

システム情報工学研究科修士論文概要

年 度	平成 26 年度	学 位 名		修士(工学)
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報告書題目				
Believable combat AI for Role-Playing Games (ロールプレイングゲームのための believable 戦闘 AI)				
報告書概要				
<p>Role-playing games (RPG) are a game genre where the player controls one or more characters living in a fictional world. The characters not controlled by the player are called non-playing characters (NPCs), and are acted out by a game master. In computer RPG (CRPG), since there is no game master, NPCs behavior must be generated by the game itself. There are many different CRPGs but in all of them we can identify a combat phase where the characters fight. Outside combat, characters interact with each other and with the player mainly with dialogues, quests, or by doing normal daily activities. These behaviors most of the times can be statically scripted in the game beforehand with satisfactory results. The combat phase is a completely different matter. Often it is not known in advance which character will join the battle, what will be the state of each character, and what choices will the player make. For this reason the NPCs behavior cannot be prepared in advance, but must be generated on the fly by an appropriate AI. In most CRPGs the AI of the NPCs is implemented with behavior trees, or finite state machines where the state of the NPC changes in response to some designed event inside the game. Such static algorithms cannot express the complex dynamics of role-playing, producing behaviors that don't follow the character's role and consequently disrupting their believability. In this paper we aim at building an architecture to support the development of a believable character AI for the combat phase of CRPGs. We propose a multi-agent architecture, where each agent's internal behavior is based on the BDI model. On top of this we will build a new framework dedicated to the development of a character AI able to role-play in a believable way, according to believability specifically designed for the combat phase. An experiment based on the gamers' feedback about the behavior of the characters in predefined battle scenarios has been conducted. By analyzing the results we could confirm how the system presented here indeed satisfied, although partially, the requirements imposed.</p>				
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