

Fort Building

Overview	1
Building	1
How It Works	2
Placing the Block	3
Cutting the Block	3
Scaling the Block	3
Trashing the Block	3
The Undo Slider	4
Customization	4
Top Down Mockup	5
Ending Fort Building	6

Overview

Fort Building is a core system inside of Snowball Showdown. It enables the player to change their play environment to fit their needs, as well as create defenses for the upcoming battle.

Building

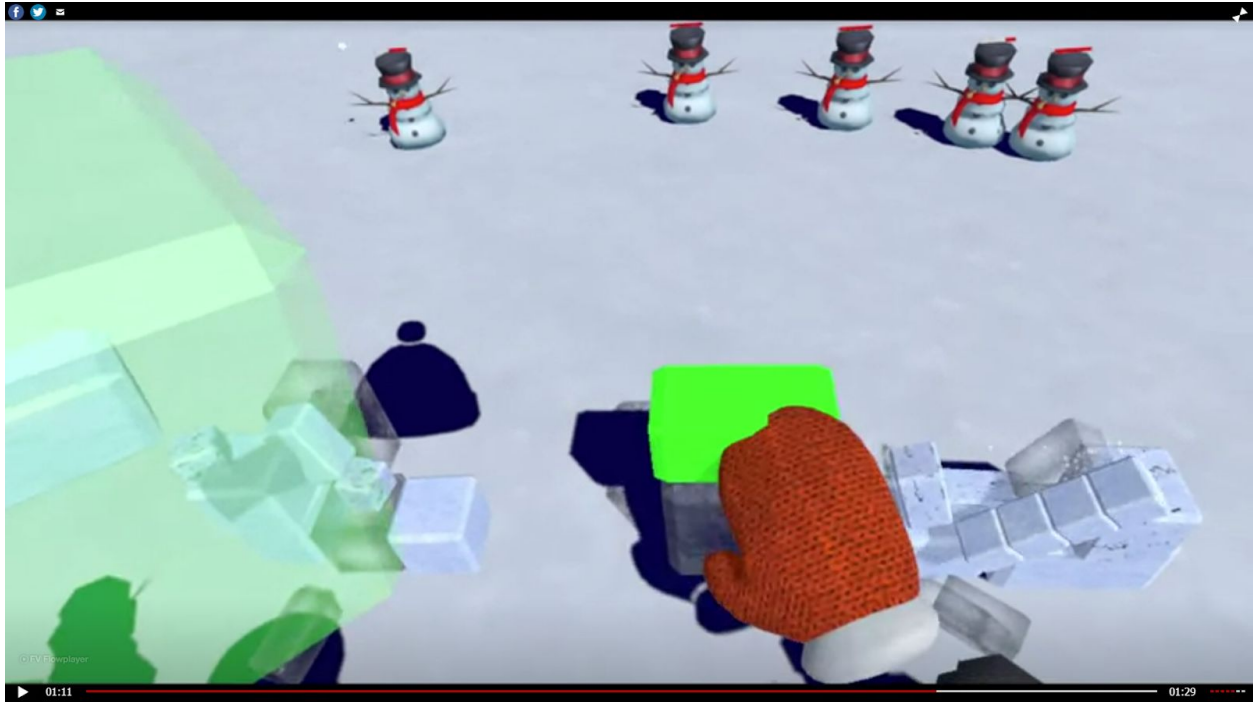
Building the fort will be done in a God-Mode perspective. The two images below show off examples of this perspective.

Both players will be building on the same map and can see each other. They will not be able to interact with each other in any way. There will be a slightly translucent barrier in the middle of the field that will prevent the players from throwing objects at each other.



1

¹ Source: <https://vrgamecritic.com/article/vr-god-games-fate-lies-in-your-hands>



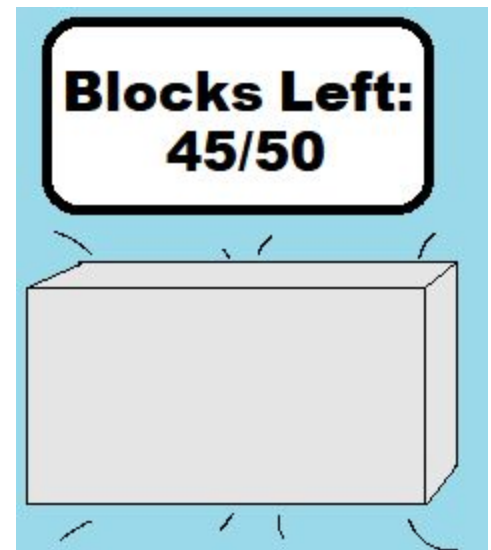
2

How It Works

All players will enter a building mode at the same time. There will be a 60 second timer for this mode, shown in the center of the scene on a Jumbotron-type screen. There will also be a 50 block limit.

On both sides of the player are two floating objects. These are the block placers. There is a UI screen showing the blocks left that the player can place, and below that a block that the player can grab. A basic mockup is shown to the right.

In front of the player is a transparent green rectangle, raised only slightly from the floor. This is the build area. In the middle of the build area, a player character stands in front of a snowblower. This is the player's starting position, and it can not be moved.



² Source: <https://basestationvr.com/catalog/snow-fortress/>

After grabbing a block (using the default grab button), the block on the other side of the player disappears, making sure the player can only have one new block at a time.

Once the player is holding a block, they can do four things.

- Placing the block
- Cutting the block
- Scaling the block
- Trashing the block

Placing the Block

Placing a block is physics based. Once the block has been placed, and stays still for 1 second, the next block will be available to be placed. This locks the block in place.

Cutting the Block

When holding a block in one hand, the player can press both the grip and trigger buttons in the other hand to start to activate the cutting blade. After 1 second, the black shoots out from the clenched hand.

Cutting works by slicing through a block. The block will be cut into two pieces in a straight line based on the enter and exit point of the blade. The side that the player is holding onto stays in the hand, while the other piece falls off and melts (scales down into nothing) over the course of another second.

Scaling the Block

Holding onto the block with both hands allows the player to scale the block based on the distance between the two hands. When scaling, the hands lock onto opposite corners, allowing the player to have the most control over the scale of the block. Letting go with one hand will lock the scale of the block.

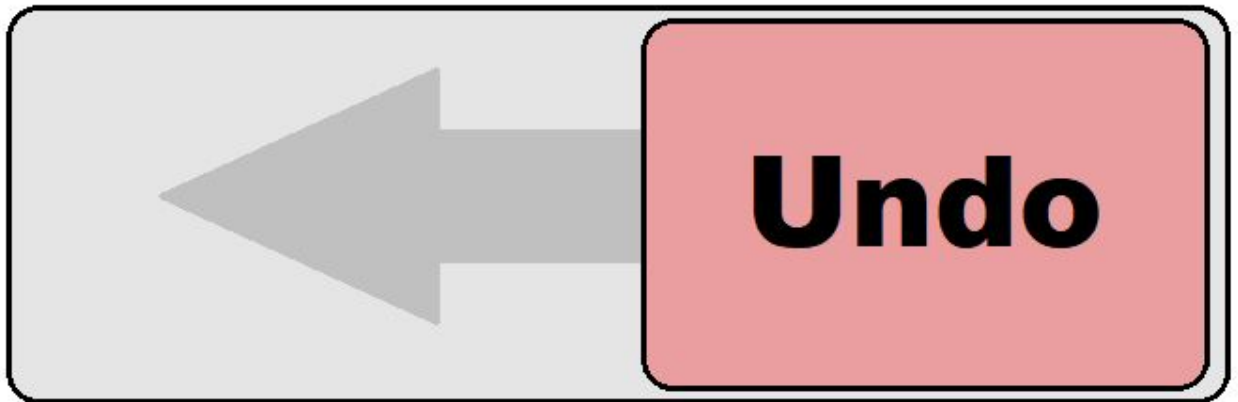
Trashing the Block

Sometimes a player will want to reset a block to the normal state that it was given in. To accommodate this, there will be a trash can that will appear in the

same place as the block spawn. This will show the player immediately that they can destroy their held block.

The Undo Slider

Since players will want to remove blocks, or might accidentally mess up their structure, there is an undo slider available. This slider is by the feet of the player, but high enough to where they don't have to bend down. The slider looks like the mockup below:



By grabbing onto the Undo portion of the slider, the player can slide it to the left and undo their building by one step. After being slid, the slider returns to its original position. But what counts as a step?

Every time the player picks up a new block, the layout of the fort saves. This includes the position, scale, rotation, and color of all the fort blocks. The last block placed disappears and the Blocks Left count goes back up by one.

Using the Undo slider when there is nothing to return to produces an error sound, [similar to this one](#).

Customization

Using a squeeze bottle, like the image shown on the right, the player can color their snow blocks. This will add some customization options to the game, as well as giving players something to do if their opponent(s) is taking a longer time.

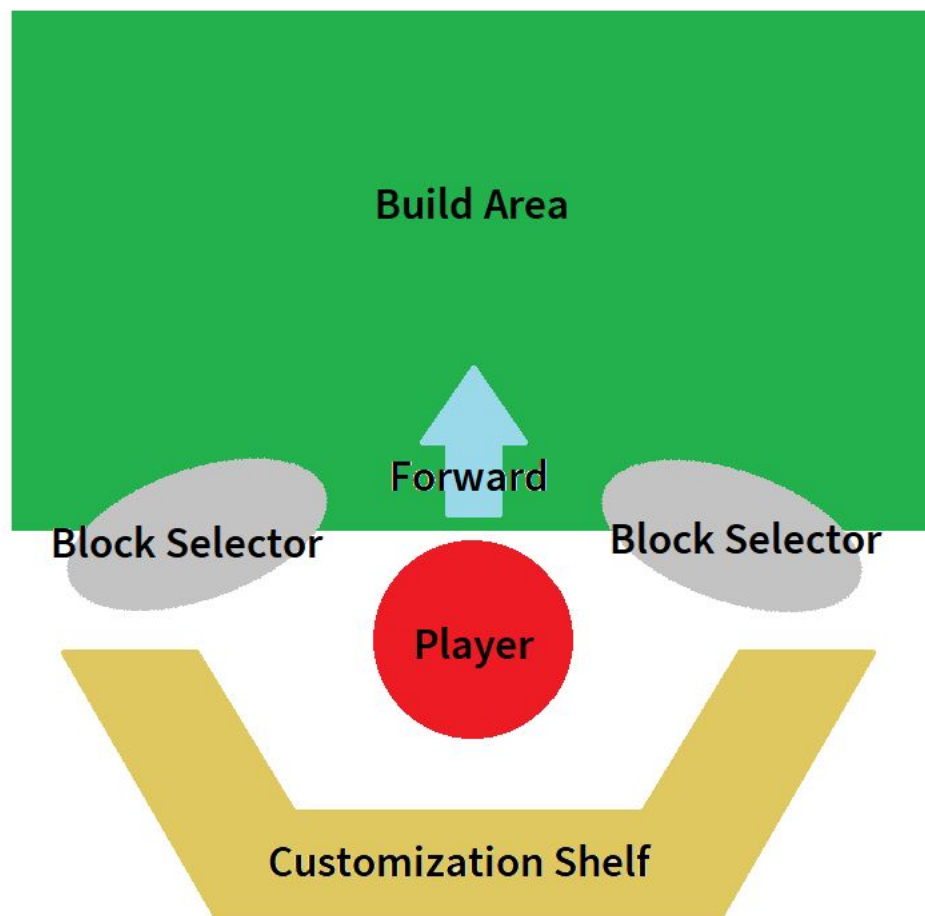


These bottles are kept behind the player on a floating shelf. Grabbing one attaches it to the player's hand, and tipping it upside down activates a stream of colored liquid (particles) the same color as the bottle.

If the particles hit a block, then the block's material slowly changes to that bottle's color. Different colors can be added as well, and the material adds on all of the colors together.

Once the player lets go of a bottle, it flies back to its spot on the shelf.

Top Down Mockup



Ending Fort Building

Once the timer has run up, the block selector, customization shelf, and any other Fort Build specific feature disappear, and the screen fades to black. The Player is then teleported into the center of their fort, and the game fades up black, letting the game mode controller take over from there.