

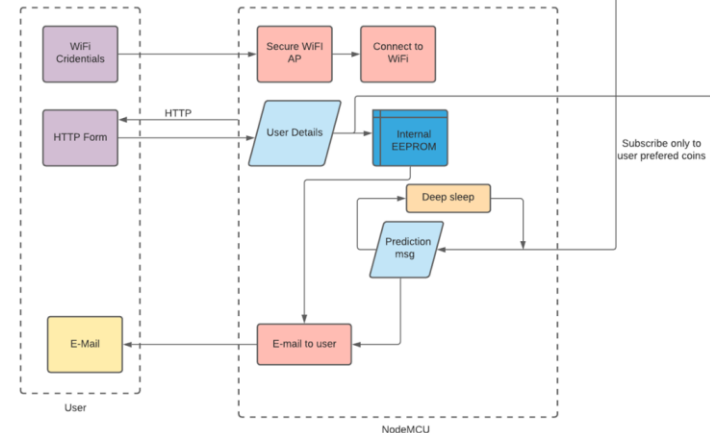
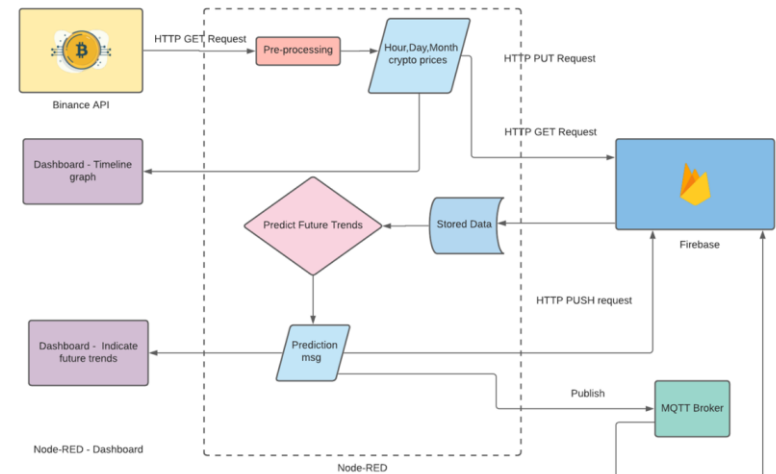


CRYPTO CARE

CRYPTOCURRENCY ADVISOR

System Overview

- IoT based cryptocurrency adviser system.
- Notify user with their preferred cryptocurrency updates.
- Dashboard for detailed view of the system users, Updates and Plots



Data Source

- Inbuilt Node-Red Node for Binance REST API
- Values of ten most prominent Cryptocurrencies right now

Bitcoin, Ethereum

Litecoin, Cardano

Polkadot, Bitcoin Cash

Stellar, Dogecoin

Binance Coin, Monero

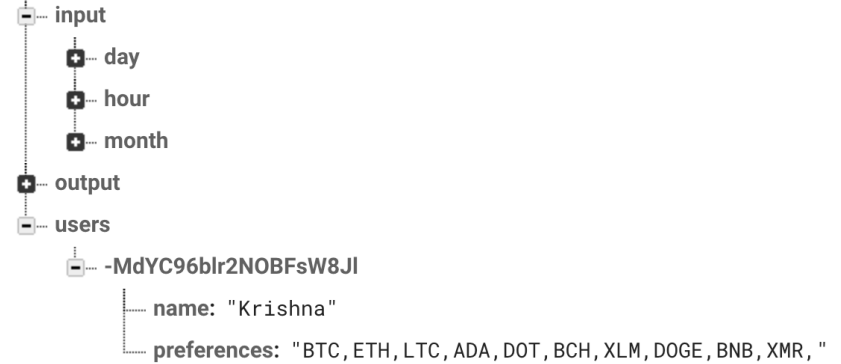
Data Input Processing

- Node-Red Processing
- Cryptocurrency value gathering - 5 minutes interval
- Fixed Database
 - Last Hour data - 12 points
 - Last Day data - 24 points
 - Last Month data - 30 points
- Update Database using REST API- 5 minutes interval

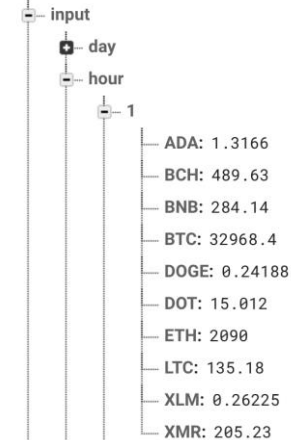
Database

- Firebase RTDB is used
- Collect current currency values in 5 min interval
- Stored data
 - Last hour, Last Day and Month values calculated and stored.
 - Predicted Message
 - User preference data from ESP32.

crypto-care-ec4d9-default-rtddb



crypto-care-ec4d9-default-rtddb

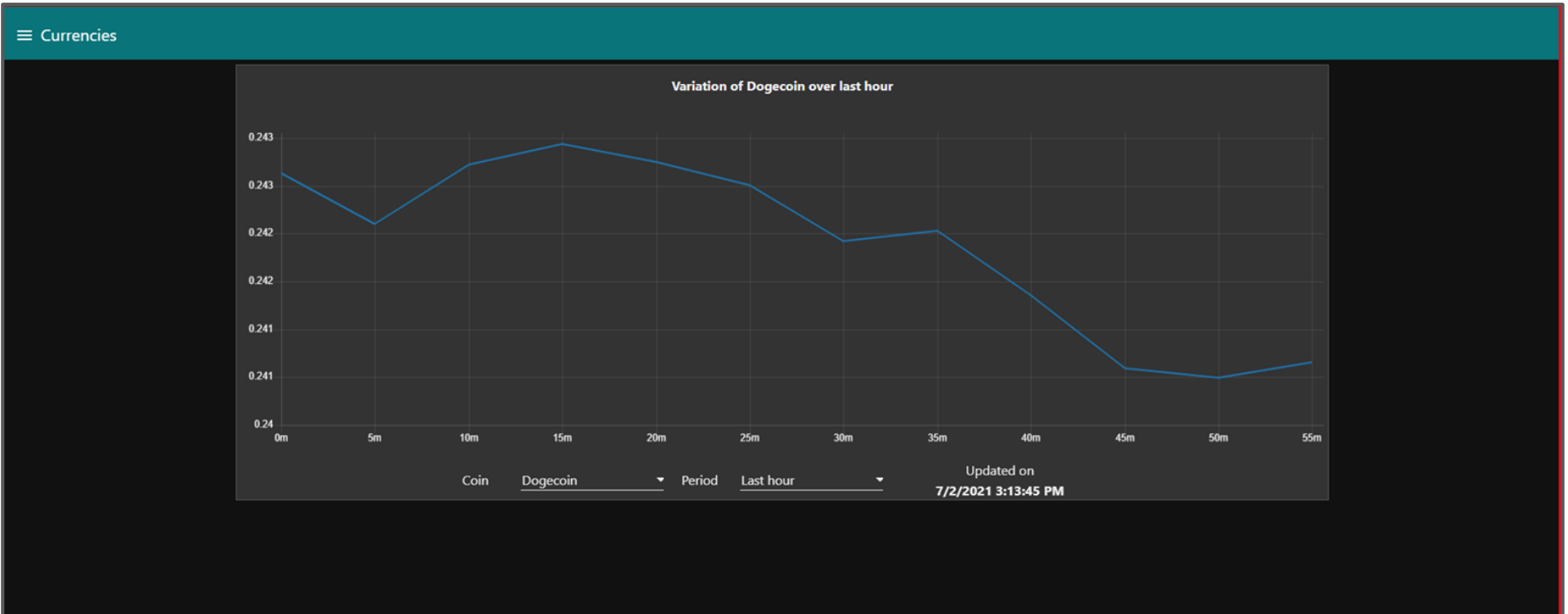


Decision Making

- Get Updated data from Firebase Realtime Database
- Separate Linear Regression for Hour, Day and Month Data and currency
- Predict Hike/ Fall of price in next 5 minutes, next hour and next day
- MQTT based publishing for profitable currencies
- Update last profitable predictions on Database using REST API

Node-red Dashboard

Crypto-Currency values with Time



Latest Currency Updates

≡ Latest updates of currency values

REFRESH

Last checkin
7/2/2021 3:27:38 PM

Ethereum

Current value : 2069.78

Expected changes for next

5 Minutes	Hour	Day
↑	↓	↓
0.30 %	0.05 %	0.54 %

Updated on
7/2/2021 8:26:35 AM

Litecoin

Current value : 133.08

Expected changes for next

5 Minutes	Hour	Day
↑	↓	↓
0.29 %	0.22 %	0.58 %

Updated on
7/2/2021 8:06:36 AM

Cardano

Current value : 1.2985

Expected changes for next

5 Minutes	Hour	Day
↑	↑	↑
0.89 %	0.24 %	0.53 %

Updated on
7/2/2021 9:56:54 AM

Binance coin

Current value : 283.4

Expected changes for next

5 Minutes	Hour	Day
↓	↓	↓
0.02 %	0.02 %	0.46 %

Updated on
7/2/2021 8:16:42 AM

Dogecoin

Current value : 0.24117

Expected changes for next

5 Minutes	Hour	Day
↓	↓	↓
0.49 %	0.64 %	0.59 %

Updated on
7/2/2021 9:56:58 AM

Bitcoin

Current value : 33471.82

Expected changes for next

5 Minutes	Hour	Day
↑	↓	↓
0.32 %	0.00 %	0.35 %

Updated on
7/2/2021 8:26:34 AM

Polkadot

Current value : 15.033

Expected changes for next

5 Minutes	Hour	Day
↑	↓	↓
0.31 %	0.13 %	0.56 %

Updated on
7/2/2021 8:26:38 AM

Bitcoin Cash

Current value : 488.54

Expected changes for next

5 Minutes	Hour	Day
↑	↓	↓
0.07 %	0.05 %	0.42 %

Updated on
7/2/2021 8:26:39 AM

Stellar

Current value : 0.25672

Expected changes for next

5 Minutes	Hour	Day
↑	↓	↓
1.28 %	0.06 %	0.23 %

Updated on
7/2/2021 9:25:45 AM

Monero

Current value : 208.89

Expected changes for next

5 Minutes	Hour	Day
↓	↓	↓
0.10 %	0.01 %	0.57 %

Updated on
7/2/2021 8:26:43 AM

User Information

≡ User information

Cryptocurrency Preferences for Each User

Users	Preferences
Krishna	BTC,ETH,LTC,ADA,DOT,BCH,XLM,DOGE,BNB,XMR
suba	BTC,ADA,DOGE,XMR
Lithu	BTC,ETH,BCH
Kanth	BTC,DOGE
Sebastian	BTC,ADA,BCH,DOGE,BNB
Kaushi	BTC,LTC,BCH

UPDATE USERS

HTTP based Wifi Authentication and User Details gathering

- Each user is provided with their own Node-MCU device
- Used Wificlient library to avoid hardcoding the credentials
- Async Web Server from ESP32 as AP to add credentials
- Async Web Server to serve User Details form
- Gathered details stored in EEPROM

Email Notifications

- Gets user details upon wakeup
- MQTT Client Subscribes to topics
- MQTT Client in ESP32 awaits updates on subscribed topics
- Creates instant SMTP server and sends EMAIL to respective user



advisorcryptocurrency@gmail.com

to me ▼

Sun, Jun 20, 5:13 PM (12 days ago)



Bitcoin cash prices show unstable decrease. 0.21584% increase expected in next five minutes. -20.53313% decrease expected in next hour. -31.98012% decrease expected tomorrow. Watch the market closely for decisions Current Value of BCH is 8219

Power Saving Features

- Used deep sleep mode of ESP32
- Deep sleep time - 270 seconds
- Automatically Synchronize after receiving first subscription topic value
- Goes to sleep after sending Emails
- Wakes up using internal clock for next publication

Hosting

- A single Node-Red instance
- Hosted in IBM Cloud
- Uses Cloud Foundry for Application Delivery
- Access URL - <https://crypto-care.mybluemix.net/>
- App Details -

The screenshot shows the 'App details' page for 'Crypto Care' in the IBM Cloud console. The page is divided into several sections:

- Details:** A table showing key information about the application.

Property	Value
App URL	https://crypto-care.mybluemix.net
Source	https://us-south.git.cloud.ibm.com/advisorcryptocurrency/CryptoCare
Resource group	Default
Deployment target	Crypto Care
Created	01/07/2021
- Services:** A section for managing services, currently showing 'Cloudant'. It includes links for 'Open dashboard', 'Documentation', and 'API reference', along with a 'Credentials' dropdown. At the bottom are buttons for 'Connect existing services' and 'Create service'.
- Deployment Automation:** A section showing the deployment configuration, including the name 'CryptoCare', location 'Dallas', and tool integrations.
- Delivery Pipelines:** A section showing the deployment pipelines. It lists two pipelines: 'ci-pipeline' with a status of 'Success', and 'pr-pipeline' with a status of 'No stages detected'.

Demo Time

