

## Project Initialization and Planning Phase

Date	20 Nov 2024
Team ID	739720
Project Title	Time Series Analysis for Bitcoin Price Prediction using Prophet
Maximum Marks	3 Marks

### Project Proposal (Proposed Solution) template

This project proposal outlines a solution to address a specific problem. With a clear objective, defined scope, and a concise problem statement, the proposed solution details the approach, key features, and resource requirements, including hardware, software, and personnel.

<b>Project Overview</b>	
Objective	Forecast Bitcoin prices using Facebook Prophet to support data-driven investment decisions.
Scope	Includes historical data collection, preprocessing, Prophet model development, validation and visualisation of forecasts.
<b>Problem Statement</b>	
Description	Bitcoin prices are highly volatile, making predictions challenging for investors.
Impact	Accurate predictions can assist in strategic planning and risk management in cryptocurrency investments.
<b>Proposed Solution</b>	
Approach	Collect and preprocess data, train the Prophet model, evaluate performance, and forecast future prices.
Key Features	Automated trend and seasonality detection. Minimal tuning requirements.

## Resource Requirements

Resource Type	Description	Specification/Allocation
<b>Hardware</b>		
Computing Resources	CPU specifications	e.g., Intel i5/i7, 4 cores
Memory	RAM specifications	e.g., 8 GB
Storage	Disk space for data and logs	e.g., 256 GB SSD
<b>Software</b>		
Frameworks	Python frameworks	e.g., Prophet
Libraries	Additional libraries	e.g., pandas, matplotlib, scikit-learn
Development Environment	IDE, version control	e.g., Jupyter Notebook, Git
<b>Data</b>		
Data	Source, size, format	e.g., Bitcoin CSV file