

MuTROLLplayer Research Hub Tech Sheet

Note: This was a document written collaboratively during research to build multiplayer troll levels for carl. While neither the levels nor the document were ever finished, we have decided to release what we found to the public
~Pulse

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Here is a compilation of multiplayer tech, from totally obvious to glitchy jank

Just add as you go! Please don't add irrelevant / previously stated information, because then this will be as messy as the discord channel!

If you want to add non-multiplayer specific tech to this, please do so at the very end of the document.

Note: Some previous information is copy-pasted directly from #multiplayer-tech. A lot of information is summarized, but some things are kept as-is.

Thanks, MuTROLLplayer Research Hub.

Enemies:

General rule of thumb: Most enemies in the game which rely on player position relative to them use the absolute closest player, with only a few exceptions. Note

that this takes both horizontal and vertical distance into account. If 2 players are equidistant, the game host appears to take priority (*the order in which players joined?)

Boos: Boos start by "locking on" to the closest player that is NOT looking at them. They will move towards that player, ignoring all others.

If that player then looks at the boo, the boo will immediately lock on to the next-closest player not looking at them. This tracking is *GLOBAL* within the world the boo is in

If all players are looking at the boo, it will freeze just like normal.

This works the same for thwomps and boo rings at night.

Skipsqueaks: Only the player closest to the Skipsqueak can cause it to jump. If 2 players are similar distance, (More info might be necessary, but it would be good to assume absolute distance.)

Yoshi: a max of 2 yoshis per player can spawn in any level. This counts players in both worlds, so if there is 1 player in the main world, and 3 in the subworld, 8 yoshis can spawn in the main world

Item Respawning:

All items that are normally one-time use Respawn after 5 seconds of being consumed or destroyed. This 5 second timer triggers at different times, listed below:

Powerups: Collected

Yoshi: Ridden

Koopa Car: Ridden

Shellmets & Dry Shells: Worn or killed AFTER being picked up

Boots: Collected (or despawning)

Clown Cars: Ridden (NOTE: Clown cars Despawn in Multiplayer 3 seconds after their rider dies)

POWs & P switches: Activated

Flimsy Lifts & Skull Trains: Stood on (both on & off Tracks)

Snake Blocks: Completion of path

All items have a "spawn counter" - they can only spawn a number of times equal to the number of players. Whenever a player dies and respawns, this counter is rolled back by 1 (assuming they have already respawned at least once)

Item Respawn is NOT global - the items respawn location must be on-screen for the item to try and respawn

If an item falls off the edge of the map, or despawns off-screen, it will respawn without counting towards its max spawn count

Player respawn and checkpoints:

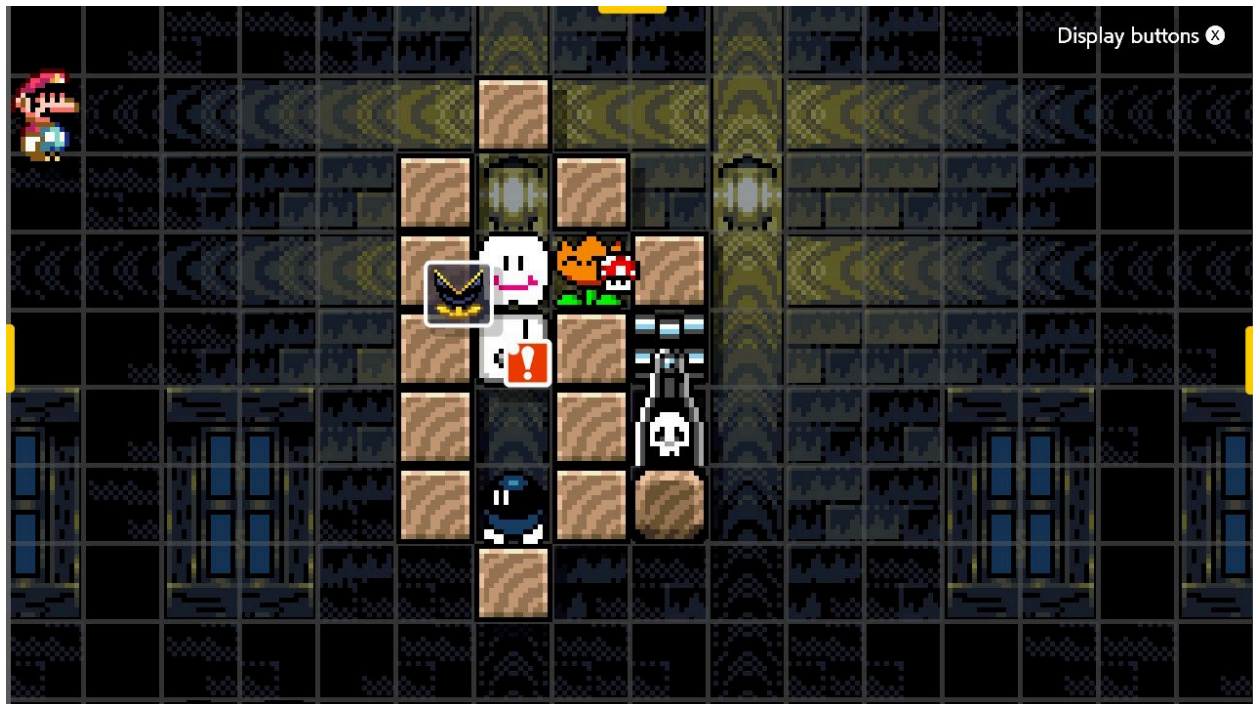
1. Players do not need to be on the same screen at the same time in Co-op or Versus, while in local players need to always be on the same screen.
 - a. In online modes (Co-op, versus) rooms cannot be reset through going through a door, as rooms normally would in single player.
 - b. Doors in local can reset rooms like rooms would be reset in single player.
 - c. The only way to reset a room in online modes would be for all players to go the subworld and come back to the original room.
2. P-switches and On/Off blocks are global and are not locked to subworld/mainworld.
3. Co-op players can choose where to spawn from (i.e. Start, a checkpoint, or another player).
 - a. In Co-op, if one player gets a checkpoint, another player can respawn at the first player's current position but cannot spawn at that checkpoint.
 - b. In Co-op, when the timer expires the checkpoint is not saved, and all players start from the beginning of the level.
 - c. In Versus, when the timer expires the level immediately ends and the checkpoint is not saved.
 - d. In local, when the timer expires the checkpoint is saved and all players respawn from checkpoint.
4. When players die in local, they come back in bubbles, akin to Super Mario Bros Wii (et al.), no matter the game style.

5. In Versus, you can softlock players over points where they respawn by having launchers fall on top of the start/checkpoint. This practice is ill-advised
 6. In online modes, the only way to block a player from spawning at a checkpoint or the start is by using rising lava/poison.
 - a. If a player dies while there is at least 1 other player in the mainworld, then the dead player will be softlocked until all other players die - in which case the level will start over from the beginning.
 - b. If all players are in the subworld, then rising lava/poison will not lock the player out from respawning, as the mainworld will be reset just like if you were entering the mainworld through a pipe in single player.
 - c. In order to circumnavigate this, spawn-block a cannon that turns the starting area into a deathbox, then put rising lava over the start. Any player respawning will start off in a deathbox until the rising lava kills them, putting them back into the respawn/softlocked state
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Multiplayer Checks:

Multiplayer checks abuse the power-up mechanics in different gamemodes. There are a few checks which abuse the room reloading through doors mechanic, but they use up a bunch of doors and are a little inefficient.

Simplest entity-efficient multiplayer check:



Progressive powerups do not work in multiplayer, meaning that in singleplayer mode, this contraption will trigger the bob-omb, but in any multiplayer mode, nothing will happen. You can either use 2 doors/pipes and block the path you don't want players to take, or simply have branching paths leading to different areas

Host Detection

If two players are placed equidistant from a poison mushroom, the mushrooms appears to always go for the host of the game. It can be assumed that other objects and enemies act in the same way though it will require more testing.

All items:

Terrain:

Ground -
Steep Slope -
Gentle Slope -

Pipe - game does not pause while players are transitioning through pipes. All players have the same animation time regardless of size (since patch 1.1.0)

Spike Trap -

Mushroom Platform -

Semisolid Platform -

Bridge -

Block - Once Broken, stays broken for the rest of the game. Does not Reset upon player deaths

? Block - items in blocks come out once per player (explained more in "items")

Hard Block - same as Block

Hidden Block - once triggered by 1 player, becomes a ? block (if hidden block has an item inside, it will look like an unpressed ? block after the first hit)

Donut Block -

Note Block - items inside will only come out once, until said item is destroyed. Once per Player

Cloud Block -

Ice Block -

Items:

Items/Powerups respawn after 5 seconds of being destroyed or consumed. They respawn a number of times equal to the player count -1 (e.g. 2 players = 1 respawn) When in blocks, items will spit out once per player, only if the block is triggered by a different player than the one who consumed the powerup (if a player consumes 2 powerups from the same block, then the player who released the powerup counts as having consumed it, and therefore cannot release another powerup)

Coin -

10-Coin -

Pink Coin - Number of Pink Coins collected is hidden from all players (but total pink coin count is shown) the player who collects the last pink coin will get the key

Super Mushroom - see items

Fire Flower - Progressive Powerups do not work in multiplayer. A Progressive Powerup will always be the upgraded variant, even if all players are small. This can be used for a very simple and fast multiplayer detector

Theme-specific Powerup - See above

Super Star - When a player with a star powerup picks up another player, or vice versa, the other player will also gain the super star effect. This will time out at the same time as the player with the original star

1-Up Mushroom -

Shoe Goomba - despite being an enemy, Shoe Goombas will respawn after 5

seconds of their shoe despawning or being collected by a player (unlike other enemies that do not respawn)

Yoshi's Egg - 2 Yoshis per player allow for an easy player counter. Ground-pounding a player in a yoshi will kick them off and give you the yoshi. You can eat other players and spit them out too

Enemies:

Most enemies in the game which rely on player position relative to them use the absolute closest player, with only a few exceptions. Note that this takes both horizontal and vertical distance into account.

Goomba -

Koopa Troopa -

Buzzy Beetle - respawns like an item when in helmet form

Spike Top -

Spiny - see **Buzzy Beetle**

Blooper - (needs testing)

Cheep Cheep -

Piranha Plant -

Muncher -

Thwomp -

Monty Mole -

Rocky Wrench -

Hammer Bro -

Chain Chomp -

Wiggler -

Boo - Boos will "lock on" to the nearest player not looking at them until they start to look at them, even if the player stops becoming the closest. Once the player looks at them, they will seek a new target. Only if all players are looking at the boo will the boo stop moving. This lock-on tracking is **global**

Lava Bubble -

Bob-omb -

Dry Bones - shell form respawns

Fish Bone -

Kamek - RNG For transforming objects will be wildly unpredictable - manipulation impossible

Bowser -

Bowser Jr. -

Boom Boom -

Angry Sun - changes target to the closest player when **not** in "spinning" or "swooping" phase

Lakitu -

Koopa Clown Car - respawns when a player enters it. Despawns after 5 seconds of its (player) last rider dying

Gizmos:

Burner -

Bill Blaster - (testing needed)

Banzai Bill - will not respawn if killed after area unloaded

Cannon -

Icicle -

Twister -

Key - If a player collects a key (or clear condition) and dies, the key/CC will enter a "bubble" that will slowly float to the nearest player within a certain radius.

Touching this bubble will give you the key/cc. Bouncing on a players head/eating the player with yoshi while they have the key/cc will transfer it to you

Warp Door - does not pause the game during transition. Does not reset the room.

P switch - respawns like items if activated or destroyed

POW - respawns like items if activated or destroyed

Trampoline - Respawns like items if destroyed

Vine -

Arrow Sign -

Checkpoint Flag - when collecting a checkpoint flag, players will see all other players who have this checkpoint currently collected. The sound effect of collecting a checkpoint can be heard by all players globally.

Lift - Flimsy lifts respawn like items after being stepped on. Flimsy lifts on tracks will despawn after the player last touching them dies.

Lava Lift - See lift

Seesaw -

Grinder -

Bumper -

Spike Pillar - can be janky as it gets "loaded early" by the first player to reach it, if pillar timing is important, be careful!

Swinging Claw - players can bounce on the head of other players in swinging claws. Claws will not drop players if another player walks under the claw. Ground Pounding will kick a player off the claw and put you in it instead

On/Off Switch - global

Dotted-Line Block - lots of fun softlocking other players

Snake Block - only respawns after it has completed its entire path and died

Fire Bar -

One-Way Wall -

Conveyor Belt -

Track -

Sources: Mario Maker 2 Testing and this; <https://youtu.be/dQw4w9WgXcQ>