Attribute Learning System

[Applying Genetic Algorithms to Improve RPG Combat Mechanics]

Austin Cory Bart
Virginia Tech
acbart@vt.edu

K. Alnajar
Virginia Tech
kar@vt.edu

ABSTRACT
Having a good set of moves for players to choose from in role-playing games (RPG) is essential for the game to succeed. Often times in an RPG, the players have various attributes which these moves can effect and coming up with good formulas for this is not easy. The process of creating an effective set of moves can take time and can be a difficult challenge to overcome in the design process. This paper propeses an implementation to effectively create these moves using a genetic algorithm implementation. Two seperate implementation styles of genetic algorithms are used, a tree style and a vector style. The results show that the vector styled approach for the genetic algorithm shows promising results in move set creation.

Categories and Subject Descriptors
1.2.1 [**ARTIFICIAL INTELLIGENCE**]: Applications and Expert Systems — *games*

General Terms
Genetic Programming

Keywords
Genetic, Programming, Game, Development

Weighted-delay cross-over variant - Potentially novel Mixed-children weighted-delay cross-over

describe the algorithm

Tried several approaches:

- Move usage**
- Battle victory**
- Battle length
- Linearity

Primaries vs. Primaries + Secondaries

Mutation. Original attempt was to simply randomly change nodes in the tree.

Cross-over

Mutation

Cross-over

We need to do work!