Problem when setting happiness of developers

Problem

At first, each time happiness of a certain developer is set by a method ***setEmotion(int emotion)*** in ***Developer*** class, the game engine will check the degree of that happiness. If the developer is unhappy, there will be a small change (about 30%) that he will leave the company. This solution seems to work; however, after several test play, it is found out that there is a bug happened when removing the unhappy developer.

Solution

Because the bug is considerably rare, therefore, in order to test that bug, it is decided that several changes will be applied to the game. Firstly, after each week, every developer will have his happy set to unhappy. Secondly, the change of leaving is increased to 100% in order to consider how removing developer could generate bugs.

At the first test, after the first week, the bug occurs and its name is ***Concurrent Modification Exception***. Therefore, it seems that in general, when traversing through the collection of developers, if the happiness of a certain one is set to unhappy and the change that he will leave company occur; then removing him will result in breaking the loop and result in ***Concurrent Modification Exception***.

In order to solve that problem, it is decided to create another class called ***HappinessRemoval***. This class will traverse through the list of developers and check the leaving chance of every unhappy developer. Provided that a developer is indicated to leave, his name will be stored in an array. After all developers are checked, those whose names are stored in the array will be removed. As a result, the bug of ***Concurrent Modification Exception*** has been eliminated.