Parshvanath Charitable Trust's
A. P. SHAH INSTITUTE OF TECHNOLOGY, THANE
(All Programs Accredited by NBA)
Department of Information Technology

Bitcoin Price Prediction.

Mihir Shrivas (20104081)
Bhushan Patil (20104094)
Mayur Shinde (20104062)

Project Guide
Prof. Neha Deshmukh

Contents

1. Introduction

- Cryptocurrency is a type of digital currency similar to dollars, euros, and yen. The difference is that instead of the backing of a national or federal bank, it uses an online ledger with strong cryptography to secure online transactions.
- Through cryptocurrency exchanges, one can buy and sell cryptocurrencies. It can also be “mined.”
- A large number of people have started trading in cryptocurrencies. In recent times, Crypto trading has become popular as stock market trading. Long-term investors, as well as short-term investors, have started to invest a large amount of money into crypto trading.

- **Problem Identified** :
  - Cryptocurrency is a newly introduced digital currency that removes the dependencies of the traditional banking system.
  - People do not have much knowledge about this currency and losing their opportunity to earn profit by investing in it.
- **Solution Proposed** :
  - So, this application provides all the relatable knowledge required to know about bitcoin & cryptocurrency.
  - It also provides information regarding which cryptocurrency is trending nowadays.

2. Objectives

- To make a user-friendly GUI.
- To provide information regarding trending coins.
- To provide updated market prices and references about cryptocurrencies.
- To provide a graphical view to understand upcoming trends in the market.
- To get rid of the dependencies of traditional banking system.

3. Scope

- The main purpose of cryptocurrency is to reduce the risk involved in traditional currency.
- To provide a personalized portfolio.
- To provide proper information and to urge people to invest in cryptocurrency.
- To help user to view predicted cryptocurrency prices.

4. Literature Survey

Title of Paper	Algorithm	Advantages	Disadvantages
[1]Predicting Bitcoin Prices using Deep Learning	➢ SVM(Support Vector machine)	➢ It is convincing in high dimensional spaces. ➢ It works well with clear margin of separation. ➢ It is effective in cases where number of dimensions is greater than the number of samples.	➢ It does not perform well, when we have large data set. ➢ Low performance if the data set is noisy.
[2] Bitcoin Price Prediction using Machine Learning	➢ Bayesian Regression and GLM/Random forest:	➢ It works the prediction by taking the coinMarkup cap. ➢ Quandl is used to filter the dataset by using the MAT Lab properties.	➢ It is a long process for filter the data. ➢ Low redundancy to perform the prediction.
[3] Bitcoin Volatility Forecasting with a Glimpse into Buy and Sell Orders.	➢ LSTM(Long Short Term Memory) and ARIMA(Autoregressive integrated moving average)	➢ It is easy way to buy and sell the Bitocins. ➢ The process of buying and selling the Bitcoins are done in online. ➢ It is comfortable place to done the transactions.	➢ One drawback is there is no proof for transaction. ➢ Conversion will be late.
[4] Bayesian regression and Bitcoin	➢ Bayesian regression	➢ The Advantage of Bayesian regression in Bitcoin price prediction results has been showed in binary values. ➢ It helps to understand the results very neatly.	➢ It takes long time to solve the data set.
[5] Project Based Learning: Predicting Bitcoin Prices using Deep Learning	➢ CNN(Convolutional Neural Networks)and RNN(Recurrent neural networks)	➢ The main Advantage of CNN is Weight Sharing. ➢ It is easily calculate the large data set prices.	➢ The Convolution is a significantly slower operation then, say maxpool, both forward and backward.

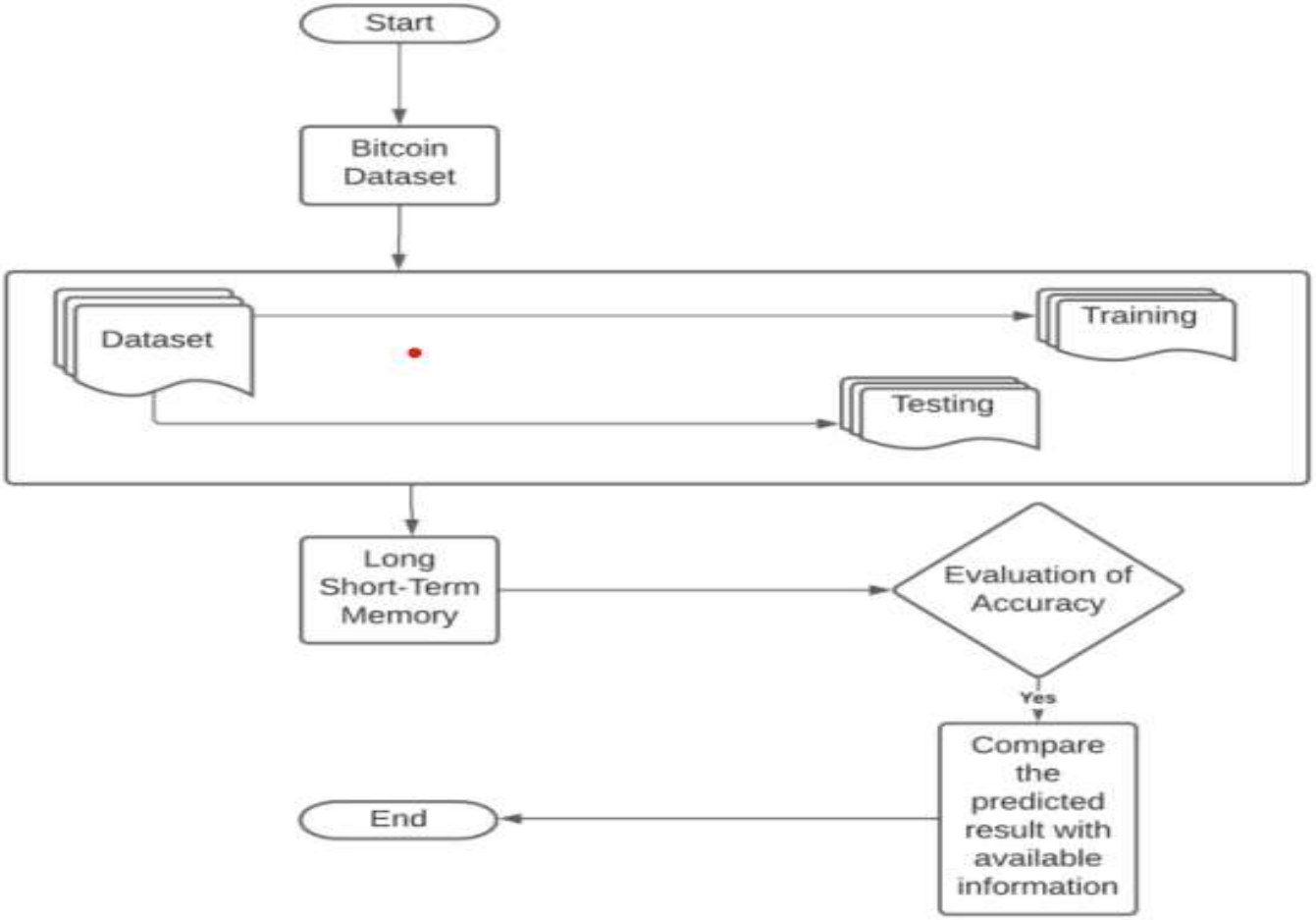
5. Proposed System

- Our system allows the user to search for various types of cryptocurrency available worldwide.
- In our system, users can see the real-time as well as the predicted value of cryptocurrencies.
- Providing the latest news about the crypto world.

6. Algorithm used

- Long Short-Term Memory (LSTM) Networks: LSTM networks are a type of recurrent neural network that is commonly used for time series prediction. They can analyze historical data and make predictions based on past trends and patterns, making them ideal for predicting cryptocurrency prices.
- Dataset: Yahoo Finance which provides financial data, including historical price data for cryptocurrencies like Bitcoin and Ethereum.

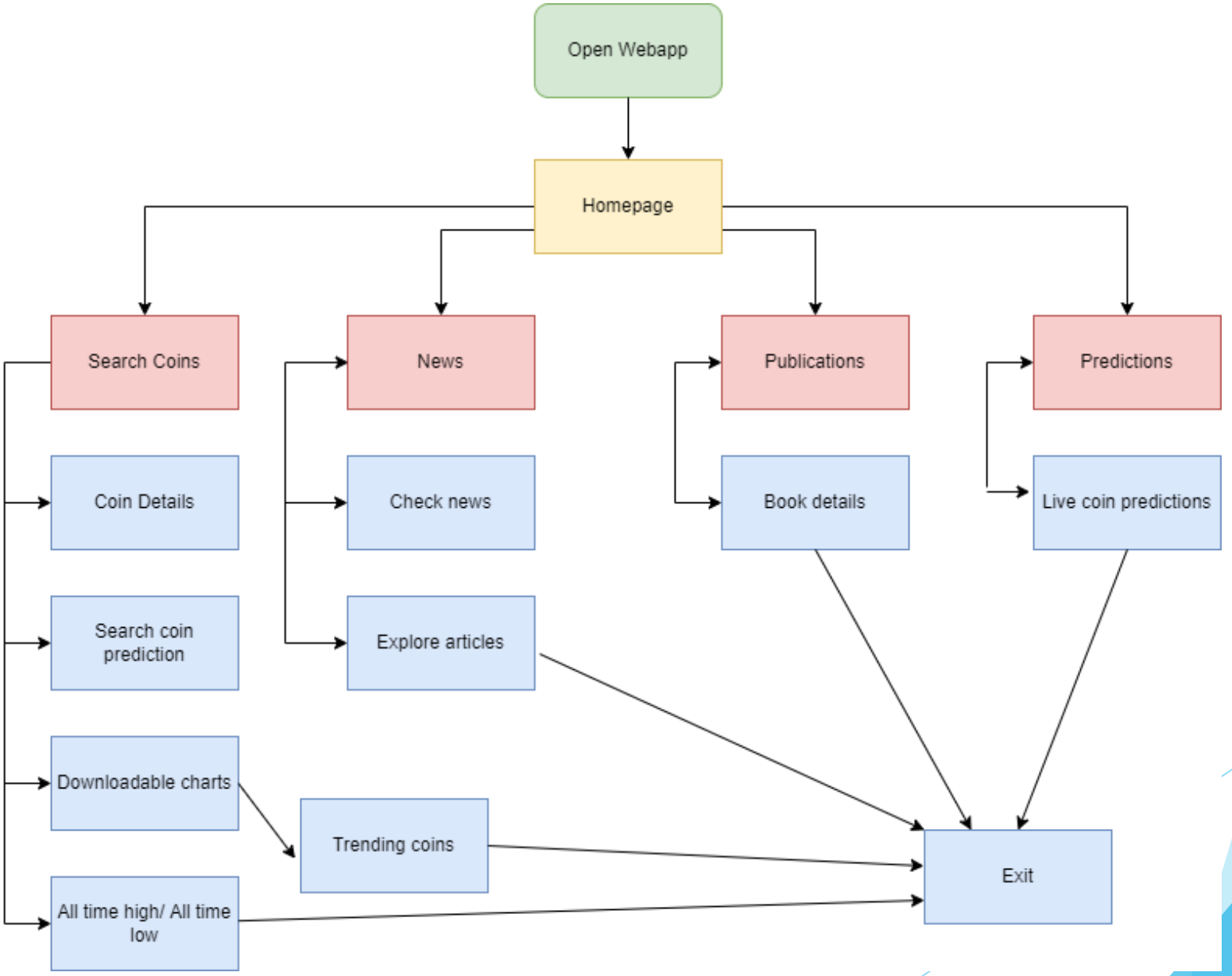
➢ System Architecture:



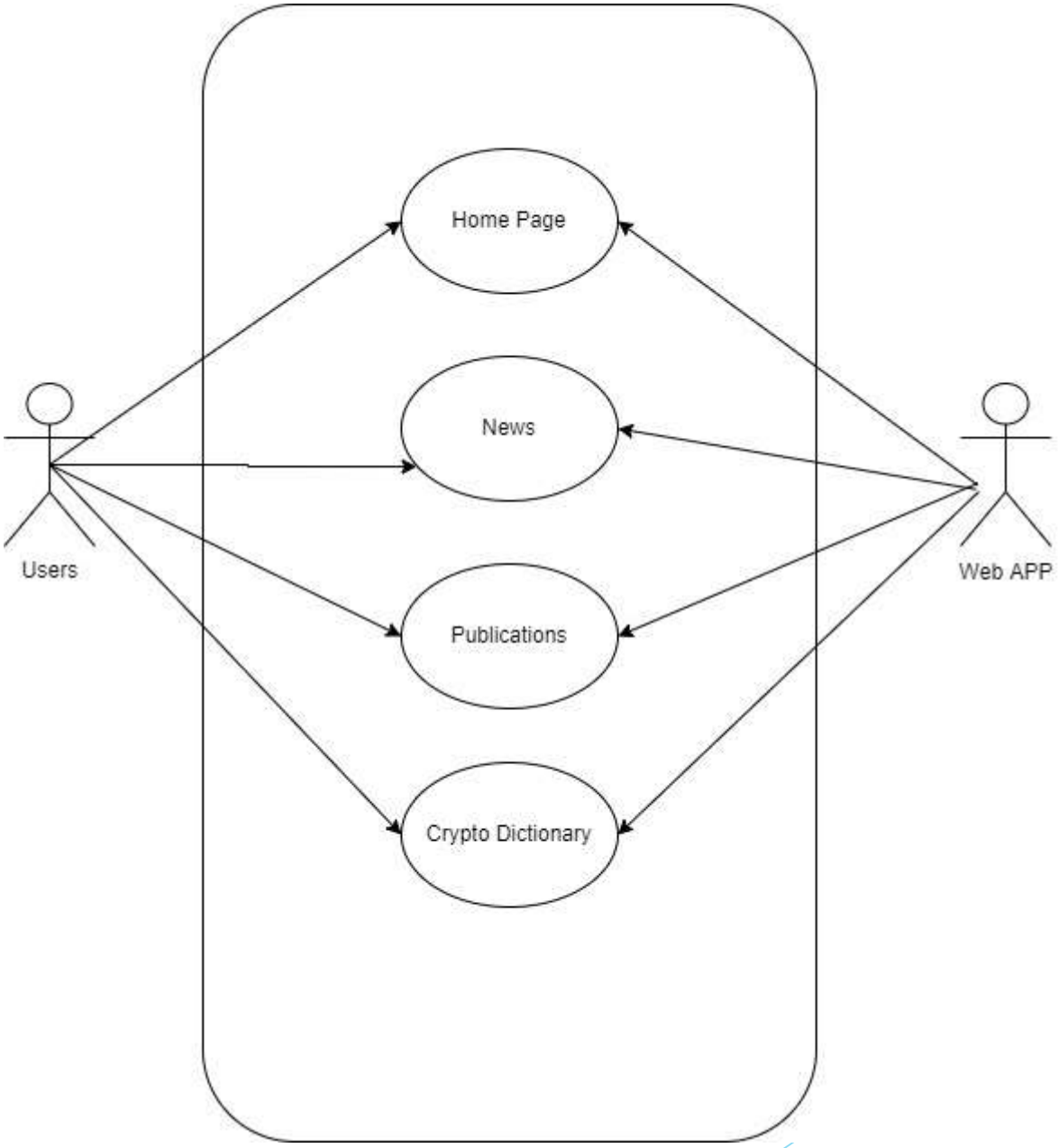
7. Outcome of Project

- Helps users to retrieve information about cryptocurrencies.
- Enabling users to gain knowledge about new digital currencies introduced in the market
- Users are able to get the current market price of all cryptocurrencies.
- Users will get **All time-high** and **All time-low** values for a particular cryptocurrency.
- User can see Predicted prices of particular Cryptocurrencies.

8. Block Diagram(System Flow):



9. Use Case :


Home Page
News
Publications
Crypto Dictionary
Users
Web APP

10. Technology Stack:

The Technology Stack we used in the Project is:

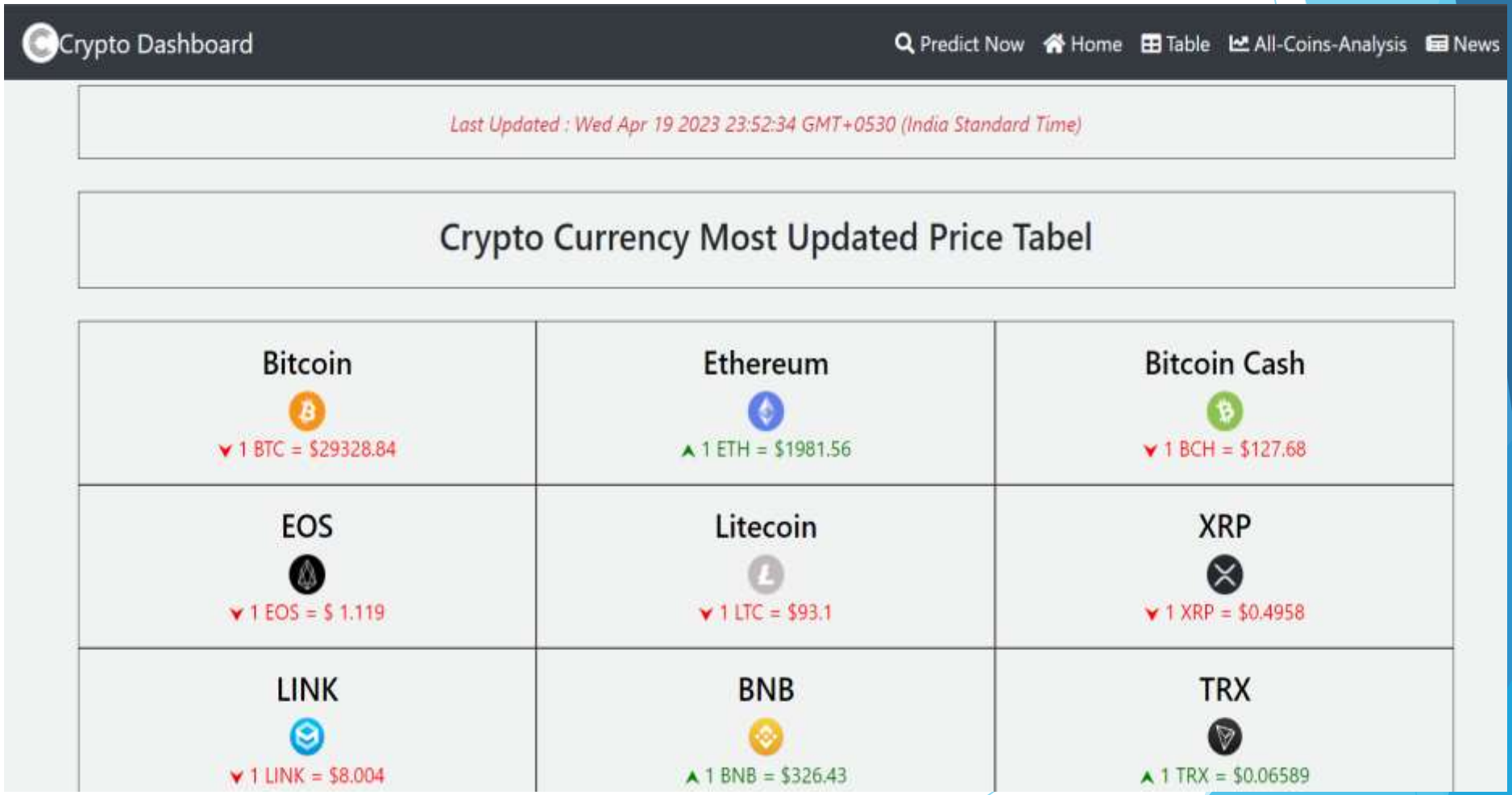
- Code Editor: VS Code
- Framework: Streamlit
- Frontend: HTML, CSS & JS
- Project workspace: GitHub
- Other Technologies: Live Dataset(YAHOO), Kagel(for prediction)

11. Suggestion in Review-1

- Proper implementation of the ML Model
- Changes in the PPT

12.Result & Discussion

- Home page



➢ Prediction Page:

Which Crypto do you want to visualize?

Bitcoin

Start Date

2023/03/19

End Date

2023/04/19

Data Interval

30m

Value Selector

Open

Generate

13. Conclusion

- A user who is a beginner as well as experienced can use this application to explore cryptocurrencies.
- To sum up, the use of machine learning for cryptocurrency price detection has shown to be a reliable and accurate method for predicting future prices.
- As the cryptocurrency market continues to grow and change, ML models are likely to become even more advanced, providing valuable insights for investors and traders.

14.Reference :

- https://ieeexplore.ieee.org/abstract/document/9776665
- https://www.ijstr.org/final-print/apr2020/A-Research-On-Bitcoin-Price-Prediction-Using-Machine-Learning-Algorithms.pdf
- https://stackoverflow.com/questions/75075168/bitcoin-price-prediction-using-lstm
- https://towardsdatascience.com/bitcoin-price-prediction-using-time-series-forecasting-9f468f7174d3

Thank You!