Animate Arts

With your TA: Andrew Kaufman

Plans for Today

- Why am I here?
- Brief overview of Animate Arts
- Paired Environments in Skewed Time
- View and discuss other works of mine
  - Escape
  - Mime and Punishment
  - Information

Structural Elements:
Selected Chicago New Media Artists

- Regular Hours: October 14 - 18, 21 & October 26 - 28, 10 a.m. - 6 p.m
- For more information: http://www.chicagocityarts.org
- Exhibition Overview: This group exhibition presents the work of established and emerging Chicago new media artists side-by-side. Discover the diversity of new media artistic practices: from digital art and computer-modeled architectural forms, to interactive multimedia installations that draw from virtual reality art, video art, robotics, the cinematic tradition and audio soundscapes.

Arches

- Opens today in Chicago
- It will be projected onto a wall at a larger scale in the new installation

So what is Animate Arts?

- New media art
- Animation
- Multi-disciplinary program
  - Computer Science
  - Art
  - Film
  - Music

Paired Environments in Skewed Time

- This was my Animate Arts Senior Project
- It is a series of three pieces that experiment with video volumes
- I wrote C++ code to skew the viewing plane of the video
  - it plays the leftmost pixels at the current point in time
  - and the rightmost pixels a variable amount of seconds into the future
Video Volumes

- **Background**
  - Every frame of a video is a single plane
  - By stacking all of the frames back to back in space, we create a volume
  - The dimensions of this volume are: X (space), Y (space), and T (time)

- **Common uses are in Computer Graphics research**
  - Motion tracking
  - Non-photorealistic rendering
  - Video matting of complex scenes
  - Video visualization

Paired Environments in Skewed Time

All of the videos follow the format below:

<table>
<thead>
<tr>
<th>Regular</th>
<th>1s Skew</th>
<th>Regular</th>
<th>2s Skew</th>
<th>Regular</th>
<th>4s Skew</th>
<th>Regular</th>
<th>8s Skew</th>
</tr>
</thead>
<tbody>
<tr>
<td>0s</td>
<td>10s</td>
<td>20s</td>
<td>30s</td>
<td>40s</td>
<td>50s</td>
<td>60s</td>
<td>70s</td>
</tr>
</tbody>
</table>

- I compare the effect of skewing time between pairs of related yet contrasting environments, where one is more urban and the other more natural.
- Individual moments of time are more valuable in the urban environments, and as a result, skewing time in these environments becomes chaotic.
- Skewing time in the natural environments has very little effect because finite amounts of time in these places are less meaningful.

Original Installation

- Two locations on the Northwestern campus are compared in Arches. Outside of Kresge the bushes, grassland, and trees comprise the landscape, revealing an arch formed by the nearby branches. Standing at the main intersection on campus, The Arch is a constant source of traffic as people rush by on their way to and from classes.

Arches
Lines

- In Lines, an Indiana campground is compared to a street corner in downtown Chicago. The campground is divided horizontally into lines of tall grass, short grass, trees, and sky. In downtown Chicago there is a linear division into sidewalk, street, shops, and skyscrapers.

Angles

- Angles compares an environment in the sky to one on the ground. In the sky scene, the camera is placed on the ground and angled up towards a cloud in the sky. In the ground scene, the camera is placed on the top floor of a suburban mall and angled down towards the central atrium.

Escape

- My first 3D animation
- A pineapple escapes from the farm

Techniques:
- Story and Character Design
- Modeled, rigged, and animated character
- 2D elements
- Scripting for plants

Story and Character Design

Scripted Plants

Mime and Punishment

- Marcel the mime harasses Ed on his way to work
Animation Pipeline

- Develop a story
  - Character sketches
  - Storyboard
- Modeling
- Rigging & Skinning
- User Interfaces
- Animating
- Lighting & Rendering

Two Quarter Class (we had 3 quarters per year)

- Spring - focus on developing a solid story and begin rough models
- Summer - polish models in time for…
- Fall - with the models, sets, and props completed, we would have a full 11 weeks to focus on animating

The Rigs

- Structures of bones and controllers that allowed us to position the characters
- Body rig and facial rig for each character - made by Andrew and Zach
- Refined throughout the quarter as we found problems

Learning to Use the Rigs

- Challenge of getting used to the rigs while learning the interface of Maya
- Using someone else’s rigs not always intuitive
- Learning how and when to use forward/inverse kinematics

Mime and Punishment’s Future

- We need to fix the lighting
  - Lesson: plan 3 times as much time for rendering as you think you will need.
- With more time we could pay attention to camera angles, cuts, lighting and background
- Fix the blending of clips

Information

- A government agency gathers information. Upon securing a copy of the information, the original is disposed of.
Inspiration
- The Prisoner
- Brazil
- Rube Goldberg
- General paranoia

Technical
- Maya’s physics engine
- Rigid Body Collision
- Sometimes physics doesn’t work
  - Helmet
  - Magnets
    - Grab
    - Drag
    - Drop

Any Questions?

And/Or more movies...