Making of a Decentralized, Distributed, Open Multisided Market Enablement Platform

In an article posted by Tren Griffin on his blog 25iq, "A Dozen Things I've Learned about Multi-sided Markets (Platforms)"[1], he defines a multi-sided market as a platform where multiple participants interact directly with each other. He provides examples such as LinkedIn, Uber, eBay, Airbnb, and others. These are all examples of multi-sided markets, ("MSM"), but we would further distinguish them as multi-sided market <u>centralized</u> platform.

With the innovation of the Extensible Blockchain Object Model^{tm} ("XBOM^{tm}"), and the Extensible Smart Object Asset^{tm} ("XSOA^{tm}"), on the DataGrid Blockchain^{tm} ("DGB^{tm}"), a multi-sided market <u>decentralized</u> enablement platform can now be created.

The following provides an overview of a decentralized platform for a multi-sided market of generalized assets (e.g. physical things, financial instruments, etc.).

DGB-AmazBay

To give an idea of what a decentralized MSM might look like, lets use a fictious MSM company, its salient features, and how they operate on a decentralized enablement platform, the DGB^{tm}. Let's call this company DGB-AmazBay. DGB-AmazBay wants its multi-sided market to have the following features:

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[1] https://25iq.com/2016/10/22/a-dozen-things-ive-learned-about-multi-sided-markets-platforms/?subscribe=success#blog_subscription-2

- Search for items offered for sale (physical products, digital products, services, etc.)
  - Pricing for those things

- Purchasing – means for exchange of items for payment

- Regulations – means for adhering to laws, regulations and rules for conducting commerce in any and all jurisdictions that a seller and buyer may interact

- Ratings – means for rating the quality of the sellers and buyers

- Analytics – various statistics, algorithms, machine learning, etc. applied to "meta data" about the market place

- Individual Sovereignty – the market place does not control (i.e. take custody) of the items for sale, the payments, or seller's "store"

- Scalability – the decentralized enablement platform must scale to support a global market place and community

Let's take each one of these features separately.

Search

Discovery of items for sale is a prerequisite for any instances of commerce. In a centralized online market, items for sale are uploaded and stored in a centralized database server. Discovery consists of database queries by clients of the centralized market server.

For the decentralized DGB-AmazBay, items for sale are added to the blockchain by seller accounts individually. However, our fictious DGB-AmazBay needs to provide a means for buyers to find the items for sale. To accomplish this, it continually scans the blockchain and provides a search tool that can be queried by clients.

In comparison to the centralized market, decentralized DGB-AmazBay's search acts as a service for organizing such items, but doesn't control any items or accounts.

Purchasing

A centralized online market acts as the go-between between the seller and the buyer of an item. It may have multiple means of payment for the buyer for example. It may also price items in multiple

currencies, perhaps providing currency exchange internally. It also stores the information about payment information for the buyer which creates a privacy liability.

For our fictious decentralized DGB-AmazBay, all transactions of purchase and sale occur directly between the seller and the buyer of an item on the blockchain. Since all items are priced in the native cryptocoin of the blockchain, DGT[tm], the means of payment is simplified to a transfer of coin from the buyer to the seller account. By eliminating the go-between, the decentralized DGB-AmazBay market has no liability of the transfer of either the items or the payment. That is, the DGB-AmazBay never takes custody of either the items or the payments.

Regulations

A centralized online market must adhere to the laws, regulations and rules of the jurisdictions it operates in. To accomplish this, it must register all participants in its market, and manage all such, for each jurisdiction it operates in. All related information must be stored in its centralized database for use in all participant interactions.

Our fictious decentralized DGB-AmazBay also must adhere to the laws, regulations and rules of the jurisdictions. However, adherence is based on account authorization certifications, which are part of the seller and buyer accounts. For an instance of commerce, the DGB-AmazBay does not take on liability of the jurisdictions, the seller and buyer accounts and the associated Smart Object Assets[tm] manage that directly. However, the DGB-AmazBay may provide advisory information to sellers and buyers about the jurisdictions.

Ratings

An MSM needs some means for evaluating the participants in the market, (i.e. sellers and buyers). This is accomplished through some form of a ratings system. From an abstract viewpoint, this might be an actual numeric rating, posted reviews, or some other means. A centralized online market offers a rating system, which may be for one or more types of participants in the market, (i.e. sellers, buyers, or both). The centralized market maintains its own centralized database with the ratings information, and can edit and censor it at its discretion.

Our fictious decentralized DGB-AmazBay provides various forms of ratings using information directly from the blockchain. Such information may include the number of sales, the longevity of accounts, and other types of data that are useful evaluating seller and buyer accounts. Further, it can provide an independent service for participants to provide reviews and rating of accounts. In this case, the DGB-AmazBay acts as a mixed decentralized and centralized service.

Analytics

A centralized online market creates all of its own analytics either directly, or by selling access to its data. The centralized market controls, edits, and censors at its discretion. By now this should sound familiar.

Meanwhile, our fictious decentralized DGB-AmazBay provides analytics as a service using information directly from the blockchain. It may offer its analytics as a service to blockchain account holders, or to other clients. Since it uses the decentralized blockchain, the accounts and other clients are not beholden to the DGB-AmazBay as the sole source of analytics.

Individual Sovereignty

In the context of the MSM, we mean by individual sovereignty[2] that the account owner has control over their own assets and currency. A centralized online market does not offer individual sovereignty over the user accounts. The centralized online market may at anytime, terminate, censor, or otherwise affect a user's account.

Our fictious decentralized DGB-AmazBay doesn't take any ownership of any accounts. Therefore, it has no direct control of any related assets or currency. It promotes individual sovereignty for multi-sided markets on the blockchain.

Transaction Scalability

A successful MSM expects an increasing number of users and an increasing number of transactions. If the enabling platform is unable to scale with users and transactions, the market may reach a failure point. A centralized market addresses this problem with centralized server solutions. This includes distributed database servers, loadbalancing and similar enabling platform solutions.

If our fictious decentralized DGB-AmazBay wants to be successful, its decentralized enabling platform must scale with accounts and transactions. As luck would have it, DGB-AmazBay happens to have picked the DGB^{tm} as its enabling platform blockchain. As a result, transaction and account scalability is built in to the DGB^{tm} and DGB-AmazBay can concern itself with its own operations without this concern.

Separability and Competitive Multi-sided Markets

The features we described for the fictious DGB-AmazBay have one more aspect, separability. Each one of the features: search, purchasing, ratings, analytics, and regulations are independent of each other. Building on a decentralized platform enables competition among market businesses. A competitive landscape fosters improvement. Each feature can be reimagined as entirely separate businesses in a competitive landscape.

Decentralized Enablement Platform Applied to Multi-sided Markets ("MSM")

Putting it altogether, the following diagram depicts a block diagram of the various components involved. It also includes the concept of market makers. Depending on the MSM, there may be an opportunity for one or more market makers. That is, entities that facilitate efficient decentralized markets by being on the opposite side of transactions if and when needed.

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[2] https://en.wikipedia.org/wiki/Self-ownership
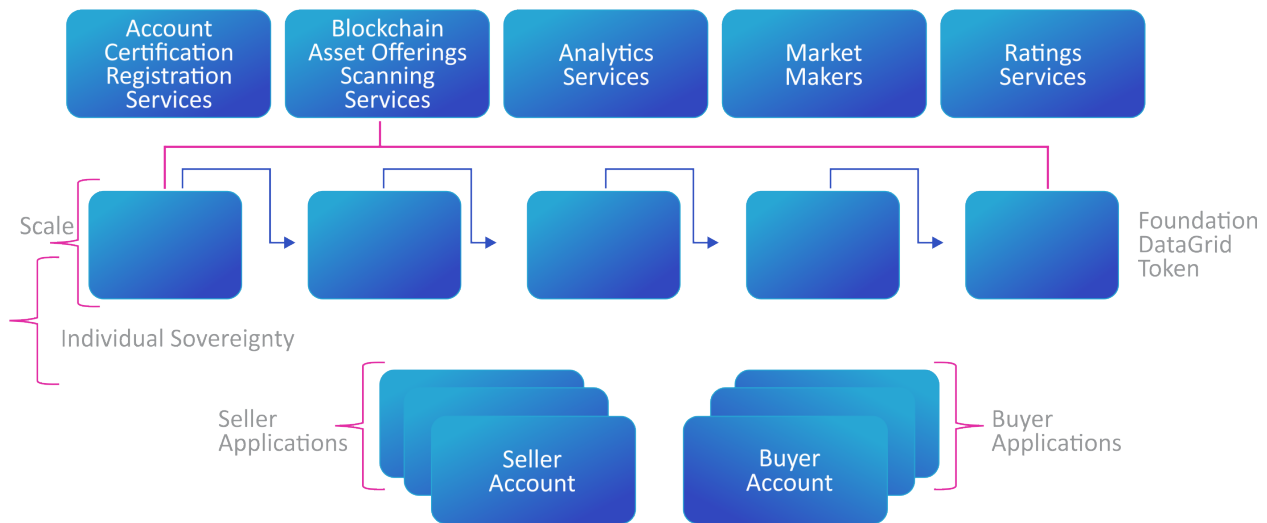
Decentralized Multi-sided Market vs Fiat Multi-sided Market and Individual Sovereignty

Cryptocurrencies are thought of as an answer to fiat currencies. With the concerns about fiat currency described in this hacker noon article, "Bitcoin: The Living Room Revolution"[3], by Farbood Nivi, pointing out that monetary policy for fiat currency is under the control of the government (democracy, dictator, monarch, etc.).

We agree that cryptocurrency is an answer to fiat currency. But we believe that this is only part of a more general answer about individual sovereignty. In order for a currency to be accepted as a means of commerce, businesses and individuals must be willing to accept it. If the market places do not accept the currency as a means of commerce then the currency can't be used in the society, regardless of whether it is crypto or fiat based.

We submit that all of the centralized multi-sided markets in existence form a sort of oligarchy. One can thing of them as centralized fiat MSMs. In this case the term fiat means both that the MSM accepts fiat currency, but also that as a centralized market, it controls by its own internal fiat, what currencies are accepted.

Due to the massive dominance of only a handful of online commerce sites, a prohibition on acceptance of cryptocurrency can significantly limit it reaching widespread acceptance. Further note that governments by fiat can prohibit businesses within their jurisdiction from accepting cryptocurrency.

The decentralized multi-sided market concept described above, can help increase the acceptance of cryptocurrency in two ways: if the centralized multi-sided market oligarchs essentially boycott crypto, the enablement of decentralized solutions will help break the control by the seeming oligarchs; and if

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[3] https://hackernoon.com/bitcoin-the-living-room-revolution-9acdf521295e

government prohibits crypto MSMs by fiat, individual sovereignty over assets enables the continuation of private asset transactions.

We do not propose or expect that jurisdictional regulations should be eliminated or bypassed. We see instead that the decentralized MSM is one more aspect that can promote individual sovereignty, and a fairer, more inclusive society.

DataGrid Blockchain[tm], DGB[tm], DataGrid Token[tm], DGT[tm], Extensible Blockchain Object Model[tm], XBOM[tm], Extensible Smart Object Asset[tm], XSOA[tm], Smart Object[tm], Extensible Signature Object[tm], XSIG[tm] are trademarks of Prasaga, LLC. All rights reserved. www.prasaga.com info@prasaga.com