



1

## Water Droplet (19 sec)

This video shows the iWave method (Tessendorf 2004) simulating a droplet in shallow water. Collisions (ripples) are calculated from the droplet. The video shows the final rendering, followed by a hidden-line wireframe rendering.

I programmed a custom simulation plugin ([github.com/sdao/iWaveOcean](https://github.com/sdao/iWaveOcean)) in 3ds Max, and I rendered with Mental Ray, using caustics.

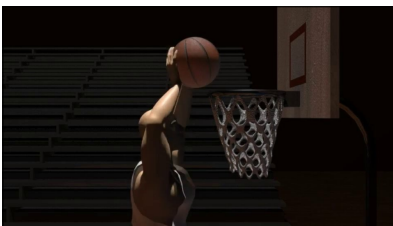


2

## Paper Airplane (29 sec)

The ink writing and paper airplane folding animations are entirely procedural. I used a photorealistic lighting setup with a daylight system. I used VirtualDub to smooth out flickering in the global illumination (I opted for a lower-quality, faster GI solution).

The terrain in the background is generated using my DiamondSquare plugin for 3ds Max ([github.com/sdao/DiamondSquare](https://github.com/sdao/DiamondSquare)).



3

## Basketball Player (21 sec)

Demonstrates different uses of cloth simulation for the player's clothes and the basketball net.

Cloth dynamics are used to stretch the net against the ball. Most of the materials are procedural, save for the floor, net, and backboard, which use textures from the Autodesk texture library. A subsurface scattering material is used for the player's skin.



4

### Shapes in the Clouds (14 sec)

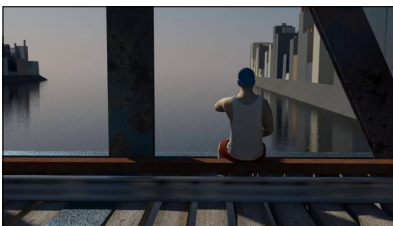
Clouds formed using a particle system move in the sky to create two figures in love at the end. The animation is done in several passes: the background and the paper airplane in the foreground are rendered in Mental Ray, while the clouds are rendered using the 3ds Max scanline renderer (much faster).



5

### Shapes in the Water (10 sec)

The water simulation seems to ripple by itself into the shape of a heart. The heart ripples are created using an invisible animating collision object used with my iWaveOcean plugin ([github.com/sdao/iWaveOcean](https://github.com/sdao/iWaveOcean)).

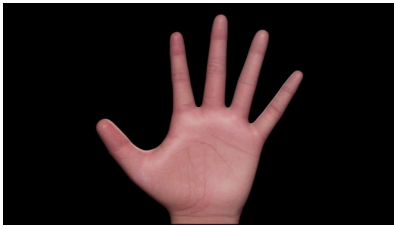


6

### The Love Letter - Excerpts (18 sec)

A guy waits for his sweetheart, holding a love letter that's more magical than it seems.

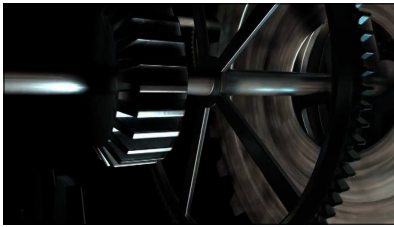
Animation done in 3ds Max, using the Mental Ray renderer. Lighting uses a daylight system; textures are a mix of procedural and images from the Morguefile ([morguefile.com](http://morguefile.com)). Cloth is done by simulation in Max.



7

### Fingers Counting (19 sec)

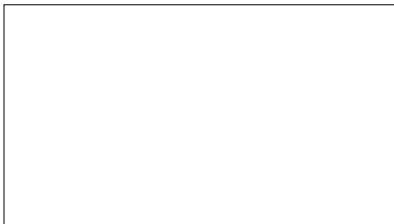
I experimented with modelling, rigging, and texturing a human hand. The hand is completely UV mapped, and the texture used is from a photograph of my own hand. The fingers are rigged in order to produce a counting sequence. This was done in Maya.



8

### Gears (24 sec)

An experiment with more realistic procedural textures and their interaction with a few lights in an otherwise dark scene. Created with Autodesk Maya and rendered with Mental Ray.



9

Total running time: 2 min 52 sec