

Research Area Evaluation

2006-2007

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The research area matching my interests is Software Engineering/Architecture.

My project will be loosely based on the implementation described in the paper "A Flexible and Expandable Architecture for Computer Games" by Jeff Plummer. This paper attempts to analyze the problems in game architecture and design a new architecture that fixes these problems. This includes allowing for flexible game development, modularity in all systems, and easy use of middleware. A prototype was created with this paper using C++ and OpenGL.

The stated goals of the paper were to achieve an architecture with easy middleware-based development, better knowledge localization, flexibility/modifiability, and expandability/maintainability. High performance was not a goal of the design. Plummer read several available books on the subject of game architecture and chose two popular games to include in analysis: Starcraft and Unreal Tournament.

The paper's suggested design is based on a data-centered, "System-of-Systems" architecture. This means that game objects do not act, but are acted upon by the various, separate systems (such as audio, AI, graphics, etc.).

My project will be attempting to implement a similar design, also in C++ and with OpenGL. The original paper is available at:

www.gamasutra.com/education/theses/20051018/plummer_thesis.pdf.