Report

Project Proposal

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1 Introduction

This section describes the proposed project idea and the motivation.

1.1 Project Idea

The idea is to develop a dice game called *Thirty-One* . It is an interesting game, and it is similar to *Yahtzee*, but it is more entertaining than *Yahtzee*.

1.2 Motivation

The proposed game is not quite available in the market, even though it is quite entertaining. It can be played by adults as well as young people. Thus, the range of audience of this game is quite wide. Also, this application can be used widely because there are -as far as it was understood- no applications that provide this game.

1.3 Idea Description

The game is played with six dices and it consists of ten rounds where each round consists of three rolls. Thus, the player will be rolling the dices thirty times in total during one game. In the first roll, the player throws all the dices. Afterward, the player can choose which dice to roll and which dice to keep. After each round, the result will be calculated.

The total score is the total number of points that are gained in all ten rounds. As for the rounds' calculation, there are ten choices; 12, 11, 10, 9, 8, 7, 6, 5, 4, and Low. The player can use an option only once during the game. The calculation for the first nine options is based on the number of combinations corresponding to the option multiplied by the option's value. Low is a special option where it is calculated by adding up the dices of less than four.

Demonstration for the calculation, after one round, if the player gets the following combination: 5, 1, 6, 2, 3, and 4, then one possibility is to choose option 6, and that will give 18 points because the combination of the dices can form three sixes: ({ 5, 1 }, {6}, { 2, 4 }). Another option is 8, which would give 16 points because the combination can form two eights ({ 5, 3 }, { 6, 2 }). In terms of the Low option, the combination will give only 6 points: (1, 2, 3). Thus, one combination can give different results. In the proposed solution, the application will automatically choose for the player the best option available that will give the maximum points. Thus, the player will not have to do any calculations to choose the best option; rather, the application will carry out this task.

The application will save the scores of the players and display them when the user starts the game. Thus, the application will handle data also.

2 UML Class Diagram

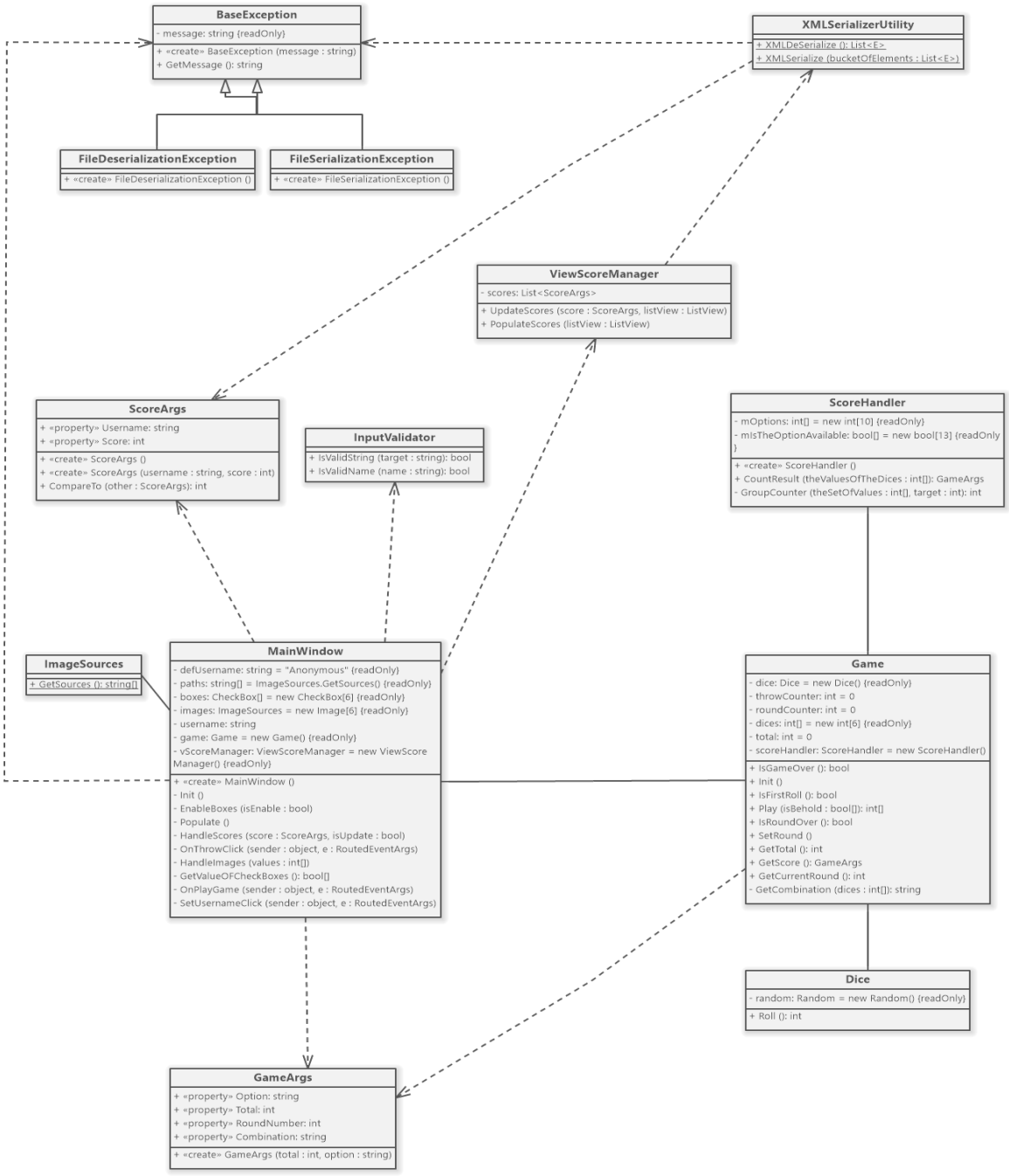

Figure 1: The class diagram for the potential solution.

Task	Description	Approximate time
Forming the idea	The time for thinking in terms of searching for an idea for the project.	1 hour
Designing an solution	The time for thinking, designing and refining the propsed solution: the UML class diagram.	8 hours
Drafting the propsal document	The time for composing the proposal document.	3 hours
Design the GUI	The approximate time for designing the user interface.	2 hours
Implementation	The approximate time for developing the proposed solution and the algorithms for the calculations: the UML class diagram. There maybe some changes need to be introduced/ potential classes/ objects are missing.	18 hours
Testing	The approximate time for testing the application.	2 hours
Re-Factor	The approximate time for possible iterating the work for refinement and improvement.	2 hours
Completions	The approximate time in case the application needs completion.	4 hours