

# Techniques and Algorithms in Video Game AI Developing



Advanced Techniques in AI

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# Introduction

- Some years ago, agents “intelligence” was very simple.
- As time go by, people improve algorithms → Improvement in AI.
- Video game industry grows → algorithms and techniques used too.
- Three most used algorithms:
  - Pathfinding
  - Dead Reckoning
  - Flocking

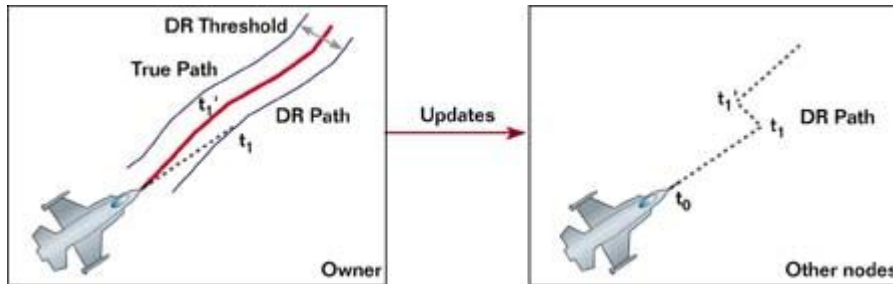
# Pathfinding

- Objective: find the shortest route between two points.
- Heavily based on Dijkstra's algorithm.
- Related technique: "Navigation Meshes"



# Dead Reckoning

- Process of calculating one's current position by using a previously determined position.

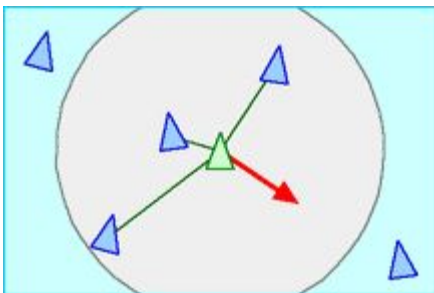




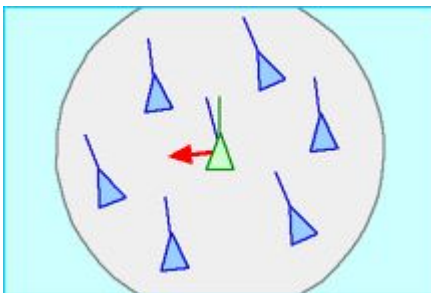
# Flocking

- Collective motion of a large number of self-propelled entities.

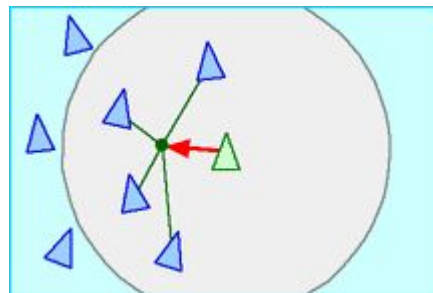
Separation



Alignment



Cohesion





## Conclusions

