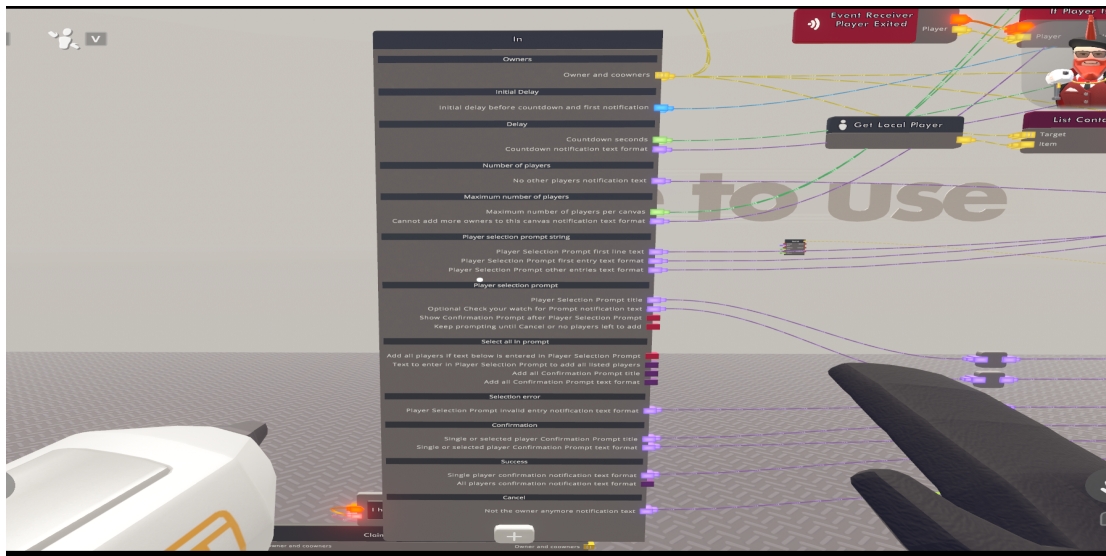**REC ROOM Design Doc**

Interaction Roles

Utilize existing role infrastructure to give creators greater power over allowing players to interact with objects in their rooms as well as solving griefing for props with peripherals such as drawing surfaces and pool tables.

Context

Back in July I was assigned Protect the fun, a solution for anti-griefing in rooms such as ^ValArtAcademy that prioritized providing the creative community with building blocks to help them create their own inventions to solve the problem. Creators now have the only missing piece (*GetPartyOfPlayer*), but their solution, while full-featured, is not approachable from Tracy's perspective (see image) and requires a deep understanding of all the ways an invisible collision and trigger volume can be exploited.

We should provide a first-class systemic solution to the problem that is more "one-size-fits-all" than the permissible volume which tries to address every edge case and permutation possible for a specific room.

Goals

1. Tracy has a first-class solution to control which players can interact with objects in her room.
2. Creators feel like they can empower their players to safely create art or play certain types of games, like pool, in their room without the game being interrupted or griefed from a 3rd party.
3. [REDACTED] can set up an anti-grief system for a personal canvas in less than 10 minutes that cannot be griefed by [REDACTED].
4. Resolve conflicts between proposed role filters and existing pickup restrictions by tag in role settings.
5. The role filter is not available on objects where it is not applicable.

Design

The design of Interaction Roles has two parts with a different technical solution but the same UX for the creator:

1. **Any object that can be interacted with** has a role filter that enables or disables the ability to pick it up, climb it, clamber, or any other interaction that is defined in the "Basic Settings" of an object.

   Example Case:
   a. A room with four basketball courts has basketballs that only allow themselves to be grabbed by players with a role that corresponds to their court.
   b. There is a ladder to the next subroom that can only be climbed once the players have a *"stage2"* role applied after all the basketballs have been thrown into their color coordinated bins.

2. **Objects that have special interactions** that are not included in their basic settings have an **Additional** Role Filter specific to that prop/gadget. Examples include Buttons, Pool Tables, and Drawing Surfaces

   Example Cases:
   a. A drawing surface with a role filter will not accept the Brush Tip collision of a marker or eraser unless the player holding it has the right credentials.

b. A button with a role filter can only be pressed by a permissed player, but it may still be grabbed.

Basic Interaction Roles

Currently a creator can disable all item pickups through the role settings and include/exclude individual items through tags. To streamline this process for creators and make it more granular, we will add a **Basic Interaction Role Filter Mode** dropdown and a **Role Filter** string field to the **Basic Interaction Settings** (formerly Basic Settings) of every object in the world with the *tools.cs* component.
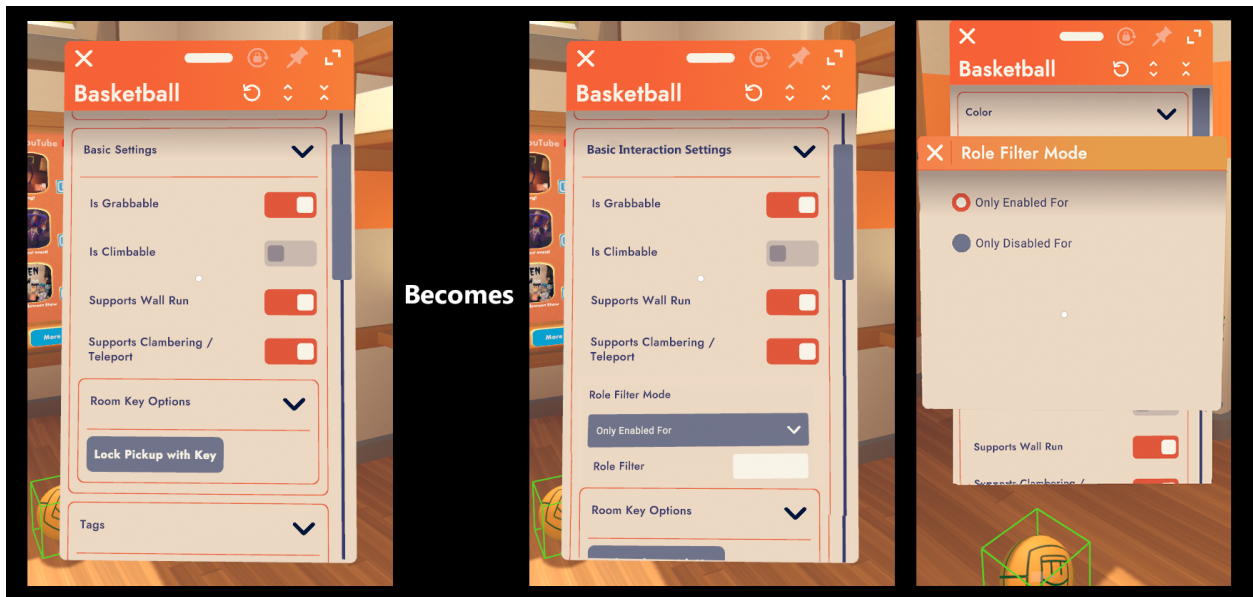
Notes:
- Basic settings renamed to **Basic Interaction Settings**
- **Only one** role can be assigned to the role filter
- The role filter field in the config menu should be **Opt-out from the engine** by a checkbox.

## What about the existing role setting to enable/block pickup by tag?
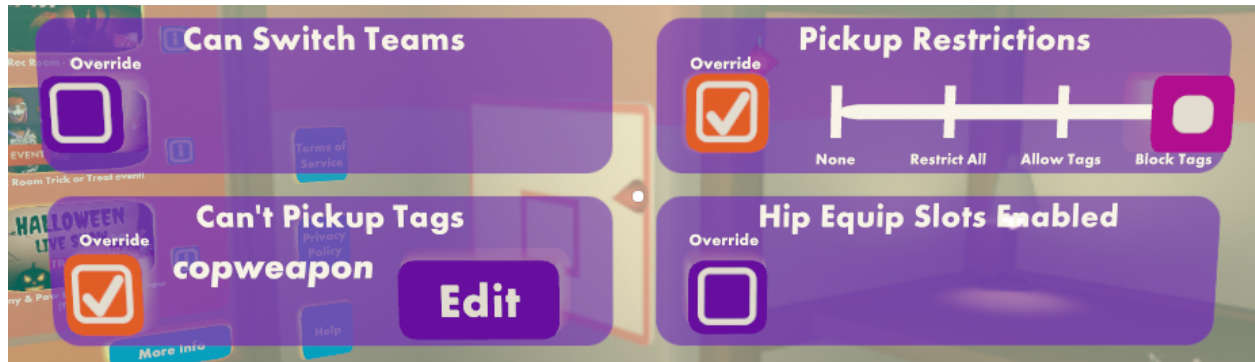
For the case where a room is using the existing Role Setting for enable/block pickup by tag, **the role filter system must supersede the pick-up by tag system**.

Example:
- A creator creates a **ROLE** called cops which uses the role settings menu to apply a pickup restriction that blocks them from picking up objects with the *TAG* #robberweapon. They also create a role robbers that can't pickup objects with tag #copweapon.
- They place two paint pistols on the ground, one tagged #copweapon and the other tagged #robberweapon.
- The creator forgets they did this.
- They come back to the paint pistol tagged #robberweapon and apply the role filter *Only Enabled For:* cops. Through this logic, the pistol is both allowing role cops to pick it up through the interaction role system, but also unable to pick it up through the existing Pickup Restrictions.
- Resolution: players with role cops can now pick up objects tagged #robberweapon. The interaction role system supersedes the pickup restriction system.

Props With Peripherals
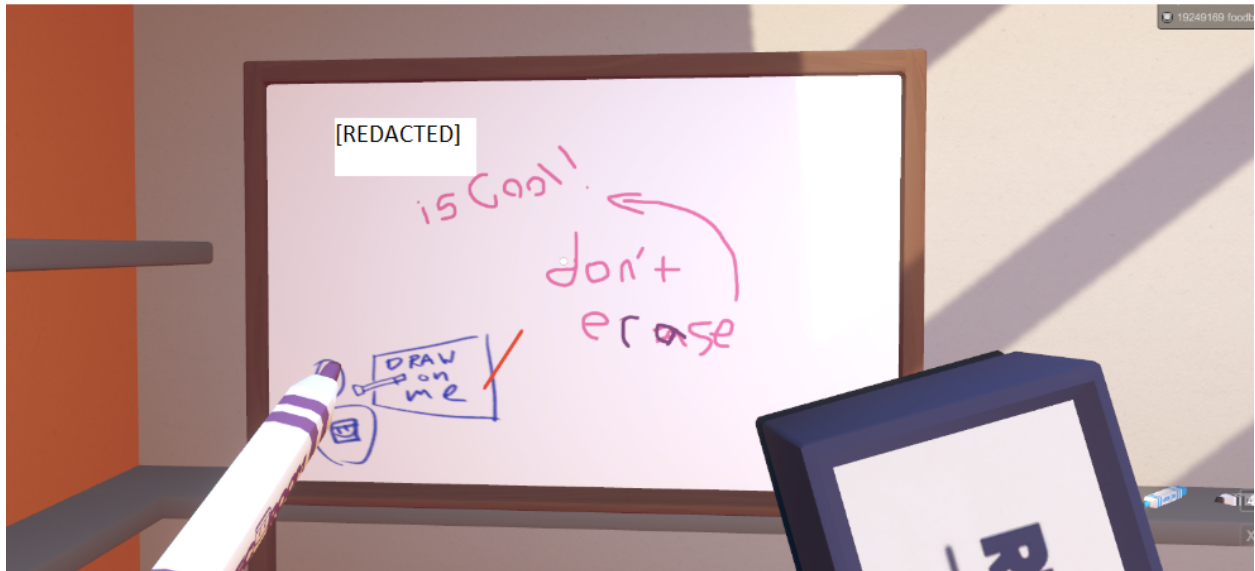
Some props are only interacted with given a peripheral such as cue to a pool table or marker to a drawing surface. These cases do require an audit and an additional role filter specific to the prop.

These will require the same role filter configuration seen above. The difference is that any peripheral that normally interacts with the prop (think marker to drawing surface or pool cue to pool table) can no-longer do so unless the player using it meets the role requirement.

Before / **After**
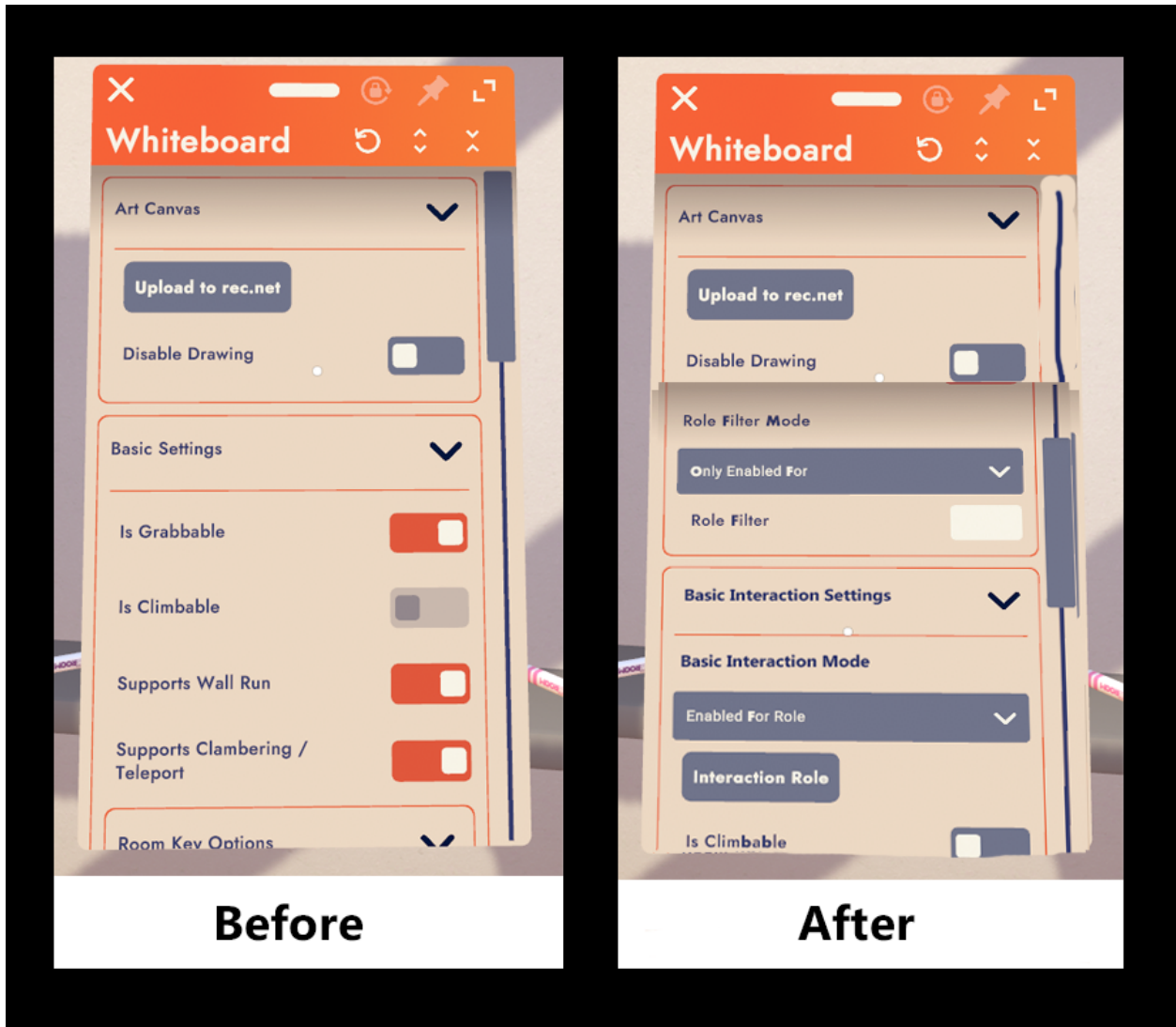
Drawing Surface Audit

- Drawing Surfaces cannot be "clicked into" on screens or touch if the role filter is excluding the player attempting to interact with it.
- If a Role Filter has been set, then the moment a marker, eraser, or paintbrush Brush Tip component collides with a Drawing Surface, the Drawing Surface checks the role of the player holding the peripheral.
- If a player does not have the credentials to draw on the canvas, provide a warning message "You do not have permission to use this [*prop name*]"

Pool Table Audit

- Pool Tables cannot be "clicked into" on screens or touch if the role filter is excluding the player attempting to interact with it.
- Pool balls spawned by a table with a role filter will only accept collisions from its environment (floor/walls), the pool table, eligible players, and tools held by eligible players.

Additional Audit Cases

There are a few additional Gadgets that require an additional audit of their interactions that aren't just basic "grab, climb, clamber, or wall run". There is a very deep rabbit hole of all the things to tackle here, so we will just attack some high value ones now and gauge community response if others are wanted.

Objects that have special interactions that are not included in **Basic Interaction Settings** have an **Additional** Role Filter specific to that prop/gadget.

- Button V2
- Toggle Button V2
- Doors

User Stories:

- A canvas has the Role Filter "drawgroup1". *Player A* and her friend *Player B* pick up markers and claim a canvas by entering a trigger volume that grants the role "drawgroup1" through some mechanism of CV2 made by the room's creator. *Player X,* a screen player, has 8 TikTok followers and is desperate for more. He turns on his recording software, picks up a marker, and runs up to the canvas. He can't click into it to start drawing so he throws the marker instead. But much to his dismay, the marker draws absolutely nothing. He decides to just block their

view by standing in front of the canvas, but the room's creator placed an invisible collision with the "drawgroup1" role filter and can't get close enough. He starts screaming and crying and is immediately votekicked. He loses 1 TikTok follower.

- *Player A* and *Player B* are showing Rec Room to their friend *Player C* by having a pool tournament between the three of them. *A* and *B* are up to the final shot, but *Player C,* on an iPad, accidentally picks up and throws the last ball, ruining the game. The creator, a friend of *A,* thinks of a solution: if two players walk into a trigger volume holding a tagged cue, those two are granted the role "poolplayer" and now those without the role can no longer pick up balls or click-into the table while holding a cue. They restart the tournament and *Player C* wins and is now a lifelong Rec Room lover.