Tkinter animation
Marquette University
Animation

- Animation consists of displaying frames
  - A frame is a still picture
  - Ultimately, computer redraws the viewing surface completely
- To make animation efficient,
  - Avoid redrawing the same elements
  - Learn how to predict and show movement
Animation

• Modern computer graphics puts most of the graphical computation into the graphics card
• Computer graphics cards are so powerful that they can be used as processing engines
Animation with Tkinter Canvas

• Tkinter canvas allows you to move objects
  • Need to retain the object id returned with the create_ method

• Sometimes simpler:
  • Redraw the canvas completely
  • Has bad performance but is quite simple
Animation with Tkinter

- To present smooth interface:
  - Need to redraw canvas at least 25 times per second
  - Often requires too much calculation in the CPU
Animation with Tkinter

• Possibility 1:
  • Use the after method in order to call a callback function over and over again
    • Need to repeat the call within the callback function because otherwise it will only be called once
Animation with Tkinter

class Test:
    def __init__(self):
        self.window = tk.Tk()
        self.window.after(2, self.alert)
        self.window.mainloop()
    def alert(self):
        print("hello")
        self.window.after(2, self.alert)
Animation with Tkinter

- Possibility 2:
  - Use an infinite loop
    - Still needs an initial “after” in order to be started
  - Use time.sleep in order to suspend animation long enough
Animation with Tkinter

class Test:
    def __init__(self):
        self.window = tk.Tk()
        self.window.title("testing")
        self.window.after(2, self.alert)
        self.window.mainloop()
    def alert(self):
        while True:
            time.sleep(2)
            print("hello")