Automatic Puzzle Script Level Generation

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Abstract

In this paper, we present an approach for automatic generating of levels for games done by *Puzzle Script*, a video game description language that helps people to create puzzle games by Stephan Lavelle(Lavelle). We have developed an Algorithm called Rule-based Level Generator (RLG) that generate initial levels for any *Puzzle Script* game based on analysis of the rules and their relation. We tune the inputs and the output levels of the RLG using Genetic Algorithm (GA). The results shows that levels generated from the RLG is near local optimum and GA just make slightly improvement on the results to be more solvable towards the used auto-player.

Introduction

The *ICCC–13 Proceedings* will be printed from electronic manuscripts submitted by the authors. These must be PDF (*Portable Document Format*) files formatted for 8-1/2″ × 11″ paper.

Length of Papers

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As detailed below, ICCC has prepared and made available a set of LaTeX macros and a Microsoft Word template for use in formatting your paper. If you are using some other word processing software, please follow the format instructions given below and ensure that your final paper looks as much like this sample as possible.

Background & Related Work

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```
\usepackage{times}
```

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Citations

Citations within the text should include the author's last name and the year of publication, for example (Boden 1992). Append lowercase letters to the year in cases of ambiguity. Treat multiple authors as in the following examples: (Lyu, Rockmore, and Farid 2004) (for more than two authors) and (Veale and Hao 2007) (for two authors). If the author portion of a citation is obvious, omit it, e.g., Woods (1981). Collapse multiple citations as follows: (Asuncion and Newman ; Ruch 2007; Kantrowitz 1990).

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```
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```

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- \cite: Cites the given reference(s) with a full citation. This appears as "(Author Year)" for one reference, or "(Author Year; Author Year)" for multiple references.
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Level Generation

Place all illustrations (figures, drawings, tables, and photographs) throughout the paper at the places where they are first discussed (at the bottom or top of the page), rather than at the end of the paper. If placed at the bottom or top of a page, illustrations may run across both columns.

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Level Evaluation

Experimental Results

Conclusion & Future Work

Acknowledgments

The preparation of these instructions and the LaTeX and Word files was facilitated by borrowing from similar documents used for AAAI and IJCAI proceedings.

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