

# Cryptocurrencies Information Retrieval System

Milestone 3

João Matos, up201703884

Rui Pinto, up201806441

Tiago Gomes, up201806658

**U.**PORTO

**FEUP** FACULDADE DE ENGENHARIA  
UNIVERSIDADE DO PORTO

# Search System

## Milestone 2

- Predefined queries
- Only one small set of synonyms



## Milestone 3

- Development of a front-end to interact with the search system
- Multiple combinations of synonyms
- Fuzziness

Why have a search system  
if we can't easily use it?

## Crypto Search

Results

☒ Cryptos☐ News

Sort By

Descending Score

Block Time

≥

min

Categories

Hashing Algorithms

Score

Developer Score



Price Change Last (%)

&gt;

Year



All Time High (USD)

&gt;

\$

Current Price

&gt;

\$

Market Cap (Billion)

&gt;

\$



Q bitcoin

## Cryptocurrencies



## Bitcoin

Bitcoin is the first successful internet money based on peer-to-peer technology; whereby no central bank or authority is involved in the transaction and production of the Bitcoin currency. It was created by an anonymous individual/group under the name, Satoshi Nakamoto. The source code is available publicly as an open source project, anybody can look at it and be part of the developmental process. Bitcoin is changing the way we see money as we speak. The idea was to produce a means of exchange...



## Kitcoin

Kitcoin, a cryptocurrency based on its own newly developed next generation blockchain, serves as payment solution of the future. It's superior blockchain technology, driven by a newly-developed consensus mechanism, enables it to scale to millions of transactions per second. This makes Kitcoin the preferred choice for merchant adoption and consumer



## Gitcoin

Gitcoin is a platform to fund builders looking for meaningful, open source work.

&lt; 1 2 3 4 5 ... 167 &gt;

## News

## Altcoins breakout even as Bitcoin price falls to \$60,000

Ethereum is on the final approach to \$4,400 after bringing down the barrier at \$4,000. The SuperTrend and the MACD indicators sustain buy signals as buyers flock to the market.

## Altcoin Roundup: Holding Bitcoin? Here's how to put it to work in DeFi

The move will help developers writing blockchain-based applications to implement AP's data and information through AP's Chainlink node.

## Bitcoin, Ether, Major Altcoins &amp;#8211; Weekly Market Update October 11, 2021

The buzz in the Bitcoin circles is the Mt. Gox payout, which could release thousands of BTCs in the market. Experts are concerned that it might cause a drop in the value of the coin. Keep reading to learn more about the Mt.

&lt; 1 2 3 4 5 ... 176 &gt;



## Bitcoin

\$60438.0

-8.76% | 7d

43.06% | 30d

342.60% | 1y

Cryptocurrency

### Description

Bitcoin is the first successful internet money based on peer-to-peer technology; whereby no central bank or authority is involved in the transaction and production of the Bitcoin currency. It was created by an anonymous individual/group under the name, Satoshi Nakamoto. The source code is available publicly as an open source project, anybody can look at it and be part of the developmental process. Bitcoin is changing the way we see money as we speak. The idea was to produce a means of exchange, independent of any central authority, that could be transferred electronically in a secure, verifiable and immutable way. It is a decentralized peer-to-peer internet currency making mobile payment easy, very low transaction fees, protects your identity, and it works anywhere all the time with no central authority and banks. Bitcoin is designed to have only 21 million BTC ever created, thus making it a deflationary currency. Bitcoin uses the [SHA-256](#) hashing algorithm with an average transaction confirmation time of 10 minutes. Miners today are mining Bitcoin using ASIC chip dedicated to only mining Bitcoin, and the hash rate has shot up to peta hashes. Being the first successful online cryptography currency, Bitcoin has inspired other alternative currencies such as [Litecoin](#), [Peercoin](#), [Primecoin](#), and so on. The cryptocurrency then took off with the innovation of the turing-complete smart contract by [Ethereum](#) which led to the development of other amazing projects such as [EOS](#), [Tron](#), and even crypto-collectibles such as [CryptoKitties](#).

### More Info

All Time High	67277.0 \$
All Time High Date	Wed, 20 Oct 2021 14:54:17 GMT
Block Time (Minutes)	10
Community Score	73.064
Developer Score	101.306
Liquidity Score	100.054
Genesis Date	2009-01-03
Hashing Algorithm	SHA-256
Market Capitalization	1.1T \$

### Useful Links

[BLOCKCHAIN SITE](#)[GITHUB](#)[HOMEPAGE](#)

# Fuzziness

- The user can search a term with a typo and still get relevant results.
- *Levenshtein* edit distance:
  - Number of one-character changes needed to turn one term into another.
- *Elasticsearch* has a built-in query parameter to allow fuzziness:
  - "fuzziness": "auto"
  - Edit distance is based on the length of the term.

🔍 bitcoin

## Cryptocurrencies



### Bitcoin

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### Gitcoin

Gitcoin is a platform to fund builders looking for meaningful, open source work.



### Hitchain

HitChain is a decentralized and collaborative community built to value developers' works with a transparent credit system using blockchain technology. It is a community of the developers, by the developers, for the developers. HitChain provides a platform for developers to automatically redeem the value of...

# Synonyms

Two types of synonyms:

- Synonyms for popular words in our domain, obtained from a dictionary API.
- The symbols (sequences of letters) that represent each coin and are commonly used instead of the full name.

We came up with several combinations of synonyms using these two sources.



# Comparing the different systems

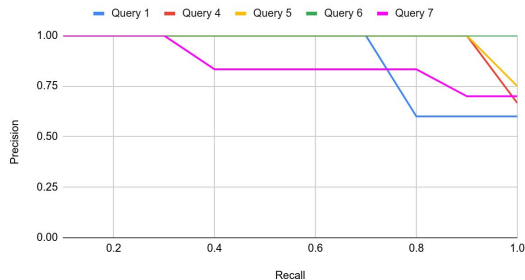
0	Original Configuration	<ul style="list-style-type: none"><li>• Configuration used in M2</li></ul>
1	Configuration 1	<ul style="list-style-type: none"><li>• Original configuration</li><li>• +</li><li>• Synonyms from the dictionary API</li></ul>
2	Configuration 2	<ul style="list-style-type: none"><li>• Configuration 1</li><li>• +</li><li>• Removal of irrelevant synonyms</li></ul>
3	Configuration 3	<ul style="list-style-type: none"><li>• Original configuration</li><li>• +</li><li>• Symbol synonyms</li></ul>
4	Configuration 4	<ul style="list-style-type: none"><li>• Mix of configurations original, 2 and 3</li></ul>

# Metrics

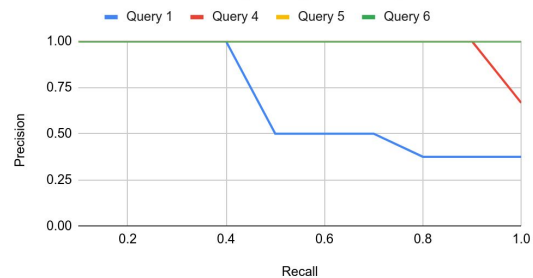
Precision-Recall Curve (Configuration 1)



Precision-Recall Curve (Original Configuration)



Precision-Recall Curve (Configuration 4)





Questions?