```python
 1  # FireWorks CSUMS Spring 2013 A. O. Hausknecht
 2  from visual import *
 3  from visual.graph import *
 4  import random
 5  # Create the scene
 6  scene1 = display(title='Fireworks', x=0, y=0, width=700, height=700, center=(0,0,4)
 7  scene1.range = 200
 8  #
 9  class Willow(object):
10      """A class to simulate a willow firecracker."""
11      def __init__(self, t0, x0, y0, n):
12          self.t0 = t0; self.p0 = vector(x0, y0, 0)
13          self.a0 = vector(0, -32, 0)
14          self.ballsHidden = True;  balls = []
15          colors = [color.red,     color.green, color.blue,  color.yellow,
16                      color.magenta, color.cyan,  color.white, color.orange]
17          for i in range(n):
18              c = colors[i % 8]
19              b = sphere(pos = self.p0, radius = 0.5, color = c , visible = False,
20                          make_trail=True, trail_type="points", retain=0)
21              b.make_trail=False
22              angle = radians(random.randrange(30, 150))   # Random velocity angle
23              b.v0 = vector(cos(angle), sin(angle), 0)*60  # Random velocity
24              balls.append(b)
25          self.balls = balls
26          self.rocket = arrow(pos = (x0, y0-32, 0), axis = (0, 4, 0),
27                          color = color.white, make_trail=True,trail_type="points")
28
29      def move(self, t):
30          """The function 'Move' moves all the firework parts."""
31          t -= self.t0+2
32          if (t<0): # Launch the firecracker
33              p0 = self.p0
34              self.rocket.pos = vector(p0.x, 16*t+p0.y,0)
35          elif self.ballsHidden and t>=0: # Show the firecracker parts
36              for b in self.balls:
37                  b.visible = True
38                  b.make_trail = True; b.retain = 100
39                  b.trail_object.color = b.color
40              self.ballsHidden = False
41          elif t<6: # Move firecracker parts via the equation of motion near earth
42              for b in self.balls:
43                  b.pos = self.p0+ b.v0*t+self.a0*(t**2)/2.0
44
45
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```python
46  # Create the mouse click callback and bind it to the scene
47  def showFireWorks(evt):
48      """Creates a new firecracker at point of mouse click"""
49      global fireworks
50      fireworks.append(Willow(t, evt.pos.x, evt.pos.y, 50))
51
52  scene1.bind('click', showFireWorks)
53
54  #Initialize
55  #
56  ## 1. Create the moon
57  moonData = materials.loadTGA("moon256x256.tga")
58  tex = materials.texture(data=moonData, mapping="sign", interpolate=False)
59  moon = sphere(pos = (50,50,-50), radius= 50, axis=(0,0,1),
60                color = color.black, material=tex)
61  ## 2. Create the global variables
62  fireworks=[]
63  t = 0; dt = 0.1
64
65  #Annimation Loop
66  while True:
67      rate(20)
68      t += dt
69      for f in fireworks:
70          f.move(t)
71
72
73
74
75
```