
Advanced Play Design:

Archive (Website + PDF backup)

Jiawei Lin

Masters of Animation, Games
and Interactivity (MAGI),
School of Design,
RMIT University,
Melbourne, Australia
s3459684@student.rmit.edu.au

Rationale

My studio project in this semester is a 3D animation. It is expected to finish the pre-production and half of the piece by the end of this semester. There are a lot of assets and element need to be done. To connect APD to my studio project, I made a list of what are the possible stuffs (assets, footage, elements) that are required. For each APD class, I tend to design my idea that might helps or possible to reuse/refine in my studio. For APD, I would like to explore different possibility of 3D animation or 3D elements. These exercises will either provide inspiration to my studio idea or be a technical solution preparation for my studio project.

Archive Website

<https://nslensun.wixsite.com/apdblog>

The content of this PDF is the same as the archive website. This PDF is a backup just in case if the website is unavailable for some reason.

Week 1

Theme:

Play and Observation - Interactive Elements in UI design for the Public

Method:

A liquid animation will be generated using Maya Bifrost to simulate finger wiping on the surface of a tank of water.

Context:

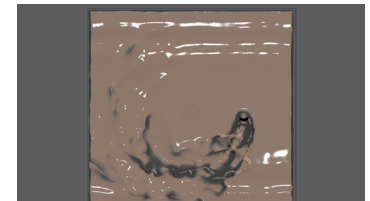
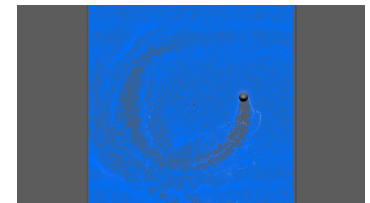
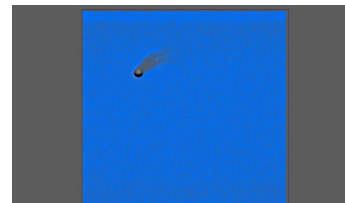
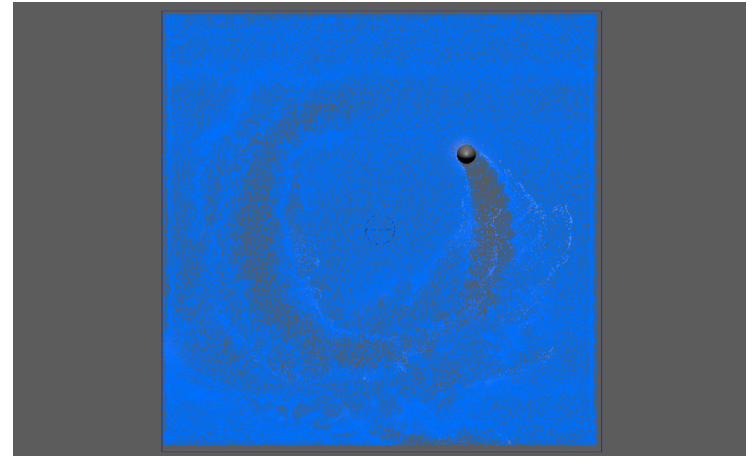
Microsoft Gallery Lounge Interactive Experience
<https://www.youtube.com/watch?v=8gTLHRMtE5A>
 Some of the spots/museum/gallery has machine that offers people with information about introduction, guide and suggested route. But most of them are lacking interactive design thus making it boring and unattractive. In this video, the interactive design encourages visitors to engage with the devices. This could enhance visitors' experience.

Response:

Initial ideas include making various interactive elements such as liquid, in-between animation of the interface and UX assisted by visual design. This theme aims to develop and test ideas that could improve user experience and attractiveness of UI. This small project also gives me the opportunity to practise liquid simulation plugin in Maya, which I might use in my Studio project.

Magisite Link:

<http://magistudio.net/work/apd-week-1-interactive-elements>



Week 2

Theme:

Play and Tinkering - Animated Dynamic Effects

Method:

A dynamic liquid will be generated using Maya Bifrost and collider to simulate water coming out from a pump.

Context:

Earth Orbit

https://www.youtube.com/watch?v=Tmk1-_93XrY

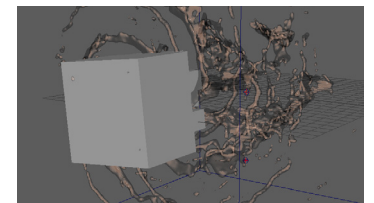
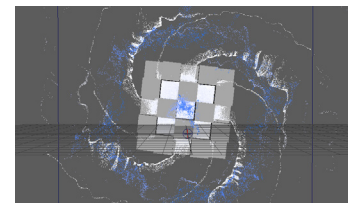
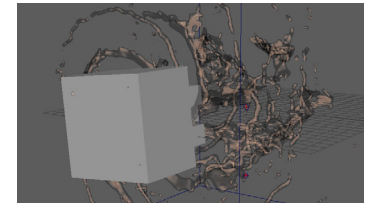
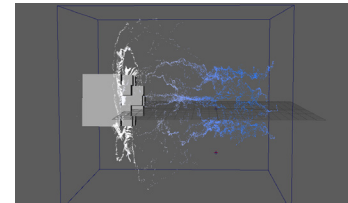
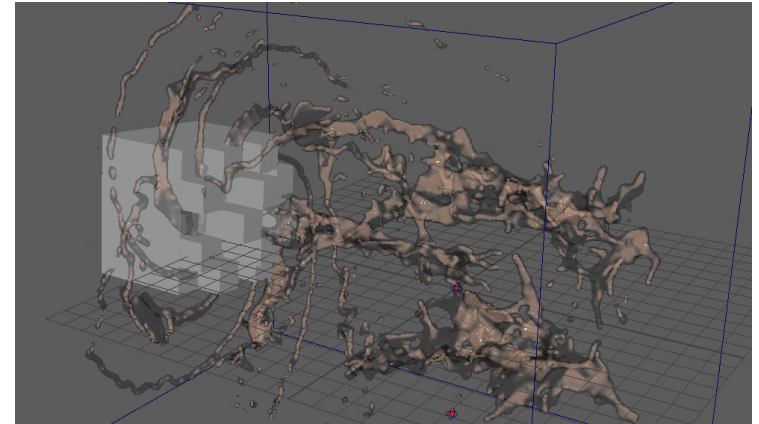
Most of the sci-fic spaceships use fuel as their energy source. It is fire at the stern that powers the spaceship. This idea thinks the opposite - a spaceship powered/pushed by liquid.

Response:

A simplified spaceship model will be created. Liquid animation will be the main focus in this exercise. It is expected to figure out an interesting way to 'animate' the liquid animation (rotate? spread? splash? or mix?) This exercise plays around the possible way to generate a liquid animation. As the simulation takes time, only limited tests will be explored.

Magisite Link:

<http://magistudio.net/work/apd-week-2-animated-dynamic-effects-1>



Week 3

Theme:

Play and Materiality - The UI animation for information display in mobile apps

Method:

A short video will be shot using mobile phone. After Effects will be used for creating the UI animation and compositing.

Context:

TapMeasure

<https://www.youtube.com/watch?v=Hy1ExX2MAXM>

AR apps are increasing popular today. Developers keep publishing creative AR apps. This exercise explores possible forms of AR app and ways to improve user experience. This TapMeasure offers measure function.

Response:

With the increasing image quality on mobile phone camera, AR apps are becoming popular. I have used a few object recognition / AR apps on my mobile phone, and I feel many of them run very slowly. Both iOS and Android 'solve' this problem by utilizing launch animation. The OS loads the app while user watch the animation. This makes user feel the apps load fast. This method could be used within the app as well. Two app animation will be made to demonstrate two different situation, which are, when less time is required for processing data and when more time is required. The concept of this idea is to explore how animation could improve user experience.

Magisite Link:

<http://magistudio.net/work/apd-week-3-interactive-information-display>



Week 4

Theme:

Play and Place - Dynamic Simulation

Method:

A 'generator' - an paper engine will be modelled. Fan leaves will be animated (turning). Paper simulation will be created using Maya nCloth. A flag will be made and animated to show the wind direction.

Context:

Flying Paper Simulation

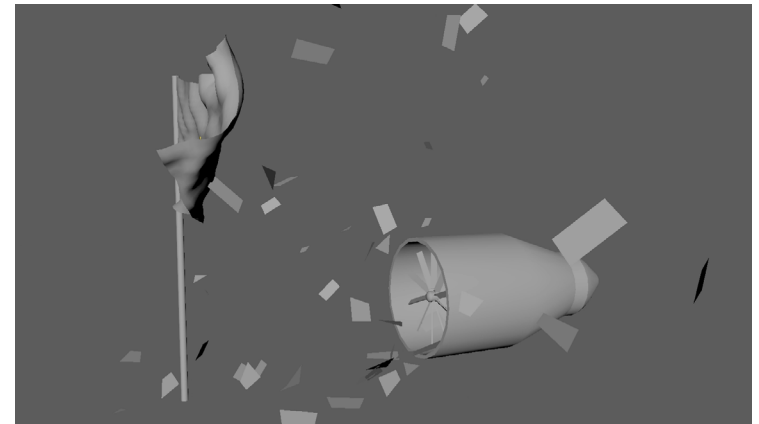
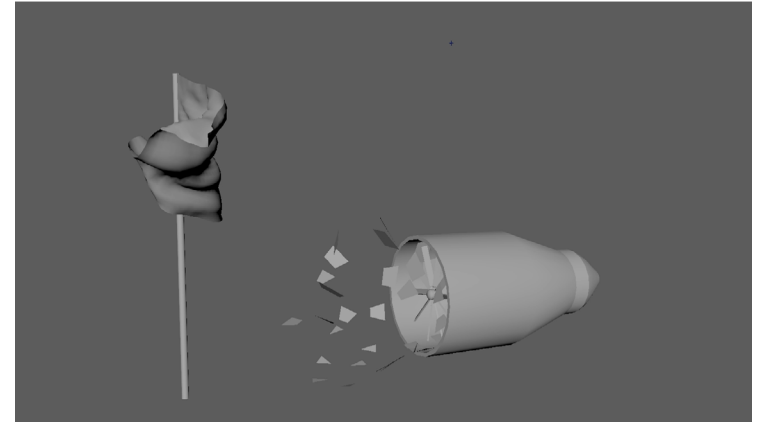
https://www.youtube.com/watch?v=fpLBbkLFG_o

Response:

An air plane engine was used as the reference for modelling the paper generator. Fan leaves were modelled by combining several rectangles together. Fan will be animated via setting a rotate keyframe. The flying paper was done by breaking down a polygon with nCloth dynamic simulation. To make the paper fly, wind force was set and associate to the papers. In addition to make the scene more dynamic, I put a flag and add the animation to show the wind direction. This is also a skill practise of maya FX. This technique might be used in my studio project.

Magisite Link:

<http://magistudio.net/work/apd-week-4-dynamic-simulation>



Week 5

Theme:

Time Acceleration

Method:

All the animation will be done using After Effects. Three different looking but same time length loading animation will be done in different ways. They will be presented in order.

Context:

5 Cool CSS Loading Animation

<https://www.youtube.com/watch?v=TNIazRst-xw>

Almost every application needs to load before you can use it.

For some large program, it might take quite a while to load.

This exercise is to experiment whether loading animation could reduce the perceptible time, shorten the feel of waiting.

Response:

Three loading animation was done in After Effects. The first loading animation is a few circles turning around the center. The number of circle will change after period of time. The second and third animation is commonly seen in many applications. These two are to compare with the first animation to see if they have different perceptible feel of time.

Magisite Link:

<http://magistudio.net/work/apd-week-5-time-acceleration>



Week 7

Theme:

Character and Events

Method:

This task was done using Maya. A sphere was modelled and textured with a blue gloss material. A single light was used as the illumination for this scene. The object is shattered using Maya dynamic simulation. Scene framerate is set to 60fps to give a richer detail for the in-between animation. The scene was then rendered and composited in After Effects.

Context:

3D Glass Shatter

<https://www.youtube.com/watch?v=GUhvZZ3K28E>

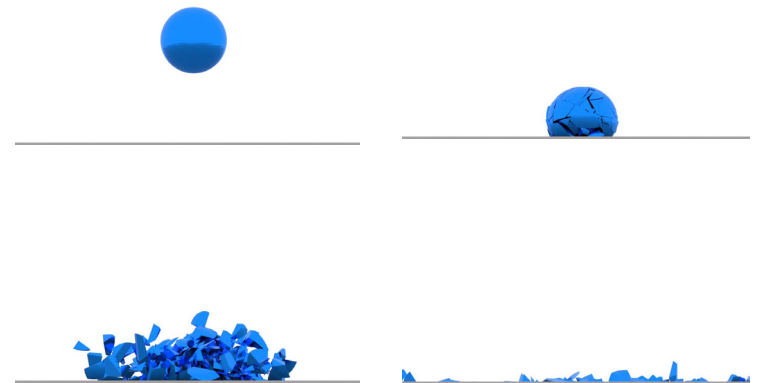
I quite like the changing reflection while the animation goes. There are so much details on each surface. I could watch it many times under different interest point.

Response:

The animation shows the relationship between the character - ball, and the environment - ground, and generates the event - being shattered. It is presented in a slow motion form. This allows the audience to see the reflection changes on each shattered pieces clearer. My studio project is exploring 3D abstraction. In this short exercise, I explored a possible form of 3D abstract asset - shattered object, which benefits my studio study a lot. This kind of elements will likely be used in my studio project.

Magisite Link:

<http://magistudio.net/work/apd-week-7-character-and-events>



Week 8

Theme:

Play and Time

Method:

This task was done using Maya. A cube was modelled with transparent texture applied on the surface. In addition, each center of the 6 faces has a illuminated 'core', which was assigned a emissive light to enhance the reflection of the transparent - glass material. A global illumination with a HDRI was assigned as the background of the scene. Camera was rotated around the cube. Finally, this scene will be rendered.

Context:

Cycles Render HDRi Test Animation

<https://www.youtube.com/watch?v=26RI3TO14ik>

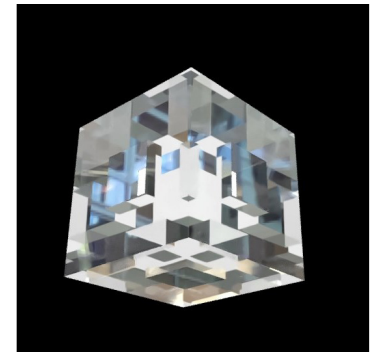
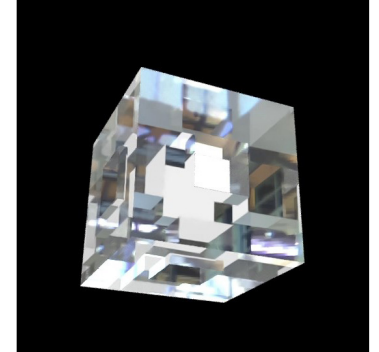
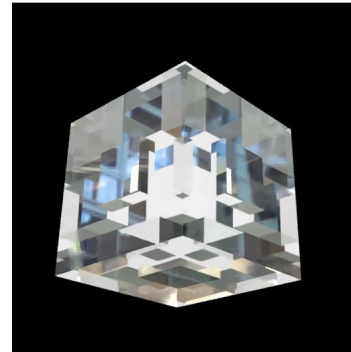
This animation uses object reflection to observe the environment. This gives me an inspiration. What will it look like if I model a complex model and apply reflective texture on to it. Is it possible to create an abstract looking?

Response:

A rendered loop animation will be created to show the change as time goes. The material applied on the cube allows the viewer to observe the environment in another perspective. The illumination on the surface center adds multiple reflection on both internal and external of the cube, adding an abstract feel and thus makes this loop animation more interesting. As my studio project concept relates to abstraction, this kind of techniques - using reflection for presenting a scene instead of showing a scene directly to the audience, would be very helpful to achieve my target.

Magisite Link:

<http://magistudio.net/work/apd-week-8-play-and-time>



Week 9

Theme:

Play and Forces

Method:

The whole animation was done in Maya. A scene with waterfall and a wall were created. The waterfall was made using Maya Bifrost while the shatter animation was done using Bullet plug-in. The wall was shattered by external forces into pieces (pre-processed into separated pieces before animated) and flew towards the waterfall. These pieces broke waterfall and created splash.

Context:

Shatter Glass

https://www.youtube.com/watch?v=0dxkS_tTIZE

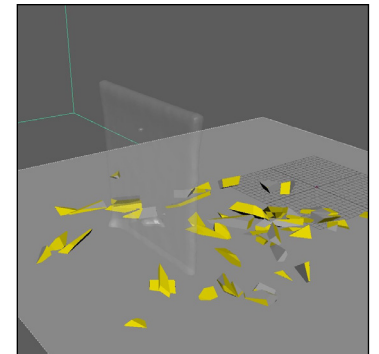
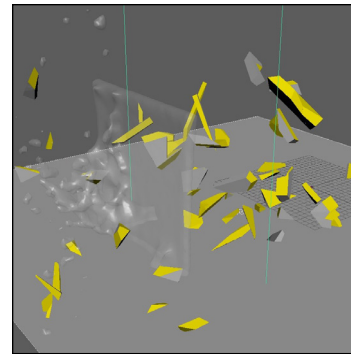
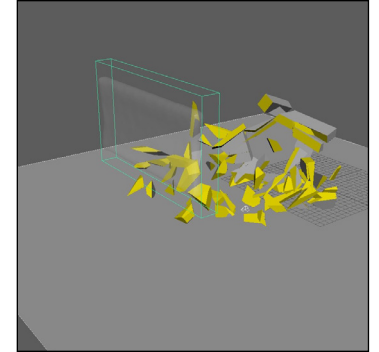
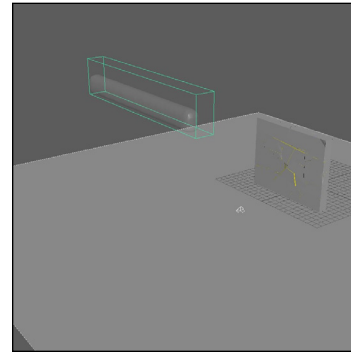
This video was composed a CG shatter glass animation on a door. I would like to explore the possible interaction between shattered glass pieces and liquid and see what result it would create.

Response:

The core idea of this exercise is to show the transmit of force between forces. In this case, the wall was broken by external force. The force was transmit via the shattered wall (flying pieces) and then finally transferred to the waterfall - breaking the flow. Since Bifrost and Bullet are two different plug-in, this is also a good opportunity for me to explore and learn the technique of linking two different dynamic system in Maya and interact with each other.

Magisite Link:

<http://magistudio.net/work/apd-week-9-play-and-forces-1>



Week 10

Theme:

Play and Stillness

Method:

The animation was done in Maya. A scene with blocks is modelled. For the animation, camera was tied to the sphere. The sphere jumped from one end to the other end, with camera always facing to the front of the sphere. Pieces of sheet was added to the scene to enhance the sense of space.

Context:

Attack on Titan Season 3 - Levi and Kenny Chase

<https://youtu.be/-361aIFFqHc?t=40s>

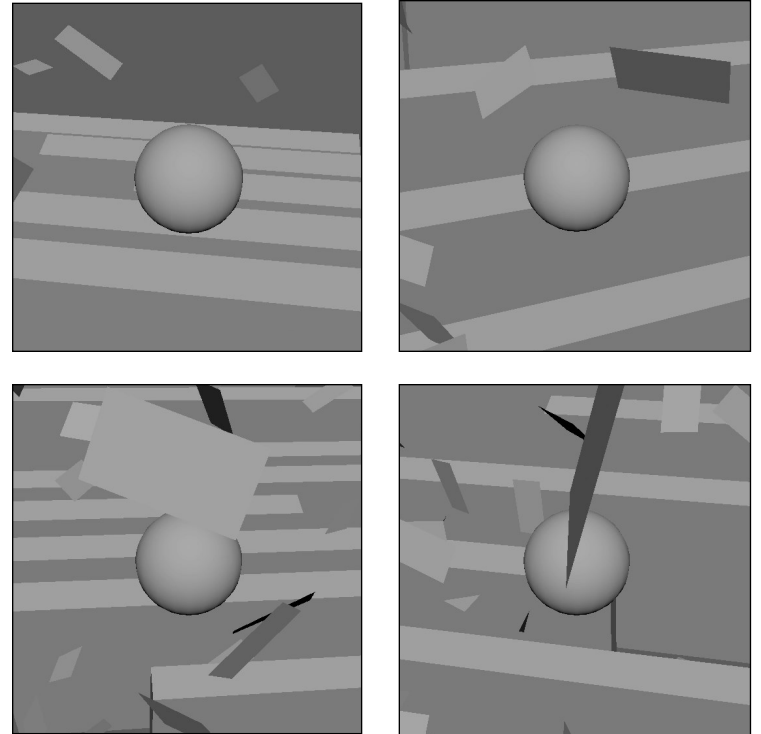
From 0:40 to 1:15, the camera is relatively 'still'. The camera angle is fixed to the character. The audience is able to feel the tension and speed from the background movement.

Response:

The core idea of this exercise is to explore the potential and possibility of stillness, or relative stillness. In my animation, the audience will see the character - sphere from a fixed camera angle. The sphere keeps jumping but the audience is not going to notice the jump action by just looking at the sphere because it stays in the center of the screen. The moving elements on the background provides the complementary visual information of the action thus the brain realize there is motion. This experiment gives me a new idea of what I could play with the relationship between camera and subject (lead object of the scene).

Magisite Link:

<http://magistudio.net/work/apd-week-10-play-and-stillness>



Summary

This course has help my studio project in terms of 3D asset design, filming technique and lighting.

At the beginning of my studio phase 2 (week 7), I was reflecting on the word abstraction. I got inspiration from APD week 7 and 8 exercises. The object in these two exercises both have a reflective surface, with reflection changes while light/object moves. I adapt this idea into my studio. All of my redesigned studio assets feature reflective material and self-emissive components internally or externally to produce dynamic reflection images on the surfaces.

Also on week 7, the idea of rendering a 60 fps animation was also adapted to my studio. The shot where the camera travels through the Crystal Core was rendered at double frame rate 48 fps. This gives me more room for doing the slow motion effect in post production.

Week 10 exercise provides a technical solution for my studio project. Similar to what I did in APD week 10, I 'tied' the relative location of the camera to an object with a component called *locator* so that the camera is able to pan around an object without complicated procedures.

The dynamic simulation exercise on week 1,2 and 4 gives initial idea of the result and I think it is not suitable for my studio project as these plug-in requires a large amount of time to test and render, which is risky for a project with short time frame.

To conclude, APD gives me the opportunity to test and explore new stuffs that might be helpful to my studio project and practise. My studio project was completed as expected largely thanks to the techniques, inspiration and skills that APD brings.

CoP Statement

Self-evaluation:

Event: 4/5

Participation: 5/5

Contribution: 4/5

Event

In this semester, I attended most of the 2D/3D lectures/guest speakers such as Passion Pictures, Tom Sito and Pablo's ZBrush tutorial, and some of the game development session such as Jadd's Flappy Bird.

Participation

I attended all the classes in this semester. I helped Henry solve some technical issues (program compiling) in his AR exercise on week 2 and 3. And also taught him how to use Particle World plug-in in After Effects on Week 8.

Contribution

In this semester, my contribution to the class was mainly about giving verbal feedback or suggestion, explaining weekly themes to peers. My contribution on other online platforms, presentation feedback is relatively limited.