Hacking MotionBuilder: 10* things you aren't doing but should be!

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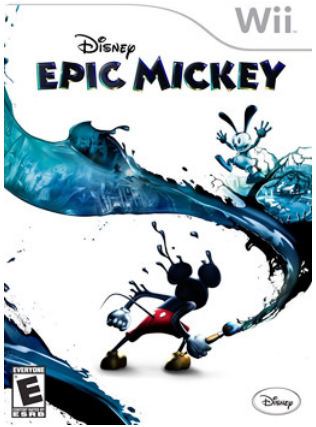
Co-Founder @ Rigging Dojo
Teaching the Art and Science of Character Rigging

Session Running Time (20 min): Twitter QA #hackmobu

About me

15 years production and training experience with a focus on Character Rigging, Performance capture, Animation and Mentoring.



house of moves

THQ

ROOSTER TEETH

MOTUS

Mix master - Effortless Animation

Stop Brute force editing and make it animator friendly.

Problem:

Animators often feel a lack of control over poses, timing and resort to deleting keys or brute force baking or trying to key it from scratch.

Fix:

Hand pick KEY poses from the capture, mixing between them as needed using a trick of override layers and blend weight.

Mix Master - Effortless Animatoin
MotionBuilder 2014 - 64 bit (build 03/03/2013)pr - C:\Users\bclark\Desktop\mocap_retarget_kory\vampire_2_retargets.fbx
File Edit Animation Settings Layout Python Tools Window Help
Producer Perspective (Models only)
Translation: Use manipulator
Ready
Navigator Dopesheet FCurves Story Animation Trigger
Key Controls
Animation Layers
AnimLayer1
BaseAnimation
Enable TimeWarp Display
Pose Controls Properties Filters Asset Browser Groups Sets

Story tricks - quick mix

Problem:

Many animation cycles need to have one base move like a run with several different upper body moves.

Fix:

Using story character tracks filtered by body part, our motion clip will combined with the current take.

This quickly create new moves with less work and fuss.

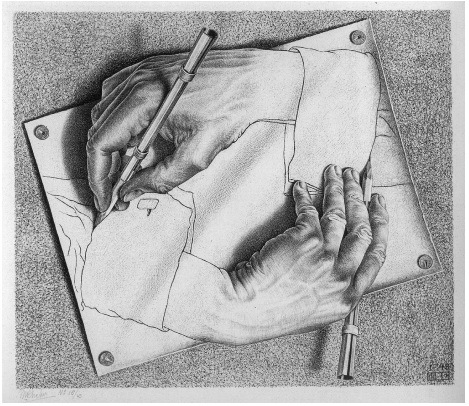
StoryTrick-quick mix
Producer Perspective (X-Ray)
Rotation: Use manipulator
Ready
Shot Track
Character Track
Character
Mesh_char
soniscream (c)
BaseAnimation

Painless Motion Mirror tricks

Problem: Having only a Left animation, we need mirror it and create a Right version but have it end in a non-mirrored pose. **Avoid 3 days. doing this by hand.*

Fix:

Take advantage of the control rig behavior,
pose tool and animation layers for a quick
paste and blend trick to save literally days of work.



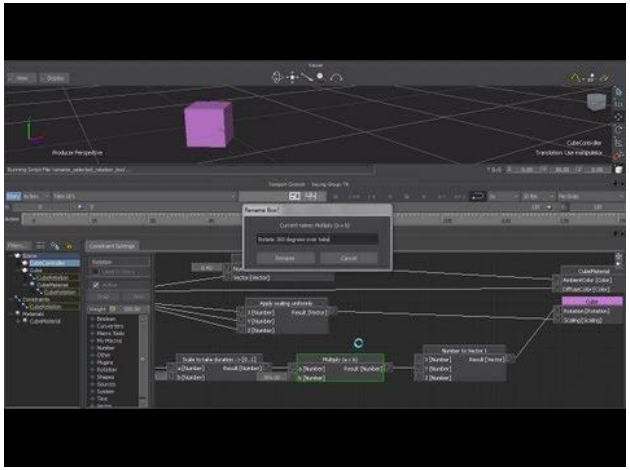
Painless Mirror tricks

Script first aid kit!

While you might be able to work in MotionBuilder without scripts, you shouldn't.

Here are a few a TD should always have.

- Max artists: Freeze joint orient
- Rename relation boxes -
  - From Alex Forsythe -download-
- Save character definition*
- Transfer character animation to a zero frame
  CharTimeToZero
- Non-destructive foot pin script
  - (two slides away…)



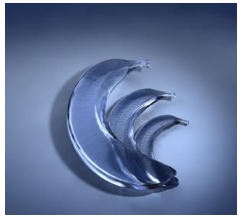
UI! Infinite Monkey engine

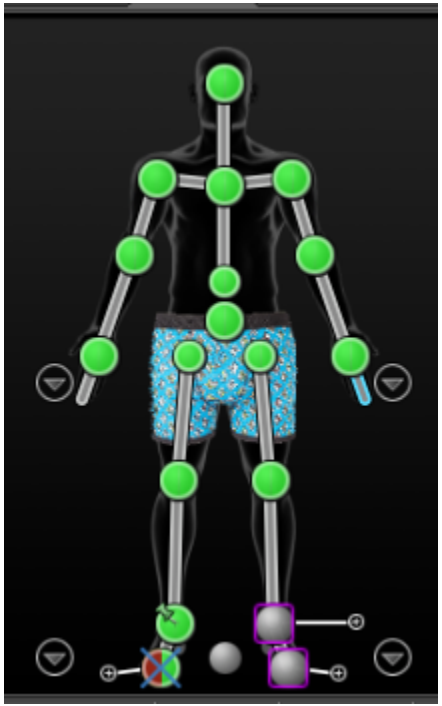
Problem: Character control picker lacks quick access to toes

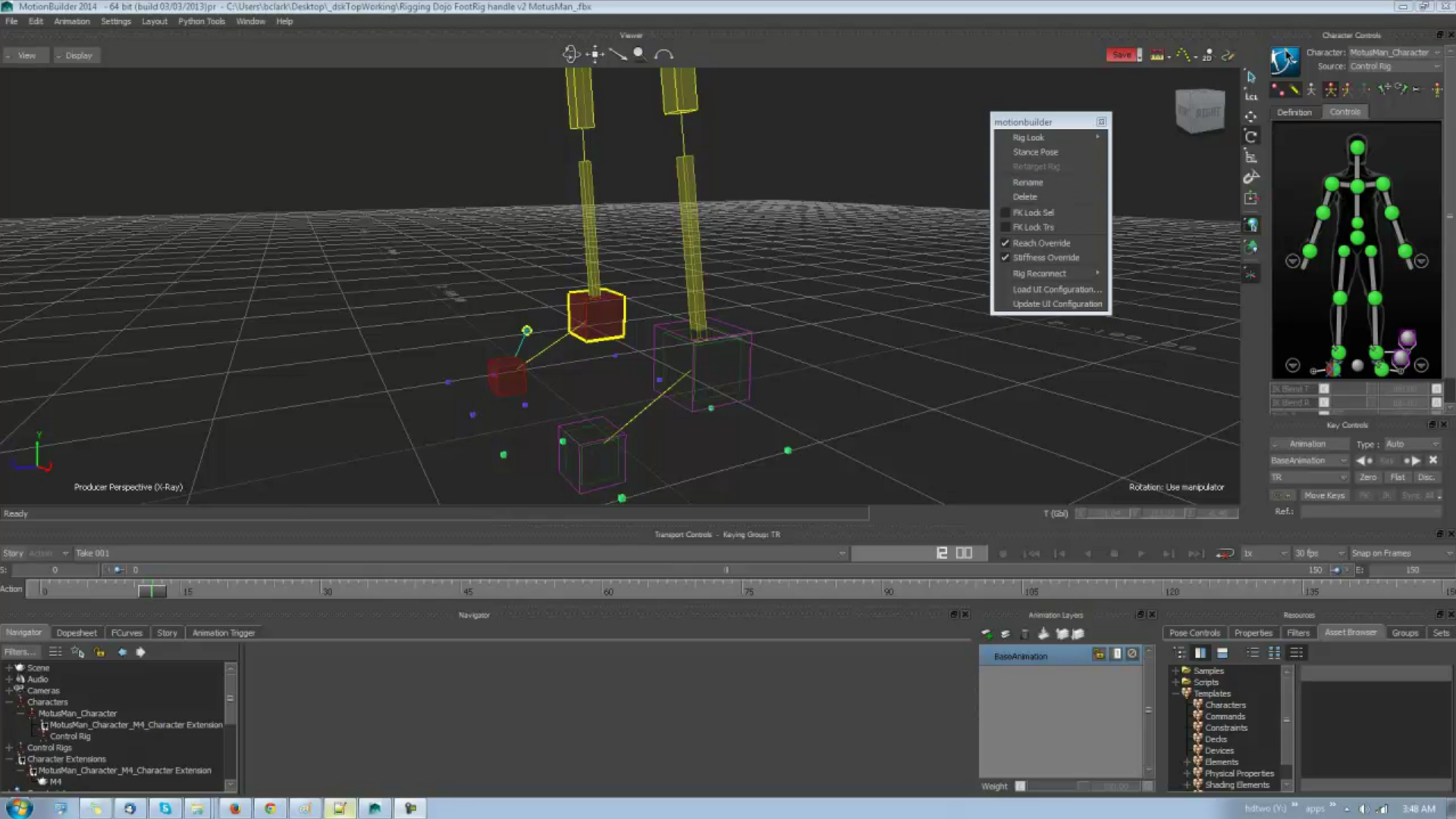
Fix:

Hack it, this is an XML file and easy to improve

Warning- can lead to lots of monkeying with the UI





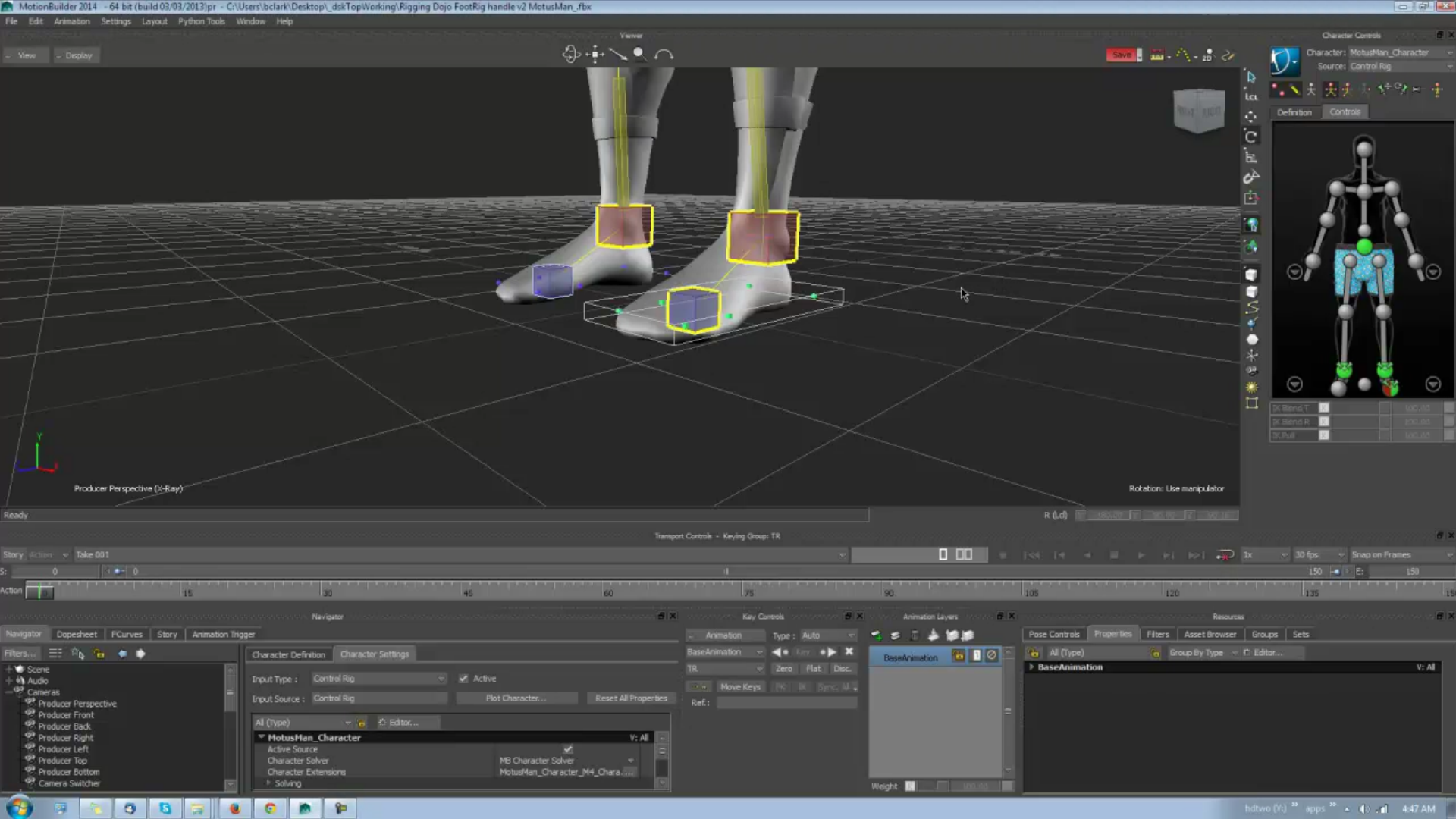

MotionBuilder 2014 - 64 bit (build 03/03/2013)pr - C:\Users\bclark\Desktop_dskTop\Working\Rigging Dojo FootRig handle v2 MotusMan_fbx
File Edit Animation Settings Layout Python Tools Window Help
Viewer
motionbuilder
Rig Look
Stance Pose
Retarget Rig
Rename
Delete
FK Lock Sel
FK Lock Trs
Reach Override
Stiffness Override
Rig Reconnect
Load UI Configuration...
Update UI Configuration
Character Controls
Character: MotusMan_Character
Source: Control Rig
Definition
Controls
Key Controls
Producer Perspective (X-Ray)
Rotation: Use manipulator
Ready
Transport Controls - Keying Group: TR
Take 001
Navigator
Dopesheet
FCurves
Story
Animation Trigger
Scene
Audio
Cameras
Characters
MotusMan_Character
MotusMan_Character_M4_Character Extension
Control Rig
Control Rigs
Character Extensions
MotusMan_Character_M4_Character Extension
M4
Animation Layers
BaseAnimation
Weight
Resources
Pose Controls
Properties
Filters
Asset Browser
Groups
Sets
Samples
Scripts
Templates
Characters
Commands
Constraints
Decks
Devices
Elements
Physical Properties
Shading Elements

Powerful Feet controls fast

Simple foot control for better animation. Living without a reverse foot.

Problem:
Overwhelmed animators trying to managing the pining, aux controls and reach settings

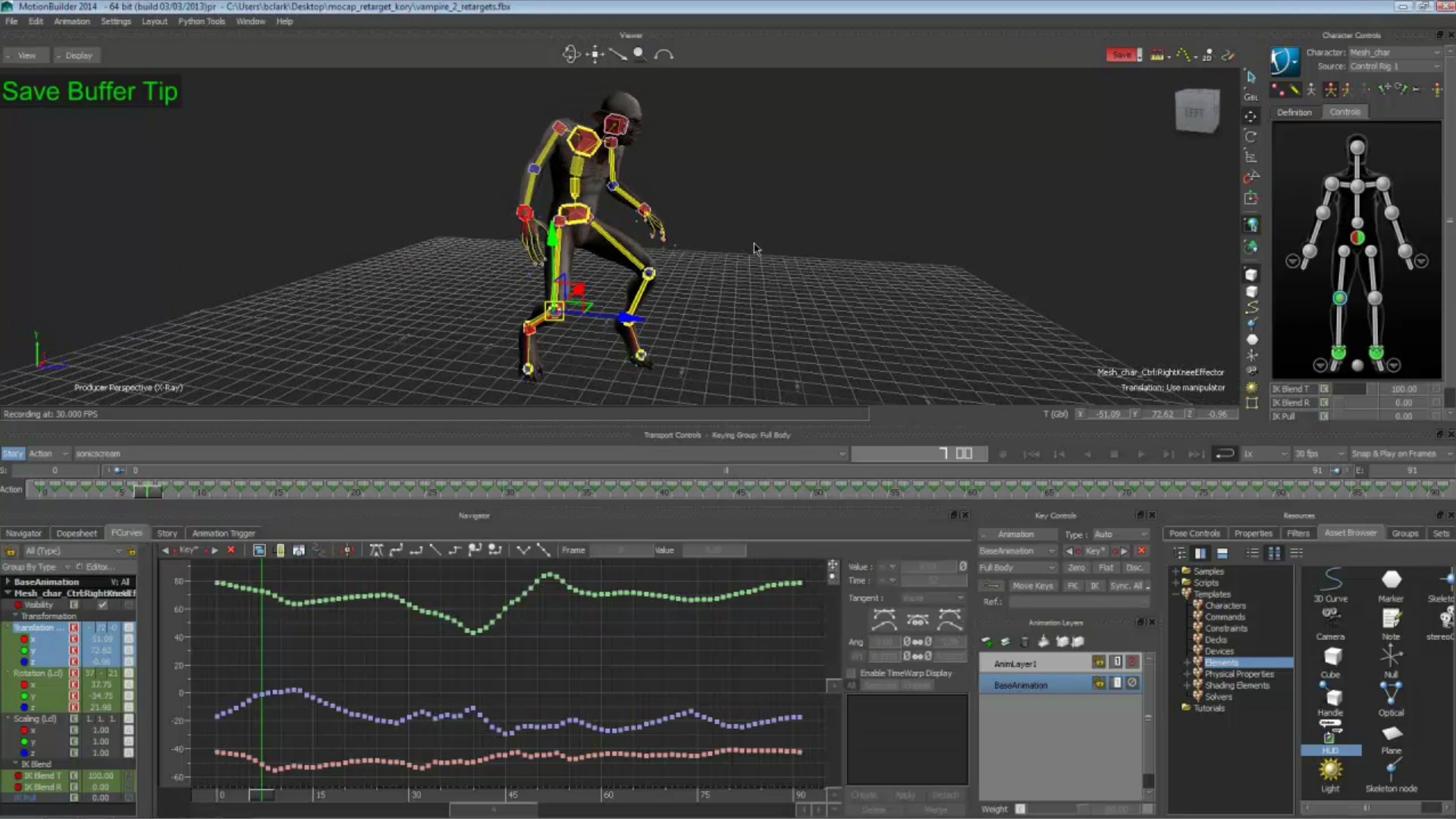
Fix:
Leaving the feet pinned and using Handel, constraint and default tools for faster work animating feet on the base rig.
**some interpolation issues can still occur*


MotionBuilder 2014 - 64 bit (build 03/03/2013)pr - C:\Users\bclark\Desktop_dskTop\Working\Rigging Dojo FootRig handle v2 MotusMan_.fbx
File Edit Animation Settings Layout Python Tools Window Help
Viewer
Character Controls
Character: MotusMan_Character
Source: Control Rig
Definition Controls
Producer Perspective (X-Ray)
Rotation: Use manipulator
Ready
Transport Controls - Keying Group: TR
Navigator
Key Controls
Animation Layers
Resources
Character Definition Character Settings
Input Type : Control Rig
Input Source : Control Rig
Active
Plot Character...
Reset All Properties
MotusMan_Character
Active Source
Character Solver
MB Character Solver
Character Extensions
MotusMan_Character_M4_Chara...
Solving
BaseAnimation
Weight
Scene
Audio
Cameras
Producer Perspective
Producer Front
Producer Back
Producer Right
Producer Left
Producer Top
Producer Bottom
Camera Switcher

Punch up the curves

Problem:
Filtering curves that are noisy creates smooshy curves, and Mas Oyama doesn't like smooshy.

Fix:
Butterworth your curves on the IK controls, this isn't new
Buffer curves first then filter is.
This lets animators A/B compare, get better results and and not lose important performance.


Save Buffer Tip
Producer Perspective (X-Ray)
Mesh_char_Ctrl:RightKneeEffector
Translation: Use manipulator

Non-destructive foot lock

Problem:

Key at time technique is slow due to hand typing frame numbers

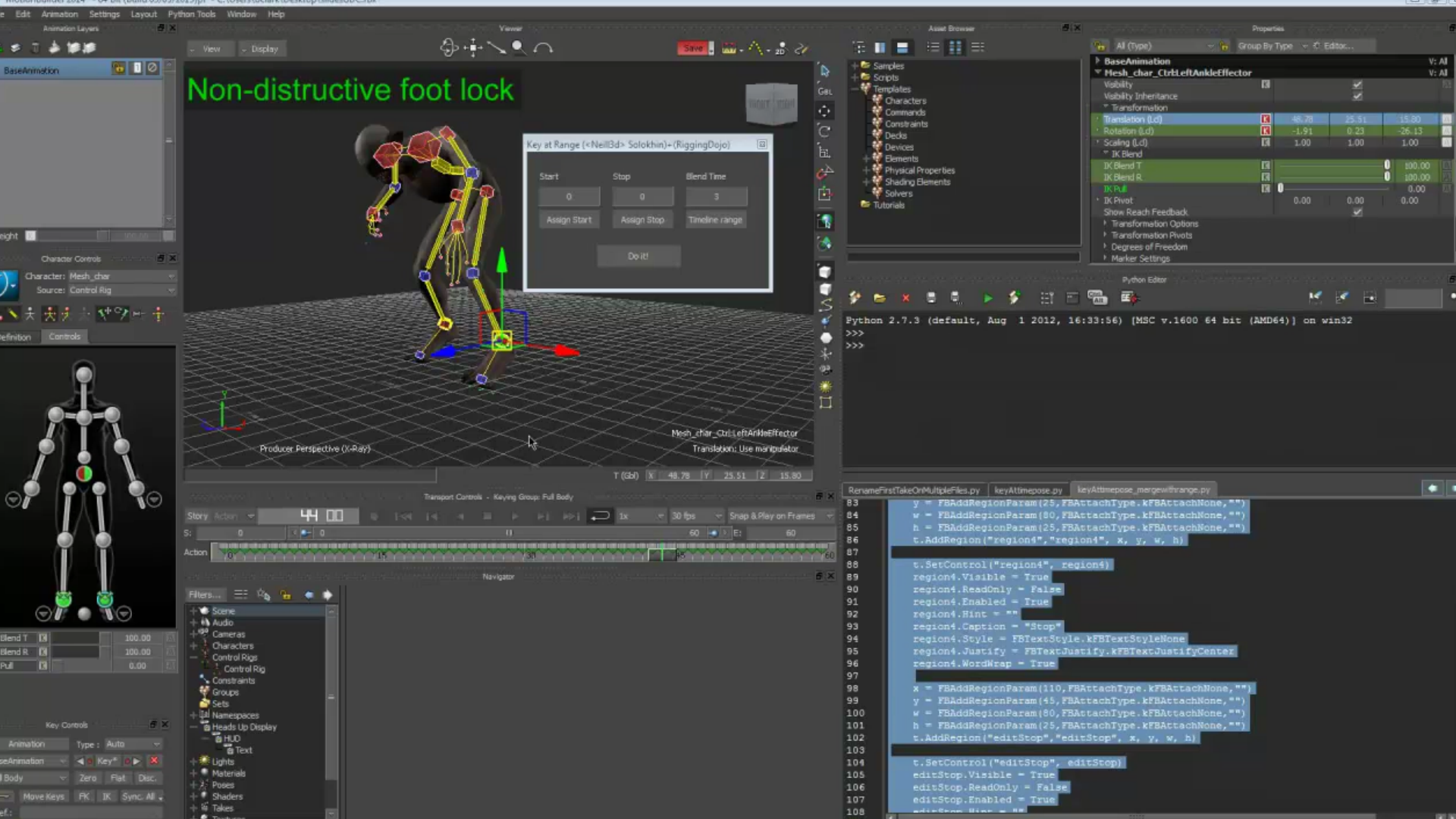
Fix:

Script it!

Non Destructive version of StayOnFloor_2013

from ://neill3d.com...scripts-for-motionbuilder

*updated by me

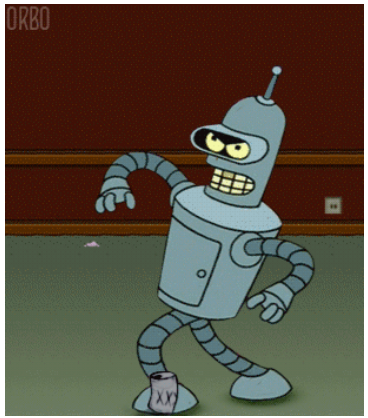

Non-distructive foot lock
Key at Range (<Neill3d> Solokhin)+(RiggingDojo)
Start
Stop
Blend Time
0
0
3
Assign Start
Assign Stop
Timeline range
Do it!
Producer Perspective (X-Ray)
Mesh_char_Ctrl:LeftAnkleEffector
Translation: Use manipulator
Python 2.7.3 (default, Aug 1 2012, 16:33:56) [MSC v.1600 64 bit (AMD64)] on win32
>>>
>>>
RenameFirstTakeOnMultipleFiles.py
keyAttimepose.py
keyAttimepose_mergewithrange.py
y = FBAddRegionParam(25,FBAttachType.kFBAttachNone,"")
w = FBAddRegionParam(80,FBAttachType.kFBAttachNone,"")
h = FBAddRegionParam(25,FBAttachType.kFBAttachNone,"")
t.AddRegion("region4","region4", x, y, w, h)
t.SetControl("region4", region4)
region4.Visible = True
region4.ReadOnly = False
region4.Enabled = True
region4.Hint = ""
region4.Caption = "Stop"
region4.Style = FBTextStyle.kFBTextStyleNone
region4.Justify = FBTextJustify.kFBTextJustifyCenter
region4.WordWrap = True
x = FBAddRegionParam(110,FBAttachType.kFBAttachNone,"")
y = FBAddRegionParam(45,FBAttachType.kFBAttachNone,"")
w = FBAddRegionParam(80,FBAttachType.kFBAttachNone,"")
h = FBAddRegionParam(25,FBAttachType.kFBAttachNone,"")
t.AddRegion("editStop","editStop", x, y, w, h)
t.SetControl("editStop", editStop)
editStop.Visible = True
editStop.ReadOnly = False
editStop.Enabled = True

Pseudo Auto Rigging:no scripting

Problem:
Transferring custom rigs to a new character can be difficult, animators won't use the custom rig if they can't get back to it quickly.

Fix:

Using the character menu - the load animation function will let us load just the rig on to new character. Saving custom xml maps get you characterized fast.



Pseudo Auto Rigging
Producer Perspective (X-Ray)
Translation: Use manipulator
Character Controls
Character: Character
Source: None
Definition
Controls
HumanIK node
LeftUpLeg
Selected bone in skeleton:
Bone
Translate
Rotate
Scale
Validation status:
Missing required bones.
Transport Controls - Keying Group: TR
Snap & Play on Frames
Navigator
Dopesheet
FCurves
Story
Animation Trigger
Character Definition
Character Settings
Reset All Properties
Character
Active Source
Character Solver
HIK 2014 Solver
Character Extensions
<no object>
Solving
Retargeting
Actor
Offsets
Key Controls
Animation Layers
AnimLayer1
BaseAnimation
Resources
Pose Controls
Properties
Filters
Asset Browser
Groups
Scene
Audio
Cameras
Characters
Control Rigs
Constraints
Groups
Sets
Namespaces
Heads Up Display
HUD
Text
Lights
Materials

Questions or Comments?
Ask or tweet.
#hackmobu

Thank you.
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