Artificial Intelligence

Project #2

## Advanced Steering Behaviours & Path Following: Flocking and Formations

### Due: March 4th at 11:59 pm

This assignment will show off your skills in developing formation behaviours with a group of entities, maintaining the formation shape, flocking, and path following.

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| # | **Item** | **Mark** |
| 1 | Generate 12 of the same entities in your scene. | / 5 |
| **Formation Behaviours** | | |
| 2 | Develop 5 different formation shapes. Each formation must be bound to a key press from 1-5. When this number key is pressed, the formation will be formed by all the entities on the screen:   * 1 = Circle * 2 = V * 3 = Square * 4 = Line * 5 = Two Rows | / 25 |
| **Flocking** | | |
| 3 | Bind a key event to perform flocking when key 6 is pressed.   * Bind keys to increase and decrease the weights for cohesion, separation and alignment of the flocks, but maintain a sum of 1.0 for all of the weights.   Flocking must be calculated in local flocks. | / 25 |
| 4 | Bind a key event to regroup to the last designated formation after a flocking action has been called to key 7. | / 5 |
| **Path Following** | | |
| 5 | Start following the path when key 8 is pressed.   * The path must contain at least 5 turns and not a straight line. * Formation must be maintained | / 10 |
| 6 | Reverse the path following when key 9 is pressed. | / 10 |
| 7 | Stop following the path when key 0 is pressed   * All agents must steer to their designated position in the formation. | / 10 |
| **Bonuses** | | |
| 8 | Flocking follows the path when key 5 or 6 is pressed. | / 10 |
| **Total** | | |
|  |  | / 90 |