

Pedestrian Modeling in Urban Environments with Agent-Based Systems

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Rough Project Timeline

- 1st Week
 - Check out a facility machine for development
 - Compile our pre-existing 3D engine and familiarize ourselves with it
 - Make sure we have all necessary software working
 - Preliminary walking animation
 - Write up bids, proposals, etc.

Rough Project Timeline

- 2nd - 5th Week
 - Model agent environment
 - Reading and research and beginning experimentation with agent AI
 - Large test simulations for evaluating system requirements/potential
 - Create list of desired choreography and begin researching ways to implement it

Rough Project Timeline

- 6th - 9th Week
 - Continue model animations and associated AI decision making processes
 - Running meaningful simulations with low degree of human predictability
 - Narrowing down and refining AI algorithms for realistic human behavior

Rough Project Timeline

- 11th - 14th Week
 - Nail down and polish up algorithms for pedestrian choreography
 - Finalize animation sets that pedestrians are able to perform
 - Complete region avoidance and all other AI decision space
 - Start final demo preparations

Rough Project Timeline

- 15th - 16th Week
 - Have working system ready for demonstration
 - Possible, time-permitting additions of features such as vehicles
 - General refinement and polish of entire project

Resource Utilization

- Human Resources
 - Professor Paul Torrens
 - Professor Tom Henderson
 - Cool Team Name
- Literature
 - Papers on Pedestrian Modeling
 - Books: Geosimulation, SPSG

Person Expected Hours

- 12-20 Hours Per Week Per Person

Equipment/Software Required

- OpenGL
- Microsoft Visual Studio .NET C++
- Crystal Space 3D
- Windows XP

Technical Approach

- From extensive research and reading on the topic of pedestrian modeling we hope to have a good understanding of how to create realistic human behavior.