Spacecraft Wars

Create a C# Console Application Game. The Game is simple: You are the pilot of a spacecraft. You have to evade obstacles which are two types - rocks and platforms. You can shoot at obstacles to destroy them, but you only have a limited number of bullets.

The Spacecraft

1. The Spacecraft looks like this:

     \\\

=>==->>

     ///

     2.) He starts at the very left of the console, centered in the middle of the height.

     3.) The Spacecraft can move up and down to avoid the obstacles

     4.) The Spacecraft can shoot bullets which are Cyan “O”. You only have 3 bullets at the beginning but you can gather more as you go along. Shooting is done with the space bar.

     5.) Each bullet destroys the obstacle it meets along the way. After the hit the bullet is removed/destroyed. The whole obstacle is destroyed

     6.) The bullets count should be displayed at the top  left corner.

     7.) If the spacecraft hits an obstacle the game is over.

The Obstacles

1. A platform is a full vertical line with a hole in it. The symbol is “|” and a full platform would look like this(reversed):

        “\_\_\_\_\_\_\_\_\_\_\_\_                            \_\_\_\_\_\_\_\_\_\_\_\_\_\_”

    2.)  A rock is a single block along the vertical line with the same symbol “I”. It looks like this (reversed):

       “          \_\_\_\_              ”

    3.) Rocks and platform holes should have random positions and variable length.

    4.) All obstacles should move from right to left, coming at the spacecraft.

    5.) Once they reach the left end of the Console they are destroyed (The spacecraft should be slightly to the right of the destroying point).

Difficulties

There should be three difficulties: easy, medium and hard. The difficulty UI should be situated at the bottom right corner.

1. Easy - slow obstacles, large holes, small rocks.
2. Medium - faster obstacles, smaller holes, larger rocks
3. Hard - really fast obstacles, really small holes, larger rocks

Points

Each obstacle passed generates 20 points. Each loop step should generate 1 point. Each destroyed obstacle generates 50 points. Points should be situated at the bottom right corner.

Power-ups

You should implement two power-up items. They are generated at a random position in between obstacles.

1. Green Bullet “O” - gives you one bullet. Appears often ( e.g. 10-20% of the available spaces between obstacles)
2. Golden (yellow) Bullet “O”. Gives you 5 bullets. Should be rarer (e.g. 5% or similar)

Balance the game to your liking.

Evaluation

1. Spacecraft drawing, movement, shooting - 30 points
2. Obstacles generation, drawing, movement and destroying - 25 points
3. Difficulties - 15 points
4. UI - points drawing and correctly evaluated, difficulty drawing - 10pts
5. PowerUps - 10 points
6. Balancing - 10 points
7. Additional functionality bonus - 20 points. If you have enough time you can add features to the game for bonus points. You should not break the current mechanics of the game (e.g. eating obstacles would not make sense). Some examples: add an IntroState, MainMenu State, GameOver Screen, Replay, more power-ups or power-downs. If you add any new functionality be sure to explain it at the top of the page.

Deductions:

There will be deductions for bad quality of the code! You need to name your variables properly, use methods and so on. Program.cs -> -30points.

**Make sure you set the console width and height!!!**

