DeCommerce: Decentralized ecommerce platform for Web3

Version 1.0 (October 13, 2022)

Jozef Pintér
www.ivyca.com

Abstract. A purely peer-to-peer version of the ecommerce platform would allow process business transactions fully autonomously without going through centralized institutions (e.g. payment processors, a bank, a web hosting company, or a domain name registrar). This is possible thanks to current blockchain technologies like IPFS (peer-to-peer hypermedia protocol), NFT domains (peer-to-peer domains issued on a public blockchain), Peer-to-peer cryptocurrencies (e.g. Bitcoin, Ethereum, Monero, or later national currencies issued on a public blockchain e.g. "digital dollar").

In this new world, users can trade goods or services directly with one another. There is no longer a need for a broker, and buyers and sellers can conduct transactions autonomously without the help of third parties.

1. Introduction

Traditional eCommerce began back in the mid-90s with the evolution of the internet when marketplace like Amazon and eBay emerged. Commerce on the Internet has come to rely almost exclusively on centralized institutions serving as trusted third parties to process transactions. While the system works well enough for most transactions, in this trust-based model, all involved centralized institutions are the weakest link in modern eCommerce. The more centralized institutions are involved in a transaction, the more fees cost the transaction itself, and all centralized institutions can block the transaction (from a domain registrant to a bank).

2. Decentralized ecommerce

Allows users to process transactions without any centralized control, which charges high fees and can also block the transactions. This is possible thanks to blockchain technology and smart contracts.

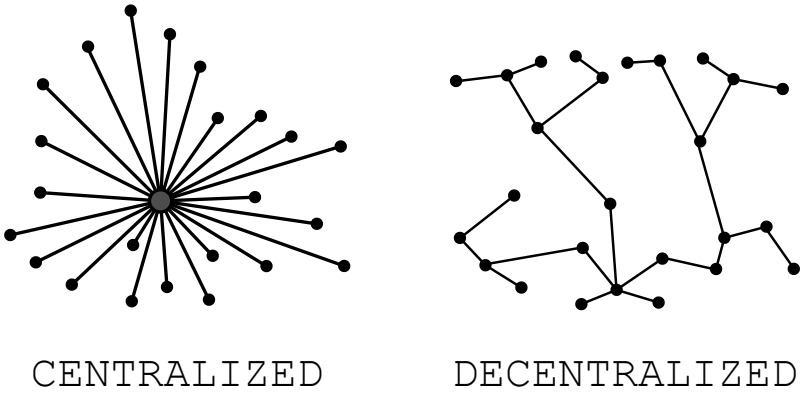

Figure 1: *DeCommerce is duplicated on thousands of IPFS nodes worldwide — every IPFS node is fully autonomous and self-sufficient.*

3. Underlying technology

DeCommerce is designed to take advantage of all these technologies.

Peer-to-peer web (Distributed web)

HTTP is obsolete. It's time for the distributed web. IPFS (*InterPlanetary File System*) is a distributed system for storing and accessing files, websites, applications, and data. Whether you're storing files on your own local node or one operated by a pinning service or IPFS-enabled app. It gets replicated on thousands of computers around the world. This means files stored on IPFS are resistant to tampering and censorship.

- Distributed web (Hosted on IPFS)
- 100% Availability guarantee
- Can't be shutdown & hacked
- No DDoS attacks (similar to torrent)
- No server needed

DeCommerce is listed in the IPFS repository as the first, and currently (October 13, 2022) only ecommerce app for the IPFS network.

Peer-to-peer payments (Crypto currencies today, National digital currencies - once available)

Payments for goods, services straight to your wallet. You can accept payments from your customers in less than 5 minutes - no middleman or bank included.

Step 1: Currently you can accept the following crypto currencies: Monero (XMR), Bitcoin (BTC), Ethereum (ETH), Tether (USDT).

Step 2: Digital dollar, digital euro, digital yuan etc. We are ready to implement national digital currencies once they become available.

- Payments straight to your wallet
- No payment processor, No middleman, No bank needed
- 100% Autonomous payment
- Accept: BTC, XMR, ETH, and USDT
- National digital currencies later (Digital dollar, euro, yuan etc.)

NFT Domains

Traditional DNS (Domain Name System) has two points of failure—domain names require centralized custodians, and content is stored on servers controlled by one company, meaning websites can be taken down. NFT Domains are new web extensions (like .com or .de) launched as smart contracts on public blockchains. These domains are stored in a wallet by the owner, much like a cryptocurrency, and no third party can take them away. Pay once, and you own the domain for life, with no renewal fees.

Blockchain technology

A blockchain is a distributed database or ledger that is shared among the nodes of a computer network. As a database, a blockchain stores information electronically in digital format. An *asset* can be tangible (a house, car, cash, land), or intangible (intellectual property, patents, copyrights, branding). Virtually anything of value can be tracked and traded on a blockchain network, reducing risk and cutting costs for all involved.

Smart contracts

Smart contracts are simply programs stored on a blockchain that run when predetermined conditions are met. They typically are used to automate the execution of an agreement so that all participants can be immediately certain of the outcome, without any intermediary's involvement or time loss. They can also automate a workflow, triggering the next action when conditions are met.

4. DeCommerce

DeCommerce is a software which allows you to run fully autonomous decentralized ecommerce business without middlemen. It leverages the blockchain technologies described above to let users connect, transact, and own all their interactions without relying on a centralized infrastructure.

Advantages

- 100% Autonomous ecommerce (no Middlemen)
- 100% Availability guarantee (duplicates around the World)
- Can't be shutdown (written in Blockchain)
- Can't be hacked (works similar to a static website)
- No DDoS attacks (works similar to BitTorrent)
- No server needed (files uploaded or pinned on the IPFS)
- Operational costs are dirt cheap (about $1/month even for a heavy usage)
- Crypto payments (no Payment processor, no Bank needed)
- Native for national digital currencies (once they are available)
- Censorship resistant ecommerce
- Currently there is no technology which is able to take decommerce down (once set, it runs always and forever)

Ready to download product: https://www.ivyca.com/decommerce/download.html

5. Economy

We introduce the utility of the DEC Token, how its strategic allocation can help bootstrap the utility of the network, and outline how the issuance of the DEC will be conducted.

To this day (*October 13, 2022*), the global crypto market cap is $922.29 billions. Also, the US government, the EU government, and Chinese government have already announced that they are working on their national digital currencies (digital dollar, digital euro, digital yuan). USD in Circulation $2.28 trillions, EUR in Circulation €1.58 trillions, CNY in Circulation ¥262.7 trillions.

DeCommerce is the first ecommerce platform which is able to handle all this global value natively - no Payment processor, no Bank, no Middlemen.

DEC Token. Online sellers (business owners) will demand DEC so that they can pay their expenses in decommerce's ecosystem.

Utility of DEC Token

1. In today's world of thousands of cryptocurrencies and hundreds of national currencies (in the future) which each use a **different blockchain**. The goal of the DEC is to be a **middle layer between different blockchains**.

2. In today's world of thousands of cryptocurrencies and hundreds of national currencies, which each have a **different value**. The goal of the DEC is to be a **standardized holder of value** to **pay for expenses** in decommerce's **ecosystem**.

The value of DEC is based on its demand in a free marketplace. The more users of DeCommerce, the bigger demand for DEC; the price of DEC rises in a free marketplace (opposite is also true).

Use cases

1. As a middle layer in transactions, where different currencies / blockchains meet. If a price of goods or services is listed in bitcoins (or digital dollars later), the customer can pay for goods or services in a different currency, e.g. ethereum (or digital euros later). The online seller (business owner)

needs to own some DEC to cover costs of this exchange (about 3% of the transaction). The customer does not need to use an external currency exchange.

2. To pay for hosting. DeCommerce runs on the blockchain (IPFS Network) instead of a traditional web server or any other kind of traditional file server. Online sellers (business owners) will have to pay for a website hosting IPFS node operators. DeCommerce will offer frictionless upload & payment straight from its interface. The online seller (business owner) does not need to use an external web hosting company.

3. To pay for Extensions / Themes in DeCommerce's marketplace. We plan to build a marketplace around the product. Where external companies can sell themes / extensions for DeCommerce (similar to WordPress plugins, Envato market, Google Play etc.). The online seller (business owner) can extend his DeCommerce store directly from its interface.

4. To pay for Technical Support / Subscription. DeCommerce is going to be a free software with a paid alternative like today's linux distributions (paid subscriptions with 24/7 support). The online seller (business owner) can ask for support directly from DeCommerce's interface.

5. To pay for Services in DeCommerce's ecosystem. DeCommerce will provide native support only for the biggest /most widely used cryptocurrencies. The owner of a cryptocurrency can implement his currency for a fee.

6. Challenges

To this day the cryptocurrencies are used mostly for trading. People are not used to paying for goods or services in cryptocurrencies such as Bitcoin or Ethereum. But initiatives such as "Digital Dollar Project", "A digital euro", or "e-CNY" are not far from distance. It's a matter of a few years. DeCommerce is prepared to be a mainstream in this new field of eCommerce.

DeCommerce in its current form (v1.1) is not suitable for the average user to sell everyday goods on the internet. Is more complicated to understand and operate than current mainstream platforms such as Shopify. It needs to be more user-friendly. We already started working on the second generation app with background where users can set up the app in a few clicks. We are hoping to bring this second generation app on the market in the spring of 2023.

7. Summary

DeCommerce is a decentralized ecommerce platform for the next generation of ecommerce (Web 3.0). Where sellers and buyers can conduct transactions autonomously without the help of third parties (different from the trust-based model in Web 2.0). DEC Tokens are used as a middle layer in transactions and also as a standardized holder of value to pay for expenses in DeCommerce's ecosystem. The value of DEC is based on its demand in a free marketplace.

Factors affecting price of DEC: number of running stores, sum of their transactions, sum of their revenues, economic activity in the DeCommerce’s marketplace, number of paid Subscriptions, number of supported/implemented blockchains.

8. References

What is IPFS? https://docs.ipfs.tech/concepts/what-is-ipfs/#decentralization

DeCommerce in the IPFS repository: https://awesome.ipfs.io/apps/

List of today’s cryptocurrencies: https://coinmarketcap.com/

The Digital Dollar Project: https://digitaldollarproject.org/

A digital euro: https://www.ecb.europa.eu/paym/digital_euro/html/index.en.html

e-CNY: https://en.wikipedia.org/wiki/Digital_renminbi

What are NFT Domains? https://www.elegantthemes.com/blog/wordpress/what-are-nft-domains

What is a Blockchain? https://en.wikipedia.org/wiki/Blockchain

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