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**Problem definition :problem is to build a predictive model that forecasts stock prices based on historical market data. The goal is to create a tool that assists investors in making well-informed decisions and optimizing their investment strategies. This project involves data collection, data preprocessing, feature engineering, model selection, training, and evaluation.**

**Design Thinking:**

**Data Collection: I am collect the data from**

[**https://www.kaggle.com/datasets/prasoonkottarathil/microsoft-lifetime-stocks-datasetCollect**](https://www.kaggle.com/datasets/prasoonkottarathil/microsoft-lifetime-stocks-datasetCollect) **historical stock market data, including features like date, open price, close price, volume, and other relevant indicator**

1. **Data Preprocessing:**

**Clean and preprocess the data, handle missing values, and convert categorical features into numerical representations.**

1. **Feature Engineering:**

**Create additional features that could enhance the predictive power of the model, such as moving averages, technical indicators, and lagged variables.**

1. **Model Selection:**

**Choose suitable algorithms for time series forecasting (e.g., ARIMA, LSTM) to predict stock prices.**

1. **Model Training:**

**Train the selected model using the preprocessed data.**

1. **Evaluation:**

**Evaluate the model's performance using appropriate time series forecasting metrics (e.g., Mean Absolute Error, Root Mean Squared Error).**