Title	AI
Author(s)	,
Citation	
Issue Date	2013-03
Type	Thesis or Dissertation
Text version	author
URL	http://hdl.handle.net/10119/11300
Rights	
Description	Supervisor: , ,

A Framework of Teammate AI for Learning Human-plyaer Utility and Selecting Own Move

Yoshigai Kei (1110067)

School of Information Science,
Japan Advanced Institute of Science and Technology

February 6, 2013

Keywords: Game AI, Utility, Machine Learning, Team-mate.

Until recent year, the biggest aim of study was to create " Strong " AI, and various methods were proposed. In the board games such as chess and Japanese chess, game AI's strength reached to professional level of human. In 1997, Deep Blue Computer has beaten the world chess champion, Mr.Kasparov. Study of AI treating computer games is popular as well as that of board game in recent year. Many of them treat First Person Shooting game and Real Time Simulation game, and the aim is to create " Strong " AIs. These type of studies are for exciting human players as " ENEMY " players.

On the ather hands, there are few studies for exciting human player as " BUDDY " player and focusing on except " Strength ". In recent year, there are many commercial video games that man player can team up with AIs, and play the game together. However, many of them often select move which is worthless for human player and sometimes it frustrate human player. So, in this study, we aim to create game AI that is delightful and good " BUDDY " player. We estimated that the reason of AI's worthless action is " game AIs don't understand human player's utility ". So we tried to solve the problem by giving the way t odescribe human utility for AI and educated them.

In this study, we assume that "human player feel the value of state from "the elements construct the state", and human player select own action by forecasting the value variation". By the assumption, we set up the Input-Output model, the input is "elements construct state" and output is value of state. By adjusting this model, we described human utility. We used the record of human player's order and human player's move for adjusting the model. In this research, we set up original command format RPG game and evaluate the performance of our method.