Visual Analysis of the Bitcoin Transaction Network

1 ADVISOR:

Petra Isenberg, petra.isenberg@inria.fr, http://petra.isenberg.cc

2 TOPIC:

The objective of the internship is to develop visual analytics tools to support the analysis of the dynamics and behavior of digital (crypto)currencies with decentralized public ledgers. Transactions in public ledgers can be understood as a disconnected graph involving senders and receivers who are connected by a transaction. In most decentralized currencies, however, senders and receivers have multiple identifiers in the network, so a visual analysis tools should be able to display clusters and within-cluster addresses and transactions.

We focus on Bitcoin as the most successful digital currency. The work of this internship is important as digital currencies are beginning to have economic and political impact despite still being considered a paradoxical technological and sociological phenomenon. Bitcoin is growing at an astonishing pace while challenging several notions of traditional government-regulated currencies. As such, researchers, analysts, and policy makers have no good models on which to base decisions and recommendations regarding this phenomenon. Visual analytics tools can help to shed light on how and why Bitcoin works.

3 LOCATION OF THE INTERNSHIP:

Inria, team Aviz, Building 660, Université Paris Sud

4 REQUIREMENTS AND EXPECTATIONS:

Interested students should have followed a visual analytics or information visualization course in the past. They should be comfortable implementing web-based prototypes, conduct literature search, and write their Master's thesis on the topic.