ACROPOLIS INSTITUTE OF TECHNOLOGY AND RESEARCH
(Department of Computer Science and Engineering)

Stock Price Prediction using Time Series Analysis and Sentimental Analysis

Introduction

"Stonks" is a stock price prediction software.
The prediction of stock price is done after analyzing previous years data of the company.
The entire idea of predicting stock prices is to find stocks that gives maximum return to the investor and minimizes the risk.
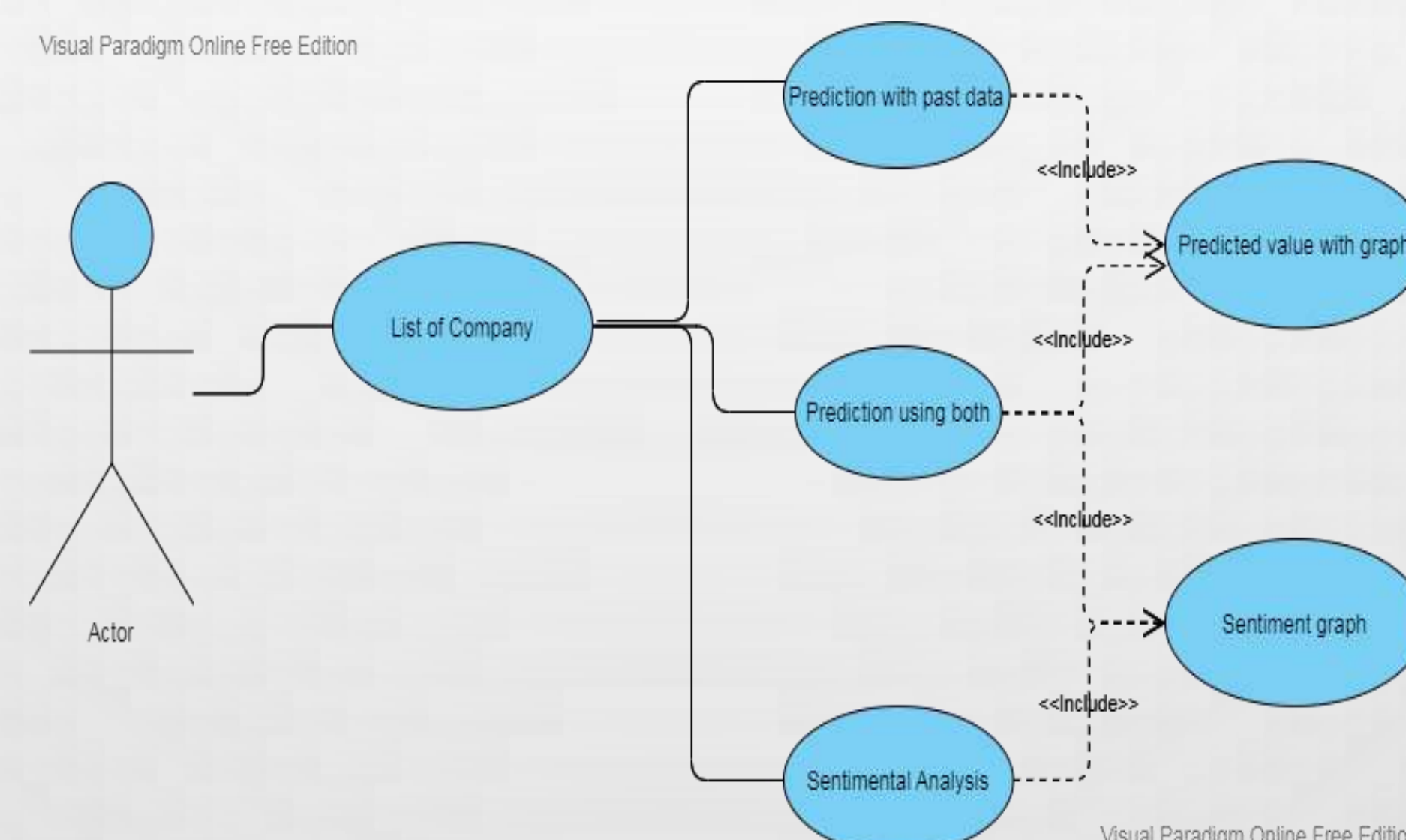

Objective

The aims of the project are as follows:
• To predict future stock price
• To generate pattern from previous years large dataset for the prediction of stock price.
• To analyse public sentiments.

The main feature of the project is to generate an approximate forecasting of stock price and
create a general idea of future values based on previous data by generating a pattern.
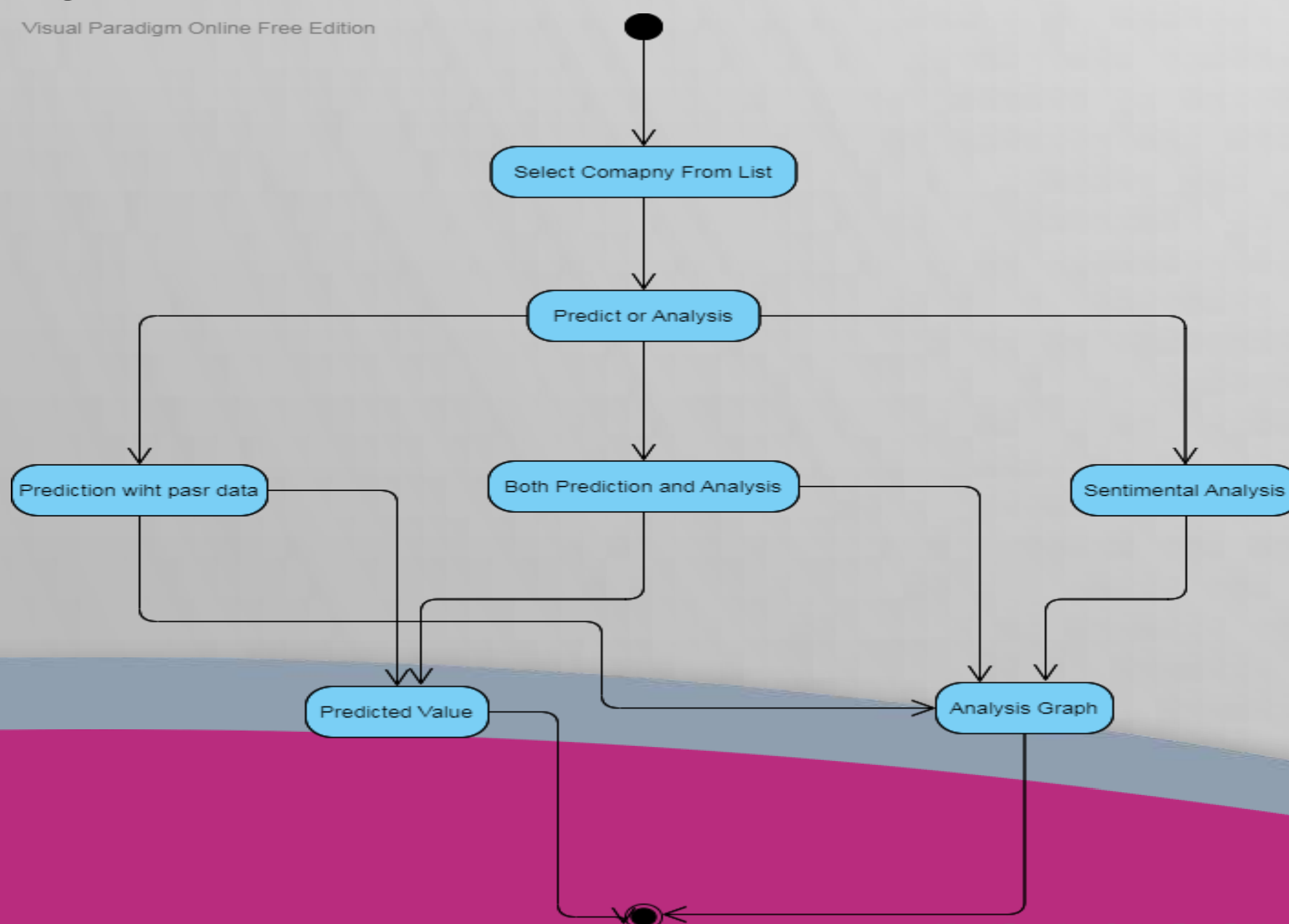
Results

The project built will be able to clean and extract the data using pandas and seaborn. The processed data will then be ready for building predictive model. The predictive model will be developed using LSTM algorithm which will be build using keras and tensorflow library. To analyse the pubic sentiments of the company using NLP algorithm through Twitter API.The frontend (GUI) will be created using Streamlit python library. The project will be able to predict the stock price with suitable accuracy. The Project will be beneficial for the newcomers in investing and analyst to predict and compare the stock price.

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Methodology

Time Series Analysis (TSA):-
For getting insights of historical data.
Long Short-Term Memory (LSTM):-
For creating neural network for predicting future stock price and generating pattern.
Flair:-
For extracting public perception about the company on social media platform (Twitter API).
Streamlit:-
For development of web application.
Plotly:-
For data visualization.

Conclusion

The project will be useful for investors to invest in stock market based on various factors. The project target is to create an application that can analyses the historical data of the companies and implement these values to the model created to determine the value the particular stock will have in near future with suitable accuracy.