

Cryptocurrency Chatbot - Watson Assistant & CoinMarketCap API

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Introduction



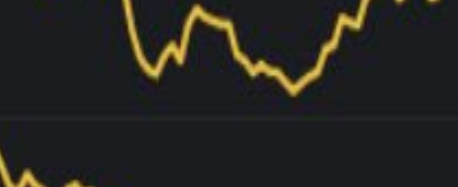

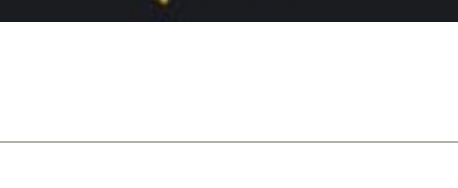
- In 2017, cryptocurrencies exploded in price and popularity as an alternative asset
- This project is a chatbot developed with IBM Watson Assistant and Python, which pulls real-time cryptocurrency data from coinmarketcap.com
- The Watson Assistant service acts as the natural language processing component of the chatbot, and Python code is used to interact with the Watson API and CoinMarketCap API and handle control flow

Business Problem & Solution

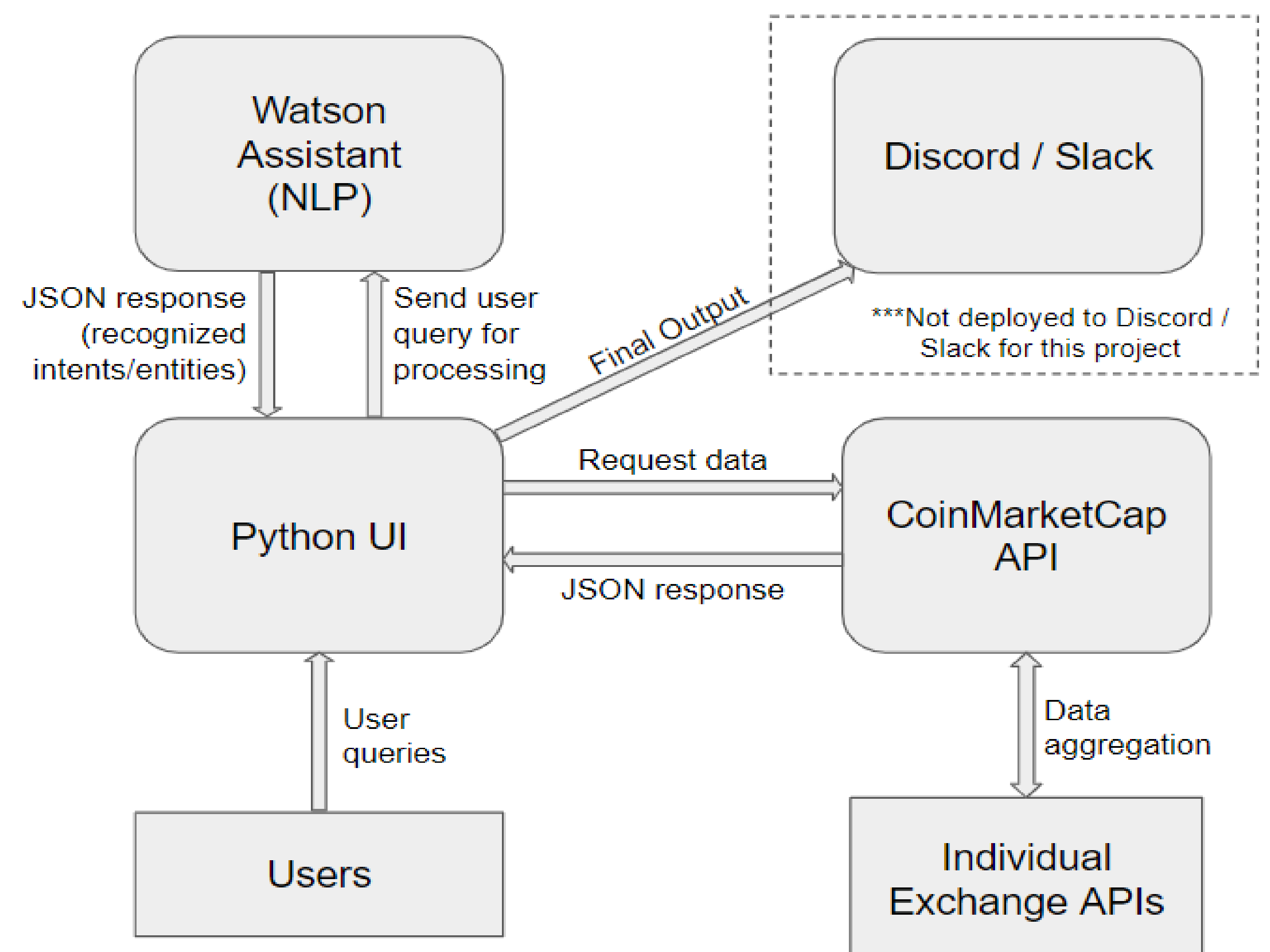
- Cryptocurrency investors and enthusiasts often communicate via group chat applications such as Discord and Slack
- The cryptocurrency community is highly globally distributed due to the decentralized nature of the blockchain architecture underlying cryptocurrencies
- As a result, **maintaining information consistency among chat groups is a challenge**
- There are a vast number of exchanges on which cryptocurrencies trade, resulting in disparities in price and volume figures
- This chatbot could be deployed to services such as Discord or Slack to **provide consistent aggregated data** and to **reduce application context switching**

Data Source

CoinMarketCap is a data aggregation service which offers globally averaged metrics (price, volume, etc)

#	Name	Market Cap	Price	Volume (24h)	Circulating Supply	Change (24h)	Price Graph (7d)
1	Bitcoin	\$75,259,530,994	\$4,325.42	\$6,882,723,018	17,399,375 BTC	1.63%	
2	XRP	\$15,245,573,609	\$0.378046	\$683,459,354	40,327,341,704 XRP *	-3.15%	
3	Ethereum	\$12,378,381,577	\$119.60	\$2,268,931,206	103,500,453 ETH	-0.66%	
4	Stellar	\$3,244,604,494	\$0.169391	\$90,273,800	19,154,499,239 XLM *	4.70%	
5	Bitcoin Cash	\$3,183,284,436	\$182.07	\$95,104,791	17,483,763 BCH	-4.90%	

Application Architecture



Results (Example Conversation)

```
hello
>>>Hello, what can I help you with?
what do you do?
>>>I am a cryptocurrency chatbot that pulls real-time data from
an exchange aggregator service. You can ask me about prices, volume,
market capitalization, price changes, coin supply, and global metrics.
where do you get your data?
>>>I source all my data from https://coinmarketcap.com/
what is the current price of bitcoin?
>>>The current price of Bitcoin is $4256.46780259
what is bitcoin's market share?
>>>Bitcoin's market dominance (% of total market cap) is 53.38%
what is the global trading volume?
>>>The 24 hour global trading volume is $18414920549.00
i need a quote for litecoin
>>>Here is a quote for Litecoin:
CURRENT PRICE: $34.1548992156
24HR VOLUME: $520070568.733619
PERCENT CHANGE 1HR: -0.62%
PERCENT CHANGE 24HR: -3.31%
PERCENT CHANGE 7D: 2.16%
MARKET CAPITALIZATION: $2027349400.0
MARKET CAP RANK: 7
CIRCULATING SUPPLY: 59357499.0
TOTAL SUPPLY: 59357499.0
MAX SUPPLY: 84000000.0
compare litecoin and ethereum
>>>One Litecoin is worth 0.29 Ethereum
>>>Ethereum is outperforming Litecoin by 0.35% on a 1 hour basis
>>>Ethereum is outperforming Litecoin by 0.30% on a 24 hour basis
>>>Litecoin is outperforming Ethereum by 7.47% on a 7 day basis
```

Conclusion

- This chatbot provides a useful way to automate data retrieval for cryptocurrency investors and enthusiasts communicating via group chat applications
- The bot acts as a single source of truth, ensuring that user queries are fulfilled with consistent, globally aggregated metrics
- In the future, this bot could be deployed to Discord, Slack, GroupMe, Telegraph, or other similar apps