Project Design Phase-II

Technology Stack (Architecture & Stack)

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| Date | 23 October 2023 |
| Team ID | Team-592401 |
| Project Name | Time Series Analysis For Bitcoin Price Prediction Using Prophet |
| Maximum Marks | 4 Marks |

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2.

Flask Server

Diagram:

Validation

UI

DB

Input

Inference

Result

Table-1 : Components & Technologies:

|  |  |  |  |
| --- | --- | --- | --- |
| Sno | Component | Description | Technology |
| 1. | User Interface | A responsive webui with required menus. | HTML, CSS, JavaScript |
| 2. | Application Logic | A flask server to use the model and make inference. | Python |
| 3. | Database | Data Type, Configurations | SQLite |
| 4. | File Storage | A local filesystem to store project | Any local filesystem |
| 5. | Machine Learning Model | FbProphet model is built that helps to define the price trend of Bitcoin in the future. | FB-Prophet |
| 6. | Infrastructure | Application Deployment on Local System: Local Server Configuration | Local |

Table-2: Application Characteristics:

|  |  |  |  |
| --- | --- | --- | --- |
| Sno | Characteristics | Description | Technology |
| 1. | Open-Source Frameworks | Graphs,Data and Market data for crypto | Plotly,Pandas,Yahoo Finance |
| 2. | Scalable Architecture | 3-tier architecture | Flask and sqlite |
| 3. | Availability | Load Balancers and Distributed Servers | Flask-Limiter and Flask |
| 4. | Performance | Reuse of data in cache. | Python |