Software as Social quasi-social

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Traditional setup 1

Input → Human

(Counterparty → Human)

Results, Output → Human

Human → Technology → Human

Human Computer Interaction (HCI)
Traditional setup 2

Input → Social (Humans, Institutions)

Counterparty → Social (Humans, Institutions)

Results, Output → Social (Humans, Institutions)

Social → Technology → Social

Socio-Technical System design
Setup 3

Input → Software
Counterparty → Software
Results, Output → Software

Software → Technology → Software

???
Setup 3

Input → Software

Counterparty → Software

Results, Output → Software

Social → Software → Technology → Software → Social
New developments

- Growing complexity of the software systems
- Growing inter-dependencies between systems (Machine 2 Machine)
- New developments in peer-to-peer systems
- New developments in security protocols
- Blockchain technology ....
Someone requests a transaction.

The requested transaction is broadcast to a P2P network consisting of computers known as nodes.

The P2P network of nodes validates the transaction and the user's status using known algorithms.

A verified transaction can involve cryptocurrency, contracts, records, or other information.

Once verified, the transaction is combined with other transactions to create a new block of data for the ledger.

The new block is then added to the existing blockchain in a way that is permanent and unalterable.

Cryptocurrency

- Has no intrinsic value in that it is not redeemable for another commodity.
- Has no physical form and exists only in the network.
- Its supply is not determined by a central bank, and the network is completely decentralized.
Blockchain technology

- ....
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- Decentralised
- Autonomous
- Anonymous
Software in place of “Social”

- Software mediates the interactions
- Software can model institutions and institutional aspects (autonomously)
- Software can make decisions
  - Through consensus models
  - Through voting
  - Through leader election
- Software can provide mechanisms for commitments/agreements
  - for social, and
  - for software
- Software can enforce commitments/agreements
Conclusions

- Need better ontology/modelling terminology
- Things that have been traditionally done in “social” can now be done in “software”, and for “software”

Watchtowers

- Artefacts to provide mechanisms to “watch” the system on the Meta level
- “Watch the watchmen” -- provide feedback on the un-intended behaviour in a form that can be understood by the software/protocol
- Anomaly detection
Social → Technology → Social

Social → Software as Social → Technology → Software as Social → Social