



The DARKNESS II



A cinematic illustration of John Wick, played by Keanu Reeves, sitting in a dark, ornate chair. He is wearing a dark suit and holding two silver handguns. A large, dark, scaly dragon with glowing red eyes is breathing fire and smoke from its mouth, directed towards him. The background is a swirling, smoky, golden-brown color.

Building Better Baddies

Daniel Brewer
Digital Extremes



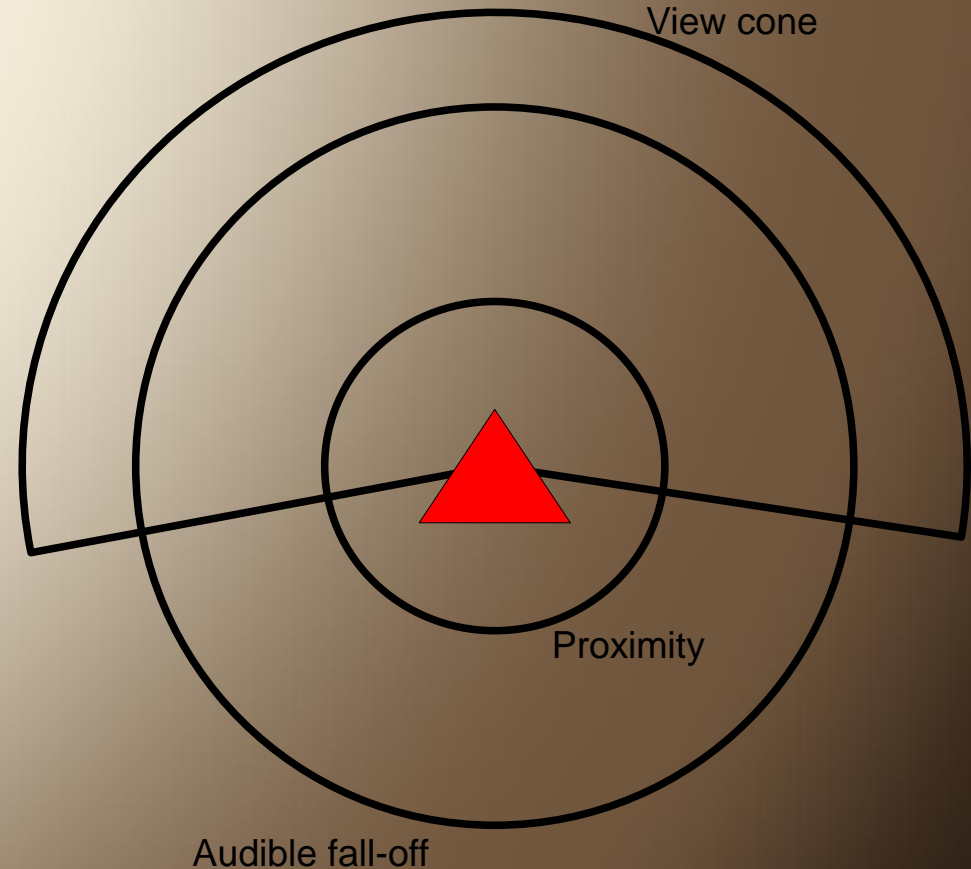
Topics Covered

- Perception System
- Reaction System
- Combat Chatter
- Agent Coordination
- Collision Avoidance

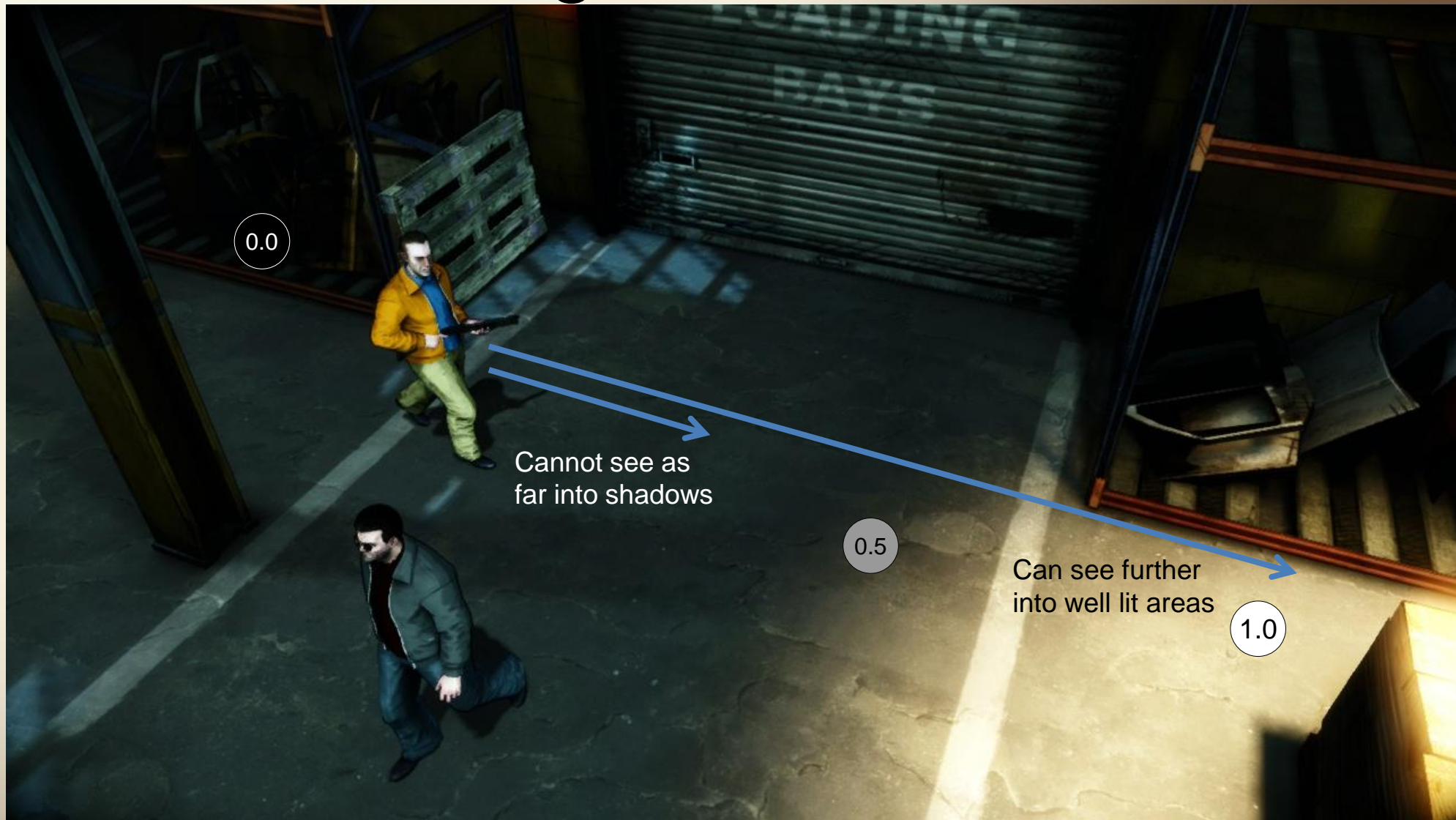


Perceptions

- View-cone LOS visibility
- Sound fall-off audibility
- Proximity
- Last known position tracking and sharing
- Different view-cones for different awareness states

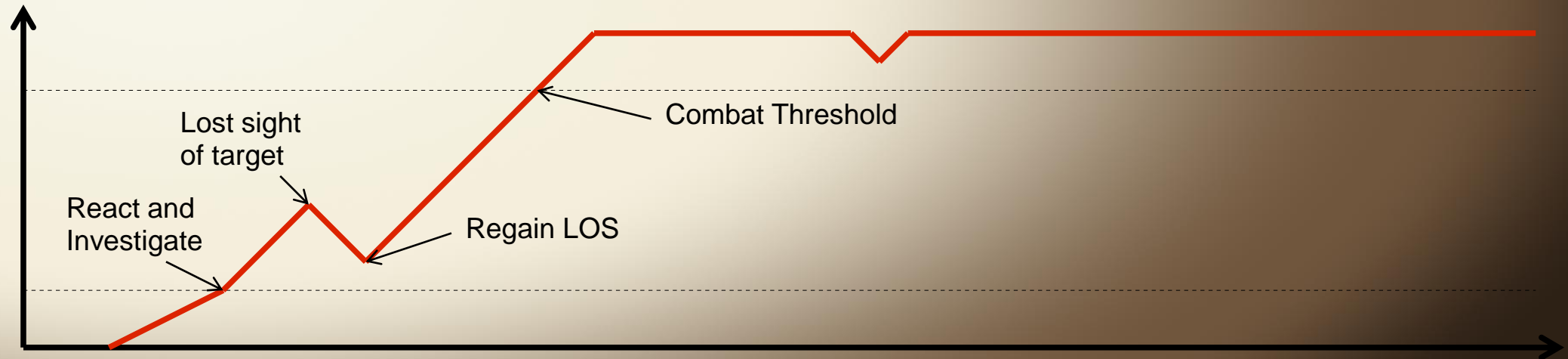


Light vs Dark



Reaction Time

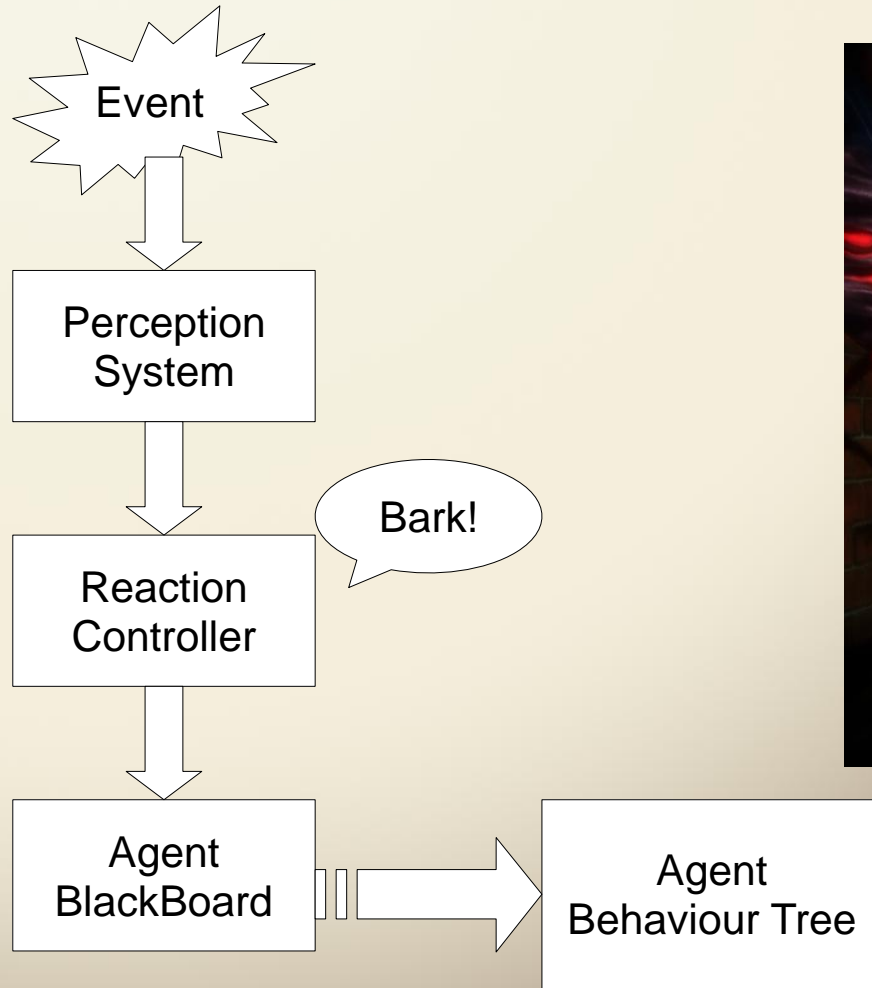
- No instantaneous state-changes
- Be forgiving to the player
- More natural responses
- Reaction time dependent on difficulty level



Need More Interesting Barks



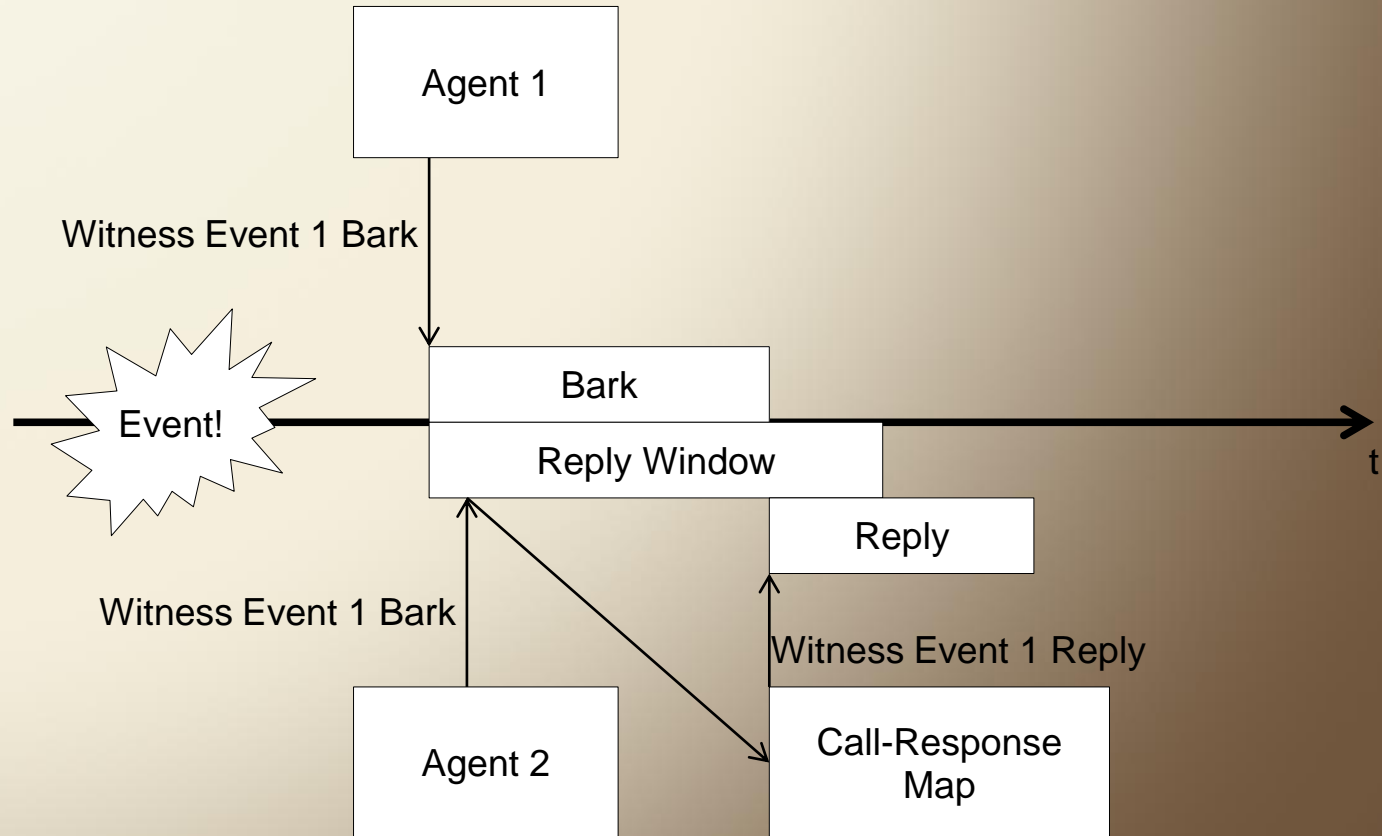
Reaction System



Combat Chatter



Call and Response



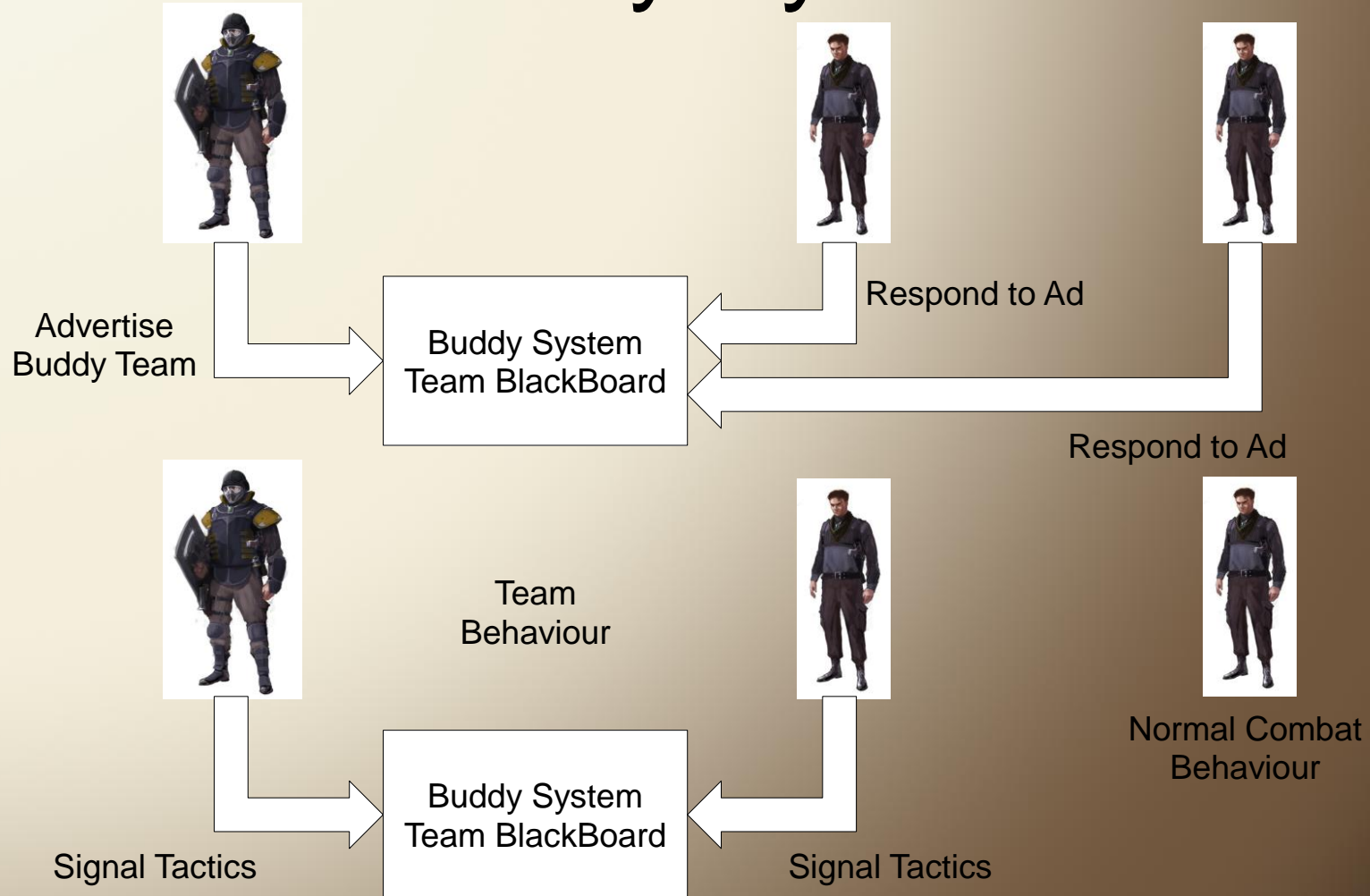
Better Combat Chatter



Buddy System



Buddy System



Collision Avoidance

Optimal Reciprocal Collision Avoidance

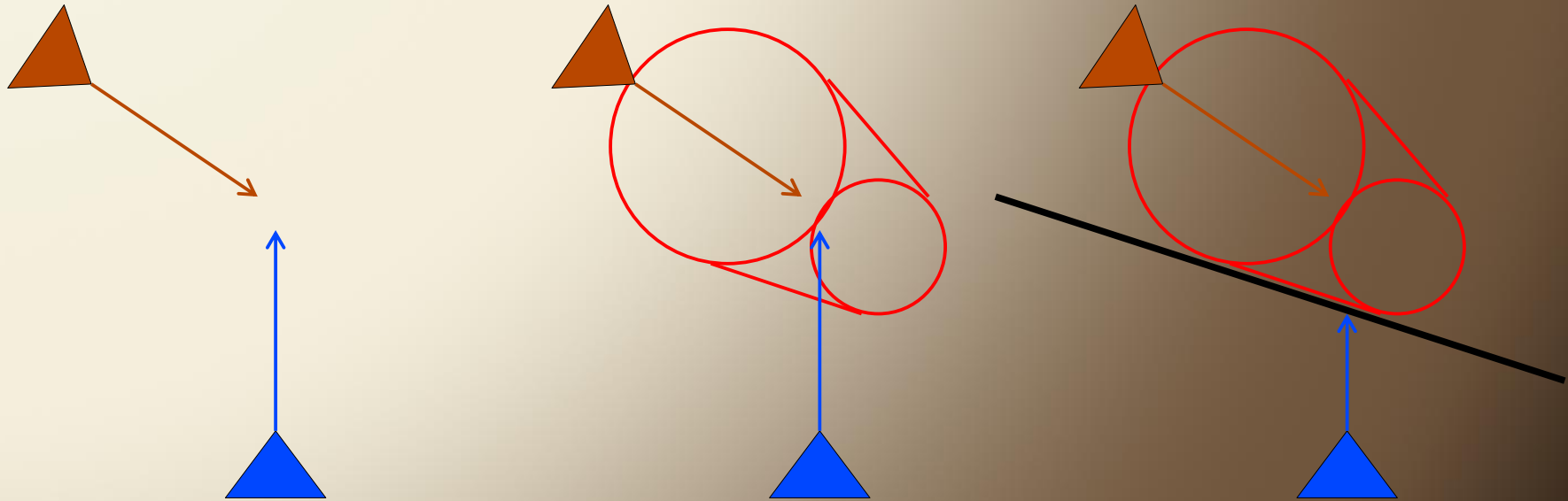
Jur van den Berg, Stephen J. Guy, Jamie Snape, Ming C. Lin, and Dinesh Manocha

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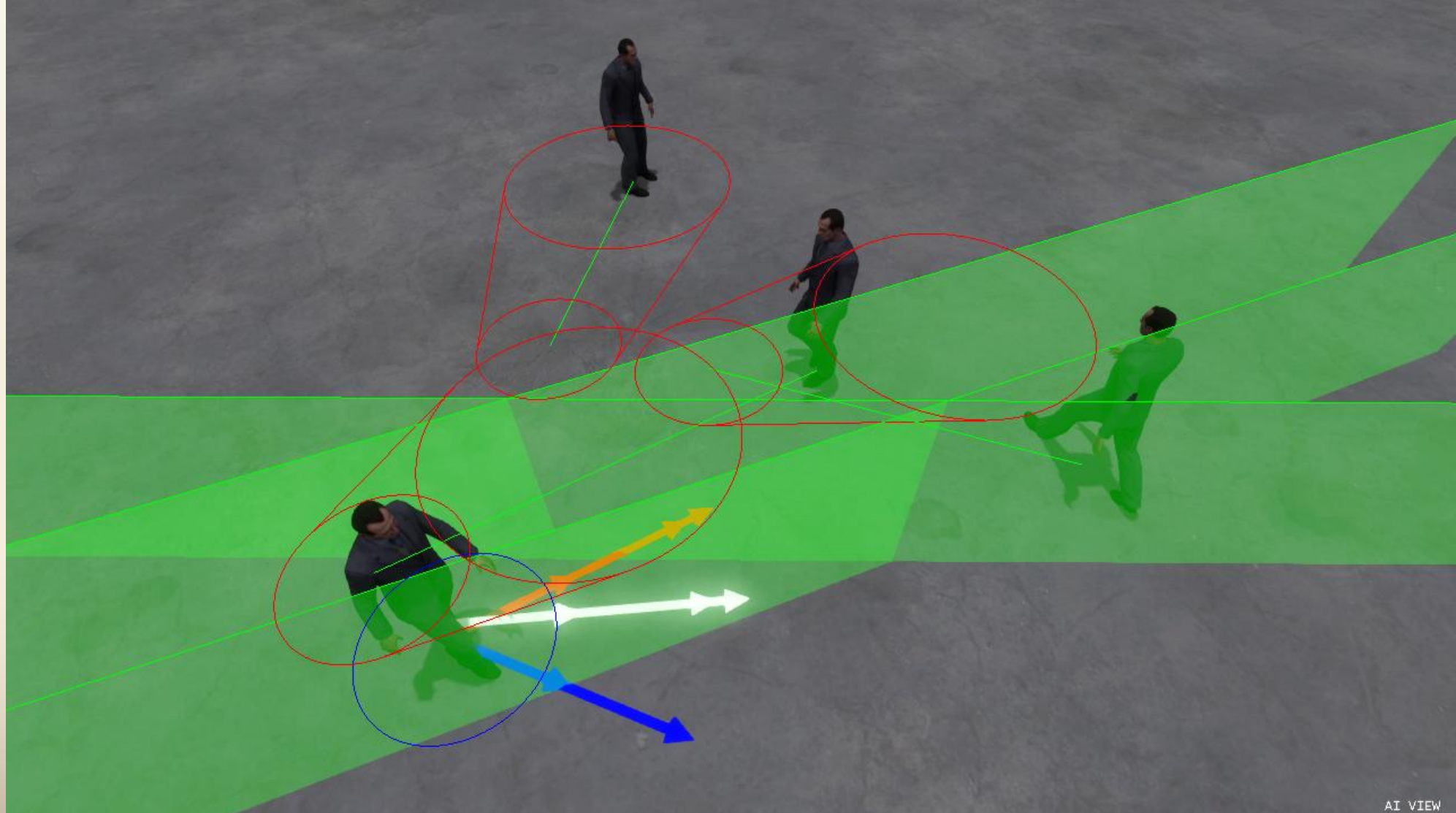
<http://gamma.cs.unc.edu/ORCA/>

- Velocity Space
- React to avoid where obstacles will be in the near future
- Linear Programming to solve for optimal velocity

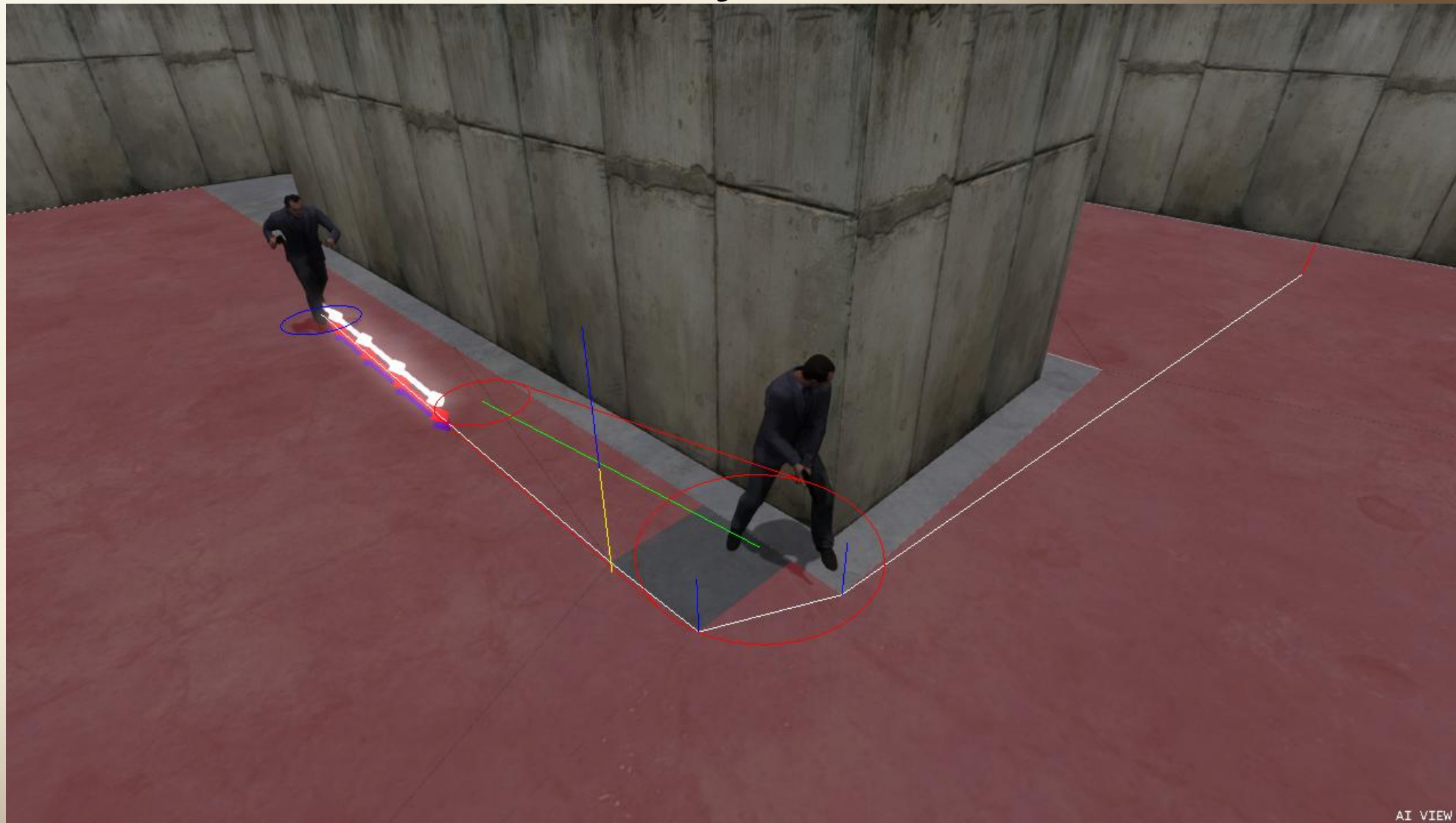
Velocity Obstacles



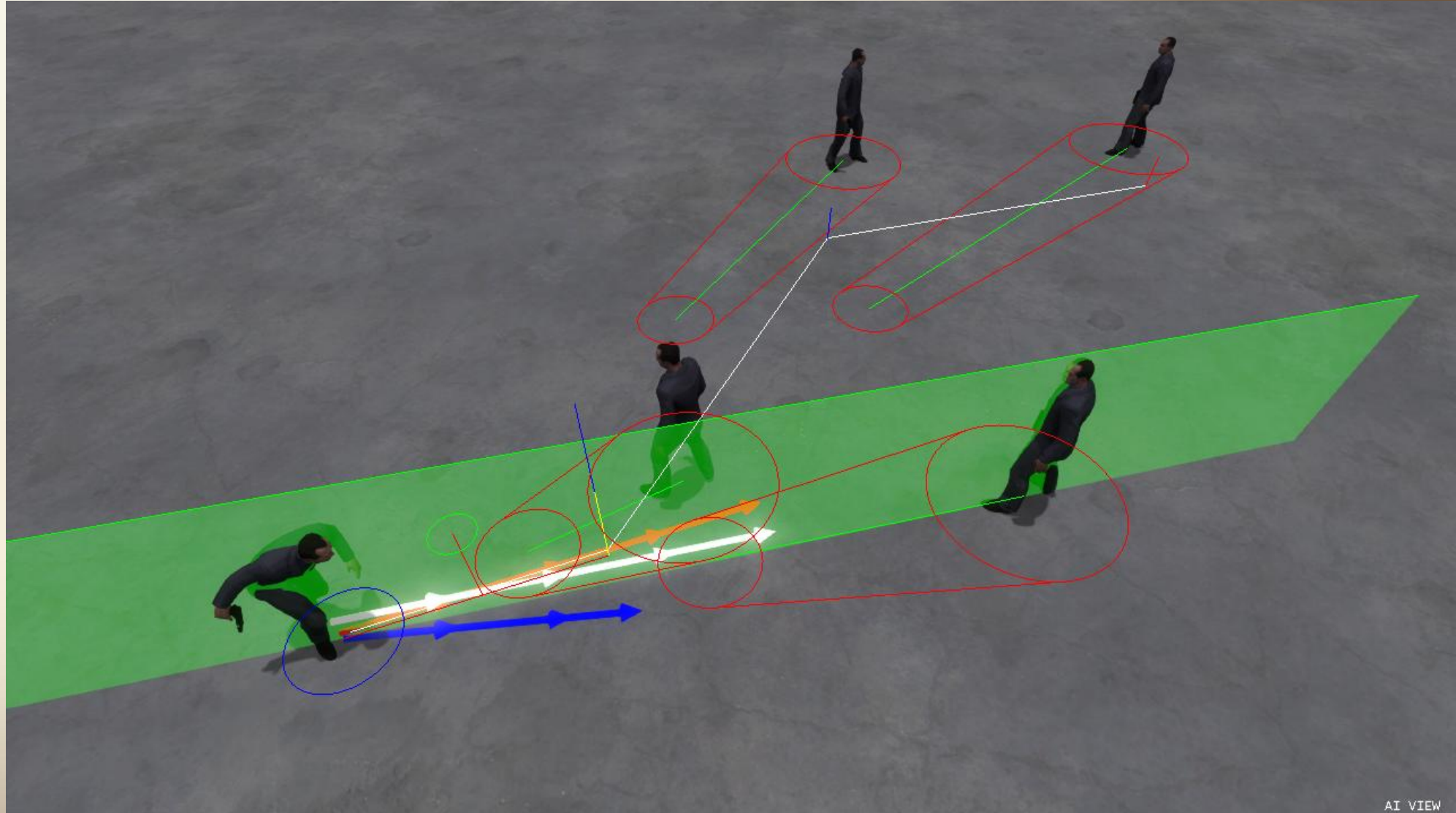
Multiple Obstacles



Stationary In Cover



Path Following



Game-play Video





Questions?

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