**MORPHEUS SET UP PROCEDURE Robert Clark ANIM001 01 and 02**

**Installation instructions**

jjburton@gmail.com.

http://www.joshburton.com/projects/morpheusDocs.asp

**Set-up Project Folder:**

1. File > Project Window
2. 2. Click "New" > Name Your Project
3. 3. Click "Folder" button > Navigate to your desired location > Click "Accept"
4. 4. File > Set Project (Note: This step is absolutely necessary every time you are going to work on your project).

 Make sure the render is set to mental ray and set the texture pathing .

**When you are animating in class make sure you have your textures installed and your Project is properly set up. This info sheet is relatively comprehensive in regards to what you need to do in order to get Morphy running properly. Please read the whole document several times thoroughly.**

**BACK UP EVERYTHING! !!! I bet you do it for your music so please do it for your assignments and future career!**

**You should be working diligently- Consider that everything you do will be put into your portfolio and be seen by future employers.**

Feel free to request additions and/or offer revision to this paper

**IMPORTANT NOTE**- **Have** only your **NURBS Curves** and **Polygons** box selected in the **Show** drop down menu in the **view** window that you will be animating in. This will prevent you from accidentally selecting joints that are supposed to be hidden but are occasionally selectable when keying .This can cause the Morphy geometry to explode .

**SAVING**

Goto **File** > **Save Scene** click on the box and Open **Save Scene Options** window .Click the **Incremental save** button .This will save your scene incrementally every time you **ctrl+s** so that you will not end up with a corrupted scene that you have been working over continuously.

**PREFERENCES**

To restore default preferences go to **Window> Settings/Preferences >Edit> Restore Default Settings.** Only do this if you have reset too many other things and want to reset new from scratch

To turn off view cube **Window> Preferences >ViewCube** deselect Show the ViewCube

In order to set up **Step Tangents** in your presets go to **Preferences >Animation>Tangents > Default in Tangent** Select **Linear /Default out Tangent** select **Stepped**

**Update view –** Open the window **Preferences> Time Slider> Playback> Update View:> All** This will update your view windows simultaneously so you can animate in the perspective window and receive immediate feedback from your camera view window. This is very handy for doing your posing and blocking. A good way to animate with a single monitor screen is to have a 3 window set up with the perspective view on the right and the graph editor on the left with the dope sheet on the bottom. Have a window torn off with the camera view that you can move around and minimize when you don’t need it.

To Change View Window Color go to **Window> Settings/Preferences >Color Settings>colors>General>3D Views>Background** double click on the color box and select a darker color-The Morphy “**All**Animate “button is grey so a dark bg is preferable

**Auto Key**  go to **Window> Settings/Preferences >Animation>Auto Key.** Select it on .Auto key will save you time and make sure that everything you move is keyed properly. You have to make sure you are on the proper key when using this feature. It takes a bit of getting used and requires discipline but it is a good time saver in the long run

Have the **constrained y-axis drag** selected(red arrow indicator at the top right of the window)in the **Graph Editor** to help keep your key spline editing on the proper frame in the timeline

Set Time **Window> Settings/Preferences>Time Slider>Playback>Playback speed** set this to Real-time [24 fps]

**HELP –F1** Just in case your internet is down and you wantto use the  **Help feature** You caninstall Help off line here 🡪

**http://usa.autodesk.com/adsk/servlet/index?siteID=123112&id=16278314&linkID=10809894**

**ADDING SHELF AND TEXTURE**

 (NOTE- I have simplified this process for you. Go to your drop box and get the **“ MASTER MORPHY FILE”**  copy the maya file inside it and replace your **Libraries> Documents > maya** folder with the one provided from the drop box. This will give you your shelves and textures-Thank you Steven !)

**OR –** You could take the long route and do this-🡪

Put the Morpheus **textures** folder in the **source images** folder of your project -**Texture >sourceimages**Put the -**morpheusRig\_v01\_00** rig in the scenes folder of your project Put the **pref** and **scripts**  folders that were in the zipped **ScriptsAndShelves** folder from Morphy your Maya folder

**C:\Users\[your name]\Documents\maya\maya 2012** **(My Documents)**

**ADDING TEXTURES TO MORPHEUS IN MAYA**

To add eye color Open the **Hypershade** **Window** > **Rendering Editors** > **Hypershade**  Middle mouse click and hold on **L\_EyesSG1** and drag it down to the work area. Double click on the black circle to bring up the Attribute editor. Select the **file5** tab and beside **image name** select the folder. In the open window select **Textures** and open the folder named **eyes.** Select the color you want and select **Open** in the bottom right of the window. This adds the texture to the phong.Morpheus should now have the eye color you selected

 To add skin color Open the **hypershade** **Window** > **Rendering Editors** > **Hypershade** Middle mouse click and hold on **miss\_fast\_skin\_maya1** and drag it down to the work area. Double click on the circle to bring up the Attribute editor. Select the **file3** tab and beside **image name** select the folder. In the open window select **Textures** and open the folder named **skin.** Select the color you want and select **Open** in the bottom right of the window. This adds the texture to the phong. Morpheus should now have the skin color you selected Open the attribute editor again and select **lambert5** and **under common MaterialAttributes** to change the body suite color if you want

**RESIZE MORPHEUS** select the edge of the **"MORPH -o-MATIC "** and in the **Channel box** under **mode** select **morph** Re-size your character to whatever preference you like.

**ANIMATION**

To animate select  **animate** under **mode** in the **Morpheus\_UI** .Select the **Auto Keyframe Toggle**on the extreme bottom left to animate on your selected keyframe without having to press "**S**" for every adjustment .This button automatically keys every move you make. Just make sure you are on your proper **keyframe** when you animate .Keep the **Select curve objects** and the **Select Surface objects** buttons on the Selection Mask Menu on the toolbar. Turn off the other 6 buttons .This prevents you from accidentally selecting bones and other non animateable objects that can wreck your animation

**PROPS and BACKGROUNDS**

If you make something new in your scene -**NAME IT!** Put it in a layer and name that layer so you can identify and hide it while you are animating.

**Attaching Objects to each other**

(Shelf) Polygons >Combine.

**Setting up an image plane** – In the view window you want to use select **View > Image Plane> Import Image…** and select your image from the drop down menu. Use this for modeling additional environments and props for your scene.

**Delete History** goto Edit >Delete by Type > History

**LAYERS**

 The facial controllers can be distracting and can sometimes make it difficult to select the head controller while you animate. To hide them while doing body animation go to the **Display** tab at the bottom of the Channel Box and create a new layer. Select the controllers you want to hide and right click on your new layer and in the drop down menu select Add **Selected Objects** . Select the **"V"** in your layer in order to make what you selected disappears select it again to make them reappear. Double click to change the name. **"T** "means the layer is templated. This means you can see it but you cannot modify it**"** means the layer is a reference You can not select or modify it. This is a good way to work without clicking on anything else in your scene accidentally

**ADDING SCRIPTS**

Unzip the additional scripts and put them in the -**documents >Maya> 2012 -x64 >scripts**, folder. This puts the scripts where you need them in order for them to work Unzip the icon folder and put it in - **documents >Maya> 2012 -x64>prefs>icons.** This putsThe image icons on your shelf

Note: Type **rehash** in MEL command line after changing scripts

 Adding scripts info-

http://www.creativecrash.com/tutorials/loading-scripts-in-maya-101

**ADDITIONAL SCRIPTS for Morpheus**

**zooToolBox -** does not work ( not figured out yet)

http://www.macaronikazoo.com/

**jtdParentUI**

website Unavalable

**abSymMesh**

Need to join website to get script

 http://www.creativecrash.com/

**autoTangent** -This is a must have .

http://www.comet-cartoons.com/melscript.php

**tweenMachine-** This is a must have .

http://www.justinanimator.com/mel-tweenMachine.php

**SHELF BUTTONS** information

**Morphy head connect –** Used to connect a Morphy head to a new body

**Custom Facial Geo –** Attaches objects to the skin of the face. They then become part of the painted skin weights and move with the surrounding surface . Good for attaching warts and horns .Select the object you want to attach t and the select the nearest controller (with shift ) and then select the **Custom Facial Geo** button Note-this allows only one attachment per controller at a time.

**Hair Geo** - select CUSTOMGEO on the MORPH-O\_MATIC and then Select Hair in the Channel Box then select the object you want to attach and then press the HAIRGEO. Your object should be attached .Good for hats and real funky hair.

**Skin Body Mesh .** Attaches objects to the body .Select the object you want to attach and the select the nearest controller (with shift ) and then select the **Skin Body Mesh**. Allows only one attachment per controller at a time. Adds the painted weights so be careful about what you attach.

**B0Triggers.** This button allows you to use the ALL ( key all) button in the morp-o-matic when you reference in more than one Morphy model into your scene . It updates the controllers with their own file name specific to each Morphy . After you referencing in your morphys select the **BoTriggers** button and in the **Triggers** window go to **Avanced**  **- Udate All Triggers**

**Point Snap**. Select the object and then then select the controller ( or another object) you want it to have aligned to and press the **Point Snap** Button to move the second object to the center of the first object at its 0,0,0 object center

**Orient Snap** Select the object then select the controller ( or another object) and then press the **Orient Snap** Button to align the X,Y,Z of the first object relative to the X,Y,Z of the second.

**AUTOTANGENT** - This will be helpful at the later stages of your animation as it helps flatten your tangents for a more smooth animation look and it also can flatten your Ease in and Ease outs to make them look more smooth or snappy. This button can also accentuate your antics as it creates custom overshoots on your graph editor.

**tweenMachine-** Helps make breakdown keys for your animation. Allows you to add breakdowns (blocking) along your timeline with a single selection .You can also make groups and sets in your animation .Create a group for each character and sets for specific areas of your character like the spine or arm. This is handy to help block out overlap.

Set up of this button requires the use of the **script editor.**

**Window>General Editors>** **script editor.** In the editor type -

**tweenMachine;**

Highlight the line, then **select File-->Save Selected to Shelf** to turn it into a shelf button. Use the Shelf Editor to assign the **icon** to the shelf button. To start the **tweenMachine,** just click the button.

**CUSTOM BUTTON** To add a selection to your shelf and make a **custom button** select **Ctrl + Shift** and then the selection you want –example ,cube -and it should instantly appear on your shelf as a button

**IKFK Selection** Select the double-sided arrow at the wrist of Morpheus and in the Channel box go to **IKFK** and you will see a "**0**" beside the indicator. this is **FK** . Input a **”1"** in the box and this will give you **IK**

**IK -Inverse Kinematics .**Joints are controlled at the end of the joint chain and movement of the parent is calculated from the relative position of the child (the hand). You move the hand and the shoulder and elbow calculations follow (the parent). Using **IK** is ideal for attaching objects to the hand and animating with the wrist controller as apposed to animating from the shoulder and elbow with **FK**

**FK -Forward Kinematics .** Jointsare controlled by the parent (the shoulder) and the child(the hand) is unaffected relative to object in world space. Movements are calculated from the shoulder .The arm and hand obey the parent object calculations and act like a solid object hinged from the shoulder.  Consider using IK arms if your Character is holding on to, or throwing something.

**Attaching an object to the hand in IK**

Select the double sided arrow on the wrist and In the IKFK selection select the box controller on the wrist then press shift and select the object you want to attach .This makes the box controller the parent and the object the child. Then open the Hotbox> Constrain > Parent .Make sure your Constraint axes are slected as **All** In the **Parent Constraint Options** window .

**HOW TO OFFSET USING THE DOPESHEET**

Select **Panels > Dope Sheet**

Select only the controllers you want to effect on Morpheus when you are doing your offsets. They will be labeled on your dope sheet summary on the left of your window. Select a key and with the middle mouse and slide the desired key forward or backward to apply the offset. The timing in the Dopesheet will be reflected in your animation timeline.When you are setting your offsets in the dope sheet keep in mind that you will be adding delay to your movements and that sometioms only a one or two key shift is enough to create a realistic offset. Start your offsets from the torso to the outer limbs to create drag and weight.

**REFERENCING IN MORPHEUS / MULTIPLE**

File >create Reference> [ select your file] Select **“BO TRIGGERS”** In the pop up window select > Advanced > Update All Triggers

Do this for each Morphy you import .Renaming each one in the **Reference Options** is a good idea too.

**ANIMATION PROCESS**

Set your **start time** to **“1”** in the **timeline** .Do not start with Zero

**DON’T Key** the blue **Morphy** Platform (the blue circle with four arrows that Morphy stands on )

**DON’T Key** the **Morph-o-matic**

It is a good idea to keep a separate **window** open dedicated to your camera and animate Morphy in your perspective/UI window.

**Ease in -** Start Slow**, End** Fast. More keys at start than at the beginning, **Acceleration**

**Ease out-**starts fast, End Slow .More keys at end than at the beginning. **Deceleration**

**MOVING HOLDS – Make sure you are putting moving holds in-between your action poses. If you don’t do this your animation will look mushy and weak. You just don’t go from pose to pose –there are breaks in the timing where your character will stop –but not freeze. You will need to have subtle movements included that react to the action in order to keep your animation looking realistic and alive.**

**Note-** Do not Key or animate the Morphy base ( the blue circle with 4 arrows that Morphy stands on).You will only move this base when you are moving to a new location or making a large move (like a big jump or fall) that happens during a cut.

**Animating Morphy**.

You must consider **Balance, Weight ,Inertia , consistency** and **Motion** in all your poses.

1. Start with the hips .All movement springs out from the action of the hips and spreads out to the extremities.
2. 2-Make sure your arcs are properly considered in your poses and reinforced with your blocking

3-Lead with the eyes then the head then the body. Offset this action with subtlety and care

4-Choose a point of emphasis for every major action

5-Sketch out your posing to force structure into your animation at an early stage

6-Be aware of your ease in and ease out motion relative to your arcs.

7-Your poses and timing are paramount. do not advance to the next stage of the animation process without perfecting this stage first.

8-Start blocking your animation after your keys and timing are perfect. Do this stage with an emphasis on your arcs.

9-Establish your moving holds . This is where you will be keeping the animation snappy and quick .This process can be done in conjunction with your blocking.

10-With your Keys, timing, blocking and moving holds completed start inbetweening with linear interpolation turned on. Up to this point you should be using step tangents only.

11-Make notes and revisions at the end of every stage. Seriously .If you don't your animation will suffer.

12- Add manual breakdowns for things like hands and small arcs. These are not full breakdowns as you will not be keying the whole character at this stage ,only the parts you want to effect.

13-Start to do the offset process in your dope sheet at this stage.Add drag and leading action here (Adding offsets is optional) for speed you can use offsets to add life to your animation quickly but if you want to do “Full” animation use only filly keyed poses for your breakdowns and create drag and offsets within the timing of the poses.

14-In the Graph editor add smooth curves and delete unneeded keys- especially along your animation curves . This will be a long and tedious process so do it thoroughly and properly because this is where you add a lot of finesse and finish to your animation.

**PLUGINS**

**Window> Settings /Preferences > Plug-in Manager**. Here is where you will find a list of your Plugins for Maya and a menu of what has been loaded. Select the **Auto load** box from the plug in manager window to add the Plugin you want and restart

**RENDERING**

Make sure you have **mental ray** selected in the **Render Settings** window . If you cannot see it in the drop down list under **Render Using** -Select **Mayatomr.mll** from the **Plug- in manager** window. To render Morphy properly you also need your textures put in their respective folders (**sourceimages**)- Note **tweenMachine** will not work without **mentalray**

**Playblast -**  Right click on the **Timeline > Playblast** open the options and select the settings you want to use. Do this often to keep track of your progress.

**To render single frame** Open the **Render Settings window** and under the **Common** tab select **File Output** **>image format :** select either **JPEG** or **Targa**

It is a good idea to use the **Filmgate** option in your **camera view window** so that when you animate and render you know exactly what will be in you frame.

**To render a sequence** Make sure the **Rendering** optiondrop down tab is selected on the far left of the **Main Menu Bar .**Go tothe **Render**  drop down menu in the **Main Menu Bar** and select the **Batch Render** box . The **mental ray Batch Render Option** box will open and then select the **Batch render** button at the bottom. The image sequence should appear in the **images** folderof your project

**COMMONLY USED BUTTONS, PANELS AND STUFF**

**HELP** -F1

**Dope Sheet /if greyed out** Panels >Panel Editor >New Panel >Dope Sheet

**moving gizmo**/ **only if you want to move it relative to your object centre** insert key + LMB. Do not mess with the little blue circle under the gizmo in this mode. It resets the gizmo translations permanently and there are no setting to get it back

**Resizing Gizmo -, +**

**Hypergraph** - general (shelf) > Hypergraph

**Smoothness -** 1,2,3 -**Wireframe** 4

**ctrl+a** attribute editor

**Shade** -5

**Undo** -Z

**Frame Selection** -f

**Object/Component Selection** -F8

**Duplicate**-Ctrl=d

**MAYA HOTKEY LIST**

**Maya Hotkeys - Keyboard Shortcuts**

**Snapping Operations:**

**Snap to curves c**

**Snap to grids x**

**Snap to points v**

**Move, Rotate, Scale Tool snapping j**

**Move, Rotate, Scale Tool relative snapping Shift+J**

**Painting Operations:**

**Flood with the current value Alt+f**

**Turn Show Wireframe on/off Alt+a**

**Turn Color Feedback on/off Alt+c**

**Toggle Reflection on/off Alt+r**

**Artisan Paint Operation marking menu u+LMB**

**Modify upper brush radius b**

**Modify lower brush radius Shift+B**

**Edit Paint Effects template brush settings Ctrl+b**

**Modify Artisan brush Stamp Depth i**

**Modify Max Displacement [1] m**

**Modify Value n**

**Switch to pick colour mode /**

**Select cluster mode [2] '**

**Open Paint Effects panel 8**

**Poly Brush Tool marking menu o+LMB**

**Poly UV Tool marking menu o+MMB**

**[1] Of Sculpt Surfaces and Sculpt Polygons Tool**

**[2] Of Paint Weights Tool**

**Tumble, Track or Dolly:**

**Tumble Tool Alt+LMB**

**Track Tool Alt+MMB**

**Dolly Tool Alt+RMB**

**Display:**

**Shading > Wireframe 4**

**Shaded display 5**

**Shaded and Textured display 6**

**Lighting > Use All Lights 7**

**Display Quality marking menu d+LMB**

**Low Quality Display setting 1**

**Medium Quality Display setting 2**

**High Quality Display setting 3**

**Displaying Objects (show, hide):**

**Display > Hide > Hide Selection Ctrl+h**

**Display > Show > Show Last Hidden Ctrl+Shift+H**

**Display > Hide > Hide Unselected Objects Alt+h**

**Show > Isolate Select > View Selected Shift+I**

**Tool Operations:**

**Complete current tool Return**

**Abort current tool ~**

**Enter tool Edit mode Insert**

**Select Tool Shift menu+Q**

**Component marking Shift menu+Q+LMB**

**Select tool Alt+q**

**Polygon marking menu Alt+q+LMB**

**Mask marking menu q+LMB**

**Move tool w**

**Move tool marking menu w+LMB**

**Rotate tool e**

**Rotate tool marking menu e+LMB**

**Scale tool r**

**Scale tool marking menu r+LMB**

**Show manipulator tool t**

**Select last used tool [3] y**

**Snap Move, Rotate, Scale tool j**

**Increase manipulator size = or +**

**Decrease manipulator size -**

**[3] Excluding Select, Move, Rotate and Scale**

**Animation Operations:**

**Animate > Set key s**

**Insert Keys tool [4] i**

**Keyframe marking menu Shift+S+LMB**

**Tangent marking menu Shift+S+MMB**

**Set key for Rotate Shift+E**

**Ser key for Scale Shift+R**

**Set key for Translate Shift+W**

**Cycle handle stiky state (for IK handles) Alt+s**

**[4] For Graph Editor**

**Playback Control:**

**Move forward one frame Alt+.**

**Move backward one frame Alt+,**

**Go to Next key .**

**Go to previous key ,**

**Turn Playback on/off Alt+v**

**Go to Min Frame Alt+Shift+v**

**Hotbox Display:**

**Hotbox Space**

**Default Hotbox Style [5] Alt+m**

**[5] Zones and Menus Rows**

**Window and View Operations:**

**Toogle Attribute Editor and Channel Box Crtl+a**

**Frame all in active panel a**

**History Operations marking menu a+LMB**

**Frame All in all views Shift+A**

**Frame selected in active panel f**

**Frame selected in all views Shift+F**

**Redo view change ]**

**Undo view change [**

**Set keyboard focus to command line `**

**Set keyboard focus to numeric input line Alt+`**

**Help > Contents and Search F1**

**Moving Selected Objects:**

**Move up one pixel Alt+Up arrow**

**Move down one pixel Alt+Down arrow**

**Move left one pixel Alt+Left arrow**

**Move right one pixel Alt+Right arrow**

**Traversing the Hierarchy:**

**Walk up the current hierarchy Up arrow**

**Walk down current hierarchy Down arrow**

**Walk left current hierarchy Left arrow**

**Walk right current hierarchy Right arrow**

**Modeling Operations:**

**Display coarser Sub-d level Crtl+Up arrow**

**Select/refine Sub-d component Crtl+Down arrow**

**Convert poly selection to Vertices Crtl+F9**

**Convert poly selction to Edges Crtl+F10**

**Covert poly selection to Faces Crtl+F11**

**Convert poly selction to UVs Crtl+F12**

**File Operations:**

**File > New Scene Ctrl+n**

**File > Open Scene Ctrl+o**

**File > Save Scene Ctrl+s**

**File > Exit Ctrl+q**

**Selecting Menus:**

**Show/Hide main menu bar Ctrl+m**

**Show/Hide panel menu bar Shift+m**

**Menu Set marking menu h+LMB**

**Show Animationmenu set F2**

**Show Modeling menu set F3**

**Show Dynamics menu set F4**

**Show Rendering menu set F5**

**Edit Operations:**

**Edit > Undo z or Ctrl+z**

**Edit > Redo Shift+z**

**Edit > Repeat g**

**Repeat command at mouse position Shift+G**

**Edit > Duplicate Ctrl+d**

**Edit > Duplicate with Transform Shift+D**

**Edit > Group Crtl+g**

**Edit > Parent p**

**Edit > Unparent Shift+P**

**Edit > Cut Crtl+x**

**Edit > Copy Crtl+c**

**Edit > Paste Ctrl+v**

**Selecting Objects & Components:**

**Switching between Objevt and Component Editing F8**

**Select Polygon and Subdivision Surface Vertices F9**

**Select Polygon and Subdivision Surface Edges F10**

**Select Polygon and Subdivision Surface Faces F11**

**Select Polygon and Subdivision Surface UVs F12**

**Select next intermediate onject Ctrl+i**

**Select Polygon Vertex/Faces Alt+F9**

**Shrink polygon selection region <**

**Grow polygon selection region >**