FOOD WASTE PREVENTION TOWER DEFENCE

The Plan

General

Gameplay takes place in the street of a residential area. A conveyer belt leads from select doorsteps along the street and to a garbage can near the bottom of the screen.

Unused/unfinished food is lead out of the houses towards the garbage can. If the can is filled (a fixed threshold which may increase as the game progresses) then the game is lost.

The player character is a boy-genius inventor whose goal is to prevent food waste. Food can be saved/reused by stationing Save-matics (placeholder name) adjacent to the track.

Save-matics will consume up to a certain threshold of each of their ingredients before producing a Saved Food, which is then eaten for points. Only a certain amount of ingredients can be processed at any given time, and take time depending on the Save-matic.

Implementation Details

The Playing Area

The game will take place on a grid, with each conveyer belt square pushing Food Items above it in a given direction.

This can be found by calculating where on the grid a given Food Item is and then moving/acting accordingly to the resulting square. This is also how towers know when to interact with a given item.

All Food Items are stored in an array/dynamic list, for ease of access. Food Items store their type, category, display name, position, and any other necessary data.

Progression

The points gained from saving Food Items can be used as currency to upgrade or build new Save-matics

New Save-matics are unlocked as more waves of Food Items are defeated

Towers

Crouton-o-matic

Appears after

Starting new game

Cost

TODO

Requires

5x Stale Bread

Default Intake Rate

1 at a time

Default Processing Time

1s

Value Per Saved Food

100

Refreshed Brown Sugar-o-matic

Appears after

Beating wave 2

Cost

TODO

Requires

6x Stale Bread

3x Hardened Brown Sugar

Default Intake Rate

1 at a time

Default Processing Time

1.5s

Value Per Saved Food

400

Fried Potat-o-matic

Appears after

Beating wave 4

Cost

TODO

Requires

2x Oil

4x Baked Potato

Default Intake Rate

1 at a time

Default Processing Time

.75s

Value Per Saved Food

400

Refreshed Celery-o-matic

Appears after

Beating wave 6

Cost

TODO

Requires

8x Water

2x Wilted Celery

Default Intake Rate

6 at a time

Default Processing Time

7s

Value Per Saved Food

200

Broth-o-matic

Appears after

Beating wave 8

Cost

TODO

Requires

10x Water

4x Animal Bone

4x Vegetable

Default Intake Rate

18 at a time

Default Processing Time

15s

Value Per Saved Food

1250

Foods

Stale Bread

Begins appearing in

Wave 1

Summarized as

Wheat

Hardened Brown Sugar

Begins appearing in

Wave 3

Summarized as

Flavourful

Oil

Begins appearing in

Wave 5

Summarized as

Fundamental Ingredient

Baked Potato

Begins appearing in

Wave 5

Summarized as

Vegetable

Water

Begins appearing in

Wave 7

Summarized as

Vegetable

Wilted Celery

Begins appearing in

Wave 7

Summarized as

Vegetable

Animal Bone

Begins appearing in

Wave 9

Summarized as

Flavourful