Assignment 3 – Software Engineering.

Project to create a 2D grid of seat and perform operation on it.

Simplified System requirements

1. Introduction

This paper will contain a brief outline of the system requirements as outline the project assignment PDF. The outline will be short due to the small nature of the project and will not contain a detailed look at how the system will be implemented

2. General operations

The software should be able to create grid of a specified size and keep this information in memory.

They system must then be able to phase in large amount of instructions about about function so be performed on the seats in the grid.

The system must execute this instructions in a way which makes logical sense.

The system must be able to return the total number of currently occupied seat

3. Specific functions

3.1 Build grid

The system must be able to build the grid depending on a size given by input or pre set

3.2 Generate position to perform operations on

Using two coordinates in the grid the system must be able to generate a set of locations that the requested operation is to be performed on.

3.3 Perform three different operations related to seats

Empty – Seat is marked as empty.

Occupy – Seat is marked as occupied.

Toggle – Seat vacancy status is changed to opposite of current status.
- From occupied to empty if occupied.
- From empty to occupied if empty.

3.4 Count number of empty seats

The system must be able to count the number of empty seats

4. Testing requirements

The system should use nose unit testing in order to ensure that each of the functions runs as intended

5. Overall approach to this project

The aim in this assignment is to create and document how I would go about creating a solution to the stated problem.

With this in mind the overall approach will be to try and lay my code out as cleanly as possible in a simplistic format. I have tried to cobmine a simple solution with one that might be used to scale to much more complex problem

Due to the simplistic nature of the problem I will avoid create individual object for the seat and instead use arrays. As the only operation or information that is to be stored is if the seat is empty or not.