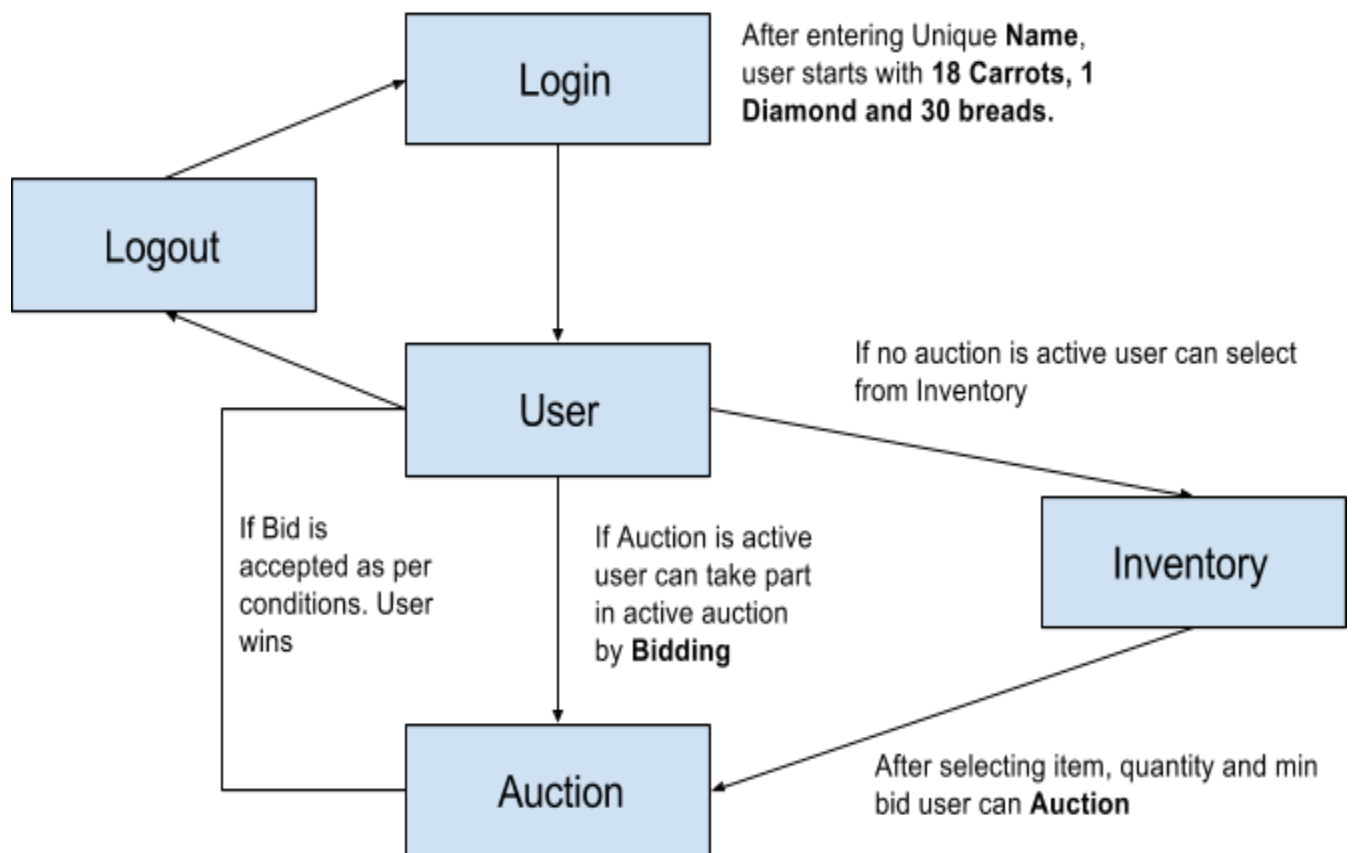# Design Document
- By Vaibhav Magon

1. List Of Technologies:

- Node.js
- Express (No Framework used, pure Express) as directed
- Angularjs
- MySql (RDS)
- Bootstrap
- HTML 5
- CSS 3
- Docker (Dockerfile has been provided with the source code.)
- Bower (for client side dependency maintenance)

2. High Level (Broad Description of App flow)

Login

After entering Unique **Name**, user starts with **18 Carrots, 1 Diamond and 30 breads.**

Logout

User

If no auction is active user can select from Inventory

If Bid is accepted as per conditions. User wins

If Auction is active user can take part in active auction by **Bidding**

Inventory

Auction

After selecting item, quantity and min bid user can **Auction**

3. Design Pattern

3.1 FrontEnd (Angularjs & Bower)
Implemented code is made modular using Directives, Factories and using singleton html file to render all pages as required in single page applications. Proper MVC architecture is followed using Angularjs.

3.2 BackEnd (Node.js & Express)
Implemented code is made modular using proper MVC architecture pertaining to express. No external framework eg. Loopback,sails.js etc is used as stated in the problem statement. Controllers are defined in routes dir and Models in models dir. The app is clustered for maximum output of one's machine's core using cluster.

3.3 Database (MySQL)
The architecture is defined with tables named - user, auction and inventory. The app could have been more scalable in terms of architecture, but present architecture suffices the scenario provided and time period given.

3.4 Tables
User table

Id (auto increment) [Primary Key]	userName (name)	userBal (coins)	isLoggedIn

Inventory table

itemName (name)	itemQuantity (quantity)	userName (name of user)

Auction table (Fill with data when auction is going on)

itemName	itemQuantity	userName	bidderName	minBid	bidderBid	timeStamp

3.4 User Interface (HTML5, CSS3 and Bootstrap)
UI is made responsive and handy to be able to operate from most devices. A proper look and feel with font, image and dropdowns have been provided as per the instructions given in the wireframe.