Bitcoin network - Project

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Summary

1. Choose a small network extracted from the bitcoin blockchain data

2. Use what you learned in the lectures to analyze it

3. Write a report illustrating your experiments and insights. Try to "tell a story" from your insights.

1 Network selection

1.1 Choosing a network

You have to decide on what network you want to work on. The data which is available to you concern all transactions in the bitcoin blockchain from the first transaction by Satoshi Nakamoto (2009) until August 2016.

On top of transactions between addresses, data about clusters, transactions between clusters, and the identity of some clusters are available, as presented during the class.

For practical reasons, it is recommend to choose a relatively small network (e.g., 50 to 1000 nodes, less than 10 000 edges.)

Networks will be obtained by asking them to the lecturer (remy.cazabet AT univ-lyon1.fr).

Some examples of networks you can ask:

- Transactions between the X most important known actors on a given period

- Transactions between the X most important clusters/actors on a given period

- Comparing the network of XXX on three different time periods

- Network of the first X transactions/addresses/clusters/Actors of bitcoin history

- Network of the X transactions following transaction XXX, which corresponds to a famous event

- etc.

You can also ask for complementary information, such as total number of transaction, exchange rate evolution over the period, etc.

2   What should I do ?

Everything is fine. Try to tell a story based on the results of your experiments. Show us what you have learned.

As a naive example, here is what some people have done analyzing a network of interactions in a series: `https://networkofthrones.wordpress.com/the-novels/a-game-of-thrones/`.

Try to use measurement we have seen during the class (network properties, centralities, communities...). A nice drawing is also worth 1000 words...

3   Form of the report

The best is to provide a Jupyter notebook, containing both your code and the discussion. Be careful, if you want to add drawings extracted from Gephi into the notebook, you need to send the corresponding files too in order for me to see them.

If you think it is necessary, feel free to join another document.