Avatar Animation Specs

Images and animation required for the MicroCosm avatar
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Introduction

This document is the specification for the set of animation cels required to represent avatars in all their diverse forms and actions within the **MicroCosm** world.

Views

Avatars may be displayed from any of four views: front, back, left side and right side. Since the avatar is bilaterally symmetrical, the only views which actually have to be created and stored are the front, back, and one of the side views. The cels for the second side view can be obtained by reflecting the cels for the first side view left-to-right during the rendering process. Thus three complete sets of animation cels will be required.

We may wish to enhance the animation by including 45° angle views as well. However, the four additional views will require two additional sets of cels, bringing the total number of cel sets to five. This entails a two-thirds increase in the amount of graphic material that must be generated and stored. This cost may be prohibitive in both terms of the available disk and memory space and in terms of the number of hours of our animator's time we have.

Cels

An avatar is a generic humanoid figure. It is made of five cels: the torso, the left arm/hand, the right arm/hand, the legs/feet, and the head. Possible uses for a sixth cel include a hat on the head and objects in either hand. The overall avatar figure should be roughly 70 pixels tall in the standing position, with the various body parts proportioned accordingly.

The avatar is located on the screen by the position of its leg cel. The torso is then attached to the legs and the arms and head are attached to the torso.

Positions

The avatar should be capable of holding any of three basic positions:

- Standing
- Sitting
- Laying

while simultaneously holding either of its arms in any of these positions:

- At side
- Upper arm at side, elbow bent 90° (as if holding something to the belly)
- Upper arm at side, elbow bent more or less all the way (as if holding something to the chest)
- Extended in front
- Extended way out in front (like Frankenstein)

- Hands at head
- Extended to side with elbow crooked 90°
- Extended to side fully
- Raised vertically

The avatar should also be capable of making reasonable transitions from any position to any other position.

Motions

The avatar should be capable of the following motions:

- Walking (with arms at sides or while carrying something in either or both hands)
- Running (same arm constraints)
- Jumping in place
- Operating device in hands or controls at waist height
- Operating device in hands or controls at chest height
- Operating device in hands or controls at head
- Picking something up from/setting some thing down on the ground
- Picking something up from/setting some thing down on a table
- Ducking
- Striking another avatar
- Getting hit/shot
- Falling over
- Putting on/taking off clothing
- Rummaging through pockets
- Waving hands/gesturing
- Shaking hands with another avatar
- Opening/closing door

Clearly there will be a lot of overlap between the various cel states required to realize all of these (there had better be if we are going to make it all fit). In any case, as of this draft this list is still a working document and subject to revision as suits us.