

wAlter - report I

March 25, 2019

Technology

wAlter is written in pygame 1.9.4.

Arrays and computations are provided by numpy in version 1.16.2.

Structure and functionalities

Project divides into four categories: *constants*, *entities*, *environment* and *gui*, as well as ***run.py***, which, as a name suggest, executes a program.

Constants

Constants, as the name suggest, contains constant values, like colors and dimensions of tiles. For the purpose of this iteration, grid dimensions are also constant.

Entities

Next, directory entities contain modules ***entities.py*** and ***waiter_agent.py***. They define class **Entity** and it's subclass **WaiterAgent** respectively. Entity contains general function *move()*, defining action of movement. **WaiterAgent**'s *choose_route()* method defines movement options in a list *possible_moves* - that is, all neighboring (including diagonals) non-occupied tiles, not being an entrance. Again, for the purpose of this iteration, route is chosen randomly.

Environment

In the environment directory we define environment. **Restaurant** class of module ***restaurant.py*** defines function *__generate_grid()*, which is responsible for creating an arrangement of tables. It uses for that function *__should_tile_be_empty()*, which, in this iteration, defines that every tile with at least one even coordinate should be empty.

Class **Table** initializes with two variables: *customers* and *is_dirty*, which names are rather descriptive. When initialized, table is empty and clean (not dirty).

Class **Tile** defines array tiling, which is later represented on a grid. It defines function *neighbors()*, which in turn returns neighbors of a given tile.

Grid

Directory grid contains ***grid.py***, which is responsible for drawing a 2D environment using *draw_grid()* function, using informations given by components from previous subsections and **pygame** module.

Run.py

This is the file responsible for program execution. It sets display, clock, framerate and loop for the **pygame**.