Software Requirement Specification

for

A Decentralized Online Marketplace using Blockchain

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Submitted to:

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1.Introduction:

This Software Requirement Specification provides the
purpose, project scope, used references and further overviews. The aim of this document is to give an in-depth outline about our project idea **A Decentralized Online Marketplace Using Blockchain** and also the requirements to implement it.

1.1 Purpose:

The purpose of this project is to introduce a new decentralized marketplace or platform free of intermediary that offers transparent and safe transactions.

1.2 Project Scope:

There is no doubt that online market is the future of retail.The e-commerce retail market is growing faster and faster.Barriers to this markets ar lowering day by day and more and more people are embracing this system.But the concern is the central admins who can dominate over the customers.Central actors this kind of tendency to abuse customer with their dominant position may make the online retail platform lose its acceptance to the people.To avoid this situation one of the solution for the customers may be the open marketplace but it is very hard to prevent fraud in open marketplace.

The obvious solution to these situations is Decentralized Online Market.This platform will connect the seller and buyer both without any intermediary person or company.the seller and buyer will agree on a smart contract for a transaction.Amount that both were agreed on will be debited from the buyers accounts and will be kept in an escrow or a temporary storage.If the buyer receives the product and and confirms the product then the amount will be credited to the sellers account.This kind of transaction preserves both transparency and safety.

1.3 References:

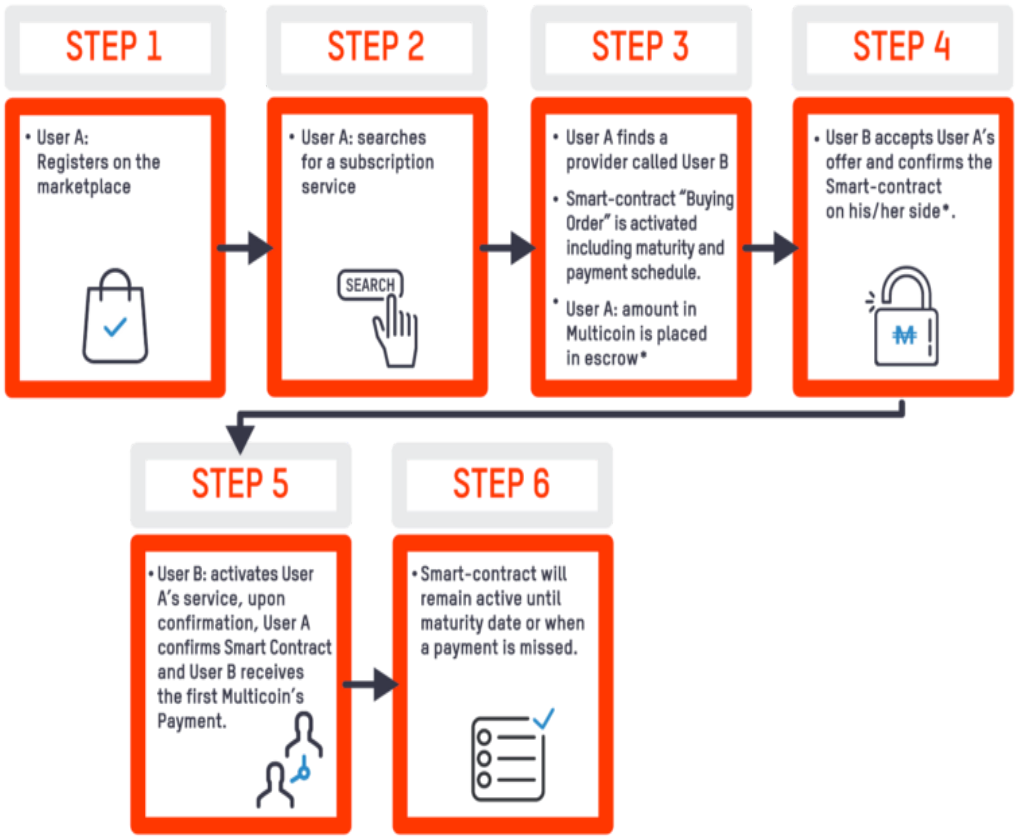
1.https://medium.com/multivengroup/blockchain-marketplaces-the-decentralized-shopping-mall-a-glimpse-into-the-future-92617e0f57dd
2.Bitcoin: A Peer-to-Peer Electronic Cash System by Satoshi Nakamoto.
3.https://blockgeeks.com

2. Overall description:

This section gives an descriptive idea about how the system will work, how the use case will be, how the data flow will be along with the exclusive features.

2.1 Project Perspective:

The whole project can be described by this figure:



The picture is taken from
https://medium.com/multivengroup/blockchain-marketplaces-the-decentralized-shopping-mall-a-glimpse-into-the-future-92617e0f57dd

The above picture shows how the system will work when a transaction takes place. Here the transaction will occur through the server using Consensus Protocol and Smart contract. The server will cut some of the percentage of the transaction as fee.

2.2 User class:

Here the users-

- Will have an authentic id.
- Can add any product for sale.
- Can buy any product from other user through Smart Contract and Consensus Protocol.
- Can advertise product.

2.3 Use-case Diagram:

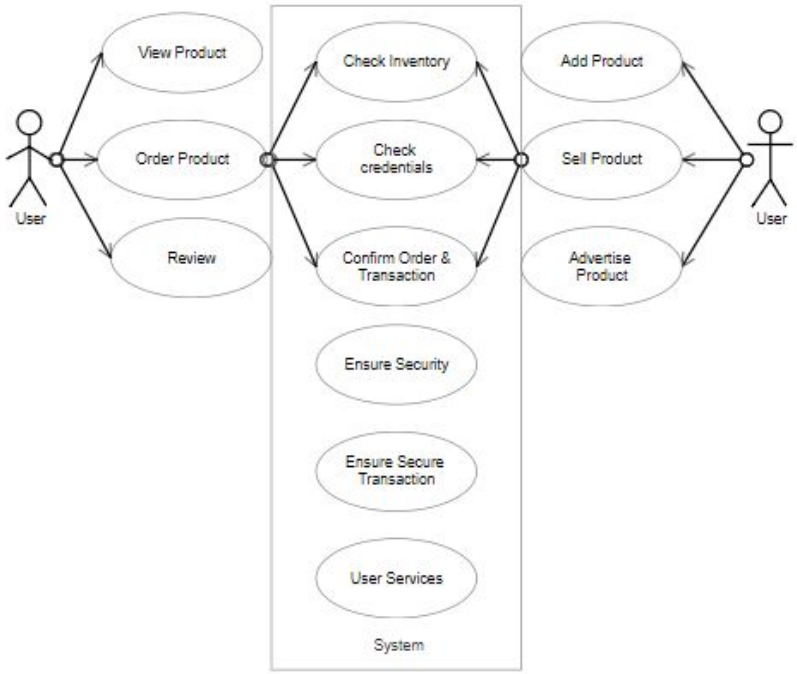


Fig: Use-case Diagram.

2.4 Data Flow:

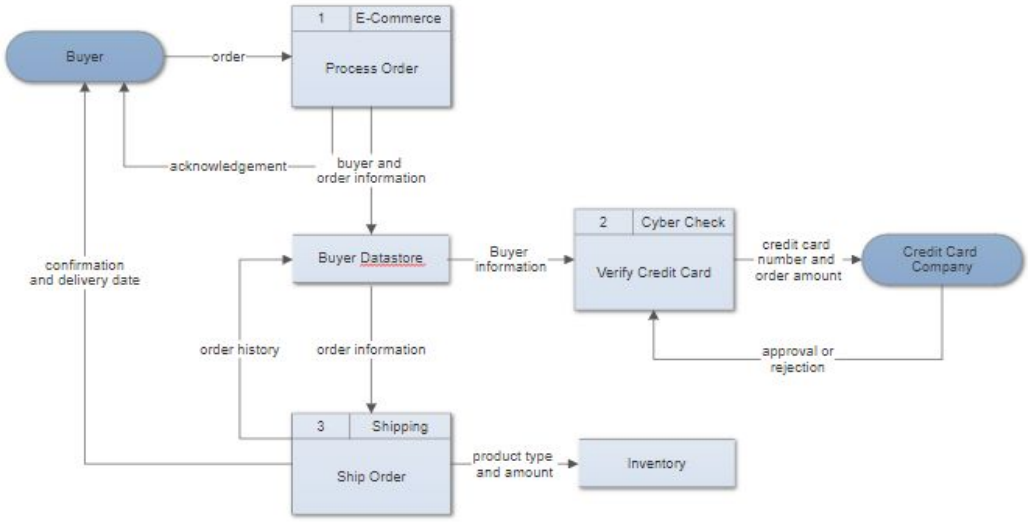


Figure: Data Flow while ordering

2.5 Features:

1. The main feature of this project is that, it will introduce the idea of a decentralized marketplace where no individual can monopolize over the market economy.
2. Smart Contract will be used in contracts using Consensus Protocol.
3. Authenticity of each individual will be ensured.
4. A safe platform to run business will be provided.
5. Will Transparent money transaction system will be introduced.
6. Equal opportunity to each individual will be provided.
7. A huge range of similar quality products will be available and no specific person's product can dominate.
8. Review and some supportive services will be provided.

2.6 Operating Environment:

Used operating environments are-

- Distributed Database.
- OS: Linux, Windows.
- Blockchain Technology.
- Hyperledger Fabric.
- Docker.

3. External Interface:

3.1 UI Design:

- Back-end: LevelDB, MySQL, Node.js, Javascript, Go.
- Front-end: HTML, CSS.

3.2 Platform:

- Linux

3.3 Hardware Interface:

- As all the hardware must be connected to the internet, this will be the hardware interface. For example: LAN, Wifi, Ethernet etc.

3.4 Software Interface:

- LevelDB, MySQL
- Docker.
- Node.js, JavaScript, Go