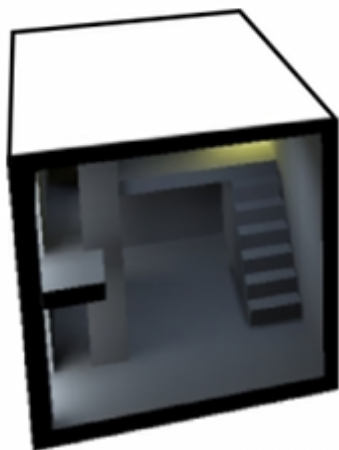


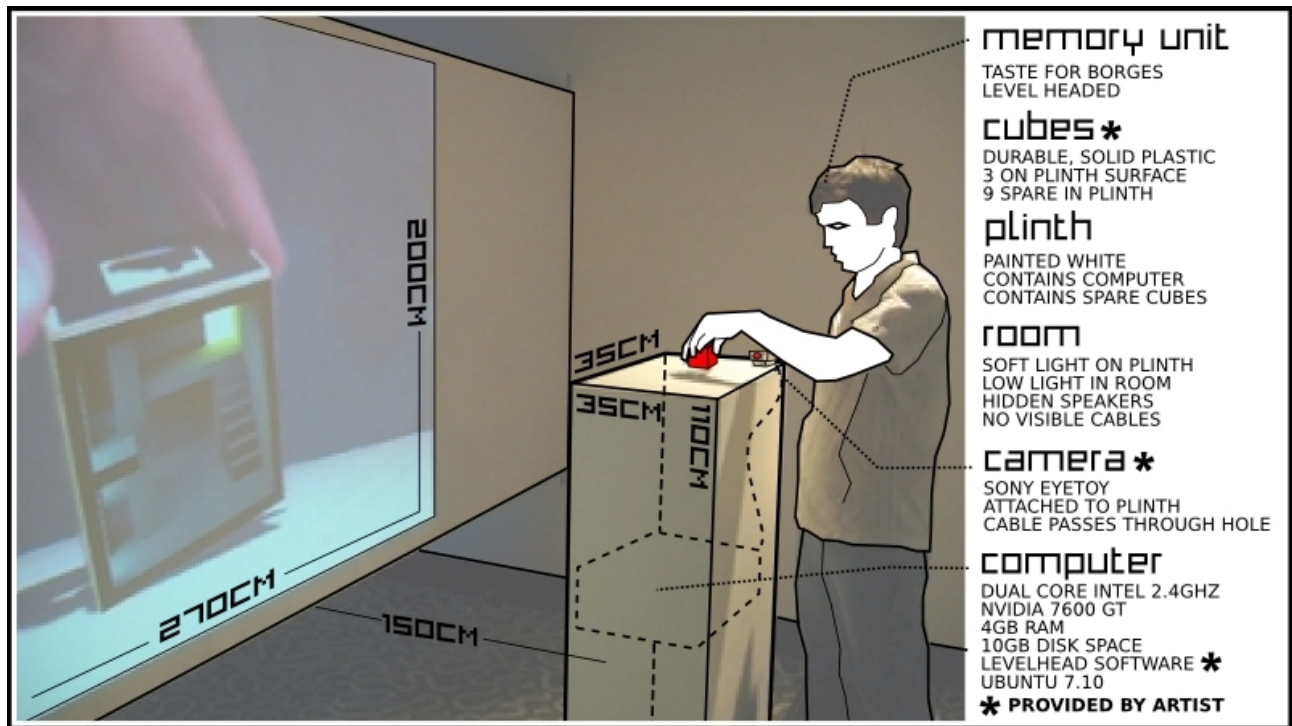


julianoliver.com/levelhead

LEVELhead

a spatial memory game by Julian Oliver

BRIEF DESCRIPTION



levelHead is a spatial memory game by artist and developer Julian Oliver.

levelHead uses a hand-held solid-plastic cube as its only interface. On-screen it appears each face of the cube contains a little room, each of which are logically connected by doors.

In one of these rooms is a character. By tilting the cube the player directs this character from room to room in an effort to find the exit.

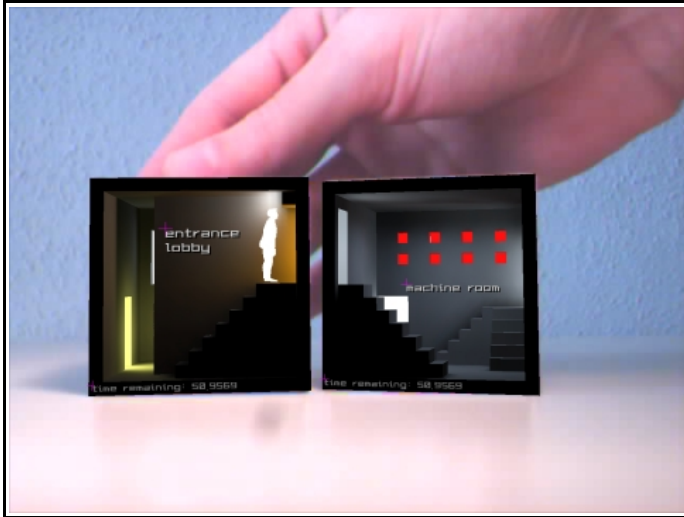
Some doors lead nowhere and will send the character back to the room they started in, a trick designed to challenge the player's spatial memory.

There are three cubes (levels) in total, each of which are connected by a single door. Players have the goal of moving the character from room to room, cube to cube in an attempt to find the final exit door of all three cubes. If this door is found the character will appear to leave the cube, walk across the table surface and vanish.. The game then begins again.

Someone once said levelHead may have something to do with a story from Borges..

TECHNICAL DESCRIPTION

levelHead deploys three small (5x5x5cm) plastic cubes with a unique image (*marker*) on each face. A computer running the Linux operating system *Ubuntu* is fitted with a Sony EyeToy camera sitting on a clean white surface.



Computer Vision software on the host computer is trained to recognise the marker such that it can overlay 3D content on a per-face basis. This software has been designed to produce the convincing impression that each room is somehow inside the cube.

Further software provides an animation management facility for the character model: by analysing tilt movements across two axes, the character can be directed to turn and walk in a given direction.

HARDWARE REQUIREMENTS

Computer – minimum specifications:

- Dual Core 2.4GHz CPU
- NVIDIA 7600 GT graphics card w/256Mb on-board memory
- 4Gb RAM
- 10Gb free disk space

Projector

Stereo speakers

Sony Eyetoy Camera

USB extension cable

SOFTWARE REQUIREMENTS

- Ubuntu 7.10 Operating System
- OpenSceneGraph 1.2
- ov51x-jpeg Linux driver for Sony Eyetoy
- levelHead software package (provided by artist under the General Public License v3).

INSTALLATION DESCRIPTION

A projector, mounted overhead (or rear-projected), displays the game on a wall immediately in front of the player. Other than the Sony Eyetoy on the plinth there should be no evidence of technology involved, including exposed cables.

The installation version of levelHead has just three levels, making it easy for people to move the man from cube to cube with a little concentration. On the plinth are all three cubes (levels).

On the plinth should be basic instructions (four of five lines) outlining the game concept and how the interface is operated.

Inside the plinth is a desktop computer suitably cooled such that it can run for as long as is necessary. Inside the plinth is also a box of 9 backup cubes should they disappear from the exhibit.

In front of the player a pair of speakers (ideally hidden) conveys sound events triggered by playing the game.

INSTALLATION SET UP

While the artist will send a set of cubes to the exhibition site, the computer set-up and acquisition of a Sony EyeToy will need to be done locally.

However, in the event the artist is not present prior to the exhibition, an SSH service will need to be installed on the exhibition computer (and the port forwarded) so the software install can be done remotely. This is a method used often by the artist in the installation of other computer based works.

The computer will be set-up such that it only needs to be turned on to become ready for play. When ready for shutdown, it can be simply switched off.

PROJECT WEBSITE: <http://julianoliver.com/levelhead>

DEMONSTRATION VIDEO (4min): [YouTube](#)

UPCOMING EXHIBITIONS OF PROJECT

- **Laboral**, Gijon, Spain. *Homo Ludens Ludens*. 18/04/08- 22/09/08
- **Sonar08**, Barcelona, Spain. *SonarMatica*, 20/06/08

PRESS

Ludology: *"While nowadays most artists generally go for full body interfaces and giant screens, Julian built a fascinating, tiny little world in a box that is a pleasure to play with. Game art doesn't get any bigger than this."*

Gizmodo: *"levelHead is an Interactive BlockBusting Videogame"*

Networked Performance (Turbulence): *"Pattern recognition has already been used in several other projects, but this is a new way of using it, and a new way of thinking of the technology."*

Kotaku: *"Like Echochrome, but fancier"*

Ubergizmo: *"Looks like this could be the 21st century Rubik's Cube for kids worldwide, or they could look at it and think it too hard, preferring instead mind-numbing shooters like Halo 3."*

ARTIST BIOGRAPHY



Julian Oliver is a New Zealand born artist, free-software developer, educator and occasional writer based in Madrid, Spain.

He has presented papers and artworks at many international electronic-art events, museums and conferences since beginning his career in 1996. He has been commissioned by several museums and galleries in the creation of electronic artwork.

Julian has given numerous workshops and master classes in game-design, artistic game-development, virtual architecture, interface design, augmented reality and open source development practices worldwide. In 1998 he established the artistic game-development collective, Select Parks.

See <http://julianoliver.com> for exhibition history and related works.