**Project Design Phase-II**
**Solution Requirements (Functional & Non-functional)**

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|---|---|
| Date | 11 October 2022 |
| Team ID | PNT2022TMID50796 |
| Project Name | Crude Oil Price Prediction |
| Maximum Marks | 4 Marks |

**Functional Requirements:**

Following are the functional requirements of the proposed solution.

| FR No. | Functional Requirement (Epic) | Sub Requirement (Story / Sub-Task) |
|---|---|---|
| FR-1 | User Registration | • Registration through Form<br>• Registration through Gmail<br>• OAuth Authentication<br>• Registration through LinkedIn |
| FR-2 | User Confirmation | • Confirmation via Email<br>• Confirmation via Mobile OTP |
| FR-3 | User Login | • Login through username and password<br>• Login through Gmail<br>• Login through LinkedIn<br>• OAuth Authentication |
| FR-4 | Primary specifics | • Sync oil price every second<br>• Show Up and Down graph in real-time in accordance with the oil price |
| FR-5 | Additional Requirement | • Read the latest news<br>• View price charts<br>• Review futures on the selected quotation<br>• Analyze historical price trends<br>• Check exchange rates and commodities futures<br>• Volume of trades happening now |
| FR-6 | System Responsibility | • Allowing the user to select a date<br>• Track the previous results<br>• The pricing news should be updated |

**Non-functional Requirements:**

Following are the non-functional requirements of the proposed solution.

| FR No. | Non-Functional Requirement | Description |
|---|---|---|
| NFR-1 | **Usability** | • To utilize a system easily and accelerate routine operations, it must have a logical user interface.<br>• Anyone who registers on the portal can utilize the system. |
| NFR-2 | **Security** | The following is a list of some of the factors that have been found to prevent malicious or unintentional access, usage, modification, destruction, or disclosure of the software:<br>• Maintain particular log or historical data sets.<br>• Apply specific cryptography methods.<br>• Limit the number of devices that can access the website for predicting the price.<br>• Verify the integrity of the data. |
| NFR-3 | **Reliability** | • At the time of entry, all user variable data will be committed to the database.<br>• By using the available backup procedures and techniques, data corruption is avoided. |
| NFR-4 | **Performance** | • The system must allow for the simultaneous use of many users at all times.<br>• The accuracy of the price should be at the maximum. |
| NFR-5 | **Availability** | • The system should always be accessible, allowing for simple user access.<br>• A replacement page will be displayed in the event that hardware or data base failure increases, and data should be obtained to restore the system. |
| NFR-6 | **Scalability** | • Identifies the maximum workloads at which the system will still operate well.<br>• Focus on the measurement of the system's response time under various load levels. |