

INFORMATICS INSTITUTE OF TECHNOLOGY

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Thesis

for

Framework for automatic generation of Adaptive Combat

AI through Animations

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Abstract

This research proposes a method to prevent the cold start and other issues associated with adaptive game AI. This system overcomes these issues by providing a framework that allows a module enforcing common behaviour and traits to work in tandem with the adaptive component that is created by the developer; i.e. combining a heuristic driven algorithm to supplement the adaptive component. In order in order to create logic that works with any character or animation, it was necessary to tackle the problem of logic tied to specific animations and characters, hence decoupling of animation and logic was achieved through extraction of common animation data to drive the heuristic search. Results showed that the system was successfully able to enforce common behaviour, preventing the cold start and resulting in customizable and understandable behavior that works in conjunction with adaptive component. This research will provide a new overlook on creation of adaptive game AI in general by using a hybrid system providing a separation between of the common logic and behaviour and the adaptive component.

Keywords: Games, Artificial Intelligence, Adaptive Game AI, Heuristic Algorithms, Hybrid Architecture