Technical Spec

Almost a compilation of multiple technical specs. Written to be understandable to the best of my abilities.

1. Front Matter

Minance Trading, Ordering & Botnet System https://github.com/minancenet

Created On - 04/09/21
Last Updated - 04/12/21
Authors:
- Ian Koide (ikoide)
Reviewers:

2. Introduction

Overview

The Minance trading system is a peer-peer system in which, players of Skyblock by Hypixel are able to execute trades for Minance site users on the game's internal bazaar for a commission fee, paid for by the orderer. Thus, allowing players to place buy and sell orders externally, via any device with access to the internet. With our competitive system and a large enough ratio of order placers to orderers, orders should be executed on a close to in-game order time scale.

Glossary

Bazaar – Referring to the Hypixel Skyblock bazaar and its corresponding economy.

Context

The bazaar on Skyblock has always been an undervalued part of Skyblock although, the bazaar brings much more to the game than most realize. With Hypixel's millions of users the bazaar is an optimal environment for users who want to experiment with markets without any monetary barrier to entry. The aspect that differentiates the Hypixel Bazaar

from most simulated markets is that a larger portion of the player base actually plays the RPG/ MMO game within Skyblock. Interacts with other users, completes quests, earns money, fueling a very real economy.

Allowing users to place orders externally would only improve upon the current bazaar community along with hopefully boosting the volume of the bazaar allowing for the bazaar trading experience to become more immersed.

Goals

- Website for users to place orders externally on the Skyblock bazaar.
- Website to allow users to fill orders in game for website order placers.
- Functional botnet for storing items and accepting trading with users who place orders.

Non-Goals

- Minance is not an automatic, external order place. Orders are executed by other human players.
- Minance does not give any users advantages or insights within the Skyblock economy.

3. Solutions

Botnet

Bot Management

The bot management system will reside on its own server. It will retrieve new orders from the web API while also pushing statistics, order status updates, and more to the API.

The bot control center is responsible for:
- Creating new bot instances.
- Creating bot tasks such as fulfilling orders, marketplace transfers, user transfers, storage requests, etc.
- Pushing and receiving status updates to the web API.
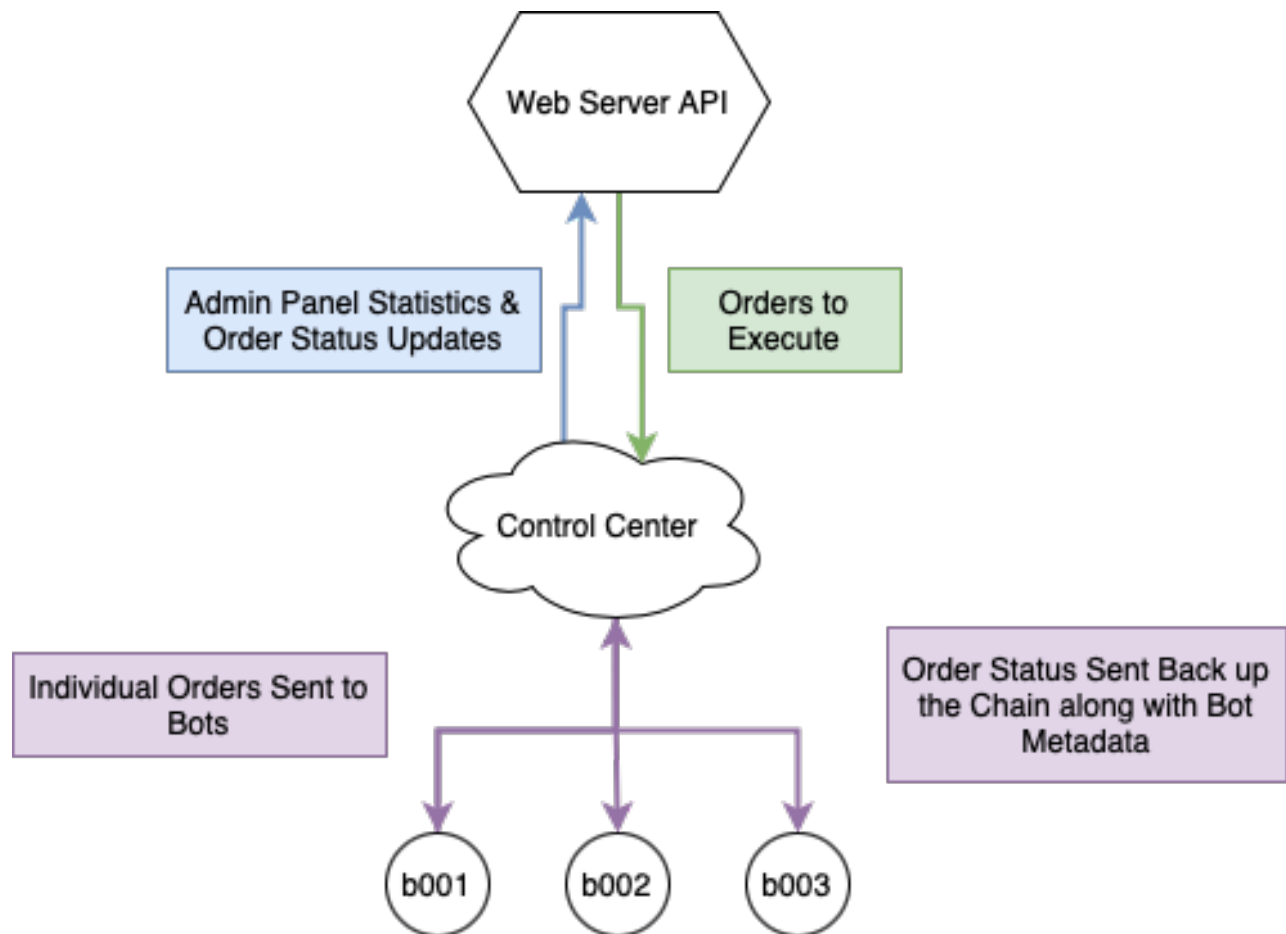
Storage System

Bots within Hypixel's servers must follow all Minecraft physics rules or risk persecution. With a small enough number of orders being processed a bot would be able to hold ordered items within their own inventories. But if the site were to grow too rapidly the bot would not be able to handle the influx of orders.
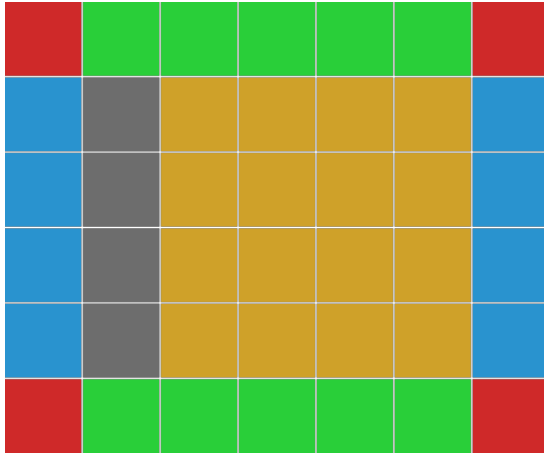
Home Island Modular Chest Array System

Benefits:
- Plenty of storage space.
- Very organized.

Cons:
- Slower traverse times compared to the jumbo sack method.

Top-down view of storage array 0 (left) and 1 (right).

Key:
- **Red** – Commanding Node: Used for determining logic within the individual bot for how to proceed.
- **Blue** – Access Node: Squares with proper access to the parallel chest.
- **Green** – Pathway Node: A node that is used for traversing the matrix.
- **Beige** – Chest Node: Either a trapped or normal chest used for storage of items.
- **Gray** – Dead Node: A block that will never be accessed or used.

Jumbo Sacks Storage Method

Jumbo sack storage system statistics:
- 36 inventory slots.
- 56 jumbo sack slots.
- Save 9 inventory slots for item transferring.
- 27 slots * 56 jumbo sack slots = 1512 storage inventory slots or 27 chests.

Whether the chest array system or jumbo sack system is chosen a sorting algorithm must be designed in order to efficiently store and retrieve items.

Trading System

Web Panel