Project Design Phase-I
Solution Architecture

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Team ID	PNT2022TMID13214
Project Name	Project – Crude Oil Price Prediction

Solution Architecture:
Solution architecture is a complex process that bridges the gap between business problems and technology solutions. Its goals are to:

- Find the most feasible solution to an existing problem.
- Describe the structure, characteristics, behaviour, and other aspects of the solution to project stakeholders.
- Define objectives, development phases, and solution requirements.
- Provide specifications according to which the solution is defined, managed, and delivered.

Oil demand is inelastic, therefore the rise in price is helpful for producers who get an increased revenue; however, Oil importers will face some marginal losses. Since oil is the largest traded commodity in the world, its effects are far reaching. A rise in oil price can have a significant shift economic/political power from oil importers to oil exporters.

The proposed solution mainly focuses on applying Recurrent Neural Networks to predict the price of crude oil. This prediction helps us to make an informed decision. Time series analysis is most suitable for this kind of prediction where the historic oil price data is analysed. So, we plan on implementing RNN (Recurrent Neural Network) with LSTM (Long Short-Term Memory) to achieve the task. LSTM networks are well-suited to classifying, processing and making predictions based on time series data, since there can be lags of unknown duration between important events in a time series. LSTM deals with the vanishing gradient problem encountered in traditional RNNs.