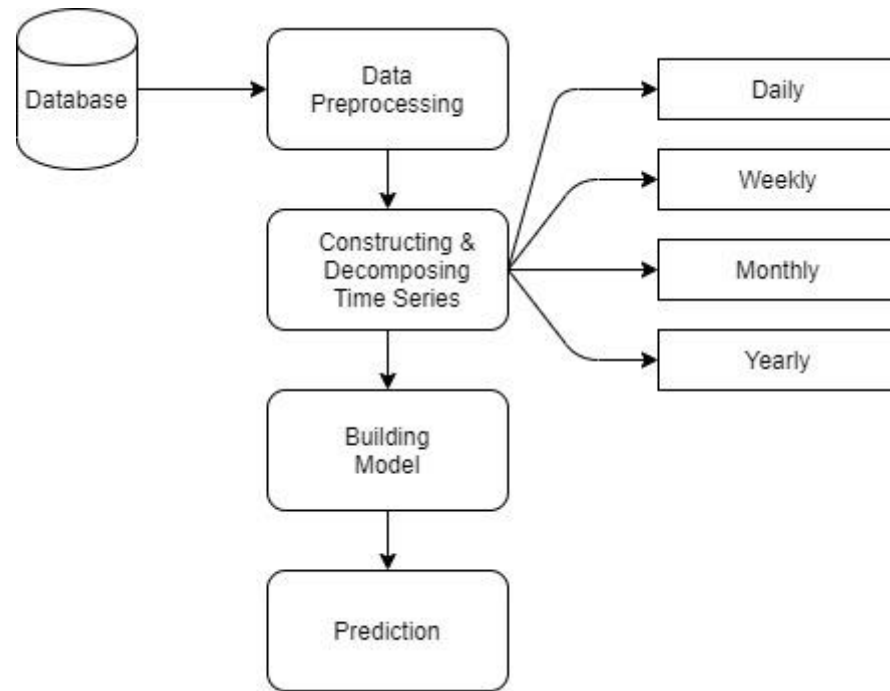


**Project Design Phase-II Data Flow
Diagram & User Stories**

Date	23-10-2023
Team ID	592390
Project Name	Time Series Analysis for Bitcoin Price Prediction Using Prophet
Maximum Marks	4 Marks

Data Flow Diagrams:

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.



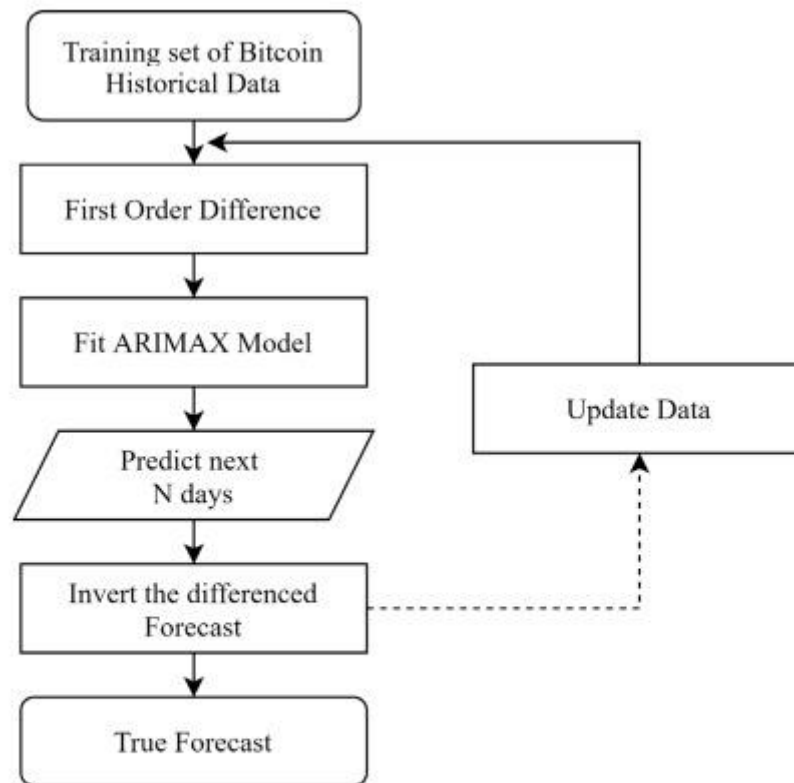


Figure 3. ARIMAX Model for BTC Prediction

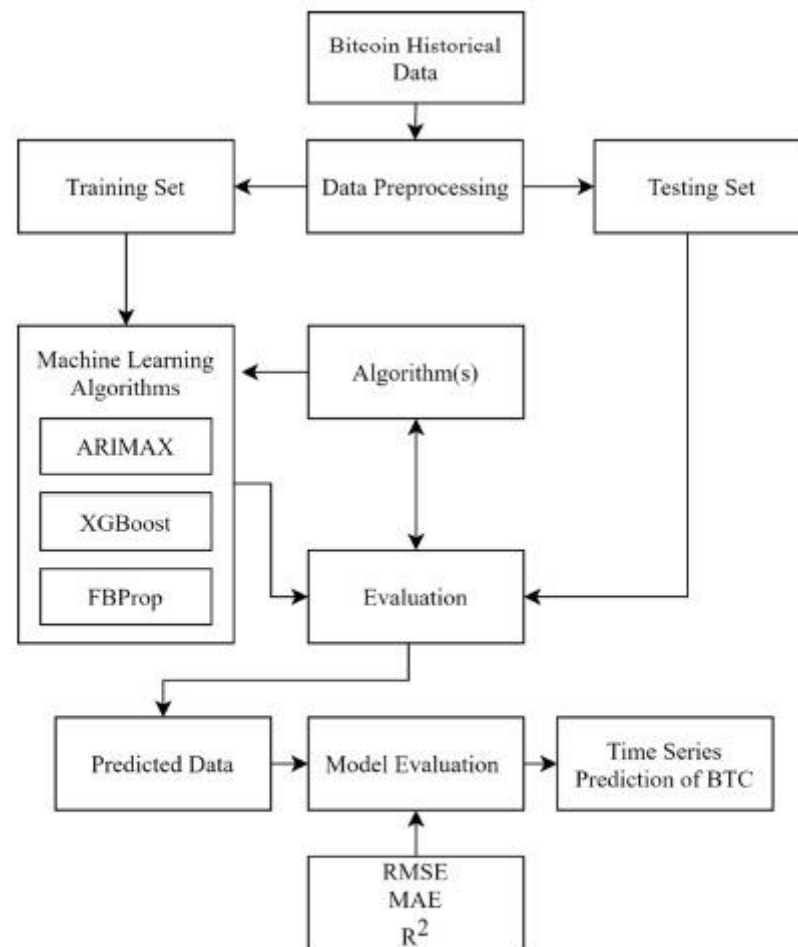


Figure 2. Basic Methodology Flowchart

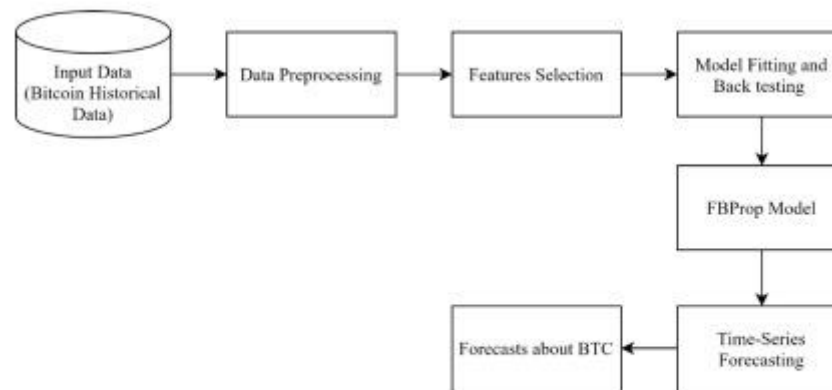


Figure 6. FBProp Algorithm for BTC

User Stories

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance Criteria	Priority	Release
Crypto Investor	Historical Data Collection	USN-1	As a crypto investor, I want to collect historical Bitcoin price data for analysis and forecasting using Facebook Prophet.	Data collection should include Bitcoin price records from multiple sources and be stored in a structured format.	High	Sprint 1

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance Criteria	Priority	Release
Data Analyst	Data Preprocessing	USN-2	I want to preprocess the collected Bitcoin price data by cleaning, normalizing, and structuring it for time series analysis with Prophet.	Data should be cleaned and transformed into a suitable format for modelling.	High	Sprint 1
Data Scientist	Model Development and Training	USN-3	I want to select the Prophet model and train it using the pre-processed Bitcoin price dataset.	The model should be fine-tuned, and training results should meet performance criteria.	High	Sprint 2
Application Developer	Model Integration and Deployment	USN-4	I want to deploy the trained Prophet model as an API and integrate it into a user-friendly application for Bitcoin price forecasting.	The application should provide an easy-to-use interface for users to input their requirements.	High	Sprint 2

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance Criteria	Priority	Release
Crypto Trader	Real-Time Predictions	USN-5	I want to receive real-time Bitcoin price predictions using the integrated Prophet model to make informed trading decisions.	Real-time predictions should be available with low latency.	Medium	Sprint 3
Quality Assurance	Testing and Evaluation	USN-6	I want to rigorously test the system, evaluate the effectiveness of predictions, and ensure high reliability and accuracy.	Testing should cover a range of scenarios, and the system should meet predefined accuracy standards.	Medium	Sprint 3