Group 6 - Stock Exchange

UNC CHARLOTTE

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Agenda

- ❏ Overview & Problem Statement
- ❏ Dataset Description
- ❏ Glimpse of Data
- ❏ Design Process
- ❏ Shiny App
- ❏ Demo
- ❏ Continuous Learning
- ❏ Observations

Stock Exchange Data

Problem Statement:

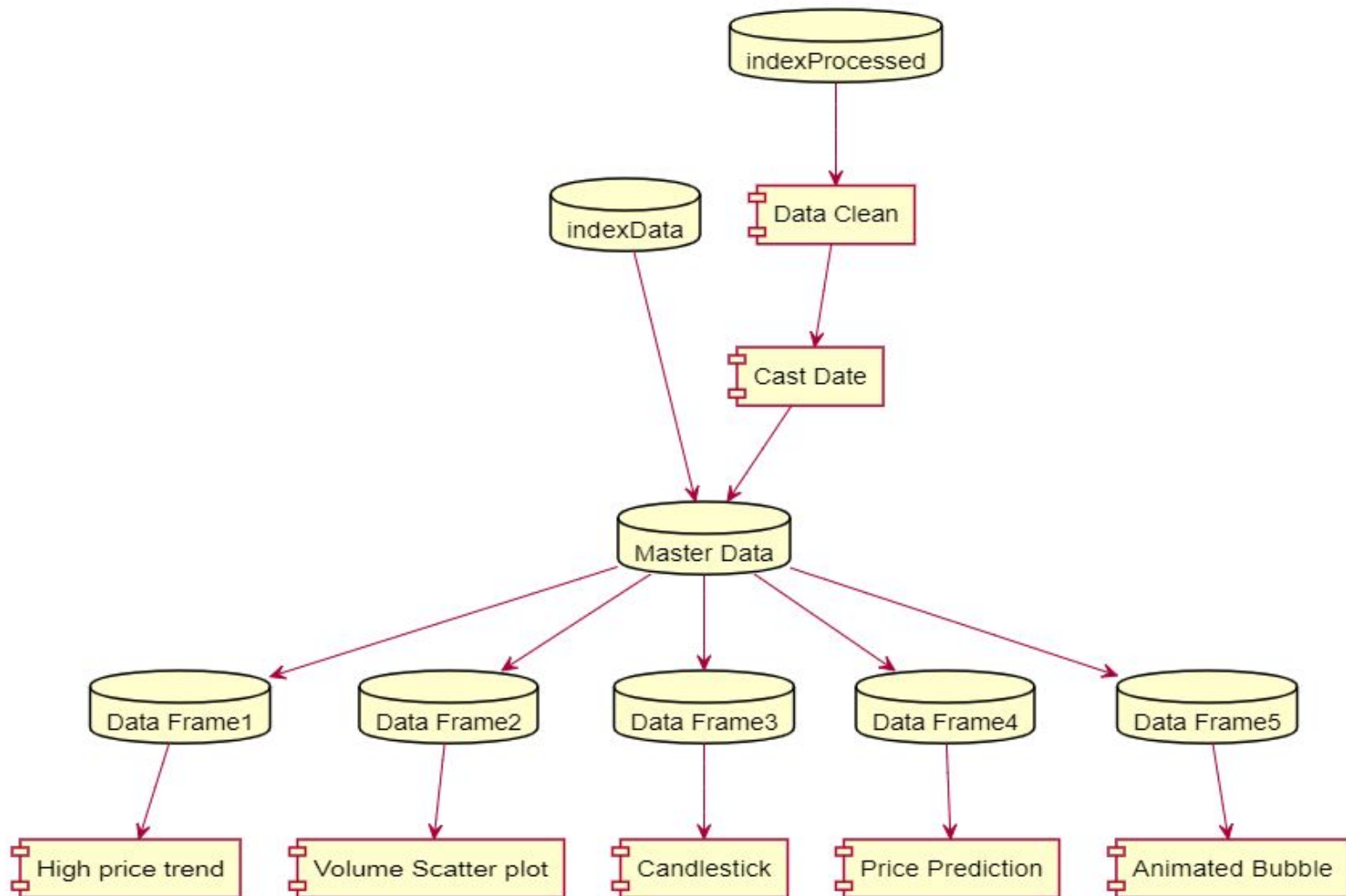Analyze volatility of 13 stock indexes and its comparison and then predict future trend of stock market.

Dataset Description

Dataset	Description	Observations
1	indexData	112458
2	indexInfo	15
3	indexProcessed	104225

- indexData - Raw index price information, prices are quoted in each exchanges national currency
- IndexInfo - Stock exchange info including location, name of exchange, index ticker, and currency index is quoted in
- indexProcessed - index price information with null values removed and closing prices in USD added as a column

Glimpse of DataSets

Design Process

Shiny App

The objective of Shiny App is to create interactive graphical representations of Stock Index. Here are the charts:

- High price trend
  - Overall Stock Index trend and their comparison on a given time.
- Scatter plot
  - Overall Stock Index volume and their comparison on a given time.
- Candlestick
  - Fluctuation of Stock Index on each day, month and year and their comparison
- ARIMA price prediction plot
  - Prediction of future months Fluctuation of Stock Index based on Closing price.
- Animation plot
  - Depicts overall closing price changed in comparison with other.

Link to shiny app

Continuous Improvement

- Include external factor like inflation, crude oil index, gold and silver index for prediction future stock index trend
- Include dollar index
- Include Country name in left navigation as oppose to index name
- Include more left navigation options to help predict future trend
- Include user friendly print and email options on these charts
- Include bootstrap as oppose to fluidpage for the charts so that it is responsive.

Observation Report

This report is developed using HTML based RMarkdown and bookdown. We created six sections to capture following:

- Introduction
- Data/Operation Design
- Encoding/Interaction
- Algorithm design
- User evaluation
- Future work
- Appendix

Navigate to bookdown report

Q & A

thank you