

Description for the Scrap Maps Generator

Ryota Ishii¹, Tomohiro Harada, Ruck Thawonmas
Intelligent Computer Entertainment Laboratory, Ritsumeikan University
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1. Introduction

Our level generator generates scrap-like levels for Angry Birds. We use the Unity physics engine to simulate blocks falling from the sky and we then save the final appearance. Sometimes, moving objects can be seen in the beginning!

2. Simulation approach for scrap-like level

We use a Unity project named Science-Birds. It can be downloaded from <https://github.com/lucasnfe/Science-Birds>. A lot of blocks are randomly selected from the list of usable objects for each level generation. Then the selected block and pigs are then temporally hung up in the top of the game space (or the sky), each with a random position.

We then use the Science-Birds to simulate those objects falling from the sky to ground. For this, we change the setting such that the blocks cannot be broken. When all of the blocks have fallen to the ground, we save the appearance of such blocks and pigs on the ground. Examples of resulting maps are shown in Fig. 1-3.



Fig. 1 Example of Scrap Maps Level



Fig. 2 Example of Scrap Maps Level



Fig. 3 Example of Scrap Maps Level

3. Adjustment of level difficulty

We randomly assign the number of pigs in a level between Competition's *min* and *max*. The number of birds is fixed to seven. The type of each bird is selected randomly.

¹ He is an undergraduate school student in Graduate School of Information Science and Engineering, Ritsumeikan University.