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## Version 1.4

### Improvements

1. Added LeapMotion (Orion) integration package to Plugins/RootMotion/FinalIK/\_Integrations.
2. Made FPSAiming work with Recoil, added the “First Person Shooter (Recoil)” demo scene.
3. Added the “Head Effector (Hand Controllers)” demo scene.
4. Added TwistRelaxer.cs, a tool for relaxing twist bones after solving IK.

### Fixes

1. Fixed Grounders moving the feet of the characters to Vector3.zero in the first frame.
2. GrounderQuadruped can now be used on a spherical planet. Update GrounderQuadruped.gravity to always point towards the center of the planet. The magnitude of the vector is irrelevant.
3. Fixed a bug with the CharacterThirdPerson that enabled jumping in air when the ground was too far.
4. Added `public bool TriggerInteraction(int index, bool interrupt, out InteractionObject interactionObject)` and `public bool TriggerInteraction(int index, bool interrupt, out InteractionTarget interactionTarget)` to InteractionSystem as an easy way to retrieve InteractionObjects/Targets when triggering interactions.
5. Fixed some bugs with GrounderQuadruped root rotation.
6. Fixed a bug with FBBIKHeadEffector ignoring body, thigh and shoulder effector positionOffsets.
7. CharacterThirdPerson.cs now supports arbitrary gravity.

## Version 1.3

### Improvements

1. Simplified FBIBoxing.cs script.
2. HeadEffector will use FBBIK.fixTransforms, meaning you will be able to use it with unanimated characters.
3. Rotation Limits now support multiple object editing.
4. Added the Playmaker actions to “Plugins/RootMotion/FinalIK/\_Integration” as a unitypackage. Double-click to import the actions when you have Playmaker already imported.
5. Added a seated example to the “Head Effector” demo.

### Fixes

8. You can now easily move the root to where the ragdoll is before getting up, when using the RagdollUtility. See the RagdollUtilityDemo.cs script.
9. InteractionSystem will not change any FBBIK settings that not used by the InteractionObject.
10. FBBIKHeadEffector now accounts for FBBIK solver weight and can be blended out correctly
11. LimbIK.avatarIKGoal can now be changed after the solver has initiated.
12. Removed tooltips from arrays in InteractionObject and the Grounders. A bug in Unity causes tooltiped arrays to fail the Editor sometimes.
13. Fixed a bug that didn't initiate the IK solver when the IK component was disabled in Awake.
14. FixTransforms will not be applied when solver weight  $\leq 0$ .
15. InteractionSystem will ignore InteractionTriggers that are disabled or deactivated.
16. Renamed InteractionSystem.collider and InteractionSystem.camera to get rid of new keyword warnings when building projects.
17. Changing InteractionObject curve lengths will now update interaction length as expected.

### Changes

1. ShoulderRotator.cs moved to RootMotion.FinalIK namespace.

## Version 1.2 - 11.11.2015

### Learning

6. All components are now using the HelpURL attribute so you can get to the best learning resource by clicking on the help button of each component.

### Improvements

1. HandPoser and GenericPoser now have a “Fix Transforms” option like the IK components. That will help with doing interactions with unanimated characters.
7. MechSpider can now be easily scaled by changing the MechSpider.scale value.
8. CharacterThirdPerson now also rotates the character around the Y axis with moving platforms and transfers root rotation to the controller.
9. Reduced package size by 20%, improving downloading and importing times.
10. Made Final-IK compatible with PuppetMaster.

### Fixes

1. Fixed empty warning when adding FBBIK in runtime.
2. InteractionSystem LookAt function continue looking at objects when the interaction is paused.
3. Fixed a bug with FABRIKRoot not considering FABRIK chain targets.
4. Fixed error message when adding GrounderFBBIK.
5. Fixed RotationLimitSpline Scene View tool.
6. Removed warnings in Unity 5.3.

## Version 1.1 - 14.09.2015

### Changes

11. IK.Disable() is deprecated. Use enabled = false instead.
12. Moved AimPoser, Amplifier, BodyTilt, HitReaction, Inertia, OffsetModifier, OffsetPose and Recoil to the RootMotion.FinalIK namespace.
13. Converted folder structure to :

**Main Contents:** `Assets/Plugins/RootMotion/...`

**Editor Scripts:** `Assets/Plugins/Editor/RootMotion/...`

This will make Final IK available for all compilation passes/languages, speed up compilation times and make it easier for other Asset Store developers to create compatible tools.

### FullBodyBipedIK

1. FBBIK solver now survives assembly reload and can be updated in editor mode.
2. Fixed blending solver weight when using bend goals.
3. Added `public bool` ReferencesError(`ref string` errorMessage) and `public bool` ReferencesWarning(`ref string` warningMessage) so you can check if the FBBIK references are OK from your own scripts.
4. Fixed RagdollUtility for Unity 5.2 (worked around a 5.2 Mecanim bug)

### VR

5. VR demos now check if "Virtual Reality Supported" is enabled in the Player Settings to avoid confusion.
6. Renamed OculusSetup to VRSetup and script names containing OVR to VR to get rid of device discrimination.

### Grounder

7. Fixed a bug with GrounderFBBIK that created problems when updating FBBIK manually in FixedUpdate.
8. Fixed a bug with the "Third Person Humanoid" Animator Controller that appeared when jumping up from idle animation.

9. Added `Grounder.Reset()` that enables you to teleport a grounded character without problems.

## Demos

1. Fixed joint ranges of the ragdolls in “Mapping To Ragdoll” and “Ragdoll Utility”.
2. Fixed a bug in `MechSpiderLeg.cs` that might have set footsteps to wrong height.
3. `MechSpider.cs` “Min Height” parameter works as expected now.

## Common

4. Added video tutorial links to the context menu of `FullBodyBipedIK`, `AimIK` and `InteractionSystem` components (others coming).

## Editor

1. Reviewed the warning system. Solver setup warnings will be displayed in a warning box in the Inspector, no more “What’s wrong?” button logging in the console.

































