

Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	27 October 2023
Team ID	PNT2022TMIDxxxxxx
Project Name	Project – Time series analysis for bitcoin rate prediction
Maximum Marks	4 Marks

Architecture Diagram:

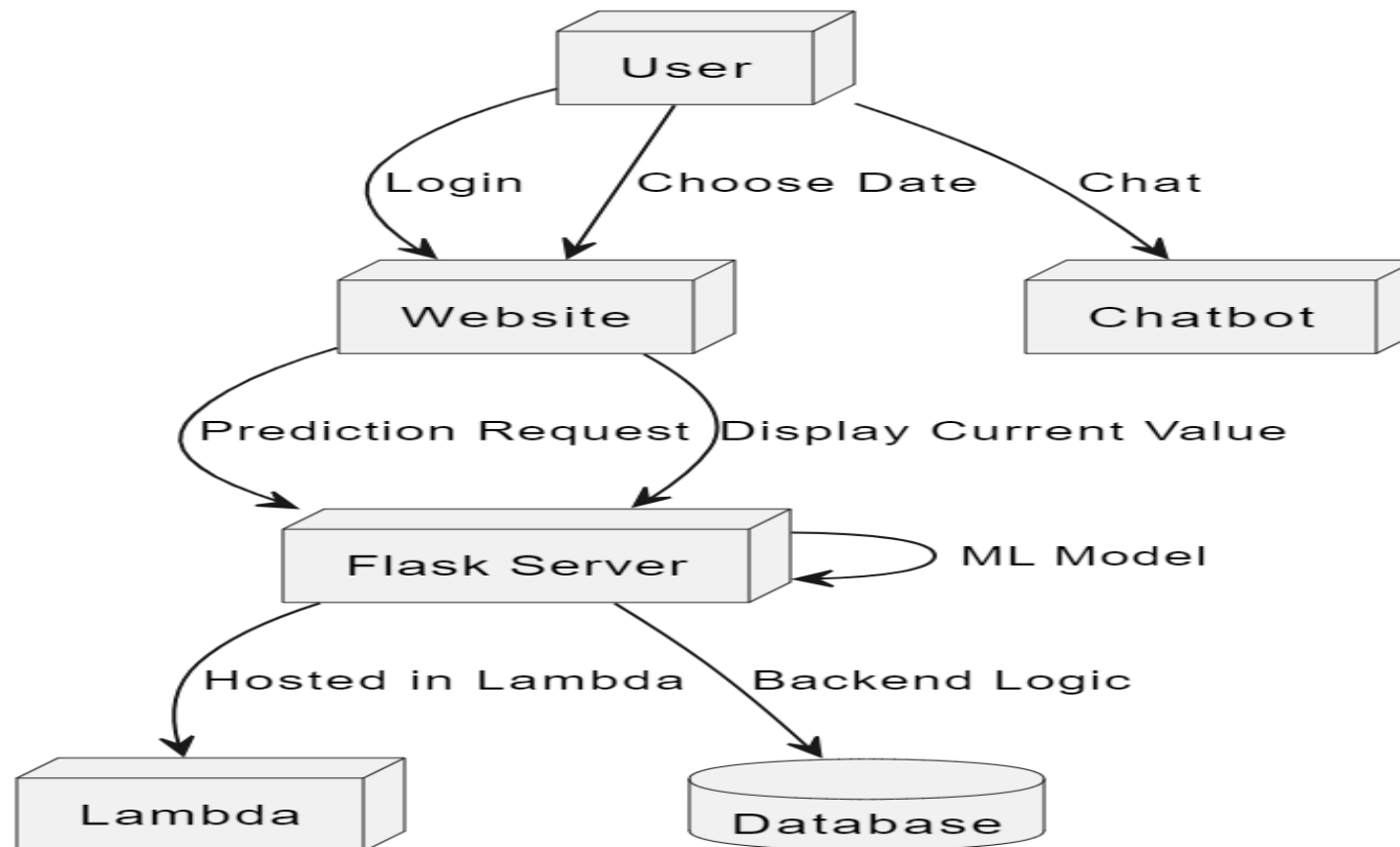


Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	A web UI made in react JS and a chatbot built with the help of voiceflow	React Js , Material UI, Voiceflow
2.	Application Logic-1	Login and registration authorized using jwt token	Python
3.	Application Logic-2	Profile data updating and entering	Flask(Python)
4.	Application Logic-3	ML model to predict future bitcoin rate	FbProphet, Flask
5.	Database	User data like username, password(encrypted) and other personal details	PostgreSQL
10.	Machine Learning Model	To predict the rate of bitcoin using time series analysis	FbProphet Model
11.	Infrastructure (Server / Cloud)	Server hosted in AWS lambda Website hosted in AWS S3	AWS

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	ReactJS	JavaScript
2.	ML Model	FbProphet	Time series analysis
2.	Security Implementations	Login and registration	SHA-256 for storing password in db and JWT for authentication
3.	Scalable Architecture	Monolithic Architecture	ReactJS, Flask,Aws Lambda and Aws S3

S.No	Characteristics	Description	Technology
4.	Availability	Highly available as AWS lambda manages Load Balancing on its own	Aws Lambda
5.	Performance	To improve performance we are using amazon cloudfront to cache static assets of our website.	AWS CloudFront