Assignment 5 - Developing the Game in C Sharp

Activity Purpose and Learning Outcomes

Abstract

The purpose of this activity is to teach the Software Engineer in Training how to take a complex set of requirements and convert them into a series of simple steps which produce a Solution.

This Procedure is called the Agile Software Development Methodology and consists of the following steps:

* Construct one or more Software Engineering Diagrams using the UML Unified Modeling Language Notational System. You will use `http://draw.io` You can learn more about UML at `http:\uml.org` Your diagrams will show you a picture of the System you are constructing.
* We can already learned about Data Structures. In this final assignment, you will consider the benefits of using an SQL Database to manage Data. The Instructor will provide a starter code template for you to begin working from. You must replace the existing ListArrays with SQL tables and SQL statements.

Working with your team, construct a Game in C# that has the following features

: Treat this as the Starter. You are free to make it more interesting!

1. Starter Code: `https://github.com/PeterSigurdson/LetsPlayMonopoly/blob/master/FileVersionC-SQL`
2. Construct 4 Player Objects. What data structure would be best for describing a Player? Each player receives $10,000 at the start of the Game.
3. The Game Board consists of 100 Properties in a Circular Data Array. (Probably an ArrayList is the best data structure to implement the Game Board. `https://www.tutorialsteacher.com/csharp/csharp-arraylist` Each property will receive a Price Value randonly set between $200 and $1000 dollars.
4. There are 4 players. A while loop obtains the input from Players 1, 2, 3 and 4 in order.
5. Each player can specify the number of Properties to move forward. They make choose from 1 to 10 spaces.
6. A random number generator may bump the player forward or backward by a number of Properties between 1 to 10.
7. A player will be shown the Dollar Value of each square and may BUY IT.
8. If a Player lands on a Property they may buy it if they wish, and if they have the money. If it is owned, they must pay the Owner. If they cannot afford it, they are OUT OF THE GAME. In this case, that player's remaining funds will transfer to the owner of the Property.
9. The Winner is the Last Player still in the Game.

- Create a GITHUB Repository called GAME.
- DO Frequent Commits
- Instructor will provide a Dropbox link to upload your final code to.

Grading Rubric:

25%	You will submit to DROPBOX a text file your code. Part of your grade will be demonstrating frequent GITHUB Updates as proof of work. GITHUB Repository name should be GAME.
25%	You will submit a well constructed UML Object Interaction diagram.
25%	Effective use of SQL Tables for data management.
25%	Your solution written in well constructed, object-oriented code.