

# Fiedler's Cubes

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<http://www.gafferongames.com/fiedlers-cubes>

Fiedler's Cubes demonstrates a networked simulation where players can interact with a physically simulated world with no latency, while supporting late joins in a P2P topology.

The main techniques used in this demo are the authority scheme and corrections. Please see my MIGS'09 talk slides for more information.

You may control the cube using the following keys:

arrow keys	= movement
space	= jump
z	= katamari
escape	= reset

You may switch between demos as follows:

alt-1	= singleplayer demo (default)
alt-2	= interpolation demo
alt-3	= state replication demo
alt-4	= authority demo
alt-5	= corrections demo

The two main demos are the authority demo and the corrections demo. Within these two demos the common controls are:

1,2,3,4	= select current player
5	= follow camera
6	= topdown camera at (0,0)
enter	= cycle fullscreen, splitscreen, quadscreen
tab	= cycle visualization mode for other player's cubes
ctrl-1,2,3...	= select amount of simulated latency

Inside the authority demo you have the following specific controls:

F1	= disable sync between players (default)
F2	= naive sync (feedback)
F3	= tie break authority (fix feedback for non-player cubes)
F4	= interaction authority (fix latency when interacting with cubes)

Inside the correction demo:

F1	= disable sync between players (default)
F2	= interaction authority (equivalent to F4 in auth demo)
F3	= corrections (supports late joins)
F4	= reverse corrections ( <i>not implemented!</i> )

Always remember that you can press escape to reset the current demo.

That's it for now, Enjoy!

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