CSE458 Final Assignment Fall, 2020

Congratulations! Your individual assignments have been completed fort his quarter and you will be working in groups with TA's, Consultants and staff overseeing your work for your Final Assignment! Start your assignment by reading this document from beginning to end.

Please remember to review and follow the Golden Rules for Production

1. ***Working Remotely.*** The need to reach out to your staff and Instructor while working remotely is critical: In industry it is quite common for animators and animation production teams to work remotely. Most recently, entire teams are working from home because of the continued pandemic. We are all working out the proper and most efficient protocol as working styles and accessibility to equipment evolve. This is the time to be particularly mindful to make every effort to communicate any concerns and be compassionate and respectful of your team members. If there are any suggestions for improvement or there's a level of discomfort that impedes your progress, share this with your Instructor via email and/or request a zoom meeting. You may share a concern with any of the staff members. The staff will bring the concern to the Instructor for discussion. Staff do not make policy but can bring a concern to the Instructor's attention.

2. ***Staying Positive.*** Collaborative, interdisciplinary work is fraught with potential misunderstanding and confusion even under the best of circumstances. In industry it is critical to do your best to be a positive influence on the team and support the Director. It's important to communicate well, make constructive suggestions and to avoid dwelling on the negative. Turn it around and be respectful and helpful. Work well with your colleagues and Director so that the process moves as smoothly as possible for everyone.

3. ***Doing something***. If you have work assigned to you and that work is scheduled for a review, do something and make sure to submit it for review. You are much better off turning in work that is incomplete for the group/Director to review than to submit nothing at all. If you turn in nothing the production group cannot progress. If you learn to present your work so that you get constructive feedback, we all can move forward.

 4. ***Following direction*** *and* ***accepting feedback*** from the Director, even when it doesn't seem like the right feedback to you. If you are asked to do something and you feel that you could do it in a different and better way, do the work that you were asked to do first, and do it the way you were asked to do it and then do the work

the way you feel it should be done. When both are complete show the Director who will be able to see your work and decide which solution fits best. The Director will make the ultimate decision but showing your idea is much better than ignoring the Director's request and decision. If you can show a better solution and the Director agrees, then you will have helped the project move forward. if you don't do what you were asked to do by the Director, you will hold the whole team back.

5. **The Director** *alone approves final elements of the pipeline* before they move forward. This is called "green lighting" the production work and is done in industry before each element can move to the next stage of the pipeline. No one else can green light production work because the process then becomes chaotic and unstable. This is consistent with industry and a very important aspect of any complex production. So, be careful not to move forward without the green light of the Director and if you think your work is ready to be green-lit, communicate with the staff and Director to receive clear feedback.

Here are your Group Assignments:

GROUP ONE – *Emily* is your TA
- Jacob
- Tom
- Sam
- Youjean

GROUP TWO - *Andy* is your TA
- Oliver
- Kailey
- Amy
- Lillian

GROUP THREE - *Ellie* us your TA
- Misty
- Lily
- Krystal
- Ashlin

GROUP FOUR - *Matt* is your TA
- Jeffrey
- Evan
- Dena
- Patrick

Suggested First Steps

1. Read through the assignment. Don't stress too much. It's doable and you will have help.

2. Meet with your Group and arrange a meeting with your TA asap - before Thursday's pitch.

3. Digest the story and armature and your mission

4. Discuss Production Calendar and Individual Roles

5. Collect your own reference and share it with your group. Pitch your idea to the group, Review it with the group and create the Dream Scenario (10 seconds). Read through your Group Mission to make sure that you understand it.

6. Create two transition shots (5 seconds each)

7. Watch our Reference video and review our images

8. Select a style for your transition and find reference for that style

9. Write a Beatsheet for the transitions and Dream scenario

10. Design initial Thumbnails

11. Create an Asset list

12. Plan a 2 minute pitch

13. Pitch on Thursday (November 19) and Collect Feedback. Revise for the following Tuesday (November 24)

Grading: Production/Professionalism

30% Dreaming Octopus

Group project criteria:

Technical Skills

Creative Approach

Aesthetics (style, layout, composition, design elements)

Group Participation

Critique Analysis/Attendance

Grading Criteria

Professionalism (Participation and Collaboration)

Ability to work in your group as both a leader in your area of expertise and productive team member to your group as a whole.

Ability to receive and apply feedback from the Instructor and from the TA's.

Ability to respond to communication from TA's and Instructor promptly and respectfully.

Ability to be a positive influence on the class and the project. Where direction seems inconsistent or unclear, to have the ability to bring the discrepancy to TA and Instructor for discussion in office hours if needed.

Ability to maintain a positive attitude and creative approach toward the project.

Ability to follow through on work that has been assigned including meeting assigned deadlines.

Ability to make constructive suggestions by doing the work assigned and providing alternate technical and aesthetic solutions when needed. Ability to communicate positively and constructively and to resolve concerns quickly and effectively.

Ability to provide appropriate and creative contributions to all aspects of the production.

Ability to provide constructive and proactive approaches to problem solving during class meetings in support of the goals in the agenda.

Ability to work collaboratively to reach a common goal and vision including the ability to be flexible and fill in for a fellow student who needs help.

Ability to find someone to fill in if an emergency keeps you from finishing your work on time.

Production (Quality of Individual Work)

Ability to meet deadlines.

Ability to organize your time and apply your skills.

Ability to complete assigned shots.

Ability to take on production tasks and to complete them.

Ability and willingness to take on extra work and do the job, especially contributions made near the end of a production.

Ability to behave appropriately on your team.

Ability to effectively and efficiently lead the areas been assigned.

To provide weekly reports covering your leadership in your group and your support of other group members or the group as a whole.

To fill out and submit all self-critiques covering your assessment of how you have functioned in the class as well as all requested critique analysis worksheets that assess how you feel about the work you produced **individually and as part of a group**.

Final Assignment Part One: Story

Goals, Pre-production and The Story

Each of the four groups will be creating three shots - **Two transition shots** (one camera each) and **one Octopus DREAM shot** (also one camera)

Your Octopus Dream shot will be no longer than 10 seconds and each transition will be one shot and no longer than 5 seconds

Be strategic **and** as simple in your design as you can while making sure that your visual transitions and your octopus dream meet the goals of the overall story assignment. Each of your four groups will need to take their three shots through the entire production pipeline and render them for the December 17th final deadline. Please read through and discuss the Production Calendar with your TA in order to stay on task.

Your Working Title: Eleanor the Dreaming Octopus (this can change later)

The Story Location and Time Period:

Takes place over several weeks and inside and around the Octopus Den deep in the Puget Sound. Universal time period. Story starts at Dawn and ends at Dusk several weeks later.

Length of completed Group Film: 2 Minutes Max.

Armature: When times seem darkest and critical parts of ourselves seem lost, discoveries and opportunities emerge that can lead us to a deeper understanding of our capabilities and bring us enhanced strength and confidence.

Seven Steps:

Once Upon A time: a Giant Pacific Octopus , Eleanor, lives in the depths of the Puget Sound

And Every Day she relies on her powerful and intelligent arms to enjoy a leisurely octopus life, playing with the fish, hunting and eating lunch and avoiding her enemies, the local sharks. One favored (left) arm naturally dominates all of her activities.

Until One Day, on her way to play with the fish she is attacked by local sharks. She uses all of her known abilities to fend them off to no avail and her prized (left) arm is critically injured

Because of this, she rushes back to her den, in excruciating pain. She is forced to bite off her prized arm, is then exhausted, worried and traumatized by the loss of her prized dominant arm

And because of this she falls asleep and has 4 dreams in succession. Her dreams help her process her loss and during the dreams her remaining seven arms help her compensate for her loss and help prove to her that she can prevail and survive. Each successive dream helps her get through the process of grieving and on to regain the confidence she needs to move forward.

Until Finally, she awakens from the final dream to discover that her dominant prized arm has healed and a very tiny arm has started to grow back in its place.

And ever since that day: Eleanor ventures back out of her den to play, hunt and eat with the wisdom that her experience has taught her. She can rely on all of her arms to help her and she can not only survive extreme adversity but discover how to compensate by relying on the skill in her other 7 arms while her eighth arm regenerates. She will now be even stronger in the future and will continue to thrive.

The Overall Assignment Goal: The complete dreaming sequence goal is to visualize empathy for Eleanor as she processes her trauma and her grief and is finally able to move forward as a result of a newfound understanding of her resiliency and her strength. Please review the story first and use the description you have been provided as a starting point. You will be pitching your ideas for Eleanor's Dreams to story experts who will provide feedback.

Each Group will **be limited to *three completed rendered shots***
 - a transition shot from the den to the Dream
 - a DREAM shot
 - a transition from the dream back to the Den

Each Group's Mission:
As one of 4 groups your mission is to visualize for an audience a story transition, one dream that propels the story forward from the portion that you've been assigned, and a transition back to the "real world" Eleanor in her Den. Try to design your work around where your dream is in the overall story. Your transition style and look and feel can be wildly different from the other groups. Be creative. Use 3D and our pipeline.

Each Group's Goal:
The assignment would require each group to design and visualize one of the four dreams in the story. You will need to follow/illustrate this general progression and to pitch your idea along with visual support including reference, thumbs, a beat sheet and maybe some storyboards (boards are optional). You will need to fit your dream idea into the overall progression of the story.

Broad Description of Goals for each Group DREAM

Group One
Mood(s) to illustrate: Determine how to support the mood(s)
Illustrate: *The pain and the shock of the realization*
The Pain and Grief
Includes: "Where did my prized arm go and how can I survive without it?
I lost my game - I am 150% uncoordinated and can't do anything anymore.
I try but it just doesn't work. "

Group Two
Mood(s) to illustrate: Determine how to support the mood(s)
Illustrate: *The ensuing chaos and confusion*
"The other arms have lots of ideas for how to compensate for the one that is missing.
Some of these ideas make sense and are working - and some are not.

My central brain (located between my eyes) has to make sense out of all of this. "

Group Three
Mood(s) to illustrate: Determine how to support the mood(s)
Illustrate: *The arms have made the first new successful connection noticed, and then another.*
"Eleanor feels a calm. She's listening. A try out. What works and what's new.
The seven remaining arms are figuring it out. Look at how powerful and well they are progressing - I think there's hope. "

Group Four
Mood(s) to illustrate: Determine how to support the mood(s)
Illustrate: A nurturing (by all) arms of the growing arm.
" A legacy into which it will grow. The loss will always be with Eleanor, but as a group we are wiser. We see more clearly what we have always had.
We didn't know before because we never thought to explore.
The seven arms are now functioning like a well oiled machine."

For the staff: Eleanor recognizes the she can survive without the prized arm..
And then….
After the four dreams Eleanor wakes up to the final story step

…and for Step Seven:

and ever since that day... Eleanor awakens to see that the missing arm has healed and is now growing back as a tiny new arm and will need to rely on the other 7 arms for several months until it's back to normal size and intelligence.

Note to the class: The really exciting challenge for you, as animators, is the visual storytelling, especially the story inherent in the eight arms.

*Initially the the seven remaining arms are freaking out when one is bitten off. We can then see the arms thrashing and losing their elegant and beautiful coherence.

*We should see the seven remaining arms start to coordinate and work together to save Eleanor

*Finally, we will need to show **in the real world den** at the completion of the story that the eight arms (one is tiny and inefficient) are back to their well coordinated (but probably not completely agreeable selves) trying to accomplish the same behaviors in the den in the "real world" of Eleanor.

* Ultimately this is about Eleanor becoming aware of and learning/re-learning how to control her 8 arms. She is the story - even though she has 9 arms, Eleanor's brain between her eyes is the most important one to recognize how to move on and survive. Ultimately she will be motivated to move on. Her arms must learn to work together or she won't survive.

Here's the **overall sequence and shot progression**.

1. *Staff Group* Reality - Intro
2. *Group One:*   3 shots-Transition to, the Dream and Transition back to Reality
3. *Group Two:*   3 shots -Transition to, the Dream, and Transition back to Reality
4. *Group Three:* 3 shots - Transition to, The Dream, and Transition back to Reality
5. *Group Four:*   *3 shots* - Transition to, The Dream, and Transition Back to Reality
6. *Staff Group* Reality - End

Production Calendar for Review

Week One

Tuesday November 17th
Assigned: Beatsheet, Initial Asset List, Reference (and Concept Art is optional) , Ideas for Look and Feel and Style. Thumbnail Drawings for Assigned Dream and Transition Sequences. **Prepare for a two minute pitch. Record all feedback on Thursday in class.**

Thursday November 19th
Assigned: Octopus Animatic and 'fetch' animation exercise, due Wednesday November 25th

Week Two
Monday November 23rd
DUE: If you haven't already - Check-in with your group's TA sometime today.

Tuesday November 24: Review Story and Transition Updates and Feedback from Story Consultants.

Wednesday November 25th

DUE: Octopus Layout/Animatic for your Sequence and Octopus 'Constraints' Exercise 9PM for Review

Thursday November 26th – Thanksgiving Break

Week Three
Monday November 30th
DUE: Check-in with your group's TA sometime today. At least one blocked in shot by 9PM

Tuesday December 1st
Review: Octopus Animatic - 3 shots per Group

Thursday December 3rd
Review: Octopus Motionmatic for each Group's 3 shots
Assigned: Render first shot and polished motionmatic, due 12/9 at 9PM

Week Four

Monday December 7th
DUE: Check-in with your group's TA sometime today. At least one rendered shot by 9PM

Tuesday December 8th
Review all Rendered shots

Wednesday December 9th
DUE: Octopus Polished Motionmatic with at least one rendered shot

Thursday December 10th
*Review: Polished Motionmatic with **at least one rendered shot***
*Assigned: Rendermatic with **three rendered shots** and sound. Due 12/14 9PM*

Week Five
Monday December 14th
DUE: Full Rendermatic with sound Turn-in at 9PM

Tuesday December 15th
Last in class review
Assigned: Final Project, due 12/17 by 9PM

Thursday December 17th
DUE: Final Project on Canvas by 9PM

Octopus Reference from the Researchers and story notes: You will add more here.

Look and Feel:
How to handle the transitions to and from the Reality - the Octopus Den. Be sure to review and understand the Reality Den you've been supplied so that you can design your transitions to fit as seamlessly and creatively as possible.
This is where each Group will be creative and use the potential of animation to capture our imagination. Your Group's styles can be vastly different. Within your group stay consistent.

Modelers:
When an Octopus arm is severed their equivalent of "spinal fluid" is damaged and the brain between the eyes thinks the arm is dead.The octopus has to remove their own arm so that it will regenerate. You can add things to the Den but must justify their use. Do we need a shark model to eb shared by all groups? Do you want to add fish, shells? The creation of the protective "shell ball"?

Lighters and Surface Texture Artists:
Octopuses have the same 24 hour cycle we have for sleeping, eating and aging. The Giant Pacific Octopus (Eleanor) is nocturnal… We have her story start at dawn (end of her day) and end at dusk (start of a new day). The staff has started work on the camouflage of the Octopus. However you can do more in your own transitions. What mood or moods are you trying to capture and how will you do that? You might consider things like: how do we use texture to visually distinguish one arm from another? How to treat the eyes?
How to color the Den and surroundings?

Motion:
Learning the Octopus Rig, Testing the Octopus Rig
Testing and Sharing motion between groups? How can the arms move in a dream? You can exaggerate as much as you like to support your story. Tie the arms in a knot, or extend them and have them do synchronized swimming. Get creative and have fun.

Final Assignment Part Two: Animatic

Your Animatic

For the next phase of production each group will begin translating their 2D thumbnails and beats into a 3D animatic, which is used to establish a film's **shot composition, layout, and timing.** Use your thumbnails and beat sheet as a guide for how to set-up your shots. Remember, you only have 3 shots: The first transition, the dream, and the second transition.

Think of the shots in your film as having their own path down the production pipeline. Each will live in its own individual Maya file, and each will have its own unique set of challenges to overcome. The animatic shot files will also serve as a starting point for most of your production work. As the project progresses you will add more refined motion, lighting, and visual effects to these shots until they slowly transform into your final production.

Film Assets

Each group will need to begin develop a list of the components or assets needed to assemble your shots. Review your story and determine what props, sets, or characters that the story will require in order to be understood. Each extra asset will take some amount of time to develop (some more than others!) so now is a good time to trim out any extra props or characters that are not needed to convey the story. There are assets for you to use, including the Octopus and the Octopus Den in the asset manager.

Compile a list of these assets into an "elements list". Name it `elements_list.txt`.

Next, make a pass at creating each of the items on your elements list, whether they're props, rigs, or set modifications. Prioritize! Don't spend a lot of time on modeling props that are not critical to understanding your story. Hopefully these were culled from your elements list already.

There is production space available on the network so now is the time to use it. You will find a folder already created for your group here:

`\\csenetid\cs\unix\projects\instr\capstone1\458dream\group[#]\`

(if you have difficulty accessing or saving in the folder, contact the Staff)

Note that your group number is based on the list in this assignment write-up.

Be careful to work only within your group's folder! Everybody has 'render' access now, which means two major things: 1) You will be able to use the "render farm" and 2) **You can now modify almost any file on `capstone1`**. This will be conducive to working in a shared production hierarchy later, but remember that with great power comes great responsibility! Be extra careful not to modify or delete files/folders that aren't yours.

Your production folder setup should look something like this:

- assets (All production assets that will be referenced by shots later. These include shots - each shot is its own miniature production with referenced in set, props, and characters. It also contains the lighting later on.)
    - character
        - [character_name]
            - textures
            - iterations
            - `[character_name]_rig.ma`
    - prop_rigged
        - [prop_name]
            - textures
            - iterations
            - `[prop_name]_rig.ma`
    - prop_static
        - [prop_name]
            - textures
            - iterations
            - `[prop_name].ma`
    - set
        - [set_name]
            - iterations
            - `[set_name].ma`
    - shots
        - seq_1_[seq_name]

- seq_1_[seq_name]_0100
  - iterations
  - render (Where your Maya project is set to for renders)
  - `seq_1_[seq_name]_0100.ma` (Shot file)
  - `seq_1_[seq_name]_0100.avi` (Playblast file using the button from the Production shelf)
- seq_1_[seq_name]_0200
- seq_1_[seq_name]_0300
- seq_1_[seq_name]_####...
- seq_2_[seq_name]
- seq_3_[seq_name]
- seq_#_[seq_name]...

- reels (Later on for your animatic, motionmatic, rendermatic)
  - animatic
  - motionmatic
  - rendermatic

- reference (Any reference images or video.)

- documents (Production documents like thumbnails, elements list, etc.)

This is a more minimal version of the hierarchy you will use later in this year's capstone production. Right now you only need to worry about the `assets` folder, where your props, rigs, and sets go.

Later on you will be doing a lot of rendering, so we have a render farm set aside to assist you with this task. It's 20 or so "headless" machines that just sit in a dark basement somewhere and render out frames for you. There's a catch, however! These machines are pretty picky about the file paths they use - so start naming your folders and files in a way that work for them. File paths should only contain **lower case letters, numbers, and underscores**. No spaces. No capital letters. No other special characters. Make sure ALL of your paths meet these requirements!

Additionally, when specifying texture file paths in Maya you will need to make sure to use a network path and not an "O: drive" path. For example, the following path would work:

\
\csenetid\cs\unix\projects\instr\capstone1\458dream\group0\assets\prop_static\box\textures\box_texture.png

But this path would have problems:

O:
\unix\projects\instr\capstone1\458dream\group0\assets\prop_static\box\textures\box_texture.png

This is because the O: drive is a mapping that our lab workstations use to refer to the network. The farm machines have no concept of the O: drive, hence they need a direct network path.

Preparing Assets to be Used in Shots/Understanding the difference between Referencing and Importing assets

Before setting up the shots themselves you will need to prepare your assets for referencing.

So what exactly is referencing and how does it differ from importing? Importing copies another Maya file and its objects *directly* into your scene. Referencing just *points* to another Maya file without actually copying any of its objects. The implication here is that when a Maya file is updated any scenes referencing said file will see those changes. This is a fairly handy method of automatically sending geometry/shading changes out to all of your shots at once. Both ways of working are used in productions but we will use referencing in ours.

Be warned that referencing comes with its fair share of limitations and can sometimes break stuff, so it is best to tread carefully and only reference "clean" files. To clean out and prepare a given asset for referencing make sure to look over the following check-list and address each item:

- **There is only one root node in the Outliner.** Any sort of clutter should be deleted. No empty groups, image planes, or sets.

  There are times you may find yourself wanting to keep these extra

things around just in case your asset requires further modification. In such cases you will want to distinguish a "working" file from a "published" file. For example, `kitty_rig_wip.ma` and all of its iterations would be the working copy containing any image planes, sets, and blendshape meshes, while `kitty_rig.ma` would be the clean file referenced by all the shots.

- **Everything is named logically, especially the root node and objects that need to be keyed.**

  Maya files save animation using the names/paths of scene nodes. So let's say we reference a file into our shot called `baseball.ma` and the object we get in our scene is named *pSphere1*. No big deal, right? So we do some animation on the ball, save it out, and everything is good. Now someone else comes along, opens `baseball.ma`, and sees that the root node is still named *pSphere1*. With good intentions they correct the name to something like *baseball*.

  Bam! Now the motion we did earlier is broken. This is because Maya still associates those animation curves with *pSphere1* and its attributes. It doesn't understand that the object was just renamed, it thinks it was removed.

  The moral of the story is to name all scene nodes up front and logically. This includes everything from objects in the Outliner to materials in the Hypershade. It's not only to organize better, it's also to avoid a bad situation where Maya will proceed to toss out your hard work.

- **All keyframes are deleted.** This doesn't apply to set driven keys. If there are any keyframes remaining you will be prevented from keying those attributes in the shot file.

- **The root node's transformations are frozen. Additionally, its scale is correct relative to other characters and props in your film.** Sometimes you'll cheat the sizing of certain assets per shot, but it's best to establish a base scale for consistency. One approach is to just size all props relative to the characters when their Global Scale is set to 1.

- **Pivot is at the center of the scene**. The pivot determines the center of the object, so try to lock it down very early on in prop development and keep it at a consistent location between iterations. If this "center" changes it will offset the object in any shots previously referencing it.

- **History is deleted (except on rigs)**. A lot of props with loads of undeleted history can really bog down a scene.

- **For sets: All objects have their attributes set to non-keyable**. If any prop in the set needs to be animated you can hide it and reference in a copy separately. This allows more flexibility in modifying the set without worrying about Maya breaking animation.

  To do this, select every prop in the set, select all the attributes in the Channel Box, right-click, and go to **Make Selected Non-keyable**.

- **For sets: Freeze all transforms (not just the root node).** This isn't always necessary, but since you'll probably be making a lot of changes and additions to your set the prop transformations will be shifting around all over the place. This can result in objects not appearing where you intended when re-opening your shot files. A good way to reduce the likelihood of this happening is to just zero out their transforms at all times.

Setting up Your Shots

With your assets prepared, it's time to reference them into a new Maya scene and organize the Outliner. For each shot, you will want to bring in all the props, characters, and sets you need. It doesn't have to be everything in your entire assets library, just the ones you need for that shot.

Go to **File → Create Reference...**, navigate to your asset file, and click Open. In **File → Reference Editor** select the reference from the list and make sure that the Unresolved Name field starts with the network path "// csenetid/cs/" and not "O:/". If it doesn't, just go ahead and replace the beginning of the path and hit Enter to commit the change.

It's pretty safe to key the attributes of referenced objects assuming the above

preparations, but other interactions can be a bit more dangerous. You may want to heed these warnings:
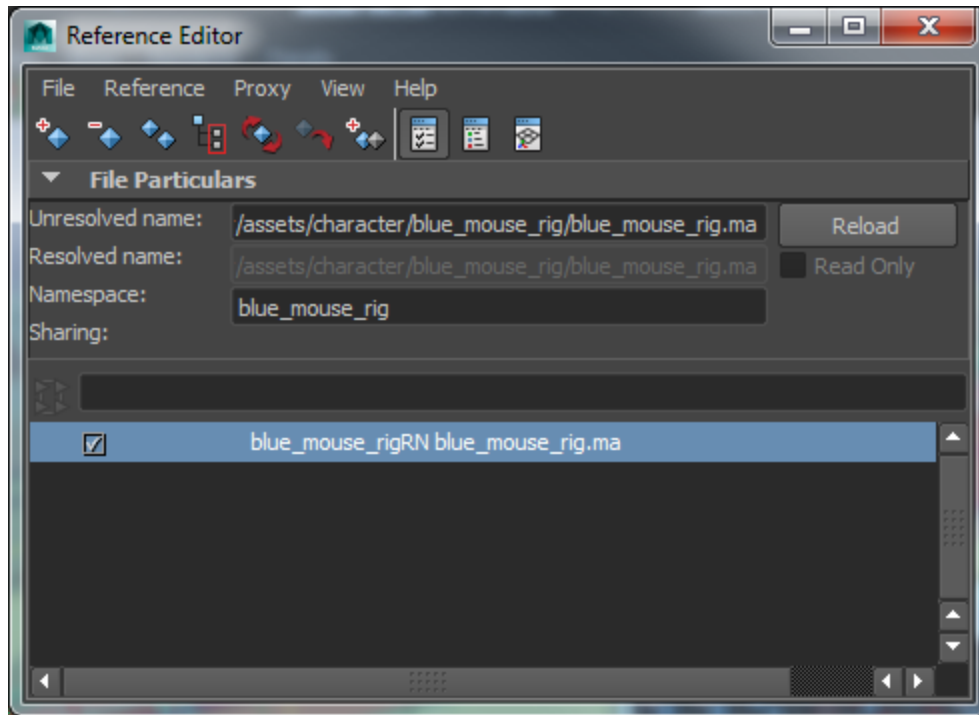
- **DO NOT change the geometry or shading of a referenced object.** At first these alterations would appear to work, but if you start doing tweaks in the source file you will begin to encounter strange geometry deformations and clashes between shading nodes in the shot file. These anomalies can be a huge pain to fix and usually just involve referencing a new copy of the file and copying over any animation. Be safe and only make these sort of modifications in an object's source file.

With all the objects referenced you'll want to group them in some manner for organization. Make sure that you're consistent from shot to shot. A group division that works fairly well is *characters*, *set*, *props*, and *lights*. For special case shots you may also end up adding additional groups like *effects*, but don't worry about that for the animatic.
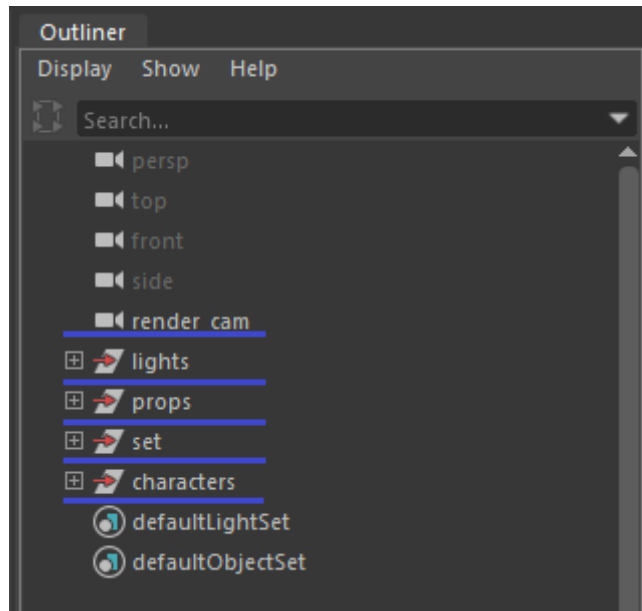
A NOTE FOR WORKING REMOTELY WITH A TEAM

Remoting into our lab machines is difficult work at times. You are at complete mercy of the internet and VPN, and you will sometimes find it more fruitful to work on your own machine. However, it becomes much more important to communicate with your team in these circumstances. While you can copy the references and files home to your own computer, you don't want two people in the same team working on the same file, or using outdated references. This can and has created uncomfortable and difficult situations where students have lost hard work.

Communicate and work together. Create spreadsheets or other ways to keep track of who has what file, and check to see when assets are updated, so new references can be downloaded as necessary. It's entirely possible to find success with your team when you work remotely, even in a network and reference based production. The key is **communication and organization.**

*Remote tip about references and linking them to Maya! If Maya cannot find the path to a certain reference or anything linked to a reference (such as a texture) when it searches for the folder path, it will also search in the folder the Maya file itself is in. If you're working remotely and don't want to lose time setting up the paths, and then relinking them when you put the file back on the network – simply make sure that all referenced files are in the folder where your scene is located. It's that easy!

Now that everything is organized there are a few other things to set up before moving on to animation:

- **Make sure your scene is set to 24 FPS.** Go to Preferences, select Settings, and make sure the Time drop down menu is set to "Film (24 fps)".
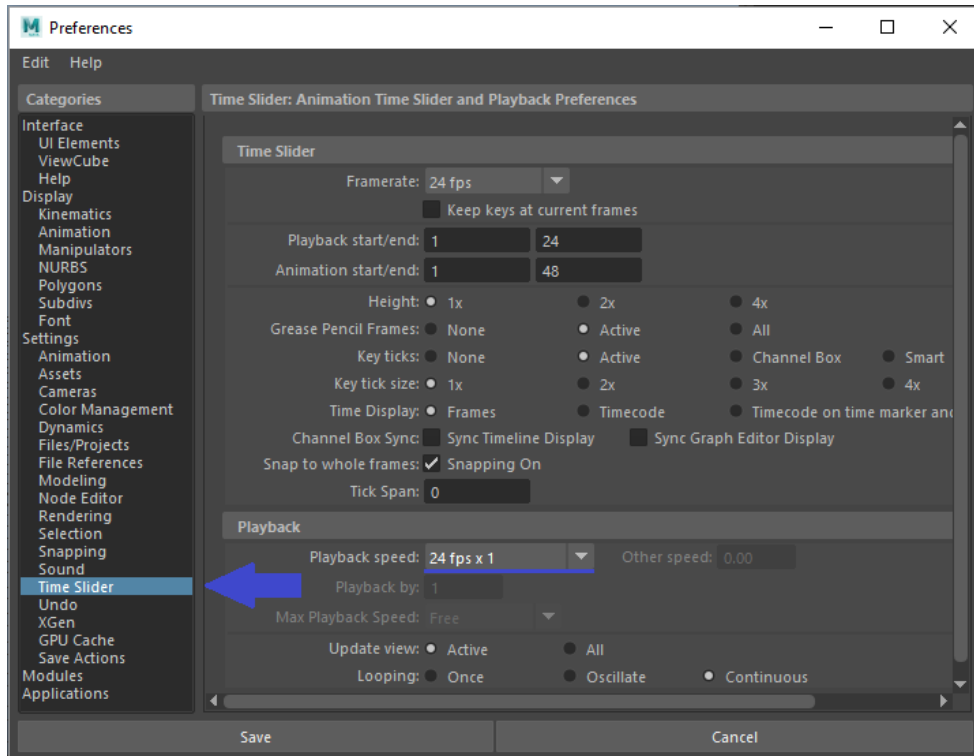
- **Set up your cinematic camera.** Create a new camera and name it specifically "*render_cam*". Renaming it will enable the quick playblast button to work.

- **Set common render settings.** Open up the scene's Render Settings and specify a few things that will be common from shot to shot.

    - **Render Using**: Arnold Renderer
    - **Image Format**: .tif
    - **Frame/Animation ext**: name_#.ext
    - **Frame padding**: 4
    - **Renderable Camera**: render_cam

- **Width**: 640, **Height**: 360
  (this is good for a preview resolution, but 1280x720 would be optimal for your final output)

Render Settings   — □ ✕

Edit   Presets   Help

Render Layer masterLayer ▼

Render Using Arnold Renderer ▼

NVIDIA®
mental ray®

| Common | Quality | Scene | Configuration | Diagnostics |

Path: //csenetid/cs/unix/projects/instr/capstone3/production/assets/shot/this_is_a_shot/renders
File name: untitled_0001.png
To: untitled_0010.png
Image size: 640 x 360 (8.9 x 5 inches 72 pixels/inch)

▼   **File Output**

File name prefix: (not set; using scene name)

Image format: tif ▼

Compression: lzw ▼

Format: int8 ▼

☐ Tiled
☐ Output Padded
☑ Dither
☐ Unpremult Alpha
☐ Skip Alpha
☐ Append

Color Space Use View Transform ▼

Frame/Animation ext: name_#.ext ▼

Frame padding: 4 ━━━━●━━━

☐ Use custom extension

Extension:

Version Label:

▼   **Frame Range**

Start frame: 1.000
End frame: 10.000   ⬅ **change**
By frame: 1.000

☐ Skip existing frames

☐ Renumber frames

Start number: 1.000
By frame: 1.000

▼   **Renderable Cameras**

Renderable Camera render_cam ▼
Alpha channel (Mask) ☑
Depth channel (Z depth) ☐

▼   **Image Size**

Presets: Custom ▼

☐ Maintain width/height ratio

Maintain ratio: ● Pixel aspect
                 ○ Device aspect

Width: 640
Height: 360
Size units: pixels ▼

Close

The final step is to add some motion. This may be a good point to save out a copy of this file to use as a shot template so you don't have to keep repeating the above steps.

The animation required for your animatic is minimal. Remember, you're going primarily for position and timing. Move and rotate your characters' top cons to their approximate starting locations and orientations **(but don't animate them!!!).**

Dynamic poses may help readability of your shots but ***keep it minimal.*** Set up the key "golden poses". Animate the character as you expect it to move across the screen. If your character is walking across the screen, it's okay to pose them in a walking pose and then put them on a linear path at about the same speed. We will worry about accurate and believable animation for the motionmatic. Right now, we're trying to make sure the shot compositions and story work, and create the foundation that animators can build upon later.

To ensure that your editor has more flexibility, you must pad your shots with 24 frames on either end. Make sure the motion doesn't completely stop during the padding or the flexibility will not be there. Start on frame 1-24, not in negative numbers, or you will have difficulty when compiling images during the render stage.

Frame and position the camera for each shot with your story in mind. You may find it easier to do this before animating your characters. It will most likely work for you to check the camera and animation several times until you end up with a composition that you are satisfied with. If you are considering animating the camera, fight that urge. Just make sure that any camera animation is deliberate and contributes to your narrative in a huge and meaningful way. You don't want to animate your camera motion just for the sake of camera motion because beginners tend to distract or confuse their audience, or make them naseous.

Once you've finished the shot you are working on click the playblast button on the production shelf, save an iteration via the button on the shelf, and move on to the next shot.

Editing

The final step is to edit your animatic. Create a new Premiere project in Adobe Premiere (or an equivalent software) and drag the individual playblast

files onto the project panel. These settings are recommended when you first create the project:
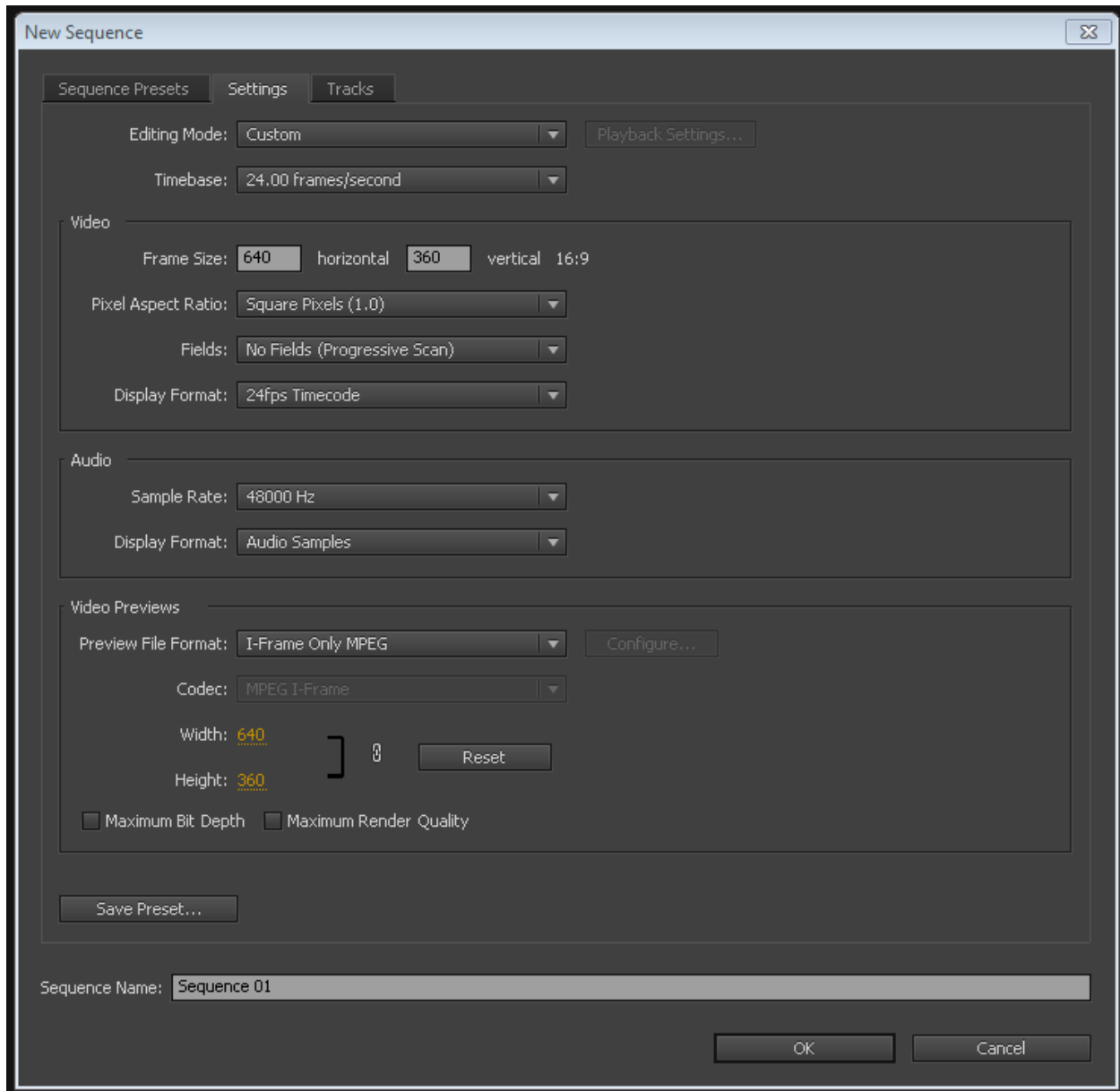
Render out and upload a first version of your animatic to Canvas. Use H.264 compression.

Final Assignment Part 3: Motionmatic

Due: Wednesday, 12/2 (First Pass). Animation polished by 12/09

With your story coming along and animatic hierarchy set your production should be going very well. Your next phase is to develop the motionmatic. The Motionmatic is a reel that is similar to the animatic but with more advanced and sophisticated animation. It's no longer just about timing, layout, and camera composition, it's about developing character motion from blocking through to polish.

You are not required to iterate any further on your thumbnails. The goal is to make your story understandable and engaging based on the motionmatic alone. Polish doesn't have to happen yet, but you want to block in something for every important aspect of your shot (even if minimal). Before moving forward with motion, your group will need to address the feedback you received during the previous class. A guide that works is to fix things that have a broader impact on your story and then refine.

When completed, submit a copy of your motionmatic to Canvas by 12/2 9PM.

Here are some miscellaneous tips to help you along:

- It will save time if you just copy the Premiere file from your animatic and use that as a starting point for your motionmatic.

- If you are animating with the capstone shelves, use the "Save It" button on the production shelf as often as possible. There is nothing worse than doing a lot of work on a shot just to have Maya spontaneously crash before saving. Incremental saving is also an option, but be aware that as your shots become more complicated and take longer to save it may become more of a hindrance.

- **Here's a fun tip:** Motion paths are a good option for animating certain objects. Make a CV curve, select the object first and the curve second, then under the Animation menu set go to **Constrain → Motion Paths → Attach to Motion Path.**

  Select the object, go to the channel box, then click on motionPath1 under INPUTS. The U Value determines where it is along the path from 0 to 1. By default Maya keys it, so just select the attribute, right-click and Delete Selected. The twist values change the object's rotation

relative to its forward facing direction.

Note that once the motion path is set up you can change the curve's CVs at any time.

Final Assignment Part 4: Rendermatic

Due: Wednesday, 12/09 (at least one shot)

In addition to developing your sequences animation you will also work on a "rendermatic." The rendermatic enables us to evaluate lighting and effects much in the way the motionmatic enabled us to review animation/motion.

Most of the time in production lighting takes longer to update than motion, since new motion relies on re-playblasting while new lighting relies on re-rendering. It's perfectly fine to have two reels: 1) A motionmatic with the most updated animation and 2) A rendermatic with the most updated lighting but outdated motion. Your first version you will turn in should have one rendered shot (12/03).

Since this production deadline is short, you will want to start making your rendermatic the reel you review and continue to update it and not yor motionmatic or rendermatic. Feel free to copy over the Premiere file of your motionmatic as a starting point for your rendermatic (don't worry, this is the only time you'll be doing this in this project).

For your first review we will require at least one rendered shot per sequence so we can get an overall idea of the look and feel of your project. Focus on what you predict will be your most difficult lighting shots first so that you can work out problems when you have more time. Note that you will probably want to do an entire pass on your sequence if at all possible, even if it's rough, so you can catch any render errors now rather than have them sneak up on you closer to the final deadline.

Final Assignment Part 5: Final (Rendermatic with Audio and Credits)

Due: Monday 12/14. Final Turn-in Thursday 12/17

Continue to iterate on your shots and the quality of your renders and submit your final rendered sequence with audio to Canvas for the Final Screening. Ideal resolution for your renders is 1280x720. If you cannot have renders at that resolution then render at 960x540.

What is most important is that your audience can understand your story. It would be even better if they find it engaging and can "feel" for your character(s). You'll have one last chance to edit your groups work and submit it on **12/17** after the final screening. Good luck, iterate as best you can and have fun!