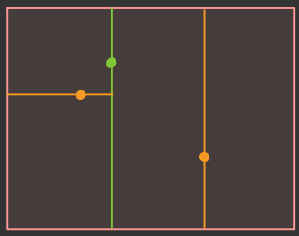
Map Generation Using Binary Space Partitioning

Eggu

Core Algorithm :

- Choose a random direction (eg vertical or horizontal)
- Choose a random position in 2D space
- Split the space into two sections



Detailed Algorithm :

1) A 2D space of some w width and h height. Add to the queue

2) Get a section from the queue

3) Ensure section contains more than enough space for two rooms. If not, then continue

4) Choose a random direction (eg vertical or horizontal)

5) Choose a random position in 2D space.

6) Split the space into two sections. Ensure both sections can fit a room
   Repeat Steps 5-6 until a room fits

7) Repeat Steps 2-6 until the queue is empty, or if we have n sections

8) All sections contains a room.

Pros :

- Obtains a list of sections that contains a room

- Rooms will be evenly spaced out. Meaning they won't be too close nor too far.

- No overlapping rooms

- Can easily manage the number of sections created, unlike QuadTree

  Each division creates one more section

Cons :

- A complex algorithm to implement