

Title	プロシージャルモデリングによる階層的3次元ダンジョンの制作支援
Author(s)	大川, 将広
Citation	
Issue Date	2021-03
Type	Thesis or Dissertation
Text version	author
URL	<a href="http://hdl.handle.net/10119/17085">http://hdl.handle.net/10119/17085</a>
Rights	
Description	Supervisor:宮田 一乗, 先端科学技術研究科, 修士(情報科学)

## Support for production of hierarchical 3D dungeons by procedural modeling

1910044 Masahiro Okawa

In this paper, we propose a hierarchical three-dimensional dungeon production support system by procedural modelling. In addition to the parameter control, the proposed system is composited with global function to design the outer shape of the dungeon by sketching and local function to edit the model and support the user to directly modify it. With the help of these functions, the production efficiency of dungeon modeling by designers can be improved. We also proposed a novel index that indicates the difficulty of reaching the dungeon. The difficulty of reaching each dead point end from the start point of the dungeon is verified using the river order. This index enables practical usage such as placing objects such as treasure chests at points with higher river orders. Finally, we evaluated the usefulness of the proposed system. The participants were asked to make a dungeon using the proposed interface and a questionnaire survey was conducted. In addition, we made it possible to search the created dungeon in a VR environment and measured the arrival time costs from the start point to each dead point end to clarify the difficulty of reaching the introduced dungeon.