

Game Design Document



EXO · WORLDS

[ExoWorlds Trailer 1 .mp4](#)

Team Information

Game Name

ExoWorlds

Engine Version

Unreal Engine 5.1.x

Designers

Aaron Moore

Devonte White

Austin Dosen

Eric Pino Jr

Fouad Elsadani

Loi Dang

Artists

Audio

Executive Summary

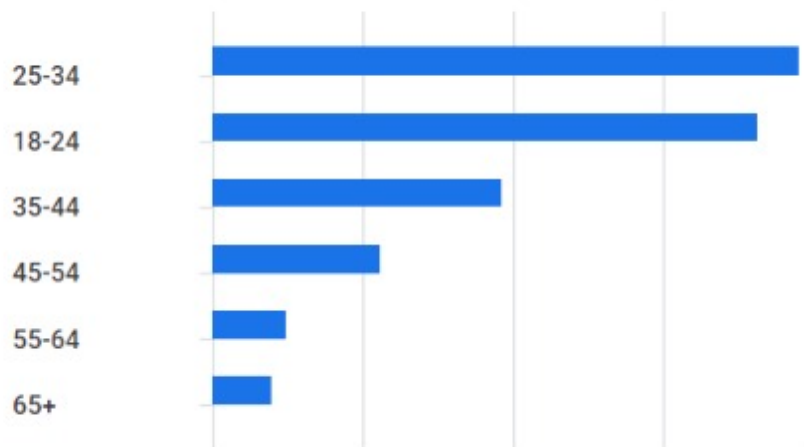
Game Identity

Exo Worlds is a sandbox for NFT trading that combines the blockchain world with trending shooter and open-world elements. Players must be able to purchase, sell, and exchange items and planets stored in their wallets. Meanwhile, they can navigate worlds and compete in fierce PvP combat to challenge their skills and even put their items on the line to grow their portfolio and conquer the verified galaxy.

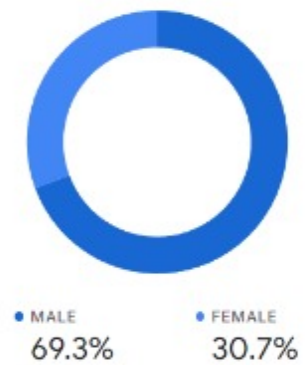
Target Audience

Blockchain | Cryptocurrency | Cryptocurrency Investors | NFT Investors | Metaverse | Anyone in the broad blockchain sphere | Investing | Day Trading | Trading Strategy | Foreign Exchange Market | Online Gambling | Gaming | Strategy Games | Third Person Shooter

Users ▾ by Age



Users ▾ by Gender



Game Genre

Open World, FPS, Looter Shooter

Design Pillars

Euphoria

Inspired

Immersed

Mysterious

Game Flow Summary

Look and Feel

Gameplay

Objectives

Game Progression

Play Flow

Mission/Challenge Structure

Interaction

Player-to-player

- Combat
 - PvP
 - Safe Zones in main cities
 - Invulnerability for ten to fifteen seconds
 - PvP Zones

- Punishment
- PvE
- Trading
- Questing

Player-to-NPC

- Combat
 - PvE
- Trading
- Questing

Player-to-Environment

- Harvesting materials

Release timeline:

1st presentation: Galaxy map available, purchasing, selling, and viewing planets

2nd Presentation: 4k strategy, X Material for Planet. (Planets give materials here, no wars and such.) Nations and Alliances. Allow players to build toward conflict

3rd Presentation: The War Update, PVP, Create their own nations and invade others. Civilization/Stellaris war style

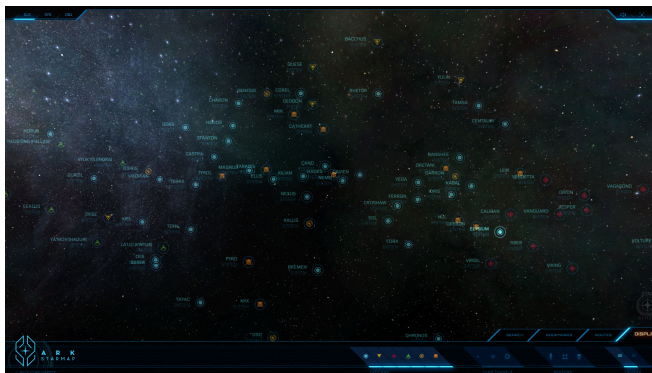
4th Presentation: Tower defense

Planet Customizer is the ultimate reward.

Note

Have to provide players with more engagement besides war while allowing players the tools to create the game as they want. Players will provide feedback on the alliance systems, and we can build off that feedback moving forward.

Galaxy Map



- View/Buy/Sell star systems
 - **View**
 - Filters
 - Marketplace
 - World Types
 - Species Types
 - Exo Class
 - **Buy**
 - Left-click on a system to zoom in to planet and open the buy menu
 - Along with other options, the user can left-click the "Buy" button
 - **Sell**
 - If the planet is the User's planet, The "sell" button replaces the buy button
- Chart Navigation between star systems
 - Graph Network
 - Federation Stations
 - Unrestricted "highway" system
 - Direct Path
 - Incur taxes
 - Being attacked

- Interdiction
 - Random events
 - View Resources of NFT planets
 - Viewing any NFT (player) planet displays the planet's resources
 - Resources
 - Energy
 - Financial
 - Construction
 - Empire/Faction boundaries
 - Conflict system
 - Each planet is given fixed borders
 - PvP (Planet Vs. Planet)
 - Stat deadlines
 - Losing a battle doesn't lose NFT; it only loses resources. **(STILL IN DISCUSSION)**
 - Dynamic borders?
 - Trading
-

Players/NPCs

Stats

- Health
 - Static
 - No Regeneration
- Shield
 - Capacity
 - Recharge Delay
 - Recharge Rate
- Ability Cooldowns

Weapons

- Projectile
 - Normal damage to health
 - Energy
 - Normal damage to shield
 - Reduced damage to health
-

Character Basics Information

- TBD
 - Metahuman?
 - Workable, but need a rigger.
 - We need to revisit the character conversation and lock in on what the best option is
- **Lucas Vision**
 - Customizable species characters (Skyrim, Stellaris)
 - 8 Races (Category Names)
 - Terrans
 - Amphibians
 - Reptilians
 - Marines
 - Synthetics
 - Avian
 - Specialty Features
 - Gills
 - Horns
 - Wings
 - Scales Color
 - Webbing style
 - Webbing Color
 - Synthetics Cybernetics
 - Hair
 - Hair Color
 - Arm length
 - Leg length

- Torso Length
- Neck Length
- Build Size (Thing, Muscular, Large)
- **Marketing**
 - Use test-created metahuman characters
 - Just prove that we are using metahumans

Mechanics

As < type of user >, I want < a goal > so that < a reason >

Character

Player Avatar

User Story

- As an avatar, I want to exist, so that I can represent any character in the game.

Dependencies

- None

Completion Criteria

- Define a base avatar for all future characters.
-

Movement

User story

- As a user, I want to be able to move around the map and have control of when I'm moving, so that I can progress complete objectives and explore.

Dependencies

- Action Mappings
- Characters
- Map
- Objectives
- Rewards (for exploration)

Completion Criteria

- Design at least one map
 - Make characters playable
 - Create a few objectives
 - Create a few rewards
-

Player Avatar Movement

User Story

- As the player, I want to traverse the world, so that I can find something to do.

Dependencies

- Avatar

Completion Criteria

- Define the player from the base avatar.
- Character horizontal movement via input.

- Character vertical movement via external forces (gravity).
-

Player Avatar Sprint

User Story

- As the avatar, I want the ability to increase my maximum movement speed so that I can traverse the world faster.

Dependencies

- Avatar
- Player Avatar Movement

Completion Criteria

- The avatar's movement speed increases via input (hold or toggle)
 - The avatar's movement speed returns to default via input released (hold) or pressed again (toggle).
-

Player Avatar Crouch

User Story

- As the avatar, I want the ability to slow my movement speed and shrink my hitbox so that I am more difficult to hit.

Dependencies

- Avatar
- Player Avatar Movement

Completion Criteria

- Avatar's movement speed is slower via input (hold or toggle).
 - Avatar's hitbox shrinks to match avatar animation.
 - Avatar will go back to standing state when input is released (hold) or pressed again (toggle)
 - Avatar's hitbox returns to normal.
-

Player Avatar Jump

User Story

- As the avatar, I want to increase my maximum height so that I can continue to traverse the world.

Dependencies

- Avatar
- Player Avatar Movement

Completion Criteria

- Avatar performs a jump action via input.
 - Avatar can perform multiple jumps while in the air (maximum of 2 while in the air).
 - Avatar returns to normal state when on the ground with no issues.
 - Avatar jump count resets upon hitting the ground.
-

Player Avatar Climb

User Story

- As the avatar, I want the ability to climb up objects so that I can continue to traverse the world.

Dependencies

- Avatar
- Player Avatar Movement
- Player Avatar Jump

Completion Criteria

- The avatar can latch to specific environmental objects.
 - The avatar will automatically climb the object and return to their normal state (standing).
-

Player Avatar Slide

User Story

- As an avatar, I want the ability to get a small boost of movement speed when I crouch while sprinting so that I can quickly get behind cover.

Dependencies

- Avatar
- Player Avatar Movement
- Player Avatar Crouch
- Player Avatar Sprint

Completion Criteria

- The avatar will gain a small boost to movement speed if the crouch key/button is pressed while sprinting.
 - The avatar's hitbox will shrink to match the avatar animation.
 - The avatar will move across the ground with lower friction.
 - After the animation, the avatar will switch to the crouched state.
 - After the animation, ground friction will return to normal.
 - Slide can only be pressed once per animation.
 - If the crouch key is pressed while in the slide animation, the player avatar will be set into the standing state at the end of the animation.
-

Player Avatar Dodge

User Story

- As the avatar, I want the ability to dash swiftly in any horizontal direction so that I can move away from possible danger.

Dependencies

- Avatar
- Player Avatar Movement

Completion Criteria

- Avatar will dash in the direction of the currently pressed movement input.
- Avatar will become immune to damage during the animation.
- Avatar is no longer immune to damage after animation is complete.
- Input for dodge can only be pressed once during each animation.
- Dodge has a cooldown of x-amount of seconds.

Health & Combat

Player Avatar Health

User Story

- As an avatar, I want to have the value of health, so that I cannot live forever.

Dependencies

- Avatar
- Avatar Death / Reset / Spawn

Completion Criteria

- Define a health pool from 0 to maximum value.
 - A method to damage an avatar without going under 0.
 - Upon hitting 0, avatar enters a dead state.
 - When not receiving damage for a set amount of time, health will begin to gradually regenerate back to maximum value.
-

Avatar Death / Reset / Spawn

User Story

- As an avatar, I want to reset myself, so that I can start over again.

Dependencies

- Avatar
- Avatar Health

Completion Criteria

- Avatar enters the dead state when health is at 0.
 - A method to reset an avatar back to default settings and position.
-

Player Avatar Melee

User Story

- As an avatar, I want the ability to melee my enemies if they are within close proximity so that I can increase the distance between them and myself.

Dependencies

- Avatar
- Player Avatar Movement
- Enemy

Completion Criteria

- Avatar can punch or hit an enemy in proximity via input.
 - The enemy will take damage from the attack.
 - The enemy will be knocked back a short distance.
-

Player Avatar Shoot

User Story

- As the player, I want the ability to fire my currently equipped firearm to defeat adversaries that hinder my ability to progress.

 EX-30 DONE

Dependencies

- Avatar

Completion Criteria



- The player must be able to fire their currently equipped weapon with a specified input.
 - The player can aim their weapon using a designated input
 - Upon firing the weapon and hitting a target, the target must react in an appropriate manner.
-

Menu, HUD, and UI

Landing Menu

User story

- As a player, I would like an intro screen to understand what version of the game I am playing.

 EX-31 - As a player, I would like an intro screen to understand what version of the game I am playing.


Dependencies

- Initialization
- Inputs that allow the player to enter/exit the application
 - In this case, the enter key is used to enter, and the escape key is used to exit

Completion Criteria

- The UI element must open after the game initializes
- The UI must display the game's current version with art
- There must be positive affordance that notifies the player of what buttons allow them to navigate the menu
- Pressing the said input executes its appropriate function



Loading Screen

User story

- As a player, I want to know that the game is loading, so I understand that my application hasn't crashed.

Dependencies

- UI/Art elements that continually move
- Current status of the loading sequence visible to the player (optional)

Completion Criteria

- The screen must have AT LEAST a throbber present to show movement.
- Entering and exiting the screen should not require any input.



Character Selection Screen

User story

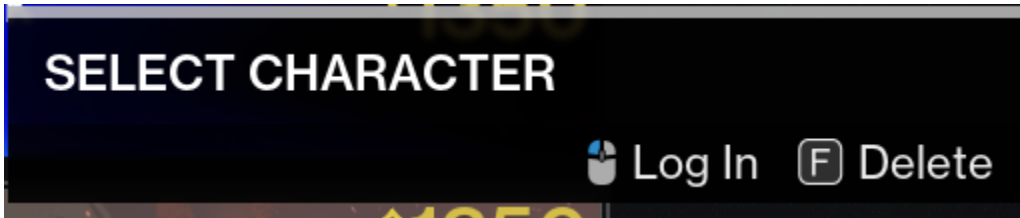
- As a player, I want to select and preview my character before I enter the game, so I start my gameplay experience in the mode I want.

Dependencies

- Character Creation
- Weapon Meshes
- Inventory (to identify what the player has equipped)
- Animation to preview the character and its capabilities
 - Appropriate Particle System (if necessary)
- Save system
- Load system
- UI that reads the player's username and any other identifying information
- Inputs that allow the player to enter/exit the application
 - Exit to Desktop
 - Selecting Character
- Input for deleting characters
- Mouse cursor on the screen
- Patch Notes (optional)
- Gear Score (optional)

Completion Criteria

- Must display the character
- You must be able to choose from multiple characters and send the player to character creation if selecting an empty slot.
- Displays the character's identifying information
 - Name
 - Organization
 - Gear Score (optional)
- Players can delete characters
- The ability to exit the application
- Displays mouse



Character Creation

User story

Dependencies

Completion Criteria

Events Pop-up

User story

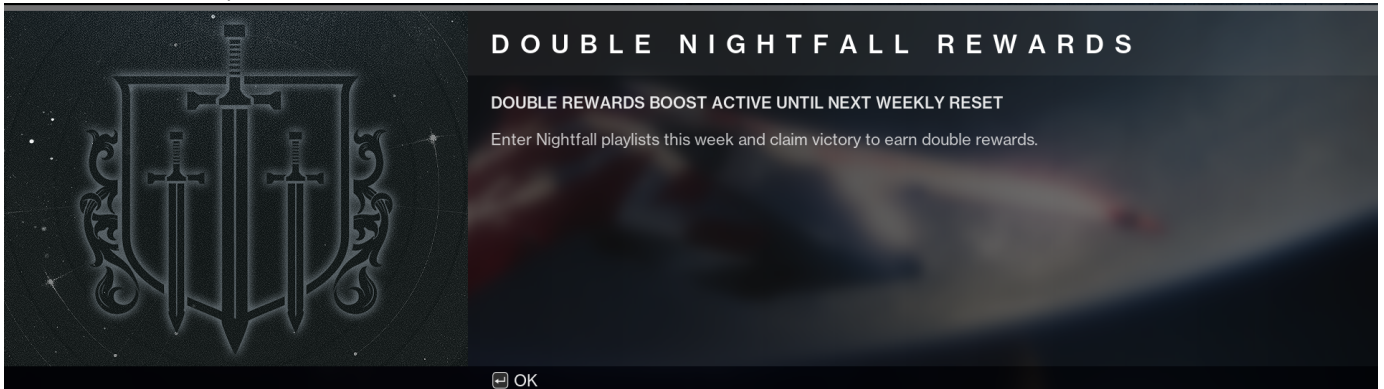
- As a player, I want to be notified of community events to maximize my involvement.

Dependencies

- Menus
- Events
- Input for closing the pop-up

Completion Criteria

- Must appear after selecting a character and entering the initial gameplay menu
- Must display event details
- Dismisses with an input



Crucial Gameplay Updates

User story

- As a player, I would like to be introduced to core gameplay updates to understand the new functionality of the latest patches.

Dependencies

- None

Completion Criteria



Game Lobby

User story

- As a player, I would like to have a menu that allows me to invite friends, manage equipment, and navigate other menus so that I can plan before transitioning to my next goal.

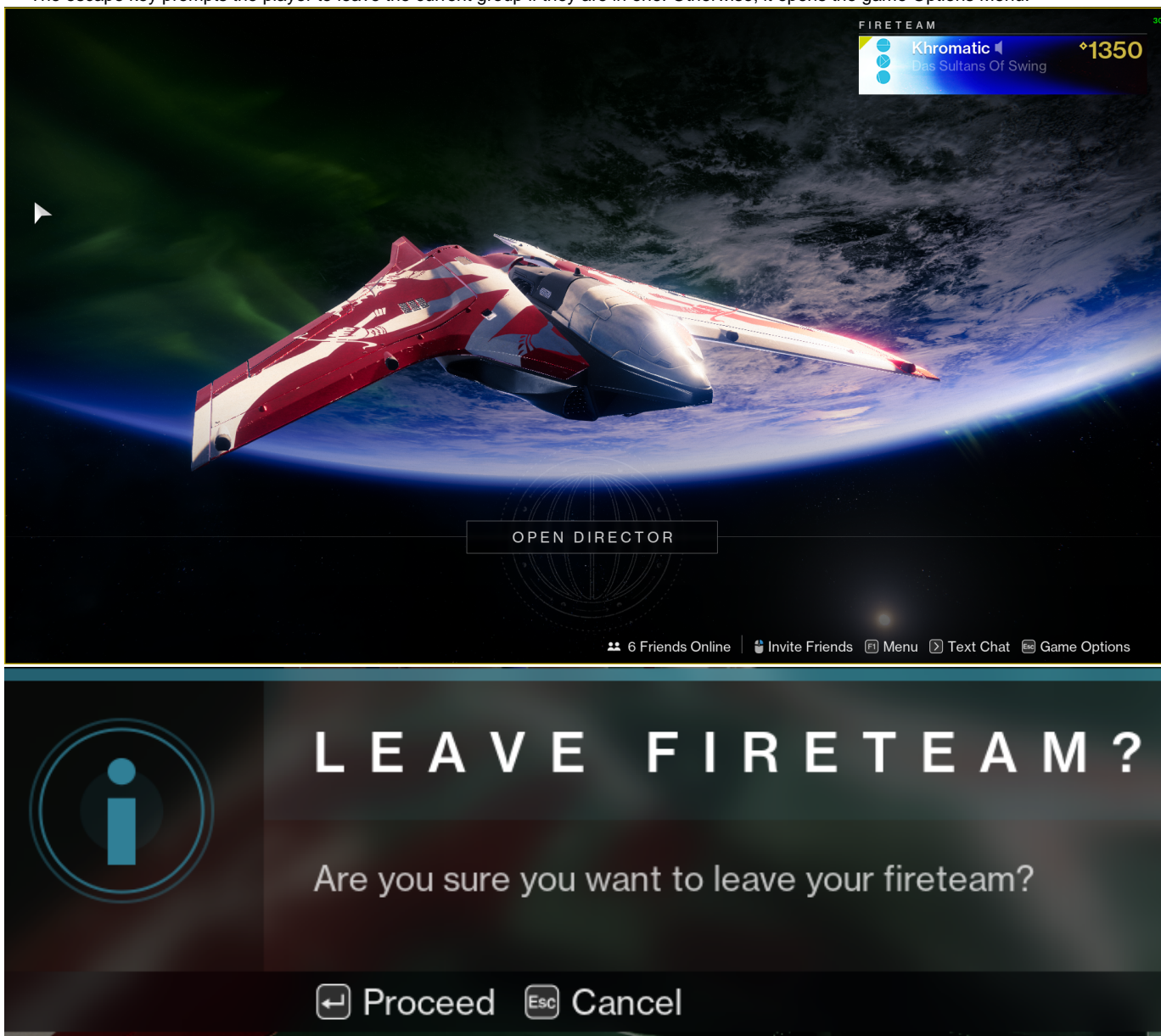
Dependencies

- Social Connectivity
- Network/Server connectivity between users
- Galaxy/Mission map

- Social Menus
- Player Inventory/Menus
- Text Chat?
- Game Options and Menus

Completion Criteria

- The player must enter this menu after selecting a character
- This menu must be a landing screen anytime the system is unsure where the player needs to be
- As a prologue to every mission, the player will use this menu to prepare themselves and their team.
- The player must be able to access all inventory, social, and option menus.
- A player may be able to return to this menu at any point.
 - Note: Progress is lost if the player submits this action during a mission or instanced portion of the game.
- The escape key prompts the player to leave the current group if they are in one. Otherwise, it opens the game Options Menu.



Social Menu (personal)

User story

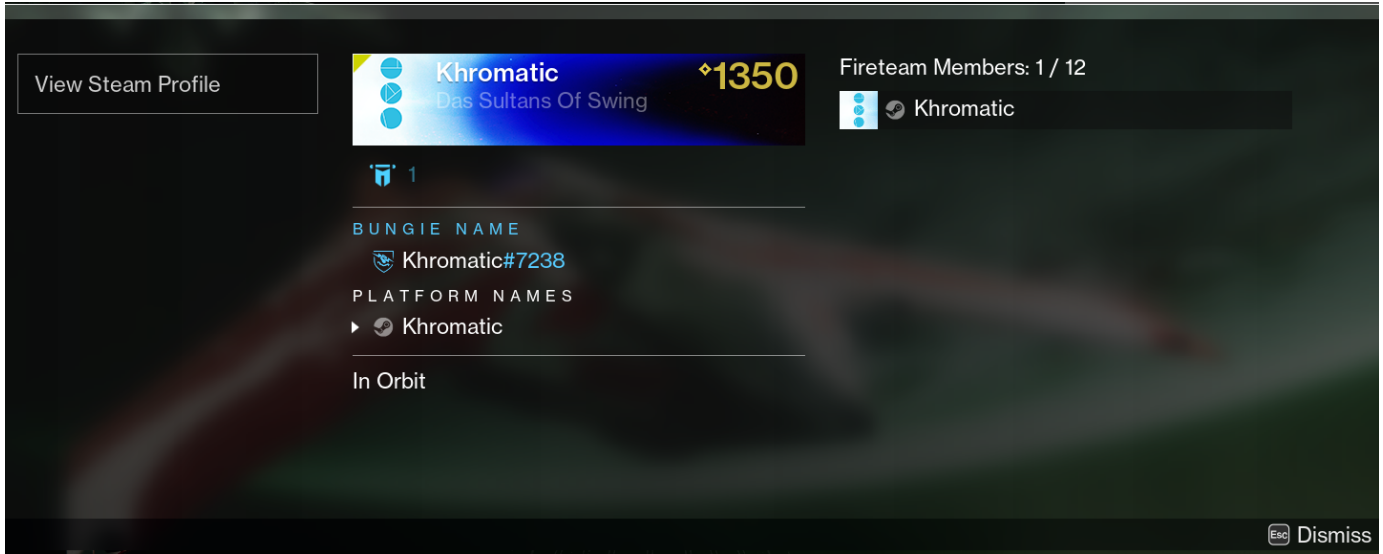
- As a player, I would like to be able to view my ExoWorlds login username, any connected social media usernames, and the usernames of all the players in my lobby so that I can observe what other users see when examining my profile.

Dependencies

- Game Lobby
- Social Connectivity
- Network/Server connectivity between users
- ExoWorlds website integration

Completion Criteria

- Players must be able to click a button to view their Steam and ExoWorlds profiles.
- All other menus (except the Options Menu) are accessible from this screen.
- All information should update upon closing and re-opening the menu.



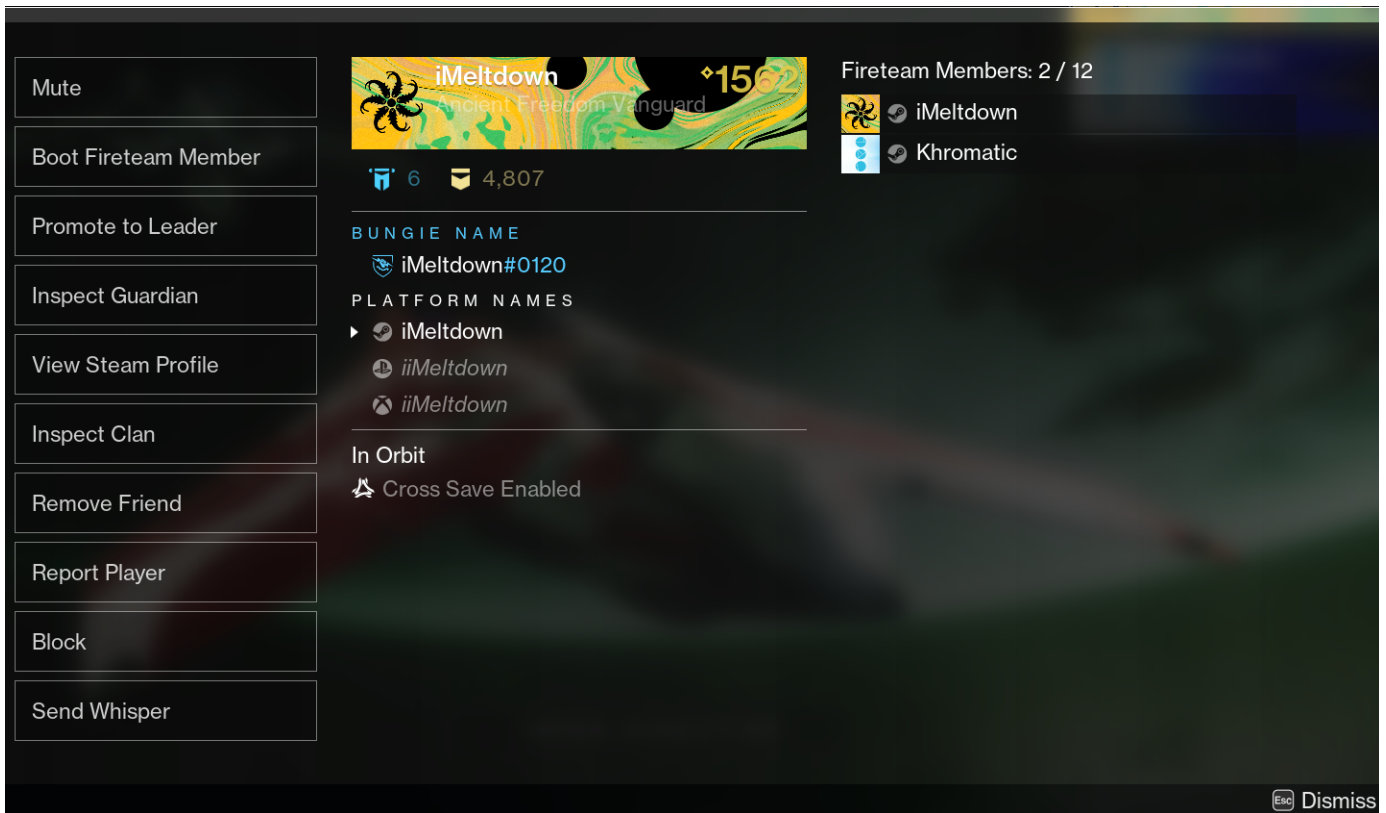
Profile Menu

User story

- As a player, I would like to view the profiles of people in my group, on my friends list, and in my organization to interact with them in ways that make sense contextually.

Dependencies

Completion Criteria



Inventory

User story

- As a player, I want an interface to view and manage my collected items, so I am always aware of what I've gathered.

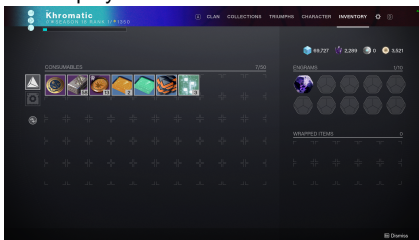


Dependencies

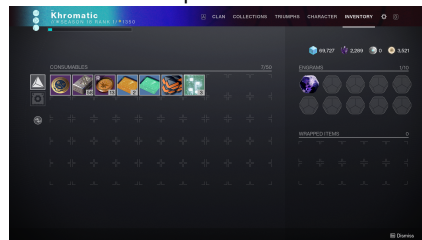
- Interact

Completion Criteria

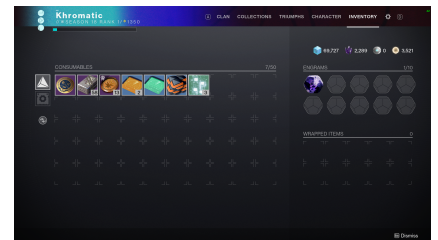
- The inventory must be accessible from an associated input or other menus
- Thumbnail images of collected items must be visible
- Sort button arranges in order of:
 - Mostly rare (Rarity)
 - Order in which item was gathered (Newest)
 - Amount of items stacked (Quantity)
- The interface displays all the currencies the player has
- The player must be able to close the interface with an associate input



Inventory view



Modification view



Sorting

Gameplay Systems

Player-to-Player Trading

User story

- As a player, I want to be able to trade my items with other players so that I can gain profit or get rid of things.

Dependencies

- Trading mechanic
- Multiplayer
- Marketplace

Completion Criteria

- Develop multiplayer
 - Develop trading
-

Player Avatar Leveling

User Story

- As player avatar experience, I want to reward the player avatar after each completed mission, event or enemy killed so that they can become stronger.

Dependencies

- Avatar
- Enemy
- Missions

Completion Criteria

- A minimum (starting) level.
 - A maximum level.
 - Experience needed per level is increased
 - Example: $(L * X) * Y$
 - L = Current Level
 - X = Specified Integer (100)
 - Y = Specified Float (1.15)
-

Missions/Quests

User Story

- As the missions/quests, I want to give the player avatar something to do in the world and reward them upon completing the activity.

Dependencies

- Avatar
- Player Avatar Movement
- Player Avatar Leveling
- Quest UI

Completion Criteria

- Give player a task and it appears in the Quest UI.
 - Completing the task gives the player any or all of the following rewards:
 - Equipment
 - Experience
 - Unlock activity
 - Items
 - Must have a start location, end location with requirements to meet.
 - Must appear on map with the location to find the requirements for completion.
 - A single waypoint
 - A small to large area of coverage
-

Interact

User Story

- As a player, I want to interface with objects and characters in the world to utilize them as needed. EX-35 REVIEW

Dependencies

- Avatar Movement

Completion Criteria

- The player must press and hold a specified input to complete the interaction.
- Holding this input for the specified time transitions the player to the appropriate content.



Player-to-Store Trading

User Story

- As a player, I want to buy and sell collected items to manage my inventory space and use acquired funds.

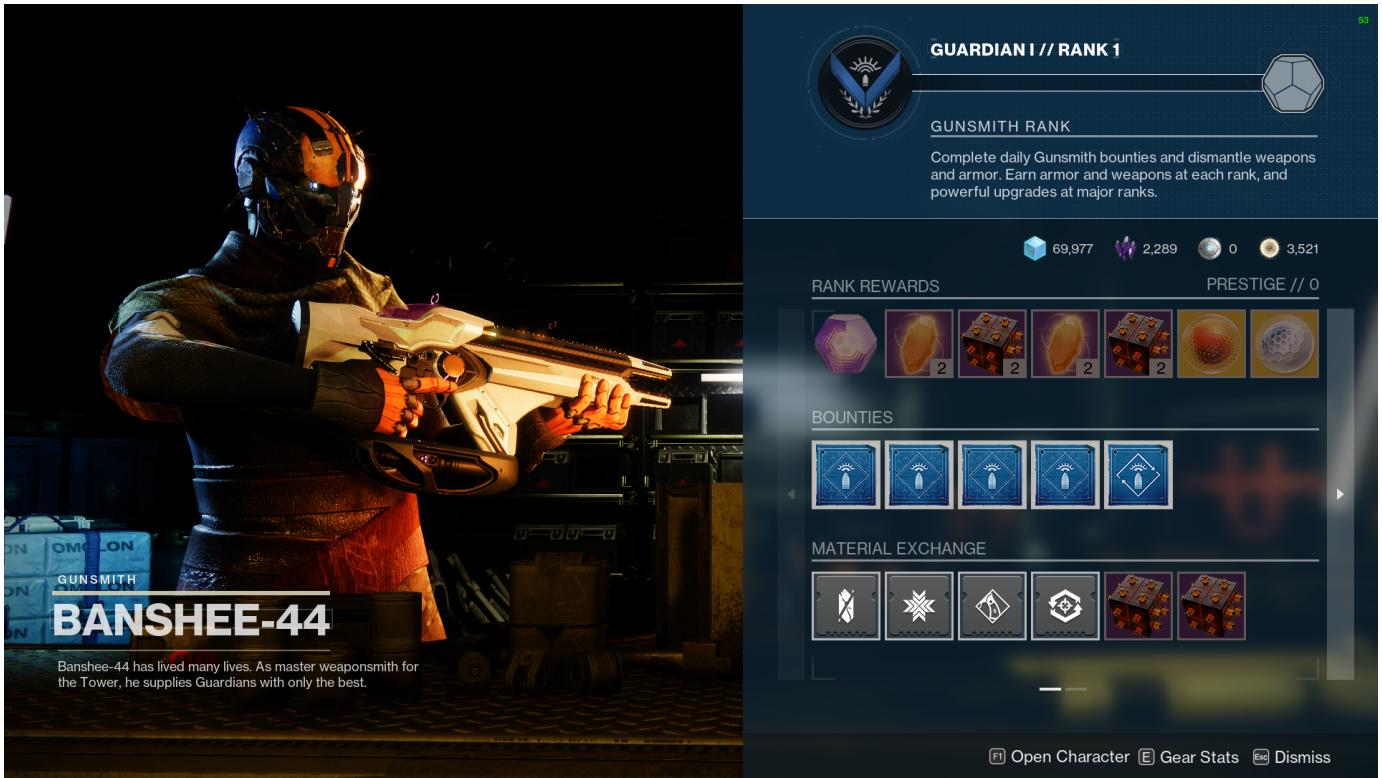
EX-27 - As a player, I want to buy and sell collected items to manage my inventory space and use acquired funds.
TO DO

Dependencies

- Avatar
- Avatar Movement
- Interact Action
- Inventory
- Currency

Completion Criteria

- Upon approaching a vendor, the player must hold the interact input to open the store.
- The menu must show the player's total amount of currency.
- The menu must show the available goods that are purchasable from the shop.
- The player should be able to left-click to purchase an item.
 - Upon purchase, the item's icon should gray out.
- If there are multiple of one item, the amount is displayed on the item's icon.
- The shop can be exited by using a specified input.



Camera

User story

- As a user, I want my camera to focus where I'm trying to look, so that I don't get lost.

Dependencies

- Camera movement
- Input mapping

Completion Criteria

- Add camera movement

AI & Enemies

Base AI

User Story

- As the player, I would like to see and interact with non-player characters throughout the game to feel a sense of liveliness.

EX-33 **DONE**

Dependencies

- None

Completion Criteria

- AI characters must act autonomously and require no intervention from the player to operate.
 - This does not include commands for companion AI
- NPCs must have associated meshes.
- They may share similar locomotion to the player.
- They must be able to navigate through a given map and react appropriately when stuck.

Enemy Avatar

User Story

- As the enemy, I want to exist so I can represent any NPC at any time.

Dependencies

- None

Completion Criteria

- Define a base avatar for the current enemy.
-

Enemy Avatar AI

User Story

- As the enemy avatar, I want to traverse the world, so that I can defeat the player.

Dependencies

- Enemy Avatar
- Enemy Avatar Attack

Completion Criteria

- Character horizontal movement.
 - Character shoots when the Player Avatar is detected.
 - Gets knocked back when hit.
 - Has patrol routes.
-

Enemy Level Scaling

User Story

- As the enemy avatar level scaling, I want to scale with and have a rough match with the player avatar's level so that I can provide a constant challenge.

Dependencies

- Player Avatar Leveling
- Enemy Avatar
- Enemy Avatar AI
- Enemy Avatar Rank System

Completion Criteria

- Enemy levels increase as the player level increases.
 - Enemy level is also determined by their current rank.
 - Player experience gained is equivalent to the enemies level.
 - Damage received by player avatar is gauged depending on enemy level.
 - Same level:
 - No bonus resistance to damage
 - One level or higher:
 - Bonus to damage resistance applied per level.
-

Enemy Avatar Rank System

User Story

- As the enemy avatar rank system, I want to have different ranks/rarities assigned so that each rank can provide additional challenges to the player avatar.

Dependencies

- Enemy Avatar Level Scaling

- Enemy Avatar
- Enemy AI
- Player Avatar Leveling System

Completion Criteria

- Enemy level is determined by their current rank:
 - Low Rank:
 - Same level as the player avatar.
 - Mid Rank:
 - One or two levels higher than the player avatar.
 - High Rank:
 - Dangerously higher than the player avatar.
 - Rank is displayed and visible to player avatar.
 - Icon and/or Health Pool color difference.
-

Story and Narrative

Back Story

Land at HUB to trade supplies and materials (nice teaser ship)

In search for the ancient relic

HUB is under attack (loses ships)

The player helps rebuild and is granted a new ship

Sci-Fi/Steampunk

Plot Elements

- Call to Adventure
 - They destroyed my ship, and I'm mad. Prevented me from returning home.
- Refusal of the Call
 - Extreme danger
 - Port city requested aid after the act
 - Acceptance - Going on a quest to retrieve materials to repair the port city's defenses
 - Refusal - Staying behind to plan a counter-offensive against the unknown force
- Supernatural Aid
 - Relic (Talisman)
 - The being inside the talisman is our mentor
- Crossing the First Threshold
 - After realizing the strength of the relic, the player volunteers to head the assault on the blockade.
- Belly of the Whale
 - Boarding the ship and first interaction with stronger members of the alien army (boss fight)
 - The first instance of using the relic is the close encounter with death while fighting the boss.
- Road of Trials
 - Researching relics
- Meeting with Deity
 - First encounter with the being inside of our relic
 - Transported to a separate plane to communicate with the being inside the relic
 - It provides the player with the confidence to finish the quest
- Temptation
 - The final boss offers a partnership to join him in his hunt for more relics.
- Atonement
 - After realizing what he is using the relics for (absorbing their power), we immediately work towards separating ourselves from his regime. From now on, we're working on opposing his goals.
 - By observing firsthand what the warlord is up to, the being within our relic is more willing to open up all of its power to us.
- Apotheosis
 - Final skill progression quest.
- Ultimate Boon

- Beat the boss
- A small glimpse at the ethereal plane
- Magic Flight
 - Transition battles between defeating the boss and escaping the planet
- Master of Two Worlds
 - End-Game

Game Story Progression

- Side quests for ability (relic) progression

Cut Scenes

Game World

General Look & Feel

Areas

Description

Physical Characteristics

How it is related to the rest of the world

How it is connected to other areas

Characters

Back Story

Personality

Appearance

Abilities

Relevance to the Story

Relationships