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"A Cup of Orange"
KATE
by
Nathan Bryan

The Skeleton

Kate has a full skeleton with IK/FK arms and legs to allow grabbing onto objects and moving realistically. Her feet rely on a reverse foot setup for IK controls. The spine is stretch IK that has been fitted to work like FK. The braids are made using an IK spline over a joint chain controlled by a hair follicle for control after dynamic interpretation. The jaw is controlled by a joint and each of the eyes have joints for point location. The feet and hands are controlled by set driven key joint rotation and the face is controlled by set driven key blendshapes. The feet have and extra joint to "flop" the toes.
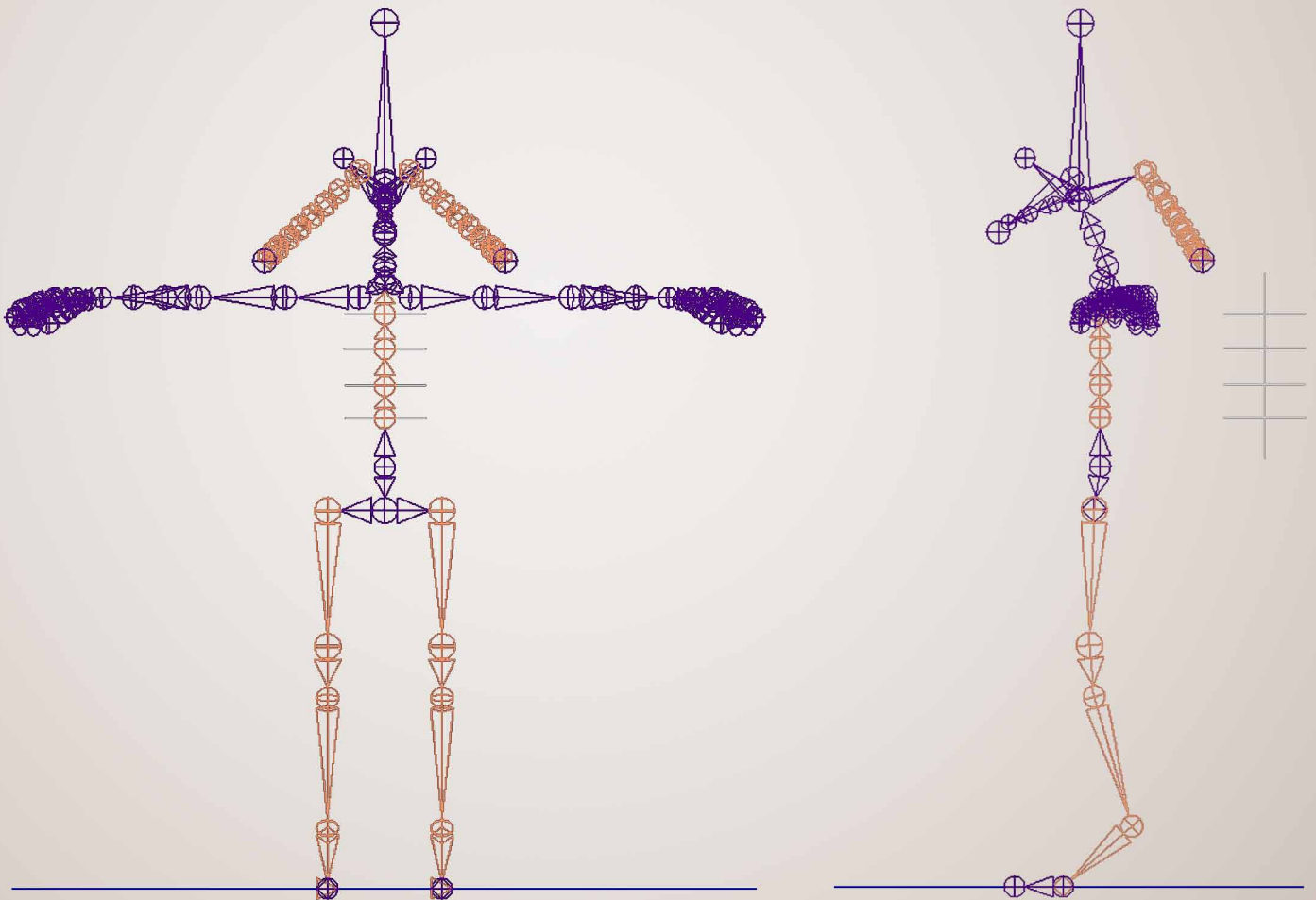
The Model

  Kate has 18076 faces on the body which includes the shoes, shirt, belt, and neck hole. The hair consists of a base of 1546, three braid strands of 576 faces each, the two hanging braids which are 1056 each with little tips of 192 faces each. In her mouth are teeth and a tongue that equal 5405 faces combined.   The eyes are made of NURBS.

  The body is painted in Modo while the hair, teeth, and tongue is textured simply by a phong shader. The eyes are made with a ramp and a noise texture.
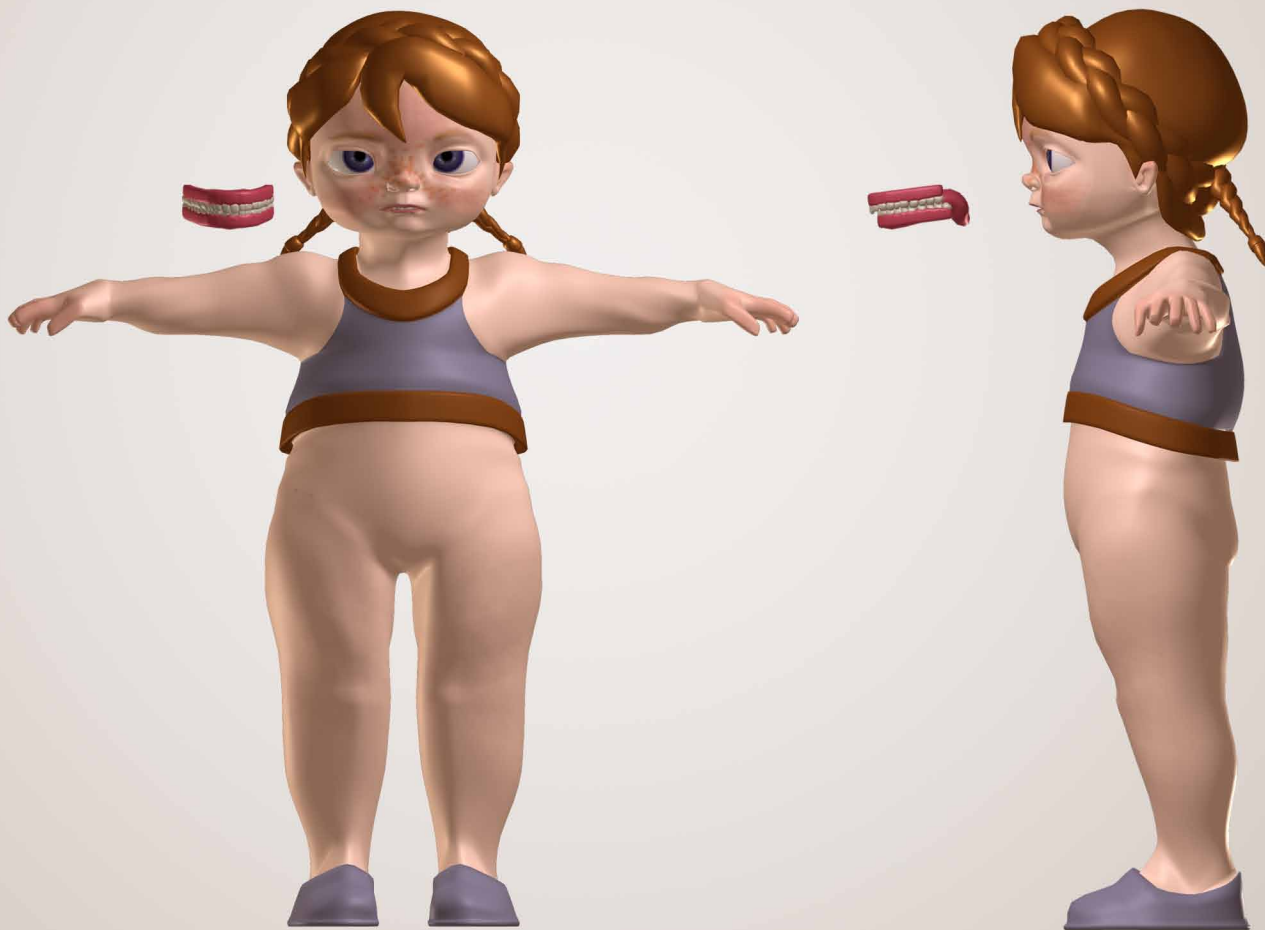
The Clothes

  Kate does NOT come with just a shirt and a belt. The rest of the dress can be turned on. The rest of the dress consists of a skirt, sleeves and 4 bows. The skirt is 648 faces, the sleeves are 1160 faces each and the bows have 648 faces each. The skirt is painted in Modo and the sleeves and bows are colored with shaders. The sleeves and skirt have a deformer influence of a polygon sphere so that later I can add jitter influences or blendshape-auto-deformations. The bows are deformed using locators directly. The bow in the hair is also connected to the hair so that they deform in both ways.

Kate

Kate is a young girl born into a cottage outside of a small town. Being isolated for her class-mates, she finds other ways to entertain her-self. She often dissapears into the forest for her own magical tea parties. Beware to any animal who happens upon this party. Their fate is to join in very uncomfortable ways.
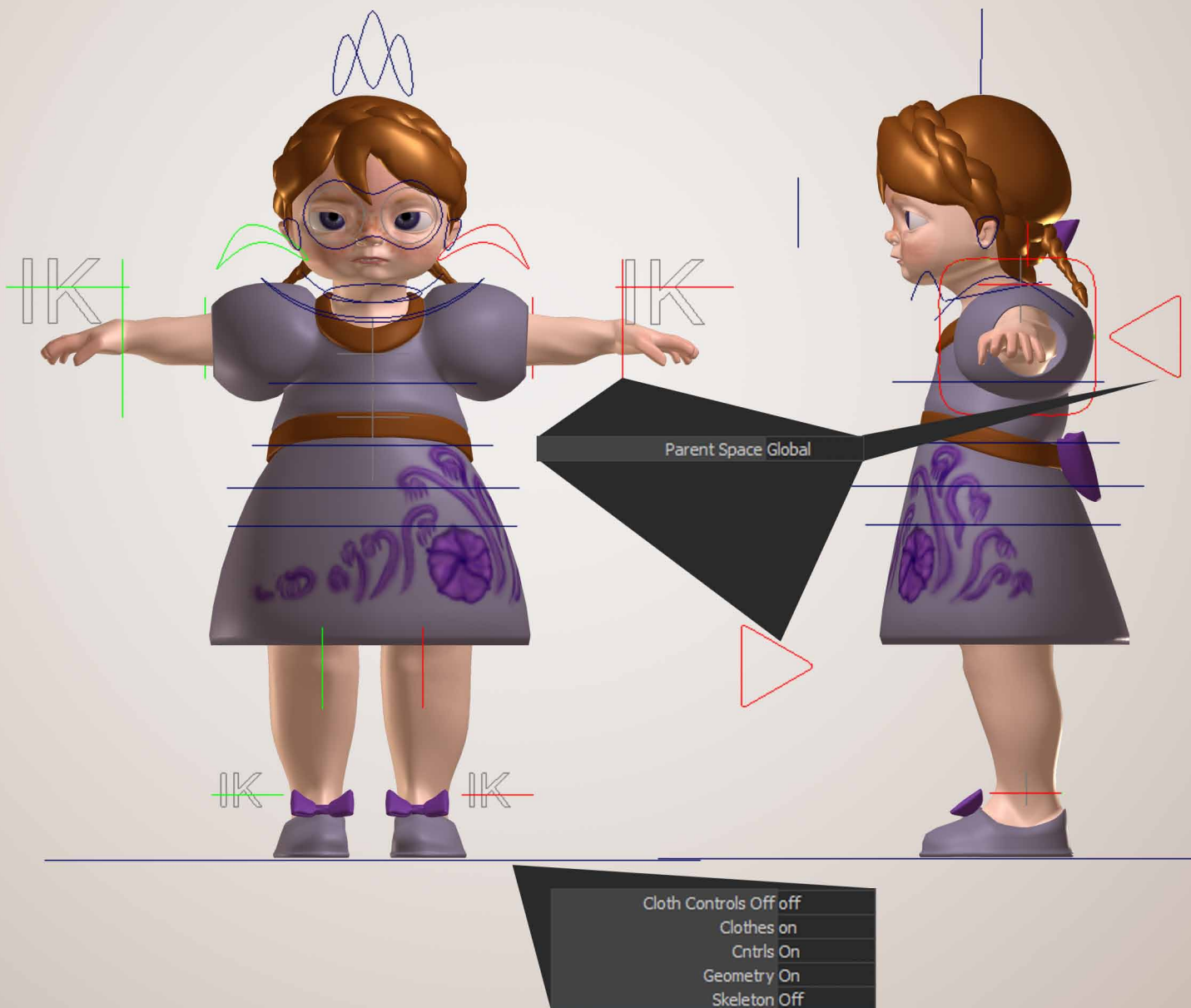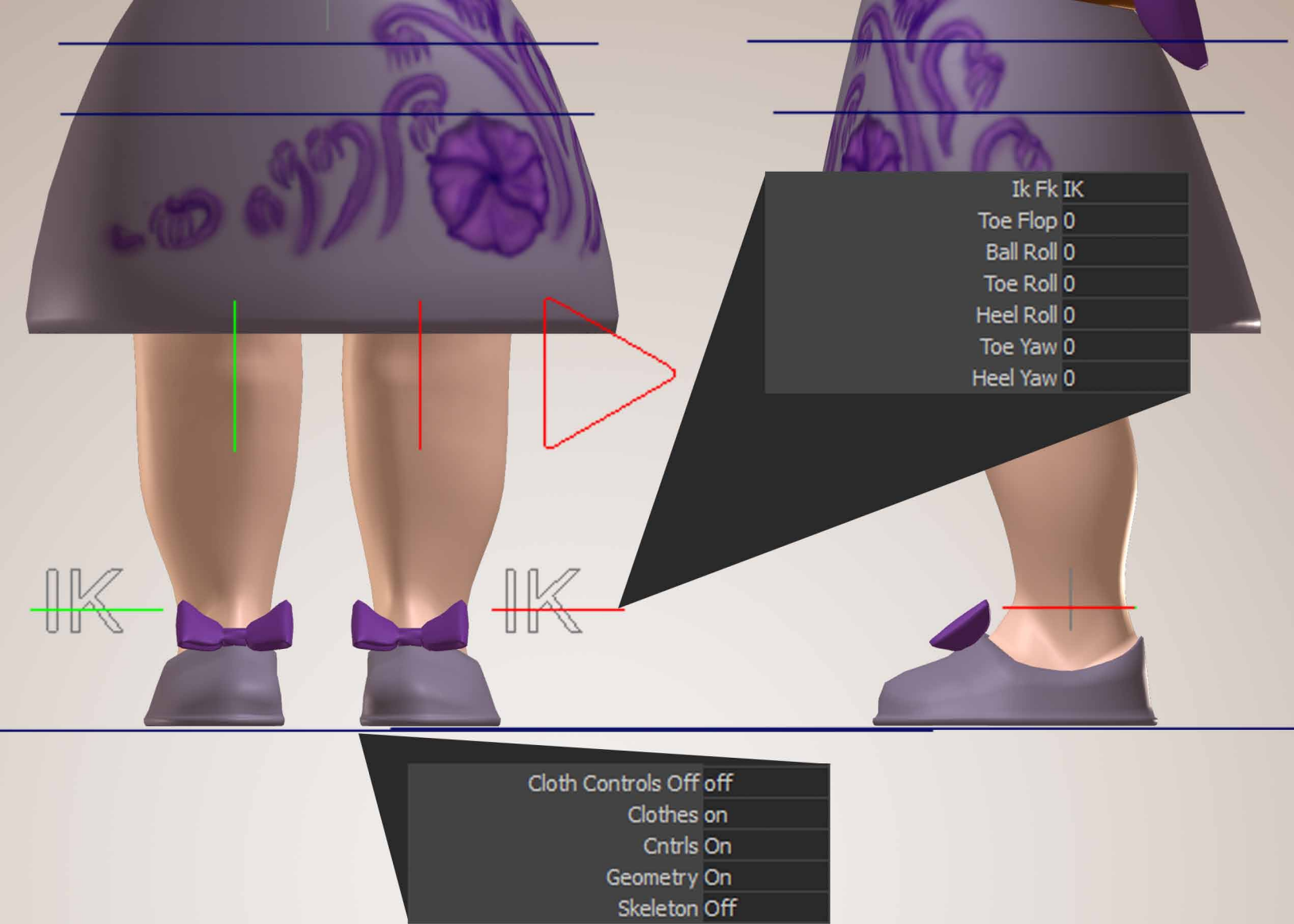
Don't worry you poor creature, the tea might kill you.

The Master Control

    The master control moves the character into place in the scene and offers visibility attributes for the controls, cloth controls, geometry, clothes geometry, and skeleton. This is useful for keeping your controls easy to find. You will find parent space switching nodes on the IK knee controls, IK elbow controls, and wrist controls. These help switch these items from either free flowing or following the body in different ways. The hand, for example, can also follow the head or skirt.

Parent Space Global

Cloth Controls Off	off
Clothes	on
Cntrls	On
Geometry	On
Skeleton	Off

Ik Fk	IK
Toe Flop	0
Ball Roll	0
Toe Roll	0
Heel Roll	0
Toe Yaw	0
Heel Yaw	0

Cloth Controls Off	off
Clothes	on
Cntrls	On
Geometry	On
Skeleton	Off

IK Legs

     With the CNTRLS attribute on the master control set to on, you will see IK/FK legs. The controls next to the feet offer a switch as well as attributes for making the toe go up and down, rolling onto the ball of her feet, rolling onto her toe, rolling onto her heel, twisting at her toe and twisting at her heel. The IK mode keeps the feet moving seperate from the body. All of the attributes mentioned work in IK mode.

Ik Fk	FK
Toe Flop	0
Ball Roll	0
Toe Roll	0
Heel Roll	0
Toe Yaw	0
Heel Yaw	0

Cloth Controls Off	off
Clothes	on
Cntrls	On
Geometry	On
Skeleton	Off

FK Legs

With the CNTRLS attribute on the master control set to on, you will see IK/FK legs. The controls next to the feet offer a switch as well as attributes for making the toe go up and down, rolling onto the ball of her feet, rolling onto her toe, rolling onto her heel, twisting at her toe and twisting at her heel. The FK feet follow the FK knees, follow the FK legs, follow the hips. Only the toe flop attribute works in FK mode.
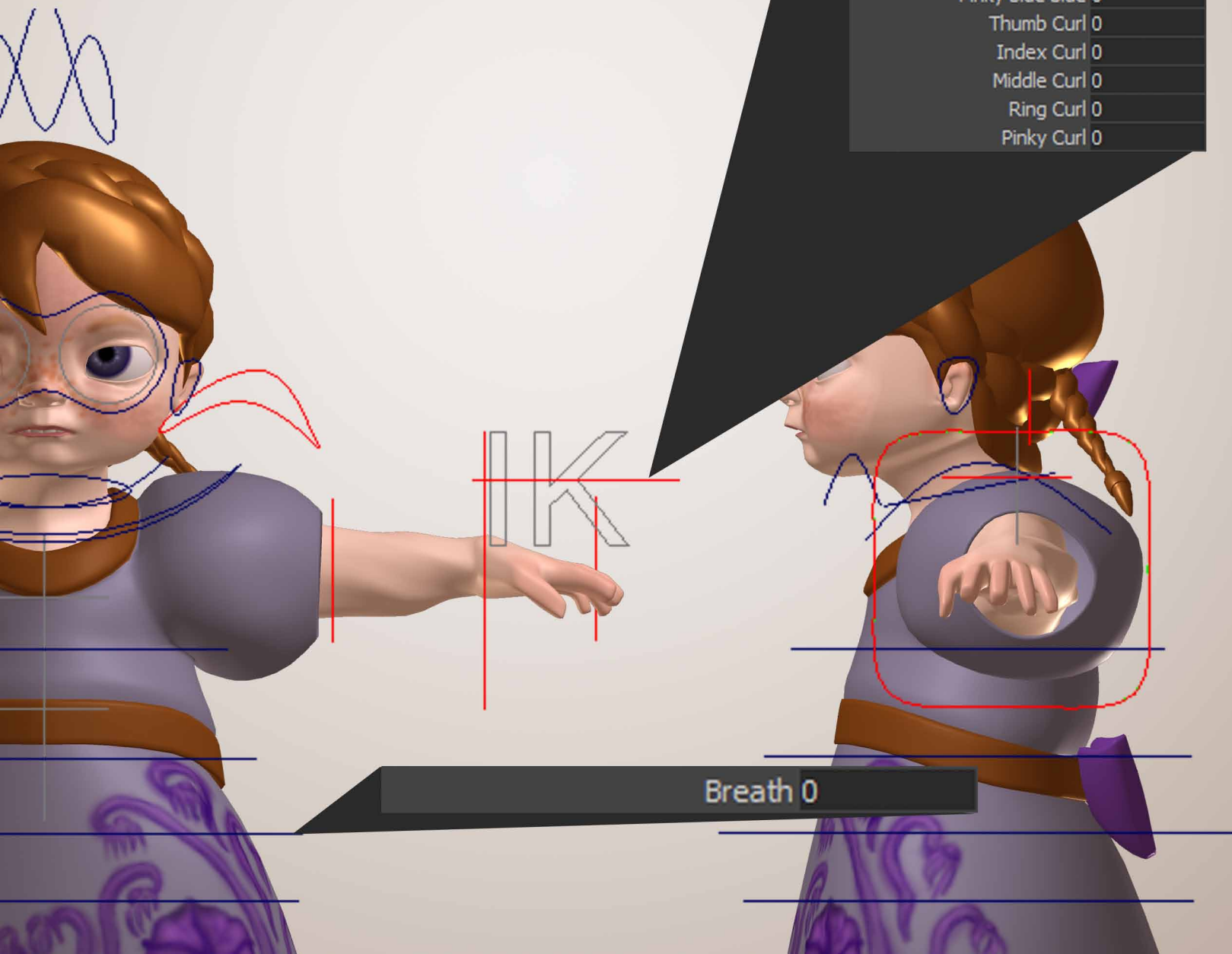
Mini Cntrls off

Cloth Controls Off	on
Clothes	on
Cntrls	Off
Geometry	On
Skeleton	Off

Lower Body Cloth

If you turn off the Cntrls attribute in the master control and turn the cloth controls on, you get the secondary controls. The clothes work through deformers. The controls for the skirt work best by rotating. The upper control of the skirt offers more refined controls for better deformation. The controls on the bows work best through rotation.

IK Arm And Torso

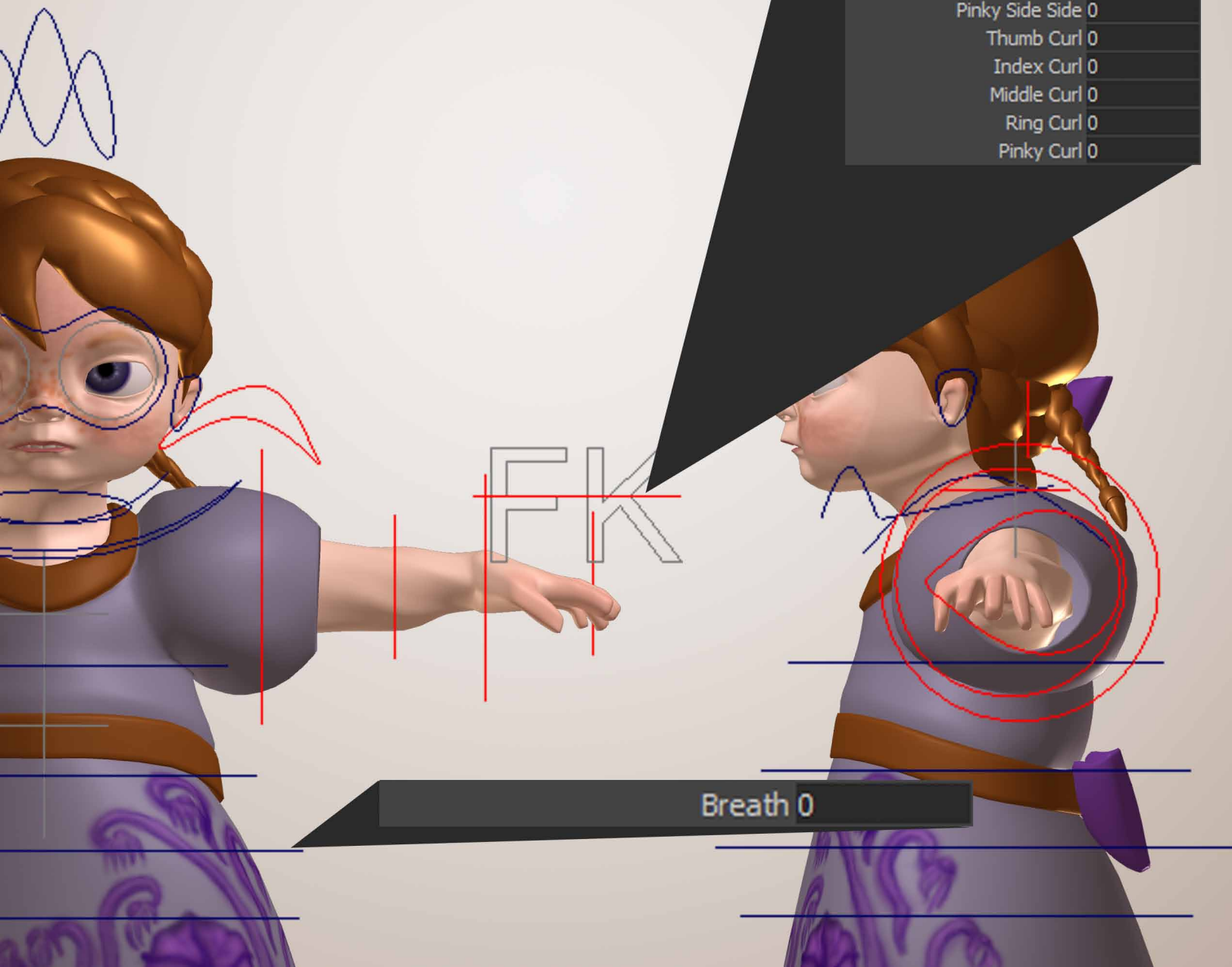   On her cog, you will find a breath attribute that expands her chest.

    The control above the arm offers an IK/FK switching attribute and attributes to control the fingers. In IK mode, the hand moves sepperately to the body unless you activate the Parent space switch on the hand and have it follow the head or skirt.

	Ik Fk	IK
Thumb Up Down		0
Index Up Down		0
Middle Up Down		0
Ring Up Down		0
Pinky Up Down		0
Thumb Side Side		0
Index Side Side		0
Middle Side Side		0
Ring Side Side		0
Pinky Side Side		0
Thumb Curl		0
Index Curl		0
Middle Curl		0
Ring Curl		0
Pinky Curl		0

IK

Breath 0

FK Arm

     On her cog, you will find a breath attribute that expands her chest.

     The control above the arm offers an IK/FK switching attribute and attributes to control the fingers. In FK mode, the hand rotates around the elbow, the elbow rotates around the arm and the arm rotates around the shoulder.

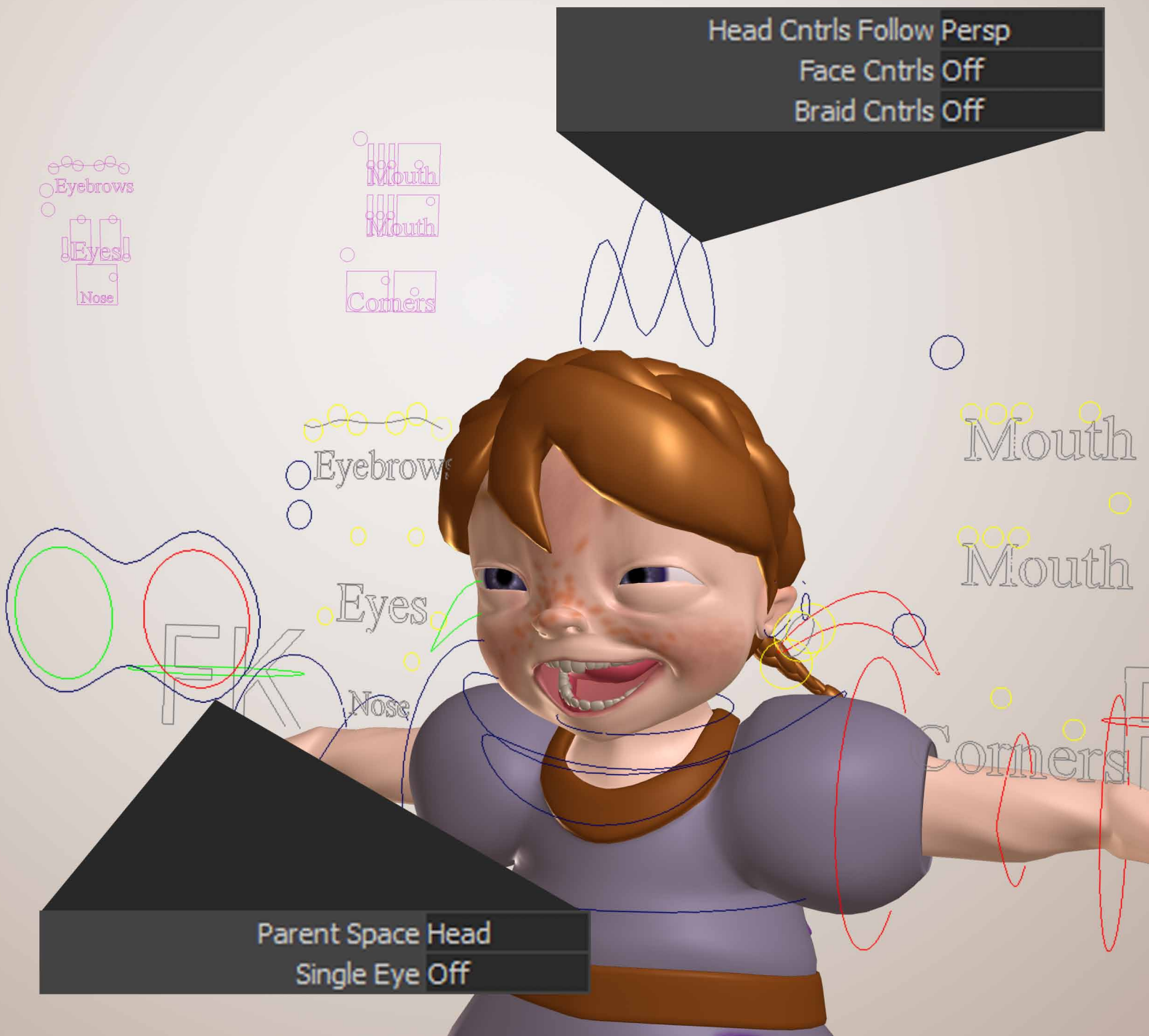|	
Ik Fk	FK
Thumb Up Down	0
Index Up Down	0
Middle Up Down	0
Ring Up Down	0
Pinky Up Down	0
Thumb Side Side	0
Index Side Side	0
Middle Side Side	0
Ring Side Side	0
Pinky Side Side	0
Thumb Curl	0
Index Curl	0
Middle Curl	0
Ring Curl	0
Pinky Curl	0

FK

Breath 0

Upper Body Cloth

Like the skirt, the sleeves have mini controls. there is also a control that effects the shirt part of the dress. both the bow in the hair and the bow on the back of her dress have controls that work best on rotation.

Mini Cntrls off
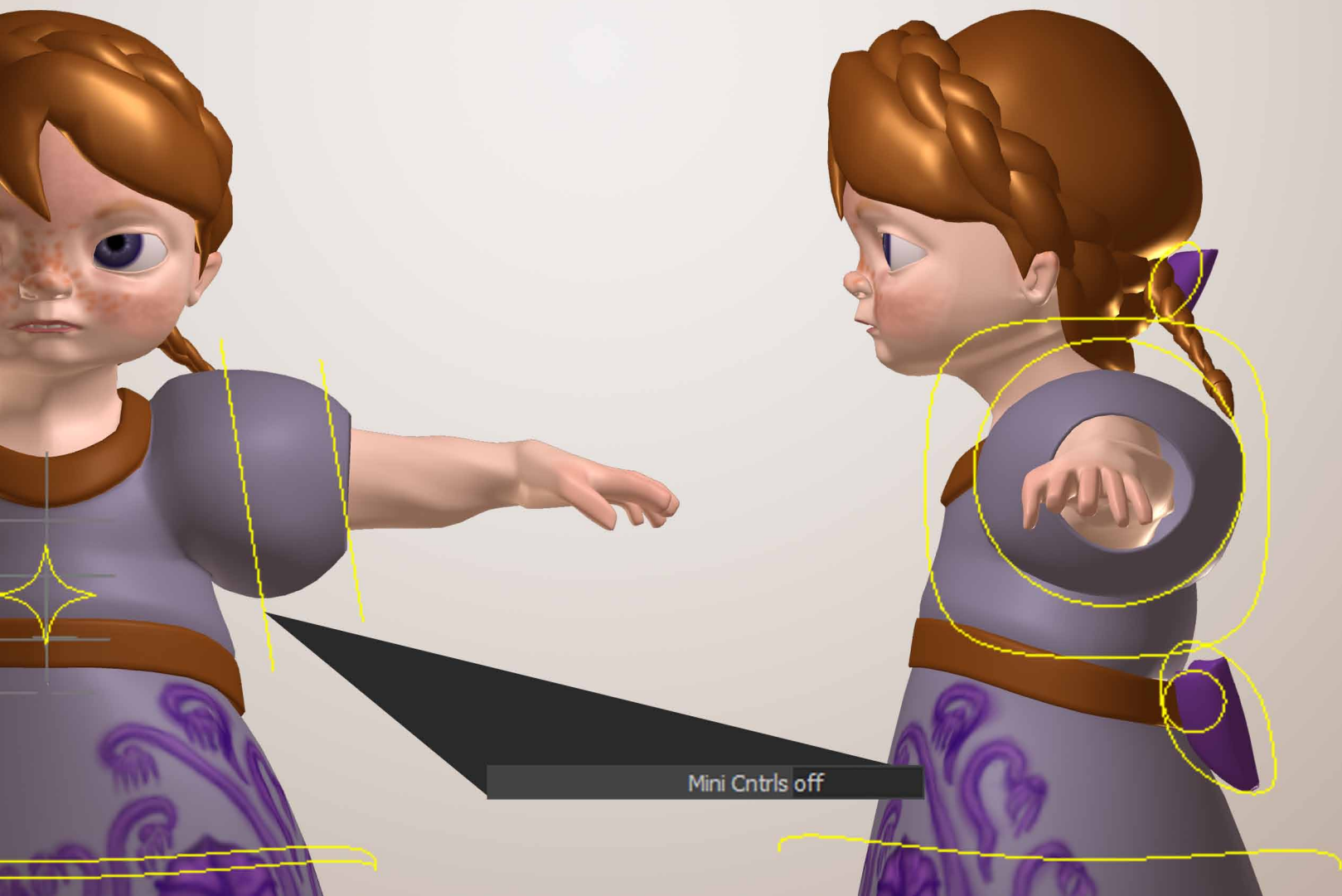
Head Controls

     Above Kate's head, you will find a control that has attributes for controling what the face effectors follow. The face controls can follow her head, the master control, or your current perspective camera. The blue circles nect to the facial controls place them in respect to the current follow configuration. Under the head control is also an attribute for braid controls. The braids are dynamic but there are controls over them. After the dynamics have run, you can activate the controls to fix the movement as you see fit.

Head Cntrls Follow	Persp
Face Cntrls	Off
Braid Cntrls	Off

Eyebrows

Mouth

Mouth

Eyes

Nose

Corners

Eyebrow

Eyes

FK

Nose

Mouth

Mouth

Corners

Parent Space	Head
Single Eye	Off

# How To Animate With This Character

Using the Master Control;

I would suggest starting with the controls showing. If you would like, you can make the clothes invisible to save on speed. Animating would work similar to other characters at this stage. Animate you character out.

Once your character is animated, you can turn your controls off and turn your cloth controls on(Along with your clothes if you where animating with them turned off). Push the controlers into the correct place for the motion.

When this is finished, you can turn on the mini controlers to fix any clipping that has occurred with the body.

Happy Animating.
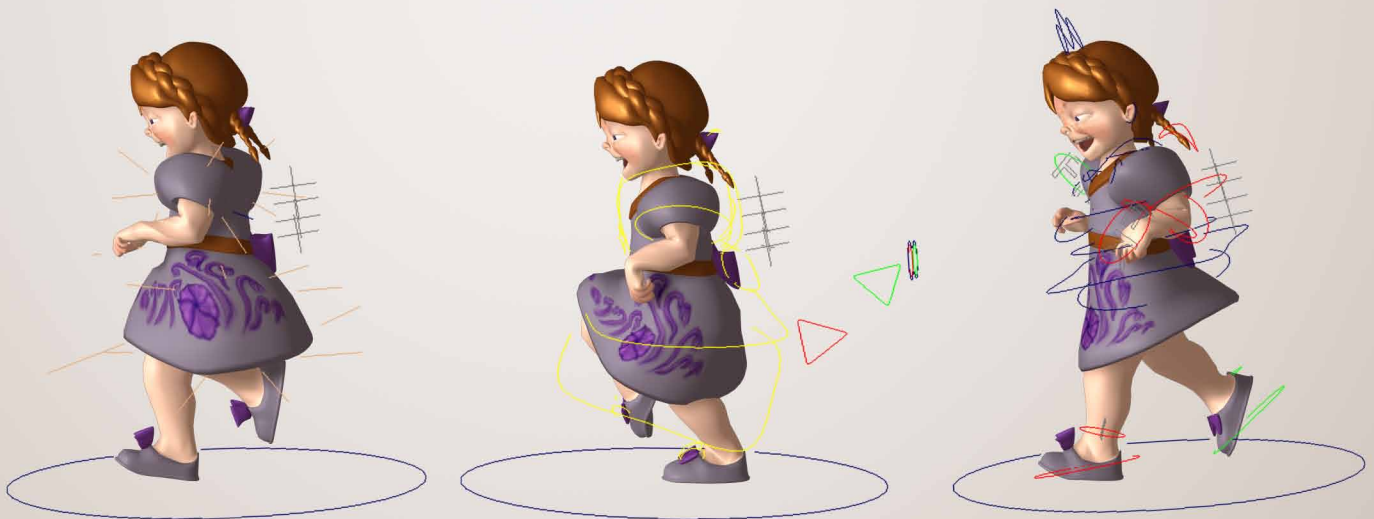
Kate from
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Thank You !!

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