

Conceptual Sociological Model for Open Source Software

- Position Statement for 1st Workshop on Open Source Software Engineering

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To discuss about sociological aspects of open source software engineering, such as evolution of open source software, we need to have some kind of conceptual model.

The image of “city” is the fundamental conceptual model of a society in our mind. We are now living in the industrial society, which is the successor of the agricultural society. For the people who lives in those environment, a natural metaphor of the society is the Image of a “walled city”.

It will be dangerous to go outside of the city-wall, but as far as living inside, our life will be safe and pleasant. There exists a hierarchical management structure to assure and maintain the secure living condition of people. The urban planning of the city looks like a mapping of vertical management hierarchy into co-centric horizontal picture. There are several number of gates at the wall. People can go in-and-out through those gates during daytime, but they will be closed after sunset, and people must have a citizenship to live inside the wall.

Almost all sociological organizations in our society, such as countries, companies, schools, etc., are constructed upon this conceptual model. Also computer software systems are. Traditional closed source computer software can be considered as some kind of the “walled city”.

About ten years ago, a group of Japanese sociological researchers conducted an intensive historical study of Islamic cities in the middle age, namely AD 7-8 century (the

Time period when Mohammed started the Islamic religion. They found a completely different conceptual image of “city”. According to them, the cities in middle age Arabian peninsula, such as Mecca of Medina, are considered as the “free cities”. Those cities also surrounded by wall, but people can go in-and-out freely at anytime. There was no concept of the citizenship. So, people can live in any city as the like it. Those cities existed not for management, but they were facilities for exchange, because Arabian society in those age was a kind of commercial civilization. People were travelling around

To buy and sell a variety of goods. Cities functioned as a kind of exchange center of merchandizing goods and information. There were a number of facilities provided by those cities for travelling merchants: (1) Bazaar – free marketplace, (2) Karavansaray – lodging and transportation facility, (3) Bagh – camping site located outside of the

city wall, etc.

This concept of the “free city” was widely adopted by the Mongolian Empire in 12-13 century. This empire can be considered as the first prototype of network-based empire, which was founded by Mongolian military power and managed by Islamic administration scheme. They constructed an “internet” of road system over the Eurasian Continent and set up a number of free cities as nodes on the road network. People can use those free city facilities just by paying usage tax..

The emerging Internet society of today can be considered as the revival of Mongolian Empire using computer network. The physical nodes upon the Internet are constructed as “walled cities” guarded by firewalls. But a number of “Open Source “Software” are located outside of those firewalls and are functioning as “virtual free cities” for the people who are travelling on the Internet.

Following simple metaphorical mappings can be possible:

Bazaar: Newsgroup for general information exchange

Karavansaray: Mailing list for more detailed technical exchange

Bagh: Satellite projects using basis OSS

Comparison of closed versus open cities in the history will be useful for us in studying the evolution pattern of open source software.