Design Document

Project Team 4

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Topic: Cryptocurrency Price Prediction
Data Model: Document (NewSQL)
Target Platform: Azure SQL Multi-Model

Introduction

This document outlines the design for a cryptocurrency price prediction system that uses data analytics techniques to forecast the future price movements of cryptocurrencies. The system will be designed to be efficient and scalable and will be able to make predictions based on historical data from Kaggle datasets. The system will also be implemented on Azure Cloud using Azure Data Store to manage and store the data.

Data Collection and Processing

The first step in designing the cryptocurrency price prediction system is to collect and process relevant data. The system will use historical data from Kaggle datasets on various cryptocurrency markets, including price data, trading volumes, and market sentiment indicators. This data will be processed using data analytics techniques to identify patterns and trends in the market data.

Azure Data Store Implementation

To manage and store the data, the cryptocurrency price prediction system will be implemented on Azure Cloud using Azure Data Store. This will allow the system to store and manage large volumes of data efficiently and securely, while also providing easy access to the data for analysis.

Data Analysis and Modeling

Once the relevant data has been collected and processed, the system will use data analytics techniques to analyze the data and identify patterns and trends. The system will use statistical methods, such as regression analysis, to build models that can predict the future price movements of cryptocurrencies based on historical data.

Prediction and Visualization

The final step in the cryptocurrency price prediction system is to use the models to make predictions on new data, and then visualize the results. The system will provide real-time updates on cryptocurrency prices, and provide alerts when significant price changes occur. In addition, the system will be able to generate reports and visualizations using PowerBI and Tabelu for reporting to help users understand the predictions and make informed decisions about their cryptocurrency investments.

Conclusion

The cryptocurrency price prediction system using data analytics techniques and Azure Data Store will provide an efficient and scalable solution for predicting cryptocurrency prices. By using historical data and statistical methods, the system will be able to make accurate predictions and provide valuable insights to cryptocurrency investors. The implementation on Azure Cloud using Azure Data Store will provide secure and efficient storage and access to the data.