

# Mario Maker 2: Designing a Multiplayer Troll Level

Multiplayer trolls bring a whole new and exciting dynamic to Mario Maker 2. No other place can we find so much laughter, intensity, and fun. We hope that this guide will help you build a fun and successful multiplayer troll level.

Before beginning, we recommend you read Defender's <u>Troll Guide</u> as much of the fundamental psychology is similar. Once you have the basics down, come back and we will help explain how to design a multiplayer troll that works and thrills the players and audiences.

Use the navigation bar, or the table of contents on the next page, to quickly jump to the section you need help with. Each section features a quick summary, or key points. This is followed up with a discussion on the idea and some examples or stories from testing.

We will touch on some general mechanics, but we recommend reviewing <u>multiplayer research</u> <u>hub</u> for detailed logistical questions like spawn rates. Finally, if you are looking for specific contraptions, <u>this guide</u> from *JóôòKiwi*, shows many great contraptions designed specifically for multiplayer.

Please feel free to message us with any suggestions, corrections, or addendum ideas. We hope to continue to expand this guide as we explore co-op trolls and various contraptions. Happy trolling!

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# Multiplayer Troll Guide

# Level Purpose

- o Troll Level: Comedy of Player Vs Creator
- Multiplayer Troll: Player Vs Player Vs Creator Comedy

### Design principles

- Troll Level or Battle Level
- Keeping players together
  - Close the Skill Gap
  - Let players watch the suffering
  - Use new paths to bypass sections
  - Strive for a photo finish.
- Psychology of a timed race
- Simple design
- Waiting- Hurry up!
- Knowledge CPs
- Hints- Just no!
- o Types of Trolls
  - Impassible Trolls
  - Recyclable Trolls
  - Single Use Trolls
  - Manual Trolls
- Supply the tools!

### Logistics and Tips

- Exploit the Save State in Multiplayer
- Global Impact
- Chaotic Spawning
- Live Respawns
- Limited Respawns
- Room loading and invicibility
- Path Options for Single vs Multiplayer
- Co-op, Versus, or Local
- Naming the Level
- Testing

### Resources and Example Levels

### **Troll Level Purpose: Comedy!**

### **Key Points:**

- Comedy through surprising traps and tricks.
- Levels are like the movie Home Alone.
- Allow players to be in on the jokes by witnessing others being tricked.
  - Witness anti-softlocks
  - Keep players close to one another



Comedy is at the forefront when designing any troll level. The goal is to surprise the player with something humorous and unexpected. Troll levels are the video game version of the classic movie Home Alone. The player thinks they are going to outsmart the creator, only to have a paint can to the face! Single player troll levels are player vs creator in a comedy showdown.

Comedy is still central for multiplayer troll levels. The difference is that other players are in on, or cause of, the jokes too! Players can be trolled by the level, or use the level as a vehicle to troll one another. Perfect timing a shell throw to deny CP1, or witnessing suffering in an anti-softlock brings joy and laughter.

To truly utilize this new comedic dynamic, creators must keep several design elements in place. In this guide, we will examine these elements and share pictures and stories to help illuminate how to successfully troll in multiplayer. Let's do this!



### Troll Level or a Battle Level

### **Key Points:**

 "The difference is whether the level throws something unexpected at the players or whether the players are just throwing something EXPECTED at each other."
 Defender1031

There are many styles of multiplayer levels like standard, four lane races, and battle levels. Careful not to confuse what type of level you are making. A troll level will subvert your expectations. If the level only gives the players tools to attack one another, then the level is not a troll. That interaction is expected from the players. The creator and level must add in elements that surprise the players and bring comedy to the playthrough. A few kaizos or offscreen thwomps won't do it. Many Kaizo and puzzle levels add in a single troll at the end of the level, yet these are not considered troll levels. Ensure you keep players on their toes, laughing, and excited for the next surprise throughout the troll level.



### **Keep Players Together!**

### **Key Points:**

- Player anxiety is already up.
- Keeping players together relieves stress/feeling wrong.
- Keep players in the comedy zone, ready to be trolled/laugh at others misfortune.

In multiplayer troll levels, players want to be together. They want to witness the failures and laughs. When players become separated, they naturally feel anxiety Tales from Testing: When a player became separated in testing, they would constantly talk about not knowing where they are. They kept hitting trolls but would not laugh. When reunited with others, even after a death, relieved they would exclaim "hi! I'm back".

about going the wrong way. Multiplayer already increases anxiety with competition and a strict time limit. Ensure that players relax and stay in the comedy zone by finding creative ways to keep players close to one another without forced waiting (see Waiting section).





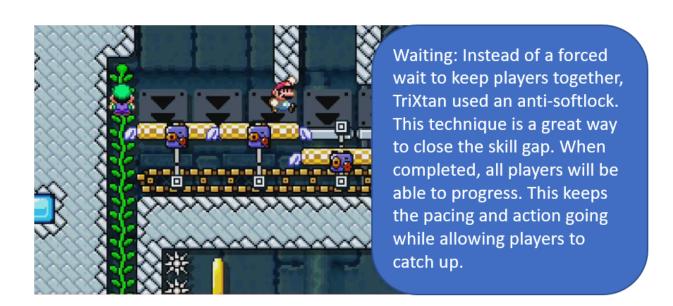
### **Close the Skill Gap**

### **Key Points:**

- Skill gap between players can lead to separating.
  - Players waiting at the flag is not fun!
- Keep Skill level low
  - Sections should have simple, quick solutions.
  - Anti-Softlocks must be simple, easy, and funny.

No matter who the players are, there will be a skill gap. Some might struggle with kaizo tricks, others are precision masters, while others have tons of troll level experience. If the level requires a high skill level, then players will become separated. Watch any multiplayer versus match and you quickly see skill gaps separate players. The joy and challenge dissipate as one dominates and waits at the flag for minutes.

Avoid this by keeping the skill level required very low. Sections should be simple, clean, and easy to read for players. Quick solutions, and trolls, will help address the skill gap present. This is especially true for Anti-Softlocks. Players tend not to remember they can "start over" unless softlocked. Do not rely on them doing so, as that is a CPO and an instant loss.



### Let Players Watch the Suffering

### **Key Points:**

- Players enjoy watching others fall for trolls just like viewers.
- Place anti-softlocks in areas where other players can watch.
- Careful not to make the screen too chaotic.

The biggest laughs, and benefits of keeping players together, come from seeing other players struggle to pass trolls and complete an anti-softlock. Even better when a player sends another to the anti! This allows players to troll and impact one another. Unlike single player trolls, players are now in on the jokes. Accomplishing this forces the anti-softlocks to be small and compact. Additionally, they need to be simple and quick to overcome. No time outs! Remember that there is pressure and stress from being a race added to the anti-softlocks.

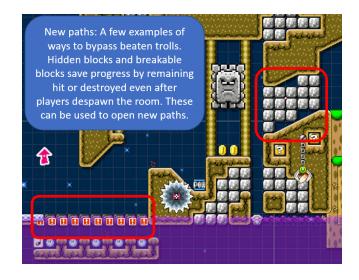


### **Quick to Catch Up: New Paths**

### **Key Points:**

- New paths and bypassing trolls is crucial to keeping players together.
- New paths to bypass trolls help the group finish within the time limit.
- Careful to avoid misleading directions as new paths can feel complex.

Opening new paths for players to catch up once a particular segment of trolls has been traversed, is a great way to keep players together and negate the skill gap. The



challenge to be aware of is that new paths confuse players when under pressure and racing.

Just like in kaizo and speed runs, players are trying to read sections quickly. Players need clear directions or minimal options on which way to go next. Too much misdirection and puzzles will slow and frustrate the players. The ideal is to close off old paths when a new path is the right way to go. This ensures players do not get lost and skip the old section.



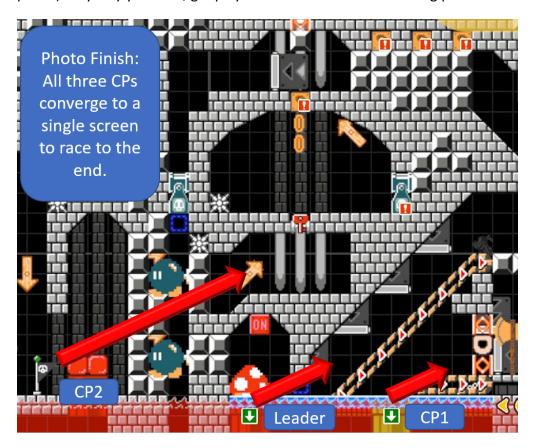
### **Photo Finish**

### **Key Points:**

- Get players all to the end for the finish. Solo finish is boring!
- Can accomplish with short level, delays, warps to end.

The most exciting multiplayer experiences come down to the wire. Think of all the clips you've seen of multiplayer matches. Each clip has players together and often show the end on screen. An exciting end takes the level from good to epic. When only one person is there, it is common to hear statements like "just finish it" or "put me out of my misery".

Designing for a close finish can be done many ways. The level could be short, the ending has built in delays/challenges, players can warp to the end from wherever they are (example in photo). Any way you do it, get players to the end for that exciting photo finish!



### Psychology of a timed race

### **Key Points:**

- Stress is caused by:
  - Racing the clock- 500 seconds max
  - Competition with other players
- Do not add frustration/stress with puzzles, waits, or a chaotic screen.
- Take advantage of players racing.

A single player troll level can be a long drawn out marathon game of cat and mouse between the player and creator. Multiplayer does not have this luxury as the clock is limited to 500 seconds. Entering the troll, your players will be stressed. They know they are racing the clock. They are also in competition. With this mindset, they will become frustrated quickly if they get stuck. The skill gap can also play a part in the pressure of a race with a ticking clock. Find ways to help players bypass sections and stay together. Simple design will help not to overload players' minds.

Use the race mindset to your advantage. Players are in a read and react mentality, like a speed run. Cluttered screens are not needed to trick a player. Even the most seasoned troll players will miss an obvious troll because they are racing.



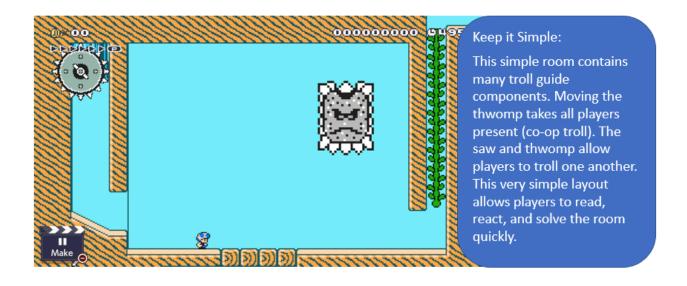
### **Keep it Simple**

### **Key Points:**

- Keep screen clean/simple- players have enough distractions
- Anti-Soft Locks
  - Easy to beat and funny
  - Keep simple and compact

Remember that players are under stress and racing- don't make it too hard. Simplistic design works best in multiplayer. Keep spaces clean and straightforward. With a ticking clock, players do not have time to sort out a cluttered distracting space. Single player trolls use this for very complex setups or to confuse players on what will happen once a block is hit (not recommended). In multiplayer obvious traps are missed as players are racing.

Simplicity also helps avoid the level breaking. Players can be anywhere in the level and impact one another. Hitting a P switch, or on/off impacts the entire level (see Global Impact). Keep a tight control on when, how, and how much any of these global switches can be hit will greatly reduce contraptions and/or setups from breaking.



### Waiting

### **Key Points:**

- Limited clock and failure results in CPO, starting over.
- Waiting is frustrating when racing others.
- Waiting can make it impossible for players to win.
- Single wait- for splitting players- is not painful as death will not force repeat

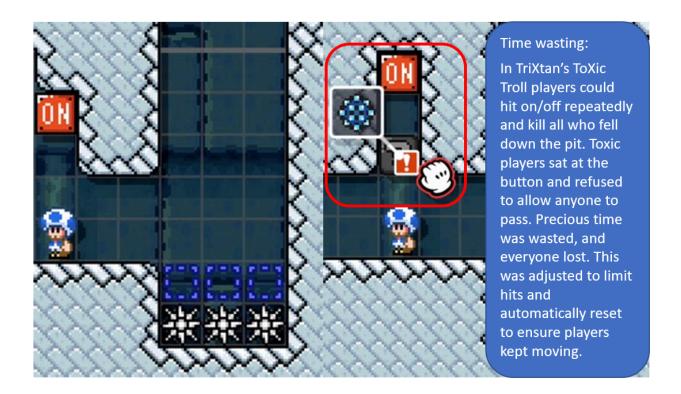
Always keep the 500 seconds time limit in mind. Waiting for deaths, anti-softlocks, p-switches, trolling other players, power up/down mechanisms, all will eat up time. Before you know it, it is back to CPO.

Here are a few ways you can avoid time delays,

- When trapped, provide an instant death
- Eliminate anything that requires a P-Switch wait
- Bypass paths (check out Quick to Catch Up: New Paths)

Even though the single player Troll Guide says waiting trolls should be right before a CP, in multiplayer, that shouldn't even be a thing, nothing worse than running out of time before completing the level!

However, if you have planned to have this be a level that will take multiple tries of 500 seconds, waiting right before a Knowledge CP might not be a bad thing.



### **Knowledge Check Points (KCP)**

### **Key Points:**

- Help players progress by adding extra check points
- Check points can be added through knowledge or opening new paths from previous checkpoint.
- Be sure that the knowledge check point is not complex.

One way to add extra checkpoints to a level is by adding a knowledge checkpoint. In case you don't know already, a KCP is knowledge you gain at some point in the level that will teach you a different place or path to progress.

Another way to add a CP is to open up new paths from the current CP. This can be done using save state items (see Save State Items section). This helps players speed up progress in the level.



### If it needs a hint, get rid of it

### **Key Points:**

- They do not work in single player, and definitely not in multiplayer.
- Too much time to sit, read, decipher. Players won't do it!
- If it needs a hint, it is too complicated for multiplayer.

Defender advises in the single player troll guide "Hints rarely work, try to avoid them as much as possible. If a hint must be used, make sure it can't be mistaken for anything else." In multiplayer this is even more true. If a concept is so difficult it needs a hint, then it is too complicated for multiplayer trolls.

Think about the indicators in a speedrun. Multiplayer forces players to try and speedrun the troll level. As a result, stopping to think and decipher a hint simply does not work. Instead, use directions to quickly show a player where to go in that section of the level, not a difficult hint for another section.

Knowledge checkpoints can be helpful, but in multiplayer they need to be simple and easy to understand.

### **Types of Trolls**

### 1. Impassable trolls

**Key Points:** 

- Multiplayer can make trolls that guarantee death of the lead player.
- Best if used early or right after a CP.
- Careful to not punish too much or level feels unfair.



In single player trolls, there is always a solution to a troll. This does not have to be true in multiplayer! We have the benefit of being able to save certain items in the game in their state, some of which are Kaizo blocks when hit (without vines), hard blocks when destroyed, and coins collected (see **Save State Items** section). Creators must be aware of the flow and how to use impassable trolls. The trolls guarantee a player will die. As a result, the first player (leader) will be punished. If an impassable troll is required, it is best to use either early in the level or right after a CP. This allows the forced punishment to feel more fair.

### 2. Recyclable Trolls

These trolls are ones that can hit players every time through the level. These trolls either reset/respawn, or are static and trick a player into hitting it. Examples include a hidden spring that bounces players into anti-softlock, a hold the wrong direction and re-enter door/pipe, or respawning lift that will take you in a surprising direction.

### 3. Single Use Trolls

These trolls only activate once. Impassable trolls are one version. Another is a kaizo block with a fish inside. These trolls will only get one player and then allow other players to pass.

### 4. Manual Trolls

Unique to multiplayer are trolls that other players activate and control. This can be the creator in the level timing the trolls, or set ups designed to troll other players. These setups work best when the ones

controlling the troll mechanisms are behind a scroll stop, offscreen.



### 5. Co-op Trolls

The last, and quite possibly the most difficult version of trolls, is the co-op troll. Here two or more players must work together to pass a section. While cooperating, unexpected comedy is used to troll the players. There are many different ways to accomplish this.

In the Keep It Simple section, there is an example of players needing to cooperate to be able to get the thwomp to smash the right place. For the unexpected troll, a spring comes from off screen to push the slow moving thwomp rapidly at the players.

Other versions of a co-op troll can look more like puzzles or co-op kaizo. Here players work together to pass an item back and forth. The example below is one way to accomplish passing items. While it looks simple, there are several unexpected outcomes as players attempt to get the spring out.



In our testing there are a few lessons to pass along:

- 1) Have a way to reset/escape. Remember, in multiplayer rooms will not respawn/reset as normal.
- 2) Make sure can be completed as a single player as there is no guarantee other players will be present.
- 3) Toxic players may not help. Make sure they can't run away with items (taking the spring back through pipe).
- 4) Easy way to split players is requiring them to bounce on one another's head. This ensures one above and one below.
- 5) Keep it simple. If puzzle like, then make sure it is very simple and players can figure out what to do. If a hint is needed then it is likely too complex.

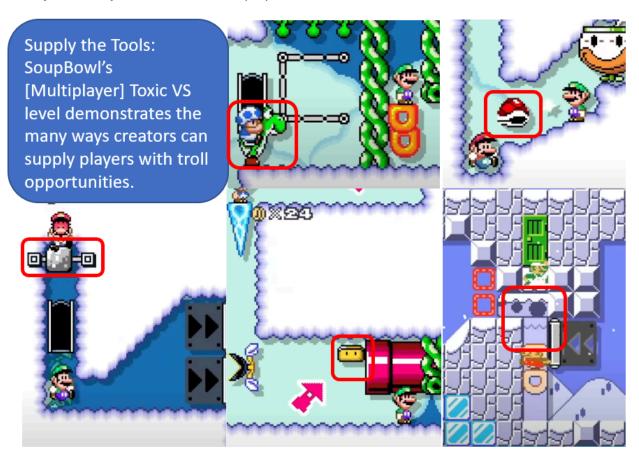
### **Supply the Tools**

### **Key Points:**

- Not every troll has to be from the level creator.
- Design so players have the opportunity to troll one another.
- Balance the options so players behind have ways to troll the leader, or prevent their trolling.

Not every troll has to come from the level creator. Give players tools to use to troll one another. This can be a shell, a donut fall, a way to bounce players up into an anti. This interaction is unique to multiplayer so do not forget to sprinkle it in. Testing, playing, and watching multiplayer will help with what tools and setup bring the most engagement. Just make sure to keep a balance of your own trolls so the level doesn't become a battle level (see **Troll Level or a Battle Level** section).

The expert multiplayer level will take it a step farther and find ways for the behind players to troll the leader also. Most levels will allow the leader to get to the tools first. Could a new path open up and give a shell? A Yoshi? Balance the tools so all get a chance to test them and enjoy the jokes, not just the most skilled player.



### **Save State Items**

**Key Points:** 

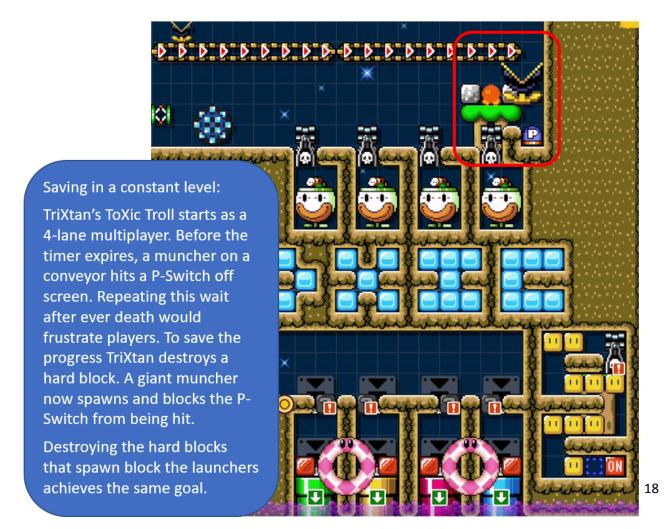
- The level is constant
- Lag detection does not work
- Some course parts/items save their state after interaction- coin, hard block, kaizo

When you die, or enter a pipe, pick up a powerup the level no longer pauses. It keeps moving and adapting. With no pauses in game lag detectors, and other troll magic tricks that require lag no longer work. This presents some other great troll opportunities explored in **Unique to Multiplayer: Room loading and invincibility** section.

Here is a list of items that will remain in some sort of save state even when players die:

- Coins when collected
- Hard blocks and Brick blocks that get destroyed
- Kaizo blocks when hit
- '?' blocks when hit as long as they don't have vines in them

Some items you can't save simply by destroying them, such as Enemies, Clown Cars, etc. so if you want to save their state, you'll need a way to spawn block unwanted enemies and items.



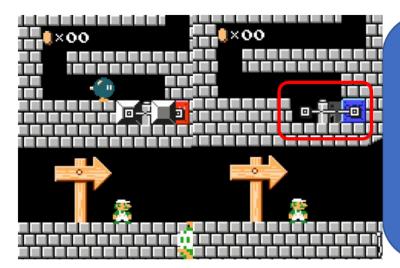
### **Global Impact**

### **Key Points:**

- Most levels break with the use of P-switches or On/Offs
- Control how and when switches can be hit.
- Options include: Not letting players hit them, locking off areas with switches after hit, not using in contraptions that could break.

Be very cautious with global items. These items not only impact the current screen, but will impact other players (and contraptions) no matter where they are. P-Switches, On/off switches impact the sub and main world any time they are hit. This is where most multiplayer trolls fail. A player lags behind and hits a switch that destroys a later on set up.

It is recommended to keep a very tight grip on any and all uses of global switches. You must know exactly when, how, and how often a switch can/will be hit or have no contraptions reliant on state of the switch. Another solution is to close off a room/section with a switch once completed. No matter how you do it, if you are going to use switches to trigger contraptions ensure there is no way for the switch to be in the wrong state. Even if a player is stuck at the beginning or starts over.



# Saving Progress:

Knights of Troll Table by RenaldoMun controls every on/off hit to ensure ending works. This is done at beginning by breaking hard blocks to ensure any respawning bomb will not be able to hit the on/off switch.

### **Chaotic Multiplayer Spawning**

**Spawning Chaos:** 

launched into the hidden block ensuring when "off" again the thwomp will not return. **Bottom-**Room Geek soft locked in because the room remained half spawned.

**Key Points:** 

- Single player trolls can control when an item spawns or doesn't based on player position and screen scroll.
- Multiplayer can spawn/despawn items in chaotic orders.
- Deactivate spawns or do not rely on trolls that must rely on specific positioning.
- Rooms will not completely reset unless all players leave the main/sub world.

It has become common in troll levels to use and account for the spawn order for items in troll level. An example is spawning a launcher when a player scrolls the screen up by climbing a vine. Another common trick is to blow up a block that spawn blocks a launcher. When players now re-enter, the launcher spawns and blocks their path.

### Tales from Testing:

In Knights of the Troll Table, Geek entered while Muz exited to an adjacent room at the perfect time. This kept half of the Geek's room spawned causing launchers to slightly shift positions. Geek ran for a bait star and became softlocked instead of squished as intended. This spawning chaos that can easily happen in multiplayer when using certain types of trolls.

The challenge in multiplayer is that players can be in a variety of places in the level. This can cause items and objects to spawn in different orders or at inopportune times. If you are using a positioning troll, consider finding a way to disable the troll permanently with activating a hidden block.

# Top left- Beetle drops to break open walls for players to catch up. The mole triggers the note block. A spike ball then drops and activates hidden block to stop beetle from spawning again. Top Right- Thwomp activates on/off and dies. Spike ball is then

### **Live Respawning Items**

These items are ones that will respawn even when you're in the room with them. Five seconds after being used (respawn rate), they somehow magically pop back into existence.

- Powerups (= to number of players)
- Yoshis (2 per player)
- Skull platform
- Moving platform
- Snake blocks (once completed full track)

Depending on the number of players you have will determine the amount of times these will keep respawning and how quickly! So something like a Blue Platform if used for a troll, make sure you test it with 2, 3 and 4 players. Some items such as the blue platform will also disappear if no one is standing on it and will respawn at its original location for players to use again. An overall space can not be reset unless all players leave the world (main/sub).



### **Limited Respawns**

### **Key Points:**

- Some items have unique spawn or max number
- Beware of Dry bones shell spawn jank

There are several items that will only spawn a limited amount. The most jank item respawn is the dry bones shell. Other items have unique respawns (Yoshi, Bonzai Bill, Clown Car), but the dry bones shell is the one that will randomly not respawn when all players have died and destroyed the shell. Careful with use of the shell.

In several test levels, a dry bones shell was used for a troll. The shell was destroyed and players died. They returned to the area and the shell would not respawn.

### Unique to Multiplayer: Room loading and invincibility

**Key Points:** 

- Rooms are fully loaded as the player's entry animation is completing.
- Players receive a second of invincibility as they are entering a room.

There are several classic trolls that utilize re-entering, or exiting pipes. In multiplayer, players are granted a second of invincibility when exiting doors and pipes. While many of the classic pipe trolls will not work, it opens up new troll possibilities.

Secondly, as the level is constant, a room is already loaded when you enter. The clock does not stop. As a result, trolls that rely on timing when players exit a door or pipe will be miss timed. Have a canon that will shoot at the perfect time? Make sure that timing is set to multiplayer time rather than single player!

# Invincibility Frames Multiplayer grants a few frames of invincibility when exiting a pipe or door. This mechanism allows players a chance when coming to a new room. Knights of the Trolled Table had a re-enter pipe troll. Many players fell for it, like Carl on the right, but none died because of the invincibility frames. One solution is to have re-entry drop player into an anti softlock or death.

### Path options for single vs multiplayer

### **Key Points:**

- Know the structure and path options you want.
- Clear rate must be high for Nintendo to select level for multiplayer versus.
- Use progressive power ups to activate single/multiplayer setups.
- Use seesaws for counting numbers of players

A level designed for multiple players still has to be uploadable and beaten in single player. Once uploaded, it will never be selected for multiplayer vs if it does not have a very high clear rate. The level can be structured in versus in many different ways. You can set up the level for teams, or lanes, or different trolls depending on the number of players. Having the path structure correct will serve as the backbone for your level.

### Level structure options:

- Path splitting- putting groups of players into different areas
  - o Or send players after a death to a new area
- Designing sections for specific numbers of players
- Designing a multiplayer troll half and a single player troll half
- A quick dev exit for single player to upload



For more ideas and contraptions see resources and example section, specifically JooKiwi's guide.

### Designing for Co-op, Vs, or Local

Multiplayer can include many different settings. Each one is guided by slightly different rules. The major differences are:

- Co-op allows players to choose where to respawn.
- Local requires players to be visible on same screen.

While these modes work differently, the mode is irrelevant to what the level and creator expects the players to do in practice. If you want to use co-op play, but need vs mechanics then design and communicate to players what is needed in vs mode.

### **Naming the Level**

Most multiplayer troll levels will never be played in random online versus matches as the clear rate has to be very high. Players will likely have to download the level and set up private rooms. This eliminates most players from ever seeing the description for the level. If the level needs explanation or instructions,

like 2v2, co-op, or 2 player, then make sure it is in the title. Sending the streamer a description can help, but it is no guarantee that those that join them will see or hear the instructions.



It is also good to not include a streamer's names in level titles unless for a contest or requested by the streamer. That way streamers are not associated or blamed for any specific levels, like #DGR. For more explanation see Defender's troll guide.

### Get it Tested in Vs

### **Key Points:**

- Test it under conditions designed for: Vs, Co-op
- Multiple playthroughs with a single group if possible.
- Get feedback from all players
  - Streamer only gives one view.
  - The level can break down for other players.
- Consider breaking the level down into sections and test individually.
  - This allows in-depth information on a single section.
  - Test what other impacts can be- p switch active, on/off hit.

Finally, make sure to get the level tested in multiplayer vs settings. Single player testing does not cut it. Even local multiplayer testing will act differently than online multiplayer versus. The biggest challenge in testing is that even having it tested gives you only a single player's view. Try and get as much feedback from other players to ensure nothing broke during the level for them. Multiple playthroughs from one group can allow for new views and testing how sections interact. Consider breaking the level into small sections and having those tested one at a time to ensure contraptions work and set ups are clear.

### **Resources and examples levels:**

For more details and a guide of how some mechanisms work in multiplayer, consult this multiplayer troll research.

Need to know how to beat level in single player, or split players? Check out this great multiplayer contraptions <u>guide</u> from *JóôòKiwi*.

### **Examples and Multiplayer Trolls to try:**

• TriXtan's Toxic Troll: 7SX-0TH-LJG

Renaldo Levels:

Knights of the Troll Table (V8): 84J-R61-0MG
 So Long & Thanks For All Feesh: 7WV-JWL-T1G

o In the Year 2525 (Troll): DCC-1M1-HJF

Bright Side of Life (2v2 Troll): GD3-YKY-50G
 The Room Where It Happens: S68-XNL-F2G

Canyonero: Coordinated Upload Only

Soup Bowl Level: 565-YYB-46G

Peregrine:

Toxicology: 15C-WQ6-WDF
 Daftlife: Coordinated upload only

### **Sample Contraptions and Mechanisms:**

To help in building a multiplayer troll level, here are a few contraptions used in the above levels. Thanks to JóôòKiwi and Geijte for helping make many of these possible! Please see JóôòKiwi's guide for much better and detailed contraptions.

# Sorting or counting players:

Used for separating two players out in 2v2 level. The player enters in, hits the note block and drops a fire flower. The player is then bounced into the kaizo block which stops others from entering. When two fire flowers are added to the seesaw, the launcher is lifted, the bomb then explodes and triggers the on/off switch. The change in switch state opens the path for players to continue.





Player counter at finish of a race. When players enter, via pipe or door, they hit a note block and release a fire flower. When the correct number of players enter, then the launcher is lifted into the bomb. The first bomb to explode kills the other bomb and activates either a pswitch or on/off block (under bumper). Winning players enter door, while losing players exit via new path opened by the p-switch or on/off switch.



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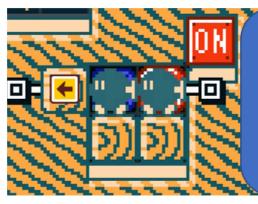


Changing a room four times! The first player that enters adds a fire flower and nothing changes. The second player lifts the launcher to fire spike ball at on/off switch, changing the state. Third player enters and lifts launcher to hit question block. A pswitch is spawned and activated by muncher. When the fourth player enters, the launcher reaches max height and sends spike ball into note block. This releases item (key).

# **Controlling On/Off:**



If on/off in correct state, then spike ball breaks blocks below and dies. If in the incorrect state, then the spike ball breaks the blocks below and hits the on/off switch.



On/off control: This mechanism guarantees the correct switch state after entering a room. If in red state, bomb explodes, and no switch is hit. If blue, then the bomb nearest the switch explodes and changes the state. Blocks below ensure it does not activate a second time.

# New path creation:



Single player makes progressive power up mushroom, which then activates note block. Multiplayer progressive powerup stays as fire flower and does not activate note block.



New path: p-switch explodes both bombs and reveals new path. If players die and return to section, the top launcher spawns and drops on the right bomb. Third entry, new launcher is spawned below to block off old path and force players to new route.



New bridge path: Question block above note block is activated and releases a spike ball. Spike ball is then passed along by the twisters, hitting each kaizo for the new bridge. Once kaizos are hit, bridge will remain.

# **Spawn Blocking:**



Thwomp activates, then the spike ball is launched into the kaizo block and spawn blocks the thwomp. Note- second kaizo is error and does not get hit.



Beetle is proximity activated. When players pass beetle, the mole hits the note block and sends a spike ball into the kaizo to spawn block the beetle from activating a second time.



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