CompSci 94
Classwork: More Events
March 1, 2018

Prof. Susan Rodger
1) Setting up the scene

- Add in any ground cover, maybe sand
- Drag in these objects:
  - Biped: CheshireCat, Bunny, Alice
  - Prop: CoinStack (3 of them), SaguaroCactus
  - TextModel
- See next slide on where to place them
Placement of objects

• Place objects here. Note there are three coinstacks, put them anywhere.
• 3DText is set to hello and then make it invisible
Story

• When the cat is close to the cactus for the first time, the cactus tells the cat to pick up the three piles of coins and bring them to the cactus.

• The cat collects the three piles in its right hand, a counter counts the piles as they are picked up. The cat brings the to the cactus.

• When the cat is close to the cactus, the piles of coins are dropped to the ground, and the cactus says: You have completed the mission.
Story continued

• Once the mission is complete, if the cat goes near Alice, then she says “yeah” and she and the bunny spin around once.

• This should now happen every time the cat is near Alice
Note – MyFirstMethod should be blank!

• This whole story is interactive!
2) Add in a ModelManipulation listener

• Try moving the objects around (back and forth, up and down and turn them).
3) Setup the counter

• Add a **SCENE property** called coinCounter that is a wholeNumber
• Initialize it to 0
• We will update this number and then display it with the visual 3Dtext counter
4) Write a Scene procedure `setupCounter`

- It should set the `coinCounter` to the number `0`
- It should set the 3D text counter to the string “0”
- It should make the counter visible (you should have already made your 3D text invisible and then this will turn it on when we are ready to use the counter. )
5) Write the SCENE procedure `updateCounter`

- This should update the numeric counter, by adding one to it.
- Then it should set the text that goes with the 3Dtext to the value of this number. (that will make the number display).
6) Write SCENE procedure collectCoins to collect one stack of coins

• Create a parameter of type Smodel (this is for all the coin stacks) called coins

• If the coins are completely visible (opacity is 1) then
  – Move the coins to the cat’s rightWrist and glue them to the wrist
  – Set their opacity to .9 (so we don’t pick them up again)
  – Update the counter by calling updateCounter
7) Add in another SCENE property called “state” of type textString

• We will use the state property to help guard events. It will start with the value “start”, then we will change it to “run” while you are collecting coins and then “finish”

• This will help us guard the event listeners to only work at certain times
8) Now let’s create the rest of the events –
create pointOfViewChangeListener

• This event is under position/orientation. For the custom array put in just the chesireCat
• If the cat is close to the cactus and the state is “start” then
  – Cactus should tell the cat to pick up the three piles of coins and to bring them to the cactus
  – Call setupCounter
  – Set the state property to “run” (that means this part of the event only happens once)
8) Continue the event with another if

- If the cat is close to the cactus and the state is in the “run” state and all three stacks of coins have been picked up (that is, coinCounter should be 3) then
  - Put the coin stacks on the ground
  - Unglue the coin stacks
  - Set the state to “finish” (so this part of the event cannot happen again)
9) Create another `pointOfViewChangeListener`

- This one is also for the `cheshireCat`
- If the state is “run” (only pick up coins if the counter has been started) and the cat is close to any of the coinstacks, then call `collectCoins` with that `coinStack` (note you will need three ifs – one for each coin stack)
10) Create one more `pointOfViewChangeListener` for the cat

- If the cat is close to Alice and the game is over (that is the state is “finish”) then Alice should say “Yeah” or something like that, and both Alice and the bunny should turn all the way around.