CompSci 94
Introduction to Events
Mouse Events
October 31, 2024

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Announcements

- Assignment 5 due Thurs, Nov 7
- Videos and online quiz for Tuesday

- Today we start event programing and building games
  – We are using all the programming concepts we have learned

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Q1. How do I setup an object marker for the bunny?

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- Go to scene setup
- Select the bunny first!
- Add objectMarker
- Should see it on the bunny

Q2. How do I use an object marker?

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- Use it just like a camera marker.
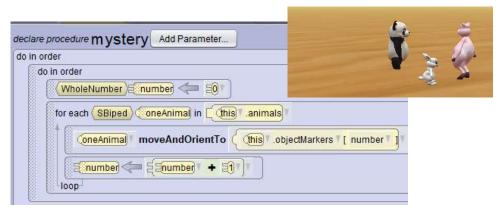- Bunny moveAndOrientTo objectMarkerBunny

Q3. Consider the following

- Have 3 animals in an array named animals, and three object markers in an array called objectMarkers. They are in the order in the array as shown from left to right.

Q3: Suppose the animals have moved as shown. What does the mystery procedure do?


```
declare procedure mystery   Add Parameter...
do in order
    do in order
        WholeNumber number ⇐ 0
        for each SBiped oneAnimal in this .animals
            oneAnimal moveAndOrientTo this .objectMarkers [ number ]
            number ⇐ number + 1
        loop
```

Q3: Suppose the animals have moved as shown. What does the mystery procedure do?


```
declare procedure mystery    Add Parameter...
do in order
  do in order
    WholeNumber = number <= 0
    for each SBiped oneAnimal in this.animals
      oneAnimal moveAndOrientTo this.objectMarkers [ number ]
      number <= number + 1
    loop
```

- It moves the animals back to their original position and orientation.

Q4. What does the following code do?

```
do in order
  this.panda move RIGHT , 1.0    add detail
  do together
    this.panda move LEFT , 1.0   add detail
    this.panda delay 2.0
  this.panda turn RIGHT , 0.5    add detail
```

Q4. What does the following code do?

```
do in order
  this.panda move RIGHT , 1.0    add detail
  do together
    this.panda move LEFT , 1.0   add detail
    this.panda delay 2.0
  this.panda turn RIGHT , 0.5    add detail
```

- Panda moves right, then panda moves left
- Then there is a delay of 1 sec, the doTogether has to finish.
- Then the panda turns.

Q5 - How do you fix the code below so you only click on cow and moose for them to turn around?

- A scene has bear cub, cow, dalmatian and moose.

```
this addMouseClickOnObjectListener  add detail
declare procedure mouseClicked  event getModelAtMouseLocation
do in order
  event getModelAtMouseLocation turn RIGHT , 1.0  add de
```

Q5 - How do you fix the code below so you only click on cow and moose for them to turn around?
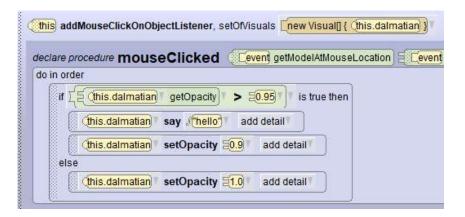
- A scene has bear cub, cow, dalmatian and moose.


```
this  addMouseClickOnObjectListener, setOfVisuals  new Visual[] { this.cow, this.moose }
  declare procedure mouseClicked  event getModelAtMouseLocation  event getSc
    do in order
      event  getModelAtMouseLocation  turn  RIGHT , 1.0  add detail
```

- Add Detail – Visual array of cow and moose

Q6 What does this event do?

```
this  addMouseClickOnObjectListener, setOfVisuals  new Visual[] { this.dalmatian }
  declare procedure mouseClicked  event getModelAtMouseLocation  event
    do in order
      if  this.dalmatian  getOpacity  >  0.95  is true then
        this.dalmatian  say  "hello"  add detail
        this.dalmatian  setOpacity  0.9  add detail
      else
        this.dalmatian  setOpacity  1.0  add detail
```

Q6 What does this event do?

```
this  addMouseClickOnObjectListener, setOfVisuals  new Visual[] { this.dalmatian }
  declare procedure mouseClicked  event getModelAtMouseLocation  event
    do in order
      if  this.dalmatian  getOpacity  >  0.95  is true then
        this.dalmatian  say  "hello"  add detail
        this.dalmatian  setOpacity  0.9  add detail
      else
        this.dalmatian  setOpacity  1.0  add detail
```

- Every other time you click on the dalmatian, it says hello.

Class Today

- Make a simple game