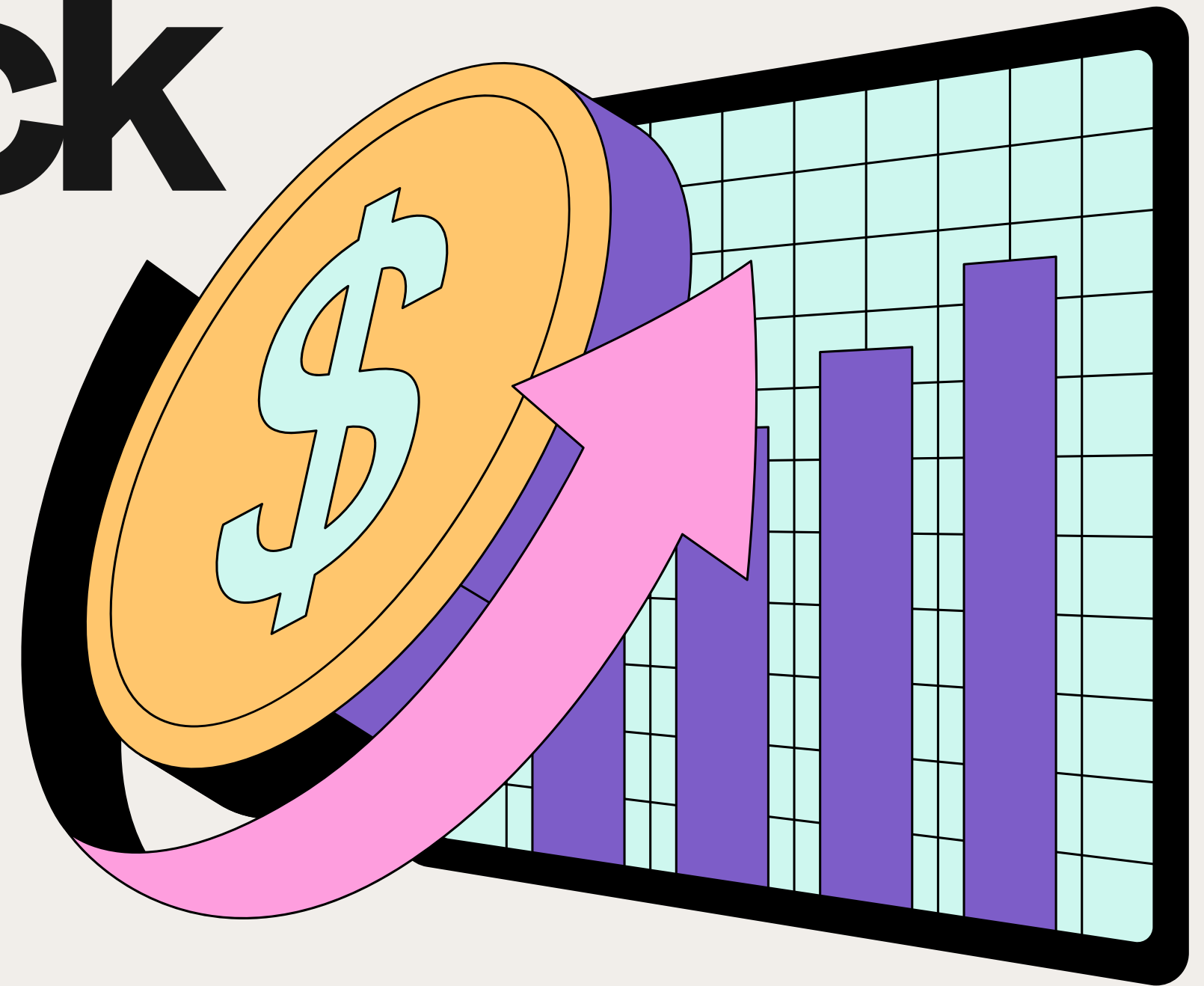


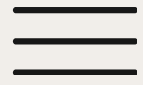


# Tech Stock Tracker

Presented by:

David Williams  
Melanie Liao  
Dhruvi Yadav  
Ilknur Toptas

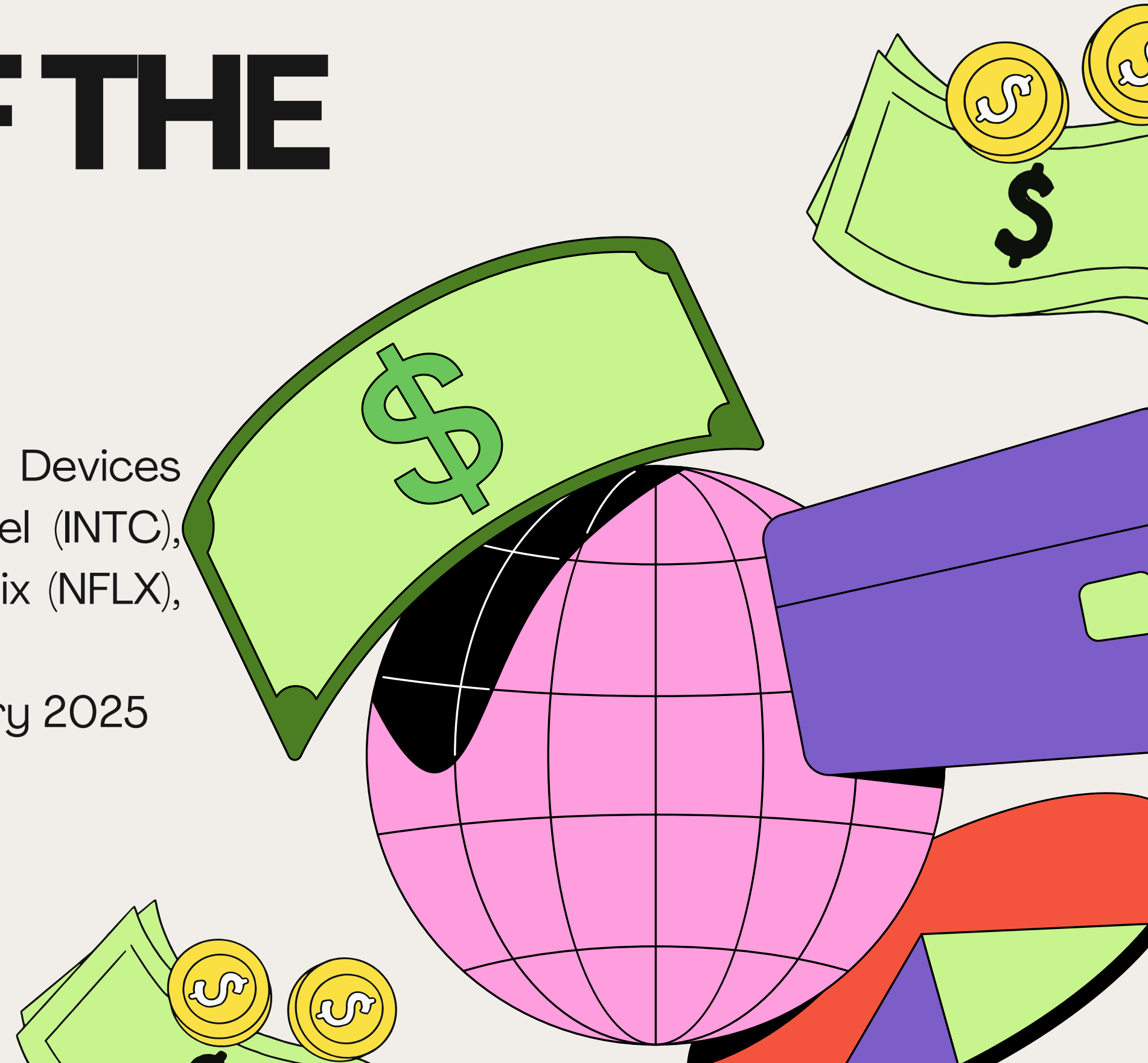




# OVERVIEW OF THE DATASET

- **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

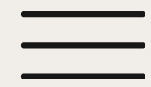
<https://finance.yahoo.com>





- **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

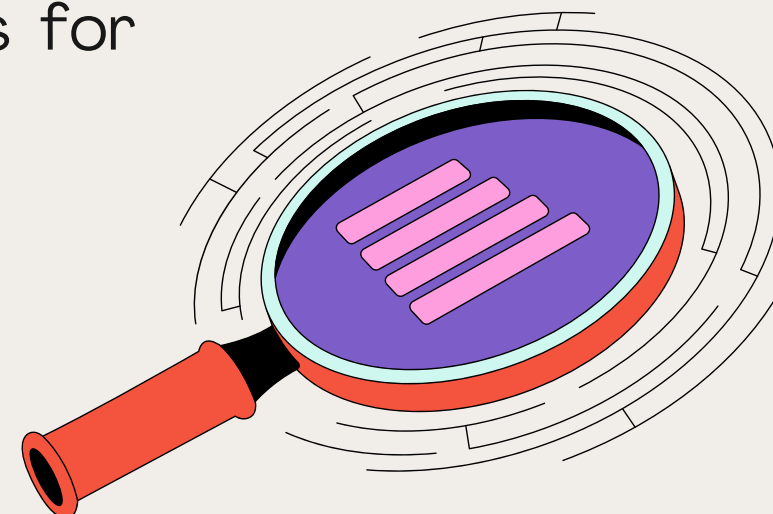
**Small Investors:** Individuals looking to make informed investment decisions.





# DATA COLLECTION AND STRUCTURE

Our project utilizes historical stock market data to power its visualization and projection tools. The dataset includes stock prices from multiple years, specifically focusing on key metrics such as Open, High, Low, Close prices, Trading Volume, and Market Capitalization. This data is structured in JSON format, making it easy to retrieve and process for analysis.



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    ]
  }
}
```



# 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

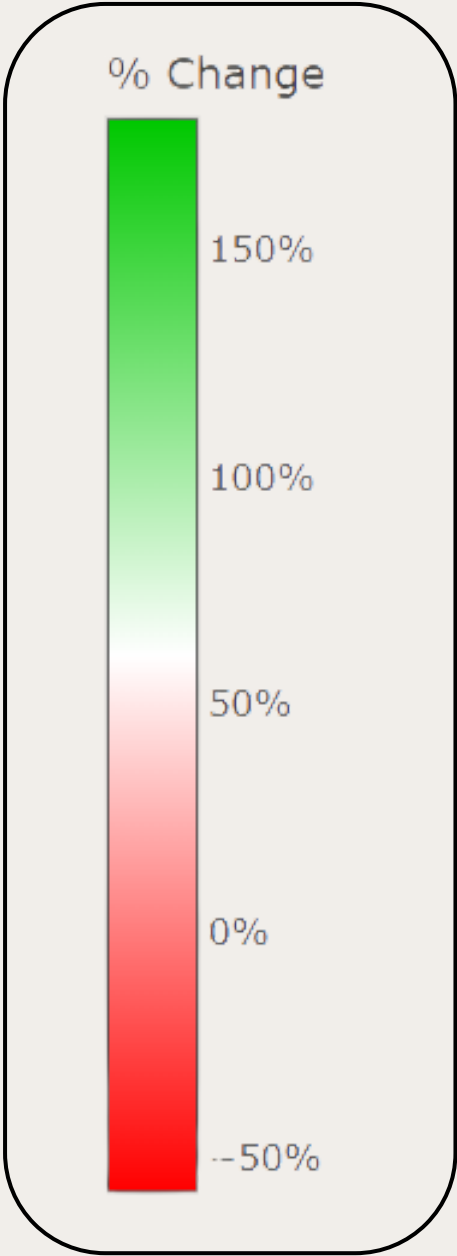
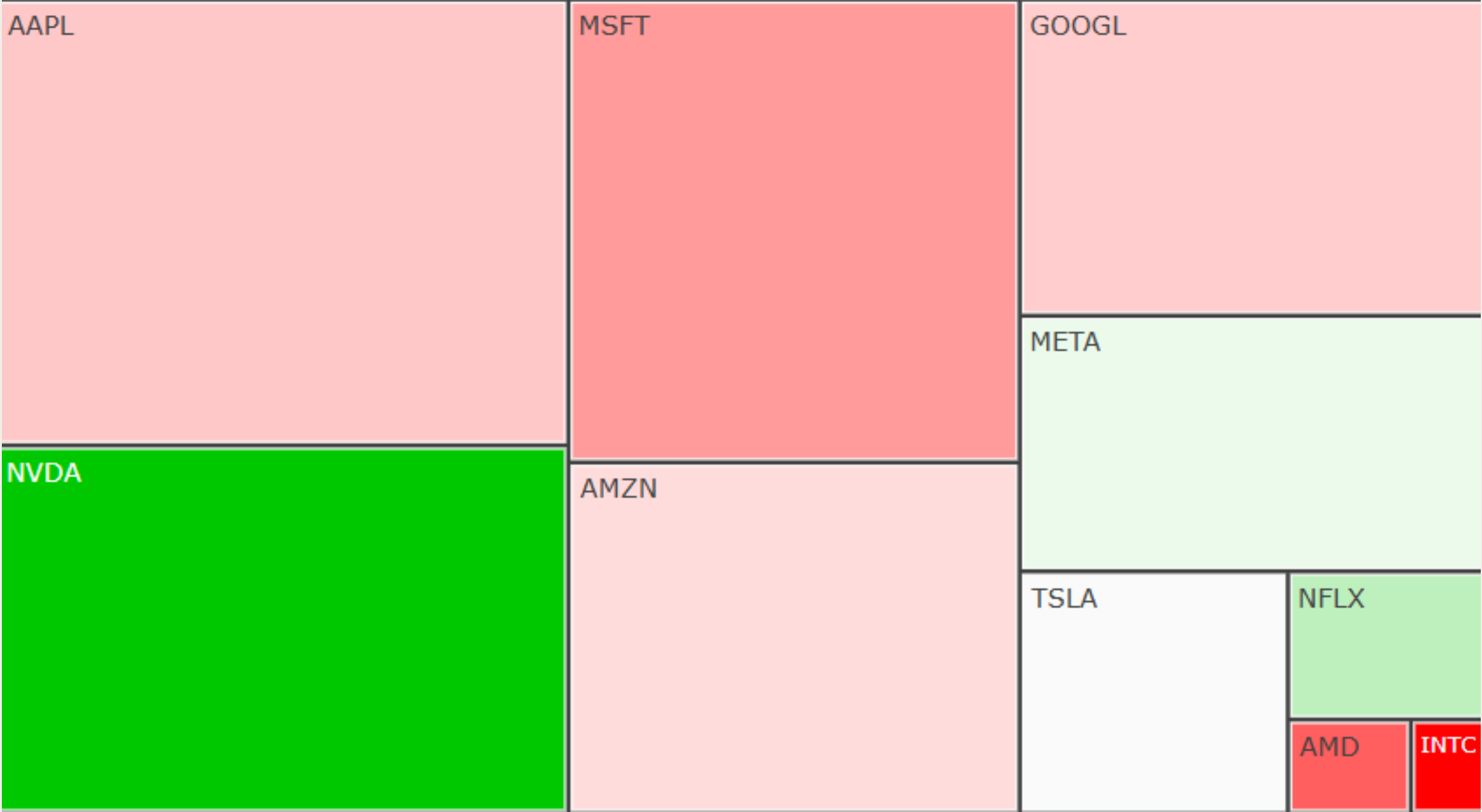
META Regression Graph (2023)



- 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%

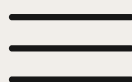
[Search AAPL on Yahoo Finance](#)



GOOGL Candlestick Chart (2022)



# CANDLESTICK CHART ANALYSIS: STOCK PRICE TRENDS



## Stock Value Calculator

Investment Amount (\$):

100000

Select Stock:

AAPL

Start Date:

2015-03-05

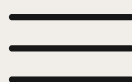
End Date:

2025-02-27

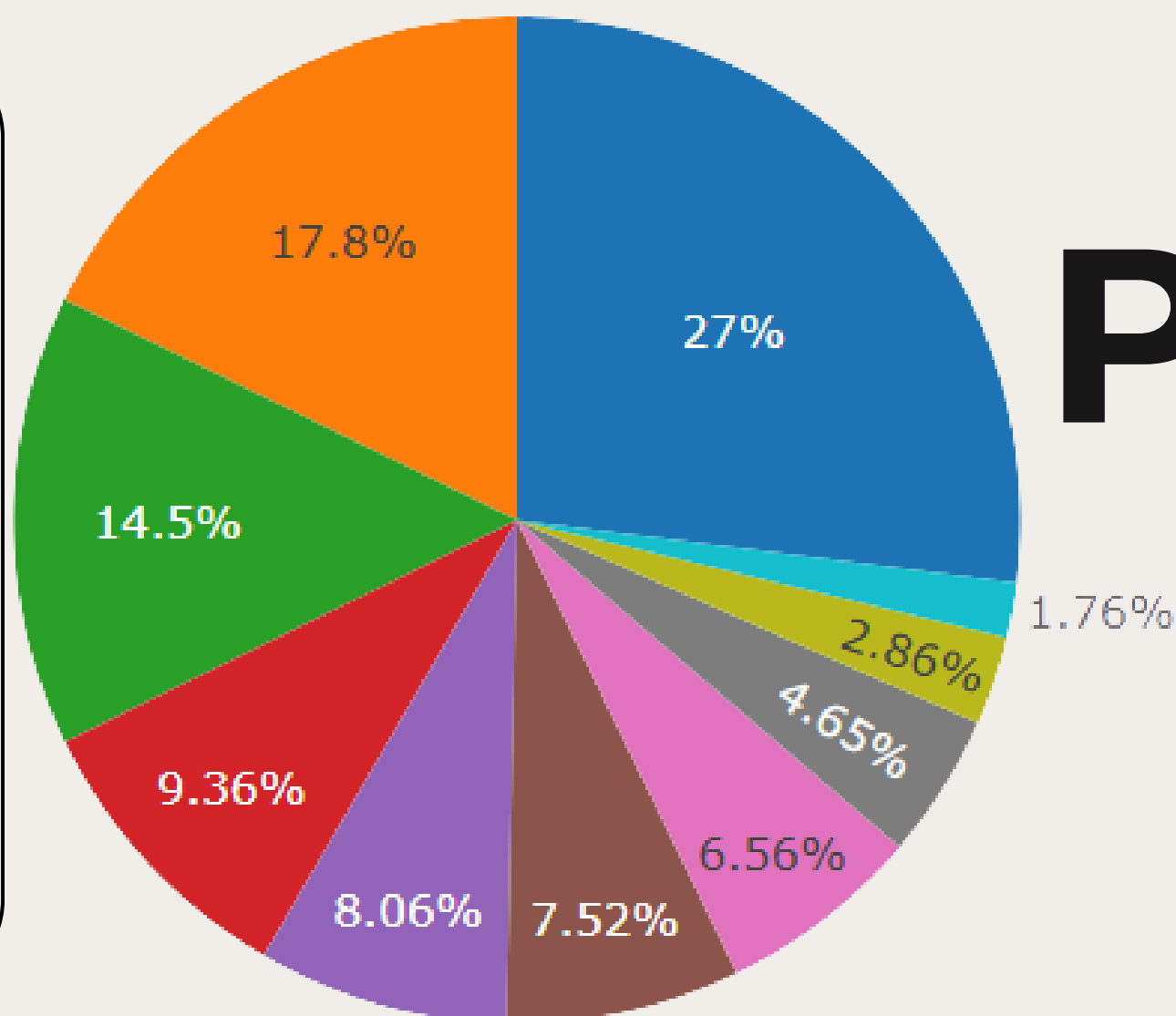
Calculate Value

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).

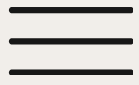
# INVESTMENT GROWTH CALCULATOR



- NFLX
- META
- MSFT
- TSLA
- AMZN
- AAPL
- GOOGL
- AMD
- INTC
- NVDA

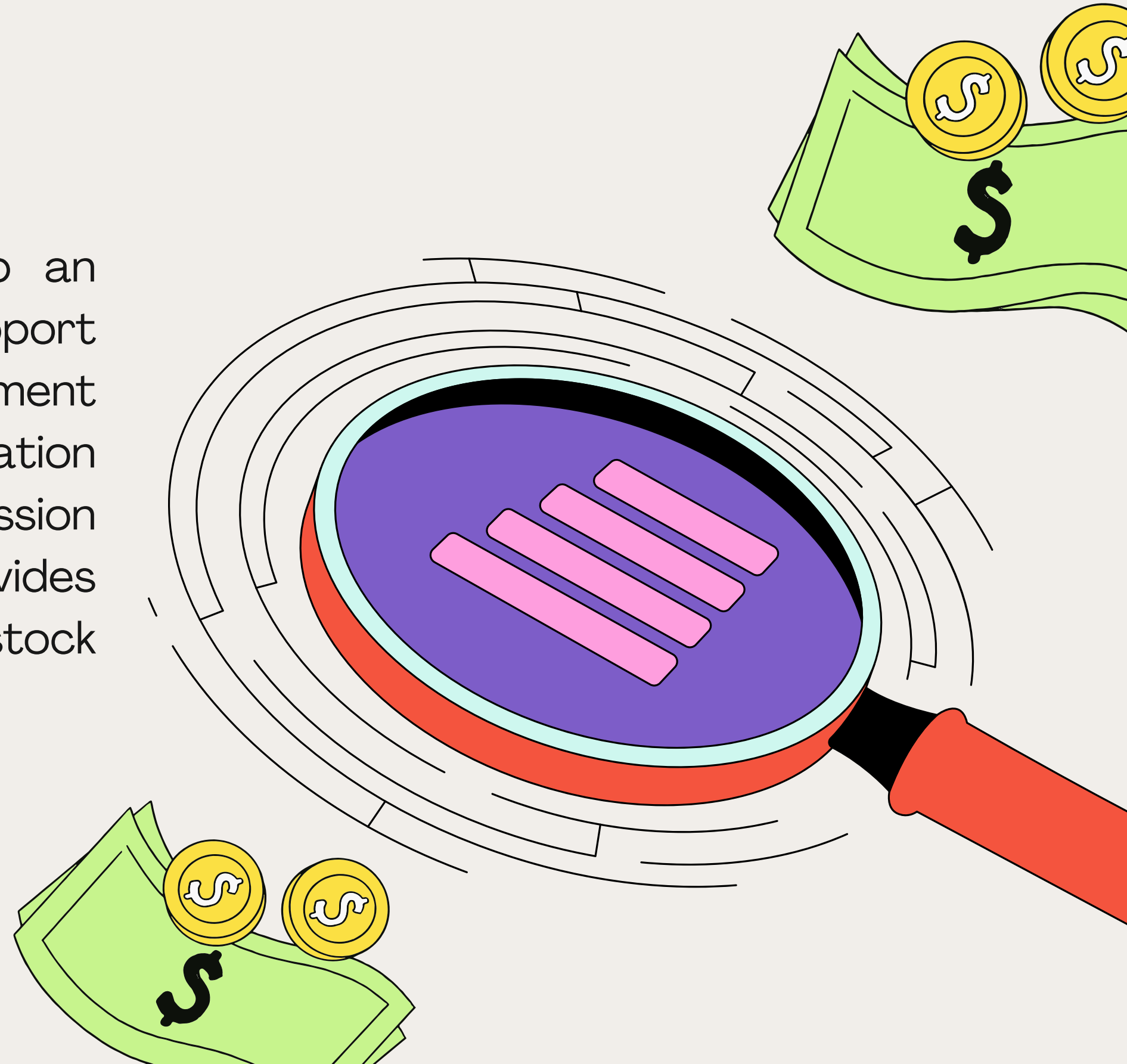


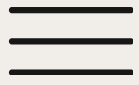
# STOCK PERFORMANCE OF 10 YEARS



# 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**

