**Decentralized Auction House Software Requirements Specification.**

### Business Background.

With the introduction of Non-Fungible tokens and the ability to store digital provenance of real world artifacts, there is a need to create decentralized auction houses using the blockchain to digitally store records of transactions and proof of ownership of these tokens in a trustless environment. The establishment of a decentralized auction house also allows the artists and creators of these tokens to be rewarded without having to pay intermediaries to facilitate the sale of their works.

## Technical Specification.

The project team will design and implement an auction house using a three tier solution involving a Javascript front end that connects to Solidity contract microservice architecture and using the Ethereum blockchain to store all transactions and provide the ability for provenance of ownership of the Non Fungible Tokens being auctioned.

### Functional Requirements.

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| **Requirement ID** | **Requirement Specification** |
| MFR-1 | Create a decentralized auction house on the Ethereum Blockchain. |
| MFR-1.1 | Three roles must be created for the auction house, buyers, sellers and the auction administrator. Only the administrator can register new buyers and sellers. |
| MFR-1.2 | Sellers must be provided a Non-Fungible Token for their goods. |
| MFR-1.3 | Sellers must be able to put their NFT’s up for auction. A minimum bid value can be optionally applied. |
| MFR-1.4 | Buyers must be able to bid on any of the items up for sale. All bids will be denominated in ether. |
| MFR-1.5 | The winning bidder will be certified to be the new owner of the NFT upon completion of the transaction. |
| MFR-1.6 | A simple web front end with JavaScript and the web3.js library should be created to facilitate the application. |

### Technologies used:

1. Solidity programming language

2. JavaScript + web3.js library.

3. Ethereum Blockchain.