

Track 1:

This track will evaluate each level generator based on the overall fun or enjoyment factor of the levels it creates.

Before evaluating each level generator we will define two requirements:

- Up to five block types from the following list will be randomly selected (SquareHole, RectFat, SquareSmall, SquareTiny, RectTiny, RectSmall, RectMedium, RectBig, TriangleHole, Triangle, Circle and CircleSmall) along with a corresponding material for each one, e.g. “stone Triangle”. The selected block type and material combinations will be forbidden and generated levels cannot contain them.
- We will also define a minimum and maximum number of pigs that a level can contain (e.g. all levels generated must contain between 8 and 12 pigs).

Any generator that is submitted to this track of the competition must be flexible enough to allow these restrictions, which will be provided using an input data file.

Each level generator will then be used to generate 100 levels of which several will be selected at random (the exact number that will be selected will vary based on the number of competition entrants). The selected levels from each generator will then be combined to form one single group, with the ordering of levels in this group randomised.

A panel of judges will then evaluate all levels within this single group, giving each one a rating between zero (total failure, level not generated or restrictions violated) and ten (perfectly designed level, very fun and interesting to play).

Although there is no fixed criteria for evaluating a level (except for the restrictions on block types and pig numbers), judges will be looking for the following qualities within each level:

- Fun and interesting to play.
- Can be solved.
- Large variety of content.
- Good use of available space.
- Number of birds provided is suitable for level difficulty.
- Structures within level are stable when level is initialised.

The judges will also penalise any level generator that generates levels which are deemed too similar to each other (i.e. little variation between the levels generated).

The final score for each level generator will be the average rating of all its selected levels.

Track 2:

This track will evaluate each level generator based on the difficulty of the levels it creates. Generated levels should try and be as difficult as possible whilst still being solvable (i.e. not impossible to complete)

Before evaluating each level generator we will define two requirements:

- Up to five block types from the following list will be randomly selected (SquareHole, RectFat, SquareSmall, SquareTiny, RectTiny, RectSmall, RectMedium, RectBig, TriangleHole, Triangle, Circle and CircleSmall) along with a corresponding material for each one, e.g. “stone Triangle”. The selected block type and material combinations will be forbidden and generated levels cannot contain them.
- We will also define a minimum and maximum number of pigs that a level can contain (e.g. all levels generated must contain between 8 and 12 pigs).

Any generator that is submitted to this track of the competition must be flexible enough to allow these restrictions, which will be provided using an input data file.

Each level generator will then be used to generate 100 levels of which several will be selected at random (the exact number that will be selected will vary based on the number of competition entrants). The selected levels from each generator will then be combined to form one single group, with the ordering of levels in this group randomised.

All levels within this single group will then be attempted by a variety of artificial intelligence agents, designed for playing angry birds. The agents that will be used are unconfirmed at this stage, pending the results of the IJCAI 2016 AIBIRDS competition. Each agent will play each level for a fixed maximum time or until it successfully solves the level (whichever occurs first).

We will also be inviting guests at the CIG 2016 conference to participate in the evaluation of these levels as well. Volunteer participants will be able to play the selected levels online during the conference.

The goal is to generate levels that can be solved by as few people/agents as possible whilst still being able to be solved by at least one person/agent. Levels that cannot be solved by anyone will negatively affect the generator’s overall score.

The total number of attempts/time by each person/agent on each level, as well as the number of successful completions, will then be used to rank each level generator.