

## Lab 11: Steering 1 – Seek, Arrive, Flee

## Objective

The objective of this lab is to use and extend a basic model of steering movement for autonomously moving agents. The behaviours of Seek, Arrive, and Flee will be used and will form the basis of other compound steering behaviours used in later work.

Add Additional Agents:

```
elif symbol == KEY._7:
    world.agents.append(Agent(world))
```

Complete Flee Behaviour:

```
def flee(self, hunter_pos):
    ''' move away from hunter position '''
## add panic distance (second)
## add flee calculations (first)
    panic_range_sq = 100
    if self.pos.distanceSq(hunter_pos) < panic_range_sq ** 2:
        desired_vel = (self.pos - hunter_pos).normalise() * self.max_speed
        return (desired_vel - self.vel)
    return Vector2D()
```

Add Deceleration Speeds:

```
DECELERATION_SPEEDS = {
    'slow': 0.9,
    'normal': 1.5,
    'fast': 2
    ### ADD 'normal' and 'fast' speeds here
}
```

Change Physical Properties of Agents:

```
def __init__(self, world=None, scale=30.0, mass=100.0, mode='seek'):
    self.max_speed = 500000.0
```