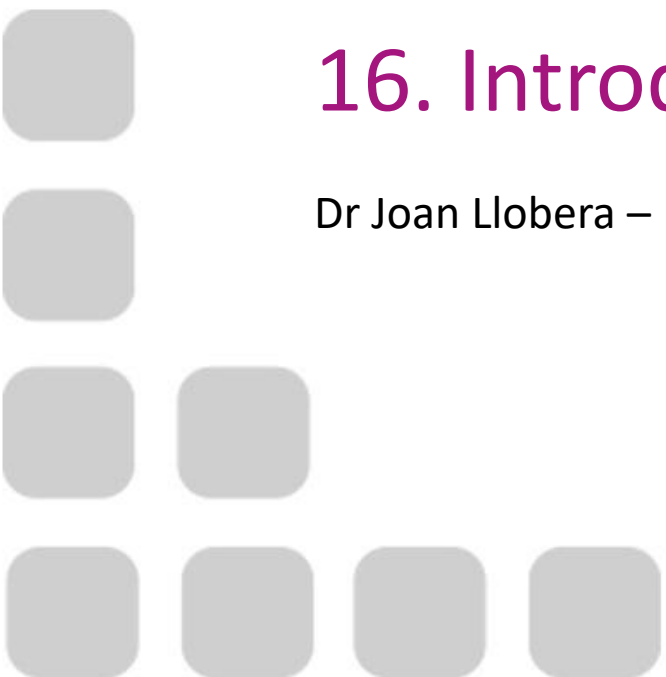


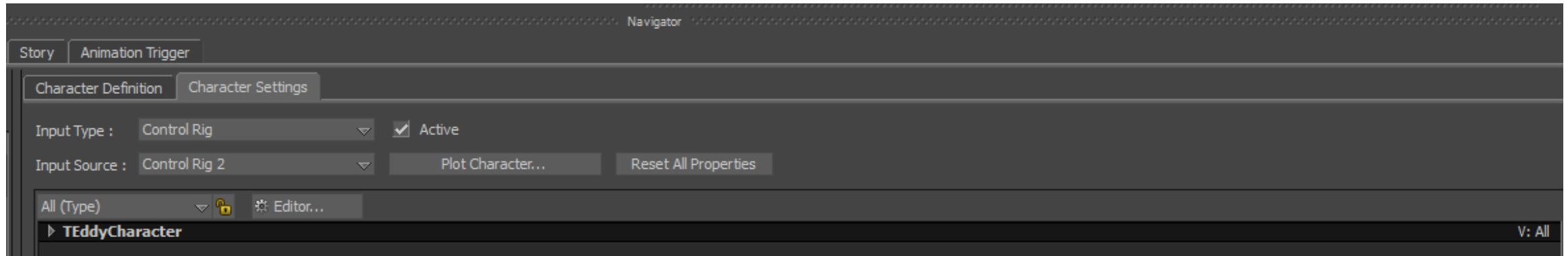
Animation Foundations

16. Introduction to Motion Builder (part 2)

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Last week's conclusion

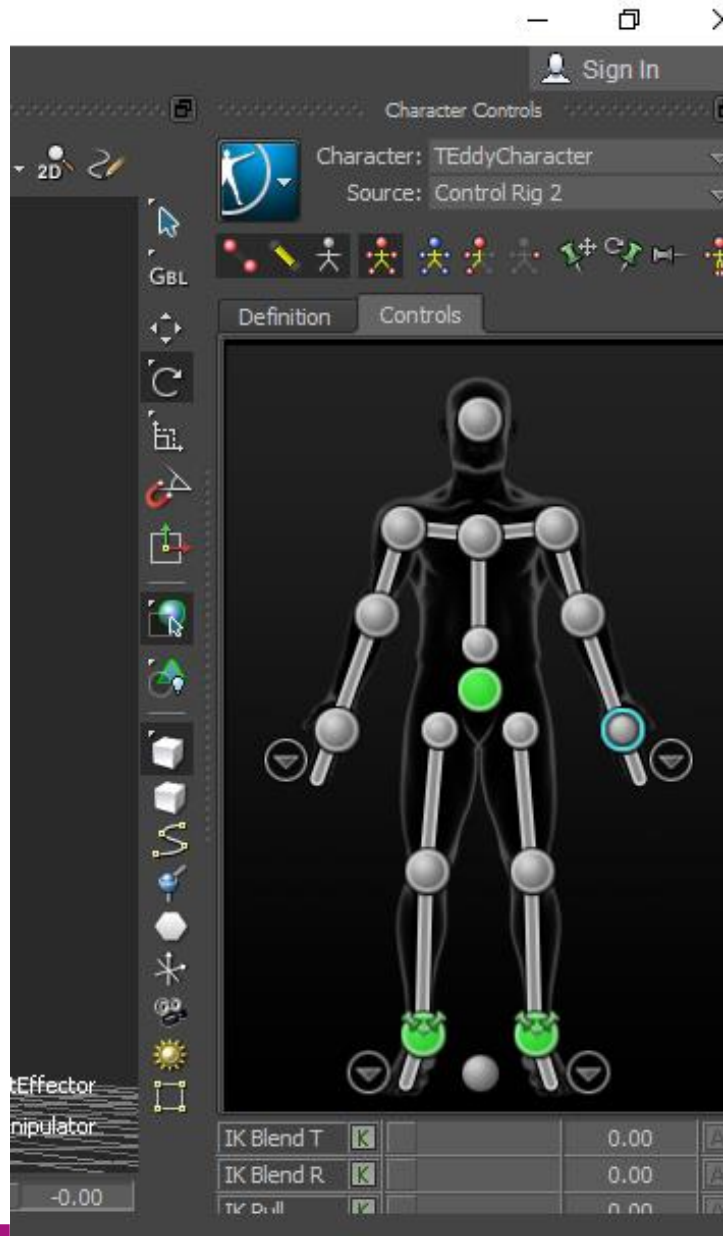


When “Character settings” are active, the skeleton:

- Can imitate another character
- Can follow a control rig (FK/IK)
- Plot applies the transformations (usually to the skeleton), and deactivates char.

When “Character settings” are not active, the skeleton:

- Manual adjustment of a joint is possible
- Export of motion is possible



Invisible Objects

Blue box allows defining visibility (independently of the visibility property!)

If you do not see the skeleton, or the control rig, check how it is set here

Introduction to constraints

What is a constraint?

In motion builder there are several constraint kinds. Very used:

- Parent/child
- Aim
- 3 point constraint
- Rotation
- ...

See: animating with constraints in Motion builder

<https://knowledge.autodesk.com/support/motionbuilder/learn-explore/caas/CloudHelp/cloudhelp/2017/ENU/MotionBuilder/files/GUID-716BCDA2-4D3E-4187-830E-F792FCFA02BB-htm.html>

Exercise 4. Teddy points with a stick

In folder

4.add_parent_aim_constraint

- Open `add_parent_aim_constraint.zip`
- Notice how it contains two scripts (.py). Run them to see what they do
- Notice the scene contains a teddy bear, a stick and a marker

Exercise: link the stick to the hand of the teddy bear, make the arm and the stick follow the marker

- Discuss first how you would do it
- What problems do you find to implement it?

Exercise 5. Tina and Mark play guitar

In folder “5.add_constraints_guitarrist”

1. Open file “07.added_constraint_2parents.fbx” and check which constraints it has
 2. Open file “08.added_constraint_3point_constraint.fbx” and check which constraints are applied there
 3. Argue which kind of constraint is better (and why)
 4. Apply the same constraints to the other character
- Discuss to which extent this process can be automated with a script
 - In the file “08.added_constraint_3point_constraint.fbx”, the guitar of the female character crosses her leg (press play until the end of the take to see it). This can be arranged by rotating her shoulders in order that the constrained guitar is more separated from her body. How would you do it? (hint: use keyframes).

Can we automate the foot sliding remover?

How?

- Remove foot sliding manually
- Write your first automation script