

CA110

Database Schema 0.x

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1.0 General Layout

1.1 Database Description

The database we are using is MongoDB. it is a common light weight no-SQL database. The database is made up of collections. A collection is a set of documents which all have something in common.

1.2 Collections

The collections are as so :

- Authentication Collection
- Player Collection
- Item Collection

2.0 Authentication Collection

2.1 Collection Description

The authentication collection is only written to by the authentication server. other servers may need to read the data but may not write (e.g. the game server needs to verify a login).

2.2 Document Schema

Values :

- Username -*string*
- Password -*string (Encrypted)*
- Email -*string*
- Token -*string (optional)*

2.3 Schema Description

The optional values in each player's document in the authentication collection are not always present. This is important because of the following : When a user logs in through the authentication server, the server will add a token value to his document in the authentication collection. The player would then use that token to authenticate to the game server. The game server will find said players document in the authentication collection and check if it has a token value. if so it compares the tokens and allows the login accordingly.

3.0 Player Collection

3.1 Collection Description

This collection is edited by the game server AND the trading server.

3.2 Document Schema

- Username -*string*
- Position -*object {x:,y:,z:}*
- Orientation -*object {x:,y:,z:}*
- Inventory -*array*
 - ID
 - quantity
 - Tradable

3.3 Schema Description

This Document Schema holds general information about where certain users are in the world. In the future it will also hold items such as “friends” and other data that will generally only be used by the game server. It is generally updated only upon a player disconnecting from the server. The inventory array will be edited by the trading server as required. To prevent timing errors the game server will prevent player to player trading while the player is at a trading shop.

4.0 Items collection

4.1 Collection Description

This is the collection that holds static constant pre-built items. The collection has nothing to do with individual players.

4.2 Document Schema

- ID -*Int*
- Name -*string*
- Tradable -*bool*
- Equipable -*bool*
- ImageName -*string*
- Description -*string*
- Attributes -*array*
 - EditProperty -*string*
 - EditValue -*float*

4.3 Schema Description

Standard Schema for all items. ImageName variable is the name of an image so that the client will know how to display the item in an inventory slot. Attributes array is a list of attribute edits e.g. +5 gallons fuel capacity on an item such as a fuel tank.