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25\_05\_13

*Aims and intent at outset of work session;*

*General steps;*

*Processes, tools, and techniques used;*

*Unusual (less common) processes, tools, and techniques used;*

*Problems arising during production;*

*Welcome surprises arising during production;*

*Questions arising during production;*

*Thoughts arising during production;*

*Summary;*

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**27\_05\_13**

**Questions;**

`mc.modelEditor('modelPanel4', edit=True, joints=False)`

how to make a toggle switch for showing joints? I need to get the model editor's name

**Rigging**

I am thinking how the rig; the choice of controls, maybe their names and colours, could contribute to the final animation / movement

**Thoughts arising during production;**

I am starting to get bogged down. sidetracked, and at times bored.

I am thinking about rigging and animation right now. From an initial desire/plan to model as animation my dog from sketches I have of her (most of which are lying down), I moved on to issues to do with rigging. For example I want to make a dog rig that is flexible so that I can move joints anywhere; so that I have a great flexibility and I can achieve any pose. But also so that

- looking forward and listening... affordances... animation techniques ... illustrating ideas... How to move beyond these things? how to create something out of nothing? Who's ideas could contribute to this question?

?Deleuze - cliché and chaos

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**23\_05\_13**

**Aims and intent at outset of work session;**

- arrange drawings in viewport and set keyframes

**General steps;**

- in order to work through the timeline and get a sense of the animation, I am creating a few key models this time around.

**Problems arising during production;**

- looking through different cameras is a pain (trying to align the sketches)

possible solution is to just work with the sketches to the side

- I can't get a sense of the movement without building different models for different poses.

solution one is to make dummy objects for joints and animate between poses.

solution two is to create models first for each pose. make rig and bind each model at the correct stage of movement. I could then save and bind each model (moving forward and back). The question is then HOW and WHEN do I transition from one model to another?

I think I will proceed this way and see how the models combining when I come to it.

### **Questions arising during production;**

- should the drawings all be at the centre of the world overlapping the model? they might get in the way there
- RIGGING - "For a dog you are going to want to have the actual COG rig node to be movable, along the spine.. then you can rig the hips/chest just like you would a regular spline ik spine.
- There are a few ways to do "animated" pivot nodes for controllers.

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**22\_05\_13**

### **Aims and intent at outset of work session;**

Start a longer ModellingAsAnimation test. This one is called 'dog study' or study of a dog, or studies of a dog.

### **General steps;**

- going through drawings of my dog (fragments unfinished, different poses)
- choosing some that I can sense might form an animation (i.e. I can sense how she might move from one pose to the other).
- most sketches have more than one sketch on a page. I am duplicating the reference planes moving the UVs to put the images on different planes.
- the sketches are all from different angles so I will add many cameras this time.
- I will look for opportunities to introduce detail, and opportunities to lose detail. eg. when dog opens its mouth
- COLOUR; I'm wondering if I should introduce colour or tone into the models (I am imagining overlapping models, transparency, RGB values...).

### **Problems arising during production;**

- import a scene and hate the way it puts letters. Make a batch renamer....

### **Questions arising during production;**

- as I prepare my reference pics in the viewport (currently scaling them and planning to position and animate the visibility) I am wondering if I can use them directly in the final render?

### **Thoughts arising during production;**

- like with my charcoal animations I am allowing the sketches to dictate the movement/story/theme/narrative/meaning.

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**21\_05\_13**

### **Aims and intent at outset of work session;**

- do nodeInfo tute from the net <http://www.rthrowbridge.com/blog/2008/12/maya-python-api-getting-mesh-data/> and then compare with PlugIn course node Info tutorial (which is done in C++).

Despite my plans laid down yesterday (to continue with a dog ModellingAsAnimation), I think I will spend today investigating Maya plugins and more specifically the Maya Python API. It will be an interrupted day of working and so this hard slog rational enquiry might be more suited.

### **Why do I want to work with the API?**

- I have a hunch that it might be important for my project that I work with mayas API. I wont be using C++ which is the language that the API is written in as I understand it. But I will be using Python which is the next best thing and will hopefully still give me an understanding of Maya's architecture, the components that comprise it; and also an understanding of how those components (Maya objects or classes) where (and are/continue to be) created. At this point I may want to bring **Douglass Rushkoff** to the table and his book **Program or Be Programmed**.

### **Some questions I currently have are;**

- my programming attempts so far have been successful in opening up opportunities to create new workflows (by automating tasks that would otherwise be labourious and unworkable; by this I mean that they would be too long-winded to allow the artist (myself) to achieve a state of flow).
- How will a 'hands on' understanding of the architecture of a 3D software package such as Maya change the way that I interact with the software?
- can I continue my "modelling as animation" tests and also gain a deeper understanding of how Maya was made?  
would it be useful to also read about how paint is made? how pigment is discovered?

Often by looking at a painting or a drawing a viewer can see how it was made. Even if they are not a painter or a drawer they will often have a sense of how someone else interacted with the tools. I noticed at the Drawing Out conference that the air of mystery surrounding coding seems to be at the core of its nature. What would Douglas Rushkoff say about this?

I am also wondering if there is a difference between 'knowing' how programmes are made (by studying the theory of programming for example) and actually doing some programming. Does it make sense to think that there's ways of knowing something from the inside, and other ways of knowing something from the outside? what would **Cain** or **Varela** say about this idea?

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**20\_05\_13**

### **Aims and intent at outset of work session;**

- thinking of a longer dog animation, or a longer bird animation; maybe with more than one bird (two for example). was feeling quite dark today and wondered if my animation could tap into my mood?
- will try for 1 hour to make script that sets keyFrames on materials according to vis keyframes.

### MODELLING AS ANIMATION - next (longer) test

I am thinking of do a dog animation, maybe lying in bed (as part of the bed) then getting up.

#### RIG

some info from here; <http://forums.cgsociety.org/archive/index.php/t-319172.html>

"I've rigged one quadraped recently (broken hierarchy).. and i'll tell u how i did it.. might help..

for the hind legs, and fore legs, we can create individual IK chains and you can have IK controls for each of ur legs, so u can move them independently...

and u build ur spine individually. and u can get a stretchy/squashy spine setup

(<http://forums.cgsociety.org/showpost.php?p=3186832&postcount=4>) real quick.. pls c that page , and u can do this same for ur tail and neck too.. its like u have individual parts which are made to stretch and squash and then u bind each of this parts via parent constraints , to have a connected structure.

### Questions for this animation;

- what should be animated by joints and what by modelling?
- This is a subject matter I am very close to; how does that change my approach/ my expectations/ my outcome (eg am I more focused on a specific outcome?)
- I would like the dog to be part of other objects at times; the bed? another dog? cone?
- do I really need to work out the full range of movement; and hence the extent of the rig; before commencing animation?
- do I need to complete the animation before continuing with the modelling? I suspect not and I'm going to test this hunch by just "diving into" the making process tomorrow. starting with a favourite drawing and continuing (forward as well as backward) from there.

---- in the back of my mind I may have a paper/ point/ exploration/ conversation/ in mind.

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17\_05\_13

**Aims and intent at outset of work session;**

- start to develop an understanding of OOP and classes
- try plugin tutorials.

**Steps;**

I am making a cube as perceived after coffee

I can create a new class 'ball' that inherits from box. The functions work if the attributes are the same.

I am now writing a Hello world plugin with args;  
he looks up the devkit for reference.

**Problems arising during production;**

a quick look shows that the plugin tutes are in C++ so I would need to convert them to Python;  
hence a deeper understanding of Python classes  
and a deeper understanding of the Maya Python API would probably be useful.

**Welcome surprises arising during production;**

**Questions arising during production;**

**Thoughts arising during production;**

- making custom 'objects' which are based on perception or context

**Summary;**

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15\_05\_13

**Aims and intent at outset of work session;**

- finish UI and do a quick test of the workflow.

whats it like to use? boring? fun? too prescribed? or allows me to go further?

- when doing charcoal or plasticine animation the speed at which you work has an effect; you can seem to embody the scene/character/movement. Can these tools achieve a similar outcome?

- would use of this tool change the way you model? so that the process of modelling becomes "expressive", or at least becomes part of the final animation?

- answer the question; whats the difference tween doing the programming myself and getting a proper programmer to make something from my design/ instructions?

**Welcome surprises arising during production;**

You model according to the sketch with a focus on the camera view, but then by working in the perspective viewport you see get a sense of the character emerging and start to 'make up the model as you go along'. So you start with a particular form (or shape) in mind and then move on from there.

when you advance forward in the animation, the original mesh has history on it and it messes up when the joints deform to a certain degree. You might be able to fix this by deleting history and rebinding???

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14\_05\_13

### **Aims and intent at outset of work session;**

get the UI as good as possible with the current design.

errors re parenting

Layout on tab 3

add instructions

Do a quick test of the UI design

starting with one model, changing it to two etc.

rewrite instructions if necessary

### **Problems arising during production;**

trying to add tools for keframing but getting this error;

# Error: UnboundLocalError: local variable 'activeControlSet' referenced before assignment #

I worked out that because I wasn't querying the set name properly it didn't have anything selected and so nothing assigned to the return variable 'animControlSet'

### **Summary;**

absorbing and good progress. script becoming a bit long and unweildy.

FOR TOMMORROW;

add keyframe vis button (make a function to set key on when off and off when on)

-- keyspacing

-- keep/ delete history.

error for when no control sets are selected

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14\_05\_13

### **Aims and intent at outset of work session;**

add radio buttons;

duplicate, bind, and hide model

- maybe I should do this in a separate functions

### **Problems arising during production;**

- I am going to gather heaps of "TWEAK SETS"

I need to populate my list of sets differently

- When I rebuild the UI its starting with the setup tab

if I don't find a way to fix this then reverse the order of the tabs

Thoughts;

I would like to also have shading options for the models

### **Summary;**

I seem to have the duplicate, set keyframes, and bind models all working.

now I have to work out how to;

populate the sets list and also

have tab 3 active

make the layout prettier

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09\_05\_13 and 10\_05\_13

"camAndRef\_007.py"

"modelingAsAnimation\_001.py"

### **Aims and intent at outset of work session;**

I'm wondering if I should get something very basic and simple made so that I at least have a bare minimum for next Wednesday. so perhaps I leave out any rigging stuff. Should it be guided "how to?"

### **General steps;**

I am doing magpie test. I will write the steps and add some of these descriptions as optional notes for users;

- create a cube

- position camera according to cube (not the other way around)

- adjust playback settings, timeline length, set to 25fps

- set keyframes on visibility of ref pics

- choose favourite ref pic by moving to a point on the timeline

create the simplest model possible to describe/capture/indicate the form or the character; work mainly in the perspective view keeping an eye on the camera view. refer to reference plane and also original sketch if possible.

- delete the history and name the model

create rig/ skeleton - could use a preset rig but I like to keep it simple. Ultimately I would like to find a way of rigging that doesn't use joints. I wonder what effect it would have on the user if they conceived of joints as pivot points rather than as a metaphor for a skeleton/ a set of bones.

- create set for easy selection of the controllers

- animate the model (**Gina, what if the model needs to change to do the animation properly?**)

- use the save model and set keyframe button

### **Particular qualities of my magpie sketch;**

the linework is an attempt to capture the silhouette of something moving fast. I can't tell if the bird is facing toward me or away.

### **To add to the toolset;**

--optional; include a dropdown modelling toolset (maybe as a separate function or template?)

- move tools switch between world, object and normal.

---- would be good to have input for the vis duration. I will default at 5 frames

- select all joints option plus user define joint set. as a activated button. **add joint set // joint set from all joints**

### **Problems arising during production;**

- the magpie is like a biped and requires a foot setup. when I add an IK handle I can't stretch the bone---I just remembered the stretchy IK stuff I found before

---- I followed Zeth Willie's tute but found that using the distance between node from the top joint gives an incorrect distance. I just realised that it might be because I created the root joint second.

### **Questions arising during production;**

- will the tool work for starting model in pieces and starting model as one?

- should models have transformations frozen before binding?

- what would be the equivalent of ik handles if I didn't use joints? ie. how could I achieve reverse kinematics?

- what are the implications of not creating a symmetrical rig? what are the problems and what are the possible opportunities?

### **Thoughts arising during production;**

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-- I was just fiddling with colours for the tab backgrounds. This is done via numbers of course (which define the RGB values) and I was thinking that tools which allow artists to define the relationship between things (eg between R,G and B, or between colours, or between colour and speed) could be interesting. So rather than tools which urge the artist to define **what something is**, they would be tools that are about **how things relate**.

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08\_05\_13

**Aims and intent at outset of work session;**

- further work on Modelling As Animation UI
- consider the template or OOP examples; are these two things the same?

**General thoughts and questions arising during production;**

am I wanting the UI to act as a set of instructions as well?

**Summary;**

- I spent a lot of time going over OOP;
  - in the Python book,
  - vids
  - movies
  - Template from Shaun

I now feel half asleep. Its time for a cup of tea and then back to the "task at hand".

**FOR NOW** I'm not going to use classes, modules and methods.

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07\_05\_13

**Aims and intent at outset of work session;**

In order to design the interface I need I will go through the process again take notes.

I may also do Python tests along the way; seeing what types of actions can be scripted and using alternative commands if necessary (I dont mind the idea of the process dictating the form to some degree; as long as I am destroying connections/categories and then reforming them).

**General steps;**

- Make two magpie pictures by cleaning sketches and cropping the images
- put the pics in the source images folder
- open Maya
- create camera with planes and sketches

**Summary;**

see technical notes for more info

<https://docs.google.com/a/student.rmit.edu.au/document/d/1jKRTzI04JLFORwgLIL4qNf8FkpXCSNQQhu76qli0- U/edit>

I created a button that creates a camera, then checks the source images folder and creates a NURBS plane and a lambert shader for each image. Planes are parented under the camera.

-- COULD IMPLEMENT;

- a keyframe on the visibility of each plane
- move the camera back on the Z axis
- create a cube
- call the button 'setup' and add a warning about setting the project and having images in the sourceimages/refPics folder

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03\_05\_13

### **Aims and intent at outset of work session;**

- test how to rig a figure without using joints. This includes;
  - pivot points to deform a mesh (i.e. to move vertexes in space by rotating them around a point)
  - controllers to animate

Can I develop a flexible rig? where the animator only adds joints and controllers as needed? Why? because I want to avoid starting with 'it all on the table'. When I sketch I move the pencil across the page according to differentiations I perceive in the subject/scene I am observing. The page starts blank (or white) and it is carved up according to these differences I see.

### **Processes, tools, and techniques used;**

- setup Sublime text with debugging functionality
  - watching video tutorials on OOP taking notes on my Python Notes page (Google Drive).
    - I did some tutes on functions, methods, and classes; maybe I should use this way to build a window (make my window class then create an instance of that class)
- OR can I think of my polycubes (that I am modelling) as instances of my own class?  
*eg can I give them their own attributes based on the frame number they are created on?*

### **General thoughts and questions arising during production;**

- I am using Python to make my modellingAsAnimation tools so I am now wondering if I can use the essential qualities of OOP to design my tools?
- classes; can I have a story emerge from my learning of OOP (classes etc)

### **Summary;**

- learnt a bit about OOP,
- did several short tutorials about Modules, methods and functions.
- did the first of ten UI tutorials; learnt to populate an option menu; add an image banner

### **NEXT TIME;**

perhaps I should just do a quick UI for duplicating a model as I did and use this as a starting point to see what functionality I need.