

# **Smart Fire Safety System**

## **User Manual**

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# System Overview

Smart fire safety system is a simulation of a person exiting a building the safest possible way when a fire starts in a building.

Our system allows the user the option to either

1. select a plan that is already created
2. design their own floor plan and select where the person, the exit and the fire are located in the building.

Once this is created the user can select how many seconds they want the fire to be active for before the route is created.

# Installation guide

To successfully run the simulator ensure you have the latest version of Python and tkinter installed on your PC

## Install Python for windows:

1. Go to <https://www.python.org/downloads/windows/>
2. Hover over the downloads tab on the nav bar and then click the download box
3. Open the file once it is downloaded and follow the instructions on screen

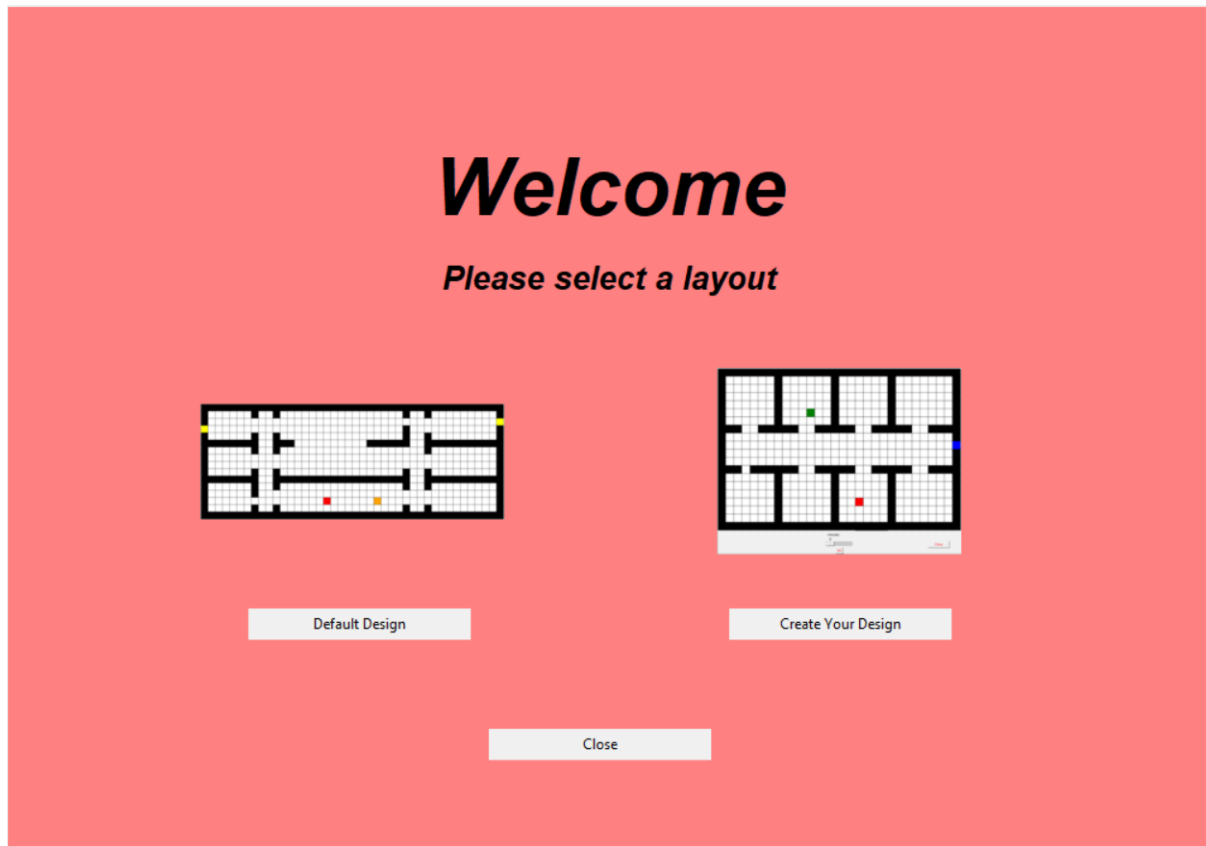
## Install Python for mac:

1. Go to <https://www.python.org/downloads/mac-osx/>
2. Hover over the downloads tab on the nav bar and then click the download box
3. Open the file once it is downloaded and follow the instructions on screen

## Installing and running Smart Fire Safety System

1. Go to <https://gitlab.computing.dcu.ie/claytoe2/2019-ca326-claytoe2/tree/master/src>
2. Download the file by pressing the cloud icon in the top right corner
3. Open your Command prompt
4. Change into the files directory by typing cd followed by the name of the file
5. Change into the 'src' folder directory by typing 'cd src'
6. When in the src directory type 'py main.py' on window or 'python3 main.py' on mac
7. Tkinter will open and the program will start running

## Home Screen



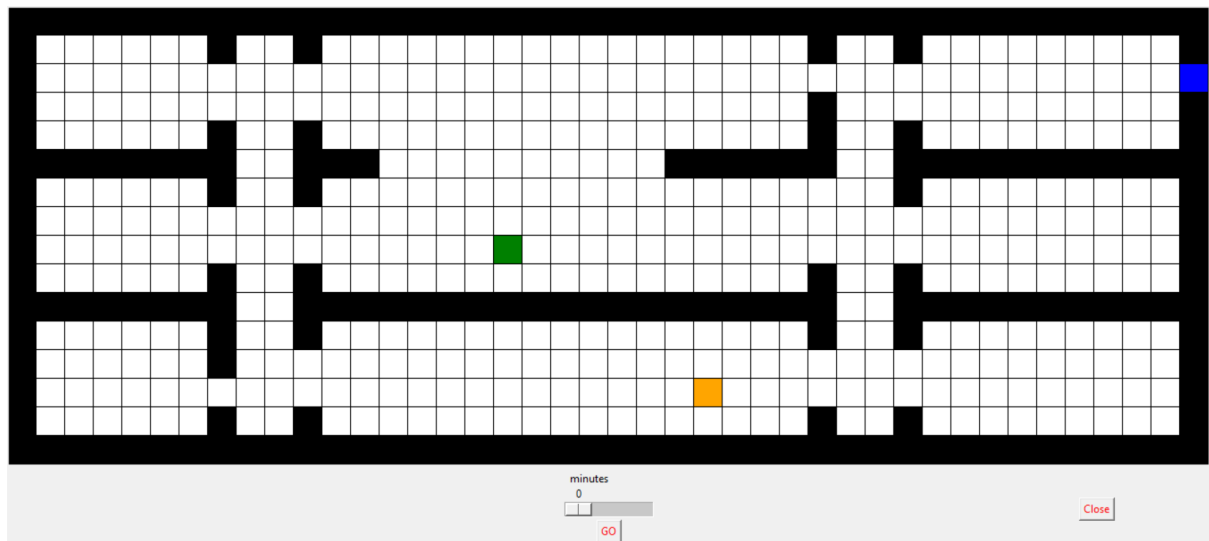
The home screen is the first screen the user is presented with.

This is where the user will be greeted and asked to choose between the two available options.

- The 'default design' button brings the user to a predesigned layout
- the 'create your design' button allows the user to create their own floor plan and place where they want the people, exit and fire are to be located.

The user also has the option to exit the program by using the close button.

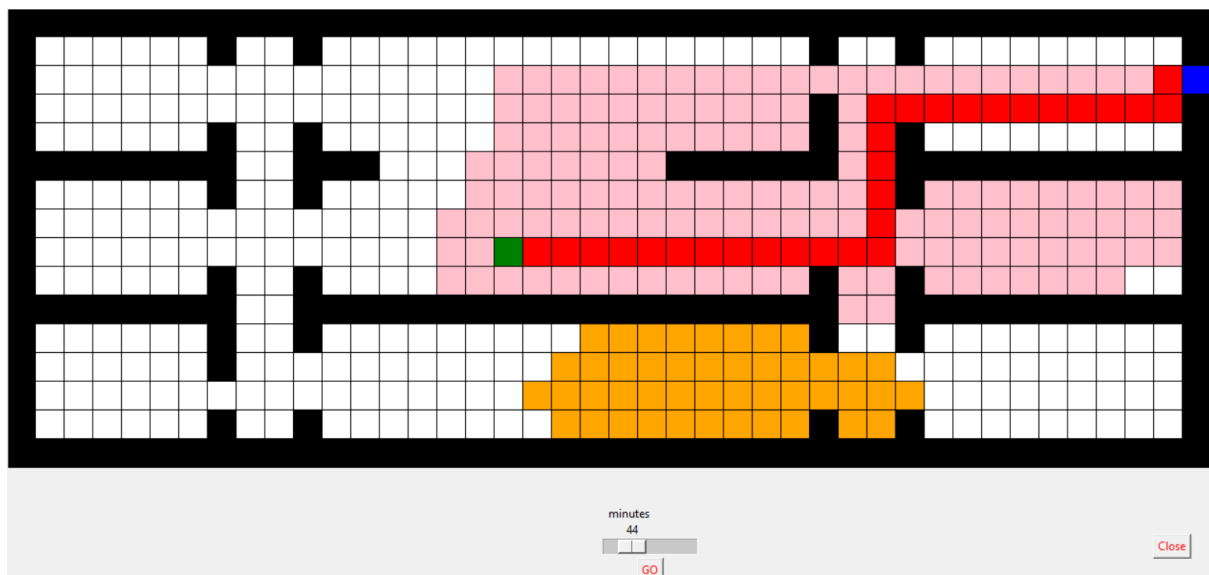
## Default layout



The 'default design' button on the home screen brings you to the screen above.

### Instructions

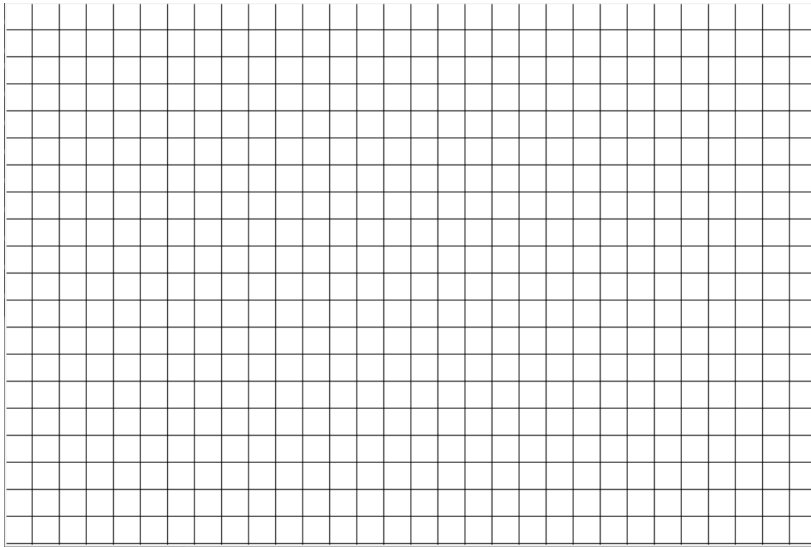
1. Adjust the slider at the bottom of the screen to select how many seconds after the fire started, that you want the fire to display on the screen.
2. Press the 'GO' button and the route to the exit will be calculated and displayed on the screen as shown below.



To exit the program:

Press the 'Close' button at the bottom right of the screen.

## Creating Your Design

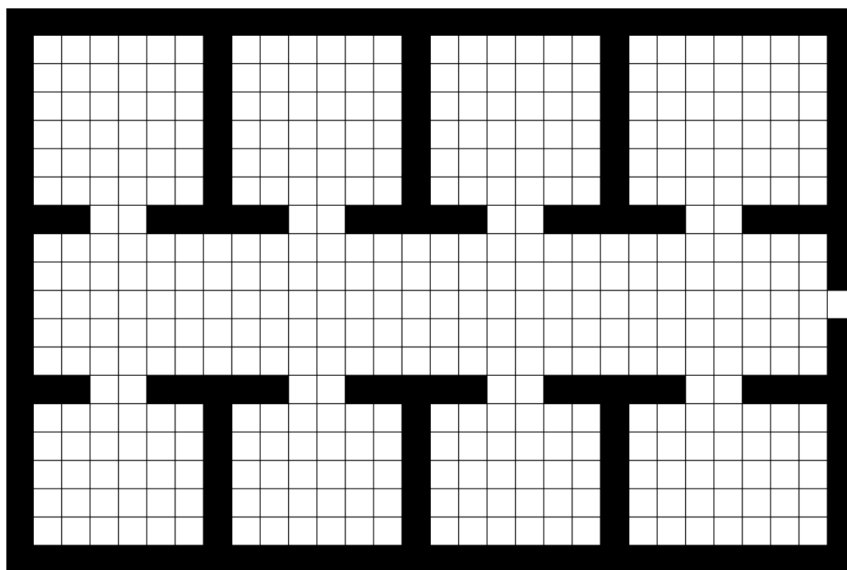


The 'Create your design' button will bring you to the screen above.  
This is your blank canvas to work on.

Creating walls:

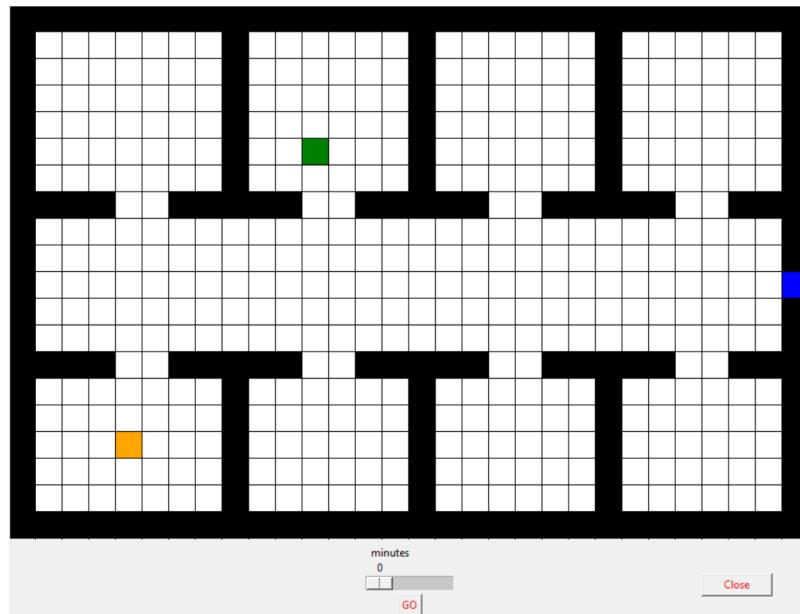
To insert a wall: Hover the mouse over the box where you want to insert the wall and press the 'W' key on your keyboard.

To insert multiple walls at once: Press and hold the 'W' key and drag the mouse.

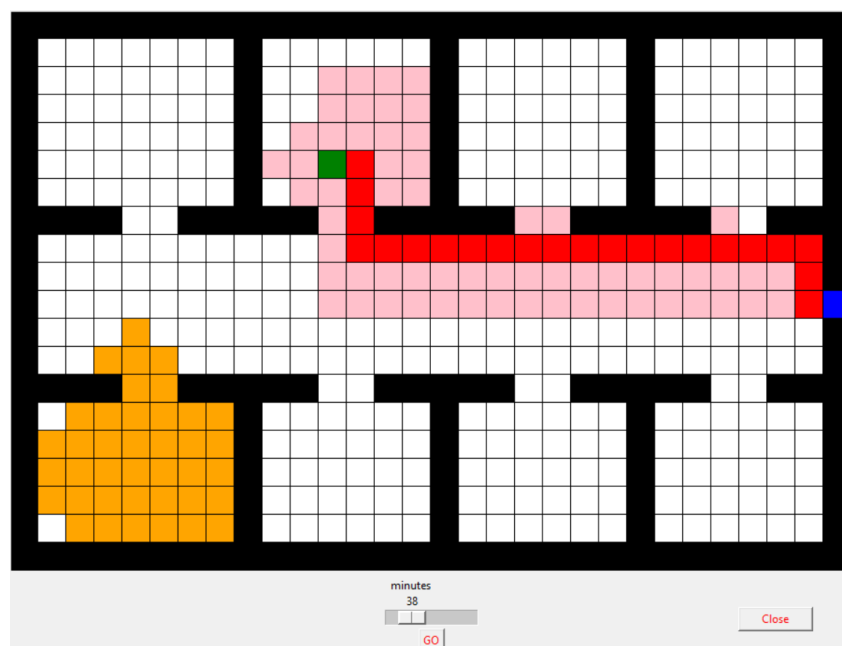


How to insert the Person, the Exit and the Fire:

- Hover your mouse over the desired box.
- Press the 'S' key to set where the person is located. (Represented by green)
- Press the 'E' key to set the Exit location. (Represented by blue)
- Press the 'F' key to set the Fire location. (Represented by orange)
- Press the 'R' key to run the program



1. Adjust the slider at the bottom of the screen to select how many seconds after the fire started, that you want the fire to display on the screen.
2. Press the 'GO' button and the route to the exit will be calculated and displayed on the screen as shown below.



To exit the program: Press the 'close' button at the bottom right of the screen.