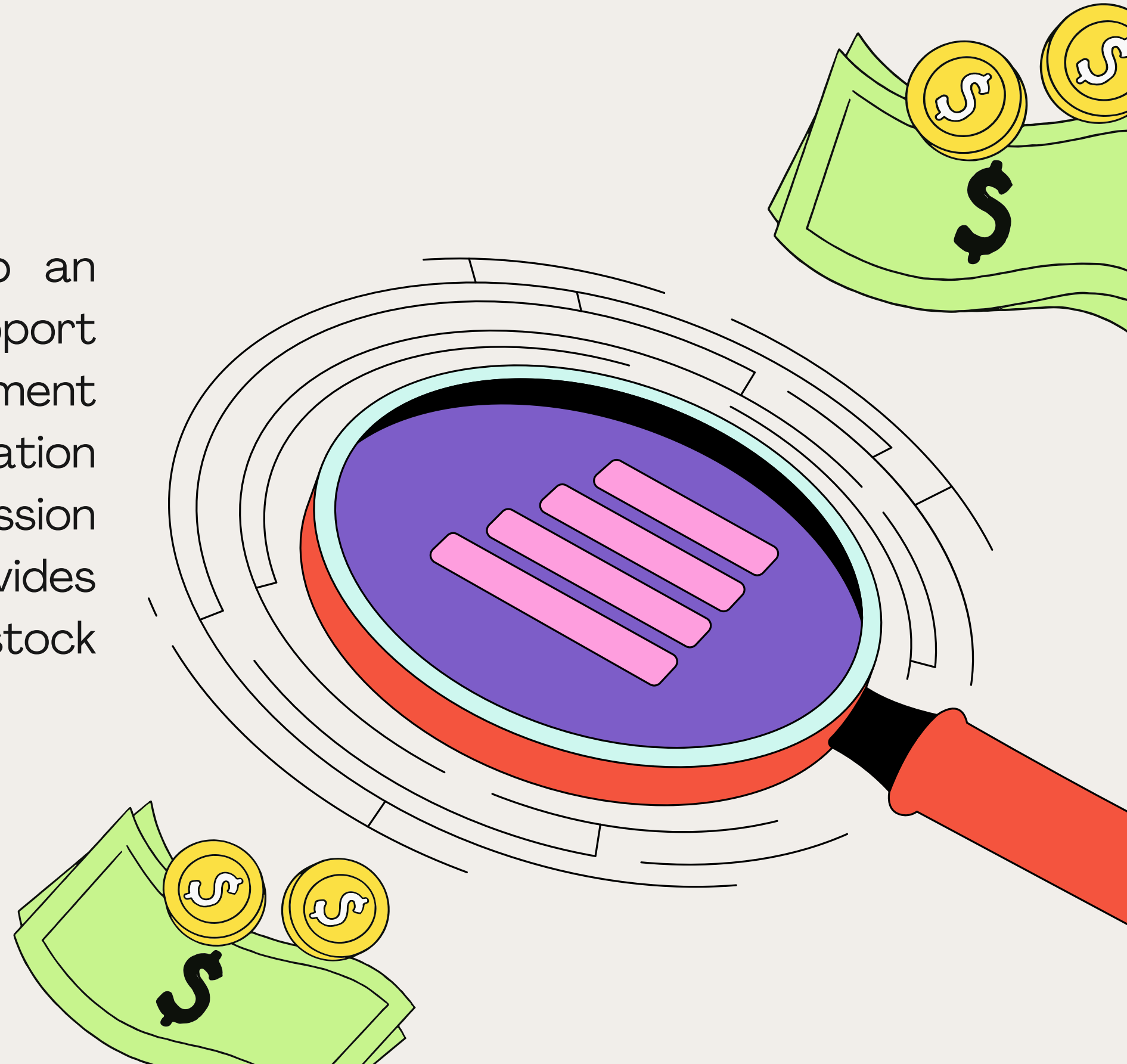
STOCK PERFORMANCE OF 10 YEARS

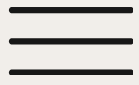




CONCLUSION

- The objective of this project was to develop an interactive stock analysis tool designed to support small investors in making informed investment decisions. By utilizing advanced data visualization techniques, including candlestick charts, regression graphs, and treemaps, the tool provides comprehensive insights into market trends, stock performance, and potential investment returns.





**Thank
You For
Your
Attention**

