PuppetMaster: selecting a character.

```
public class PuppetMaster{

    private CartoonCharacter  cc1= new CartoonCharacter(100, 100, "blueguy");

    private CartoonCharacter  cc2= new CartoonCharacter(500, 100, "greenguy" );

    private CartoonCharacter  selectedCC = cc1;   // the selected one

    private double walkDistance = 20;

    public void setupGUI(){
        UI.addButton( "Smile", this::doSmile);
            ⋮
    }
    public void doSmile(){
        this.selectedCC.smile();
    }
    public void doFrown(){
        this.selectedCC.frown();
    }
    public static void main (String[] args){
        new PuppetMaster().setupGUI();
    }
}
```
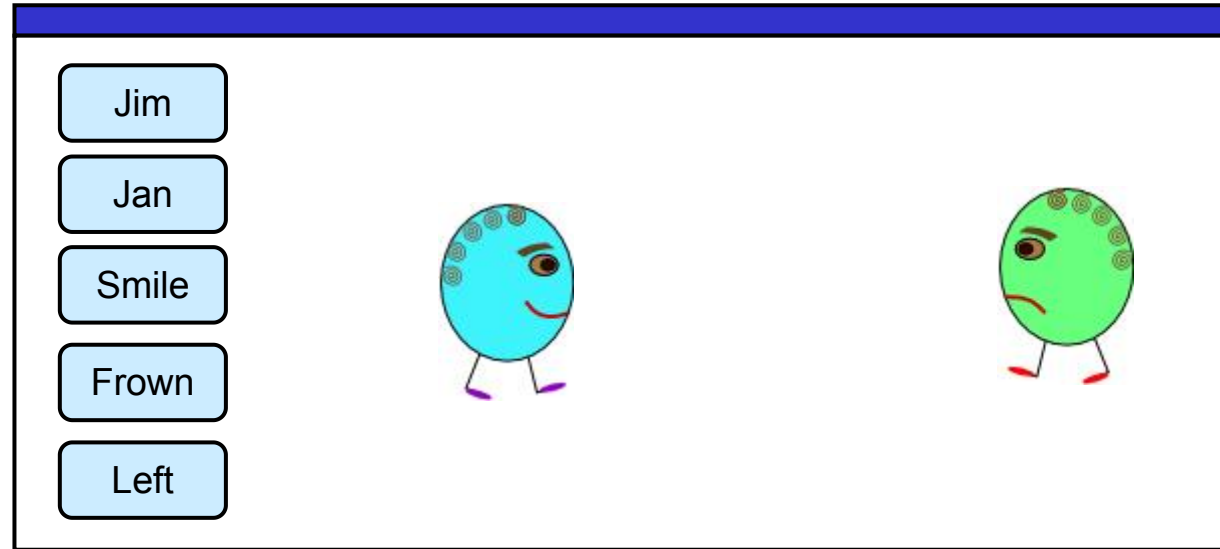
How do we change
the selected character?

PuppetMaster: buttons for selecting

```java
public void doJim() {
    this.selectedCC = this.cc1;
}
public void doJan() {
    this.selectedCC = this.cc2;
}
public void doSmile(){
    this.selectedCC.smile();
}
public void doWalk() {
    this.selectedCC.walk(this.walkDistance );
}
public static void main (String[] args){
    PuppetMaster pm = new PuppetMaster();
    UI.addButton( "Jim", this::doJim);

    UI.addButton( "Jan", this::doJan);

    UI.addButton( "Smile", this::doSmile);
          ⋮

}
```

PuppetMaster: two characters

PuppetMaster-3

cc1: CartoonCharacter-11

cc2: CartoonCharacter-12

selectedCC: CartoonCharacter-12

CartoonCharacter-11

figX: 110   emotion: "smile"

figY: 200   direction: "right"

imgBaseName: "blue"

CartoonCharacter-12
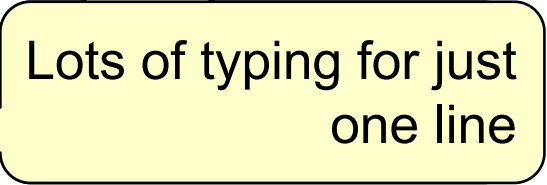
figX: 350   emotion: "frown"

figY: 200   direction: "left"

imgBaseName: "green"

Which objects can be in the "listeners"

```
public class PuppetMaster{

    private CartoonCharacter cc1 = new CartoonCharacter(200, 100, "blue");

    public PuppetMaster(){
        UI.addButton("Smile", this::doSmile);
        UI.addButton("Frown", this::doFrown);
        UI.addTextField("Say", this::doSpeak);
            :
    }
    public void doSmile(){
        this.cc1.smile();
    }
    public void doFrown(){
        this.cc1.frown();
    }
    public void doSpeak(String words){
        this.cc1.speak(words);
    }
}
```

Lots of typing for just one line

Saving unnecessary methods:

```
public  class  PuppetMaster{

    private CartoonCharacter cc1 = new CartoonCharacter(200, 100, "blue");

    public  PuppetMaster(){
        UI.addButton("Smile",  this.cc1::smile );
        UI.addButton("Frown", this::doFrown);
        UI.addTextField("Say", this::doSpeak);
            :
    }
    public void doSmile(){
        this.cc1.smile();
    }
    public void doFrown(){
        this.cc1.frown();
    }
    public void doSpeak(String words){
        this.cc1.speak(words);
    }
}
```