Subject: Irreversible Cube by OSKAR
Posted by Oskar_van_Deventer on Sat, 20 Apr 2013 11:18:10 GMT
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Hi Shapeways fans,

Irreversible Cube is based on an idea by Christoph Lohe:
"It is just a 2x2x2 Cube, however, with the following constrains:
- only clockwise quarter turns are allowed
- after a turn on one axis (out of three), the next move, if any, will need to be done on another axis
Obviously, it is not a normal twisty puzzle as you cannot simply reverse your move sequence. It also means: the puzzle is already scrambled after a first single move from the solved state."

So if we encode
"U" = upper face 90 degrees clockwise
"F" = front face 90 degrees clockwise
"L" = left face 90 degrees clockwise
then one could legally turn e.g. "UFLUFLULUFLUFLUL" as all turns are clockwise and there are no two-same-turns-in-a-row. However, "FF" would be illegal and the second "F" move should be blocked.

Irreversible Cube exactly achieves Chris Lohe's goal. There are only single clockwise quarter turns, and any second quarter turn is blocked, only to be unlocked when another face is turned 90-degrees clockwise.

Note that the puzzle has no easy undos. Once a quarter turn clockwise has been made, one cannot undo it by turning anti-clockwise. Anti-clockwise turns are blocked by the mechanism.

Analysing the mechanism, the follow steps happen when turning a face clockwise.
1) First the turning face locks itself against turning back to it original position. From this point, one can only move forward.
2) Next the turning face unlocks the previously locked adjacent face.
3) Then, the turning face locks itself against turning back to the adjacent-faces-unlocking state.
4) Finally, the turning face blocks. Now it can only be unlocked by turning an adjacent face.

Watch the YouTube video.
Buy the puzzles at my Shapeways Shop.
Read more at the Twisty Puzzles Forum.
Read a solving analysis in this thread at the Twisty Puzzles Forum.
Check out the photos below.

Enjoy!

Oskar

File Attachments

1) Irreversible-Cube---view-1.jpg, downloaded 119 times
2) Irreversible-Cube---view-2.jpg, downloaded 123 times
3) Irreversible-Cube---view-3.jpg, downloaded 124 times
4) Irreversible-Cube---view-4.jpg, downloaded 119 times
5) Irreversible-Cube---view-5.jpg, downloaded 121 times