

Entities



DudeFull / NotFull (depending on goal / movement)



House



Tree



Stump



Sapling



Fairy



Obstacle



Background

Simulation Rules:

There are 8 entities, which act according to the following rules:

1. HOUSE:

- Remains static. Does not animate or complete any actions.
- Is the destination for DUDE_FULL entities.

2. DUDE_FULL

- Is a wood chopping entity who has already collected as much wood as they can carry.
- Navigates to the nearest HOUSE to drop it off.
- Transforms into a DUDE_NOT_FULL once task is completed

3. DUDE_NOT_FULL

- Navigates to nearest TREE or SAPLING
- in search of something to chop down
- will search until it has reached its resource limit,
- moving to multiple TREES or SAPLINGS if necessary.
- transforms into a DUDE_FULL once it hits its resource limit

4. OBSTACLE

- the water - entities cannot move through it
- the water is not just a background image as it blocks entity paths.

5. FAIRY

- navigates towards the nearest stump and turns it into a SAPLING.

6. STUMP

- a stump does not animate or complete any actions.
- it is a destination for FAIRY entities.

7. SAPLING

- saplings animate and grow into TREE entities once they hit their designated health limit.
- DUDE_NOT_FULL entities can upset a SAPLING entity's growth by chopping it down and depleting its health.

8. TREE

- animates and has health.
- if its health is depleted it will transform into a STUMP entity.