TJHSST Senior Research Project
Programming a Fighting Game
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Abstract

Throughout my involvement in computer science, I have always wanted to find out how games are made.

Keywords: graphics manipulation, finite state machines

1 Introduction - Problem Statement and Purpose

1.1 Purpose

With this project I plan to implement finite state machines in the form of characters in a fighting game.

2 Background

Areas of study for this program:

1. Finite State Machines

   - Finite state machines are used to describe an object or process that only performs one action at a time. By providing information about the object's previous and current state and by allowing

certain conditions to change the state of the object, it can be used to model many real world phenomena. E.G. Stars go through different states over time.

2. Graphics Manipulation

- Besides providing the user of a computer program to interface with it more easily, computer graphics are an indispensable tool for modeling. Computer graphics make it possible to display pictures of molecules as seen with an electron microscope.

3   Procedures

To begin this project, a framework the program needs to be in place, along with representations of the state machines. After that, possible actions and conditions for those actions can be implemented onto the state machines, and give them the ability to interact with each other and their environment.

3.1   Software

Computer language(s) I'll use

1. Java

Programs I'll use

1. JGrasp

2. GIMP

3. Paint Shop Pro 9

3.2   Algorithms

At this time it is uncertain as to which Algorithms I may need to implement.

4   Expected Results

With the success of this project I should have a fully functional fighting game engine that is easily modifiable.

Future researchers may want to implement an AI system or add LAN/Internet multiplayer capability.

Developing this engine may take six to seven months, if the project goes ahead of schedule additional features may be considered.