

Ooki Blocks

EXECUTIVE DESIGN: CEILING SPIKE
TIEMO GEUNS

Table of Contents

- Original Concept..... 2
 - Spiked Ceiling 2
- Analysis..... 2
- Revised design 4
 - Overview..... 4
 - Art..... 5
 - Visuals..... 5
 - Animation 5
 - Effects 5
 - Sound..... 5
- Code..... **Fout! Bladwijzer niet gedefinieerd.**
- GUI..... 7

Gameplay: <https://www.youtube.com/watch?v=eMGT2wO2VwA>

Original Concept

Spiked Ceiling

There is a spiked ceiling that moves down every time a switch is pressed. This switch can be attached to the side of a block. **Multiple switches** can be present in a level. As the switch is pressed, the spiked ceiling moves down one row of blocks.

Visually the spiked ceiling is exactly what it sounds like, it's one row of blocks high (including spikes) and the **entire screen wide**, a bar of wood with spikes on both sides. Because of its height, there are **puzzle opportunities using portals** especially.

The switches are simple rectangular red buttons that can be rotated and placed on the side of **any block**. Colliding with them activates a button pressed sound effect, as well as a sound effect when the **spiked ceiling lowers** one row of blocks. The button **remains pressed** until Ooki moves off of the block, after which it can be **pressed again**.

- The spiked ceiling is in front of the entire level, similar to water
- Due to the **height** of the spiked ceiling, it will not obscure **information** from a player in
- Should Ooki touch the spikes, he will instantly die
- Should it reach the very bottom of the screen, it will simply disappear off of the screen when pushed further and never reappear.
- the form of **hiding objects** behind it

Analysis

By taking a deeper look the design of the spiked ceiling one will notice that many small points are missing and could be crucial in a bigger company. Many question arise for specific specializations such as:

- Can there be more than one spiked ceiling?
- Does Ooki need an extra animation for pressing a button?
- Does the pressed button look different than the non-pressed one?
- What happens when Ooki stays on the pressed button?
 - Will it continually move on?
- How is the sound intended to be?
- Is there a delay after pressing a button for the spiked ceiling to move?
- With what speed does the spiked ceiling move one row?
- What happens if the buttons are very close to each other and are pressed more than 5-10 times in one second?
- How does the speed of the spiked ceiling change when underwater?
- Does the switch have a cool down?
- Can the switch be pressed by an enemy?
- Will it be confusing to only have a small button for a completely new function attached to an already known block instead of rather creating a new distinctive block for it?
- What happens if a portal is hidden? Is there no identification at all that it is located below the spikes?

Also a few flaws in the general design could lead to a broken game. The possibility to attach the button to any block arises many problems.

- What happens if I attach it to the boxing block?
 - Is there a priority?
 - How would the visuals/ sounds overlap?
- How would it even be attached to the portal, spin or spin bar block?

Ooki Blocks executive design

- If it is attached to a banana/ frozen block can Ooki still obtain the banana from the switch's side or does he need to find a different side of the block?
- What happens to the switch if it is attached to a cracked block?
- Will Ooki die if he hits the switch that is attached to the electric block?
- Can both fruit and switch be attached at the same side of a block?
- Is enemy movement hindered by the switch?
- Is it possible to place the switch below water?

In general I have to say that the design idea of a spiked row that is triggered by a switch is pretty good but sadly lacks pictures to clarify completely. In its creative ways it offers much more possibilities for strategy and difficulty but also this could be enhanced a little bit. For example wouldn't it be possible to also let the spiked row go vertical orientated from right to left/ left to right? Or instead of a whole screen width let the designer decide how many bars he wants for the hazard? In this way it becomes a completely different block but also would give the level designer freedom in creating his levels in any direction and give him the opportunity to work more creatively.

Revised design

Overview

The spiked ceiling mechanic consists of two parts: The spiked ceiling itself and the switch block that activates the ceiling spikes to move.

In general terms it works as the following:



Ooki flies against the distinctive switch block and activates the ceiling spikes that move down one row each time Ooki flies against or directly by a switch (see code for collision info). Multiple switches can be implemented in one level and have an overall cool down. This means if there are for example 5 switches in one level and Ooki flies against one of them all will go into a state of cool down and can't be pressed until this cool down is released. Ooki however can fly against it but won't be able to activate the switch therefore in cool down state it simply works as a normal block. After the cool down is released

the switch resets to its normal state and can be pressed again. If Ooki stays on the switch but the cool down is over, all buttons will remain in "pressed" condition until Ooki flies away. Immediately after he flies away all switches return to "un-pressed" state and can be pressed again. The spiked ceiling will only move one row for one time pressed, meaning if Ooki decides to stay on the button and the cool down is active the spikes will not move. This also counts for when the cool down is over but Ooki is still on the pressed switch. Only after he leaves the switch and it returns to "un-pressed" again the spiked ceiling is able to move for the next time Ooki presses the switch.



The spiked ceiling's starting position at the begin of each level will always be located completely at the top of the screen as seen in the first picture. The spikes will always be on the top layer, meaning that it can hide objects below it, only the GUI and Ooki himself when the death

animation is played will prioritize to be displayed above the spikes. It is up to the player to remember beforehand which row will be hidden and what lays below it which gives the opportunity for strategy. If the spiked ceiling reaches the end of the screen it reverses. This

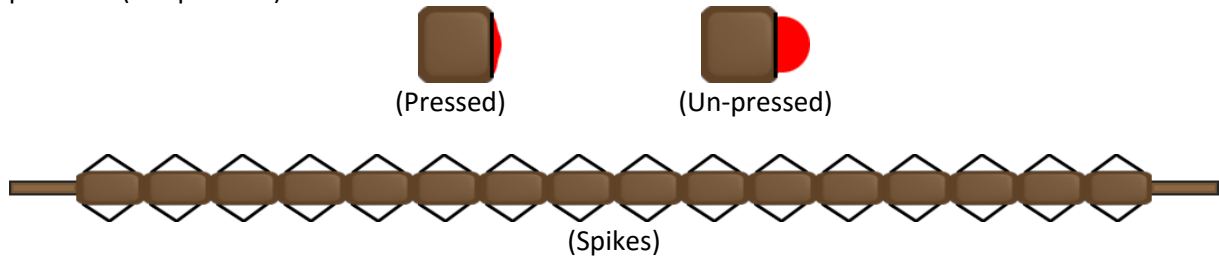


This means that from now on each time Ooki presses a switch the spiked ceiling will climb back up one row at a time until it hits the starting point. From there on it will move down again by pressing the switch and so on. The spiked ceiling is not hindered by anything, no block can stop the action of moving one row after pressing the switch. Ooki dies if he touches the spike row.

Art

Visuals

The art will be similar to the examples shown. The switch block has two states, “pressed” and “un-pressed” (see pictures).



Small variations such as a wooden texture like the GUI contains are acceptable and can be stylized by the artist. The general color palette and measurements though should stay the same; the size of one spike block is equal to the normal block (60x 60 pixels) and the size of the switch block is equal to the normal block plus the button (85x 60 pixels “un-pressed” and 65x 60 pixels “pressed”). One spike row equals 16 spike blocks that are connected and at the borders there are two sticks that lead out of the screen (see picture). There is an acceptable leeway of 7 pixels in width (in relation if the switch button is located in width) and none in height, otherwise the graphics will overlap.

Animation

Ooki’s movement and resting animation will stay the same, no alterations are necessary. The switch block will animate between “pressed” and “un-pressed” if Ooki hits this block. The red button will simply slide from state A to B and back as a simple animation. By hitting the block, it will slightly bump back like all other blocks behave on Ooki’s impact. The ceiling Spike will drop down one row downwards or upwards quite fast. With this I mean it should fall/ rise like a heavy ceiling in a cartoonish style to visualize the threat. If the spiked ceiling reaches the end it will spin twice to let the player know it reverses direction.

If Ooki hits the spikes he dies and as usual the death animation is played.

Effects

The ceiling spikes will leave a very small sphere of dust on impact and the spikes itself will quickly give a white shine to notify the player even more clear. The spike’s spinning animation is intensified with a few cartoonish spinning lines surrounding the whole bar. Underwater the dust is replaced with small bubbles that rise up.

Sound

The sound for the switch block will be a short button press sound in style of the game. A second sound is played when the pressed button becomes available again to notify the player. The spiked ceiling will play a sound when it moves. The sound will be similar to cogwheels clicking three times indicating that it is lowering. If it spins the cogwheel sound will click 5 quick times instead.

Programming

As mentioned in the overview the basic functions will be:

Ooki hits the switch block:

- Switch block button activates
 - Button press animation, star emit and block bump effect and button press sound are played.
- The spiked ceiling will drop down/ rise one row.
 - Drop down animation, dust effect, cogwheel clicking sound are played.
- A cool down of 5 seconds is activated.

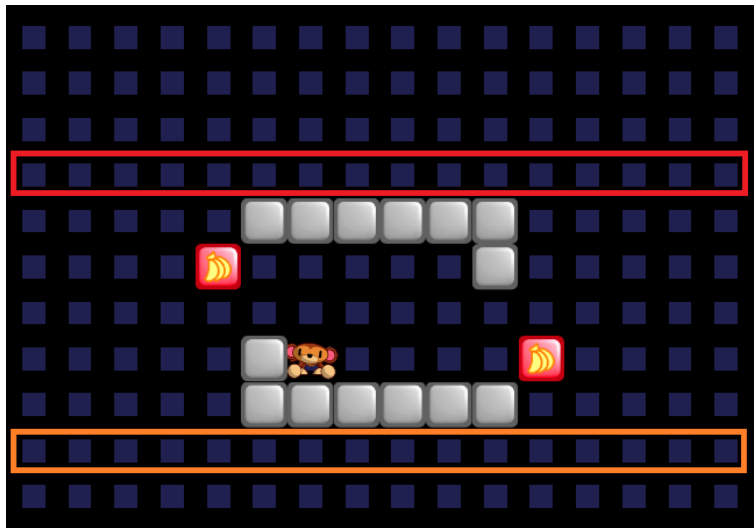
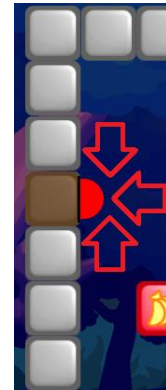
Ooki Blocks executive design

- The pressed animation stays pressed as long as the active cool down or as long as Ooki is still on the block. Only if both conditions are met the animation and sound of the state “pressed” to “un-pressed” are played.

(For more specific information in animation, effect and sound see Art.)

Ooki will activate the red button by hitting it frontal and also if he brushes it from the side because the button is rounded. This has the same effect as hitting it frontal, just that Ooki won't be able to stop and rest on the switch block itself. The spiked ceiling will always be positioned one block row above the highest level block. If the highest block in a level for example is positioned in the middle of the screen, the spiked row starting position will be one row above it (red bar, no empty row in between).

If the spiked ceiling reaches the lowest border or the row after the lowest block row in the level it will spin equal to one time the switch block is activated and if activated again it starts moving up again to the beginning position and so on. It is possible to have more than one switch but all of the switch buttons will react at the same time except for effect and sound (same for release). Enemies are not able to interact with the switch block.



The spiked ceiling will be displayed on the top layer, only GUI and Ooki on impact have a higher priority and will be displayed on top. If Ooki hits any of the spikes he dies and needs to start again. The spiked ceiling will not harm armored (shelled) enemies, any other type of enemy will also die on impact with the spikes like Ooki. Should the Spike hide a portal exit and Ooki flies out of it, he will die. Basically any kind of contact with the spikes will kill Ooki instantly. Fruit that falls on a spike will be destroyed.

Animation

The duration of the switch block's animation between the states “pressed” and “un-pressed” takes 0.5 seconds. The duration of the switch block's animation on Ooki's impact is shortened to 0.3 seconds to maintain the fast paced gameplay. The duration of the spiked ceiling animation moving from row A to row B will also take 0.5 seconds. The spinning animation also takes 0.5 seconds. By hitting the block, it will slightly bump back like all other blocks behave on Ooki's impact. The duration of the animations underwater are extended by the same ratio as Ooki's movement speed from normal to underwater.

Effects

The switch block will play the star effect that is also used on all other blocks on Ooki's impact. The spiked ceiling will play a dust animation when it drops or rises, underwater this animation is replaced by bubbles. If the spikes spin at the end they will have small spiral lines as an effect. Even though there are multiple switch blocks, only the one Ooki hits will display the effects.

Sound

All new sounds will have an equal duration as the animation time that is played and a minimum of 0.5 seconds (!). Even though there are multiple switch blocks, only the one Ooki hits will be played.

GUI

The level editor will feature a new block called “spike switch”. This new element represents the switch block to activate the spiked ceiling. As soon as one switch block is used the spiked ceiling will be present as soon as the editor runs the saved level. A small checkbox next to the spike switch icon will be checked if one switch block is placed into the level. Two arrows can be pressed to change the rotation of the last placed switch block. The switch block can be placed and rotated freely in the editor under one condition: the red button must have at least one empty block next to it so the graphics don't conflict.