Designing and Developing Car Racing Game

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Abstract: Playing games is an important part of our social and emotional development. The project was started to identify the elements of the game as the type of game is most suitable for our learning environment and students find it interesting or useful in different games. Students rated game elements such as logic, memory, visualization and problem solving as the most important game elements. These elements are integral with adventure games and are needed during the learning process. We present a model that links educational issues with game elements. There are several elements to the game space; each encapsulates a specific abstract or concrete interface. Understanding the relationship between educational needs and game elements allows us to develop educational games that incorporate visualization and problem solving skills. Such tools can provide sufficient impetus to engage students in knowledge discovery, while at the same time developing new skills.

Keywords: Setup, Reset, Design, C#, Testing, System, Proposed.

1. Introduction

One of the recent advances in the world of information technology is the rapid development of communication that has brought the world to a global level. (E-banking), online schooling (e-learning), it has positively affected society in many ways, as a result sales computerization should not be discounted. The use of technology in sales systems in developed countries has now been adopted for more than two decades and it has led the governments of their countries to aspire to improve the efficiency of their products and services, processes, accountability. Switching from an OS-based cash registrar to a POS system can be difficult - there are many reasons to consider and some issues to avoid [1]. But the return on investment and benefits to your business can really be worth your time and effort.

In the most basic sense, a POS system is a cash registrar. Most basic POS systems consist of a computer, cash drawer, receipt printer, a monitor and an input device such as a keyboard or scanner but in addition to being more efficient than a cash registrar, POS systems can produce detailed reports to help businesses make more informed decisions. This game was created using the language of C # programming in Visual Basic 2010 environment. Six photo boxes as road lines. In this game the user can use the up and down keys on the keyboard to reduce the speed and speed, respectively the user can use the left and right keys to move the car with left and right resistance. The main theme of the game is to drive the car without an accident and at the same time collect gold coins. I used a timer in my game. The main function of the timer is to start and stop the car [2] [3].

The aim and purpose of this project is to design and implement a computerized "motor car racing game" aimed at increasing accountability among recreational points.

> Users will be able to adjust to the computer-related, disciplined, and related information that they share in their interest in retail information, the amount they want, and the less time they spend playing.

> In their spare time they may be able to update the system based on the reliability and clarity of the results by allowing them to print full size invoices based on the game they claim.

a. Existing System

Previously, online games had no advantages and if provided, most of them have signup options. But to create easy gaming options, there was no single button sign up option. There was no provision to change the gaming controls and settings for the game environment for the convenience of the players. Most of the many were random AI features that were not available under existing systems [3]. There was no provision by the administrator to add additional gaming sections for future reference in order to make their website higher in the future. The point that was not available was the decision control by the system. Previously the system was forced to use the default rules but the new system will overcome all these difficulties.

b. Proposed System

In this new gaming environment, playing games requires no registration and no fees. After all, there are two types of games that users can play. They should have the option to switch between these games while playing, and the system will monitor specific modules of their size. To create an interesting gaming environment, these two games will be available, graphical number puzzle games and another is disaster Strike. We have tried to code smart decisions to adopt algorithms to make the system more intelligent and learn tricks from people. At the same time, most of us have problems managing keys and other controls while playing. To overcome all these problems, users are given the freedom to change their convenient gaming controls and change the settings to control them while playing games.
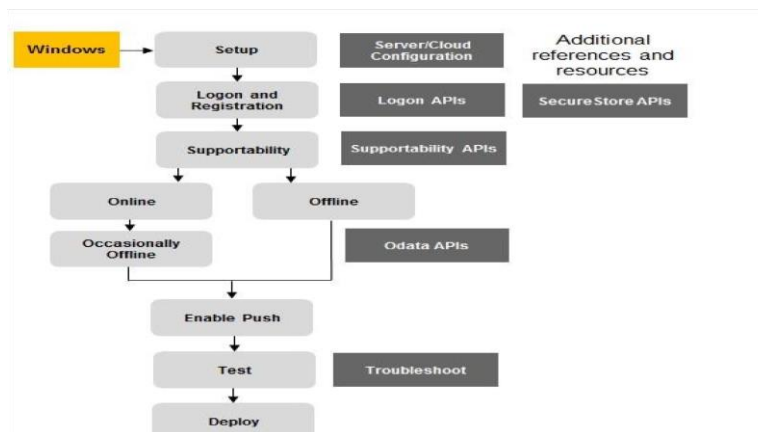
2. System Design

Figure-1: Setting Up the Windows Development Environment.

The design phase focuses on the detailed implementation of the proposed system at the initial investigation and analysis stage. Emphasis should be placed on translating the performance specification design specification. System design goes through two stages of development: logical and physical design [4].

2.1 Logical Design

When analysts prepare the logical system design, they specify the user needs at a level of detail that virtually determines the information flow into and out of the system and the required data resources [5]. The design covers the following:

- ➢ Reviews the current physical system – its data flows, file contents, volumes, frequencies etc.
- ➢ Prepares output specifications – that is, determines the format, content and frequency of reports including terminal specifications and locations.
- ➢ Prepares input specifications – format, content, and most of the input functions. This includes determining the flow of the document from the input data source to the actual input location.
- ➢ Prepares edit, security and specifications.
- ➢ Specifies the implementation plan.
- ➢ Prepares a logical design walkthrough of the information flow, output, input, controls and implementation plan.
- ➢ Reviews benefits, costs, target dates and system constraints.

2.2 Physical Design

Physical design is followed by logical design. It produces working systems by defining design specifications that tell programmers exactly what the system needs to do. Instead, the programmer writes the necessary programs or modifies the software package that receives input from the user, always performing the necessary calculations through existing files or databases. Specifically the physical design consists of the following steps:

- ➢ Design the physical system
- ➢ Specify input/output media
- ➢ Design physical information flow through the system and a physical design walkthrough
- ➢ Plan system implementation Devise a test and implementation plan and specify any hardware/software.

2.3 Design Methodologies

A clearly defined logical method for developing a system that meets user requirements has led to new techniques and methodologies that fundamentally attempt to do the following [9]:

- ➢ Improve productivity of analysts and programmers.
- ➢ Improve documentation and subsequent maintenance and enhancements.
- ➢ Improve communication among the user, analysts, designer and programmer.
- ➢ Standardize the approach to analysts and design.

➤ Simplify design by segmentation.

2.4 Major Development Activities

Several development activities were conducted during the structural design. These are database design, implementation planning, system test preparation and detailing of the system interface and user documentation.

2.4.1 Program Design

Before deciding to use the programming language used in conjunction with the database design and the conversion of flowcharting, coding, and debugging methods, the operating system limits the programming languages running on the system [6].

2.4.2 System and Program Test Preparation

System testing is done after all programming and testing is completed. Test cases cover every aspect of the operating system's actual activity, user interface, and so on.

2.4.3 System Interface Specifications

This phase specifies for the user how information should enter and level the system. The designer offers the user various options.

2.4.4 Documentation

Before the system is ready to be implemented; the user or operator must have the user documentation ready in manual form [6]. The manual contains instructions on how to install and operate the system, how to access, update and restore data, how to display or print output, key formats and the like.

2.5 Development of Game

In this chapter we are going to create a complete top down car racing game. The rules of the game are that as the score increases, so does the speed of the game once you hit another car. In this chapter we are using Visual Studio and C # (sharp) programming language. We've pre-designed the game's resources and you can use them yourself, but you must make sure they all have heights and widths [7].

In this chapter you will see -

➤ How to create an arcade game in C#.

➤ How to identify the collision between multiple objects / picture boxes.

➤ How to integrate key down and key up events into the windows form.

➤ How to create a parallax scrolling background on windows form.

➤ How to create a game level using visual studio component Panel.

➤ How to dynamically change the images in the picture boxes.

➤ How create and run functions.

➤ How to use Booleans.

➤ How to create a scoring system and reward the players appropriately.

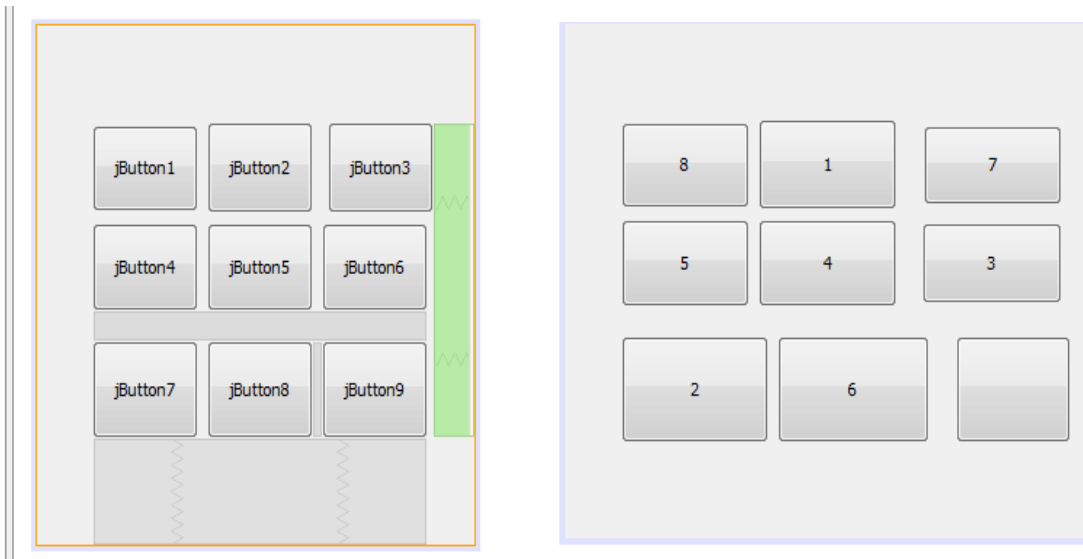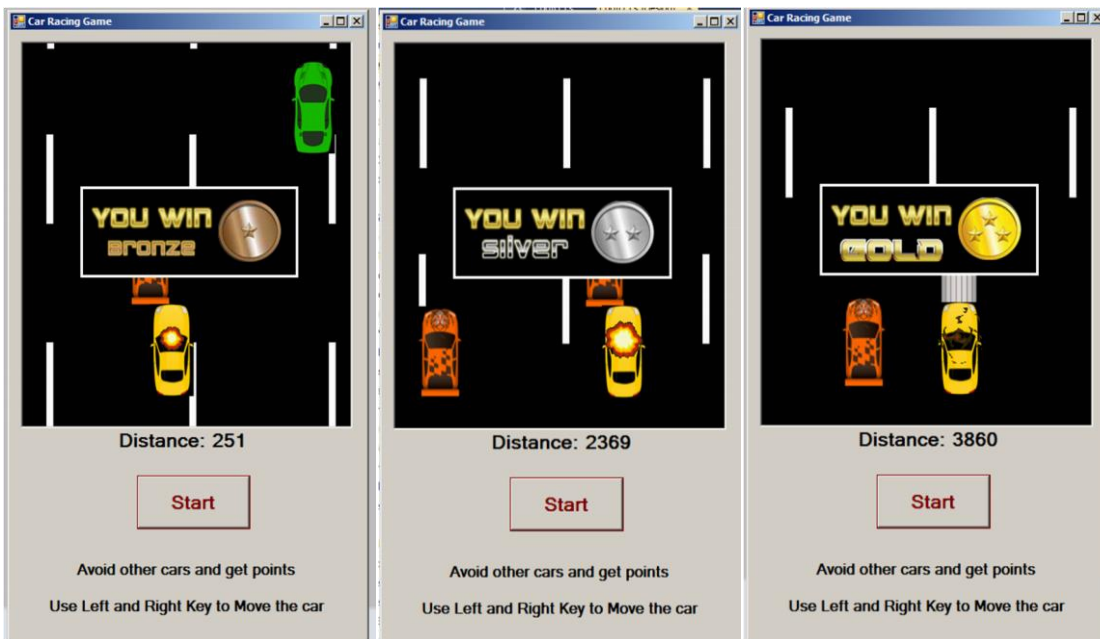➤ How play WAV music file using only C# (Sharp) codes.

Figure-2: How to maintain the puzzle game.

Remember this project was created and tested in a few days, I encountered multiple errors. All code is checked, checked and made sure it works. So I hope you have achieved similar results, if not please watch the tutorial.

This is the final game. We you progress you will gain points and judging from the points you can either win Bronze, Silver or Gold trophy.

3. Result and Discussion

C # programmers have made extensive use of forms to create user interfaces. Each time you create a Windows application, Visual Studio will display a default blank form, on which you can drag controls to the main form of your applications and adjust their size and location.

Slide Puzzle

The slide puzzle program displays a grid of tiles that must be arranged in ascending order. The user can click on any tile next to the empty space to move the tile to that location. The game begins with randomly arranged tiles. The two figures below show the beginning and end position of the puzzle. This application is designed for all users to play the game. Thus, the main goal of portability and mobility has been achieved through this application. This game is not for entertainment, it enhances intelligence and mathematical and logical thinking.

Show Message

When you win the game then it shows a message .When all digits get its position sequentially then all buttons color become red and show Congratulation message.
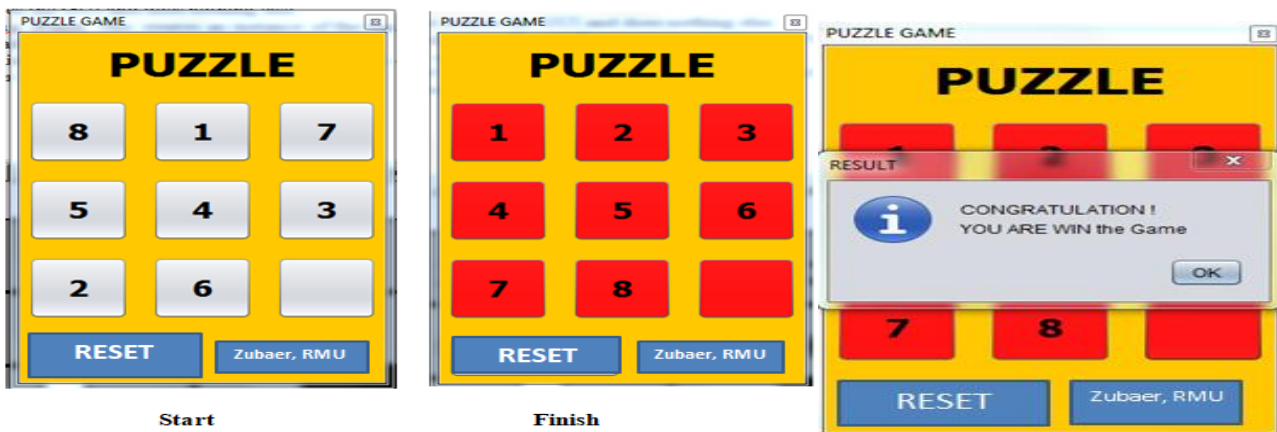
Start   Finish

We can increase usability adding more classes later according to user requirements. We also can share it as free software so that everybody could use this package in their relative work.

4. System Testing

Testing is an important part of system design. It involves verification of accuracy, which is one of the focal points of this project. The way to check if the system is working properly is to use a text box test (or functional test). What text box testing does is feed inputs and get relevant results. These inputs and outputs are studied and tested to make sure the system is behaving properly and that these results are like the result [8].

We plan to test the new system in parallel with implementation and we are going to follow some testing methods defined in the software engineering literature. First, we will create our database and insert sample data into it. This sample data was taken from the database. As a result, the quality of that sample data will be the same as in the real environment. The functionality of the database will be tested with sample activities such as querying, updating, inserting and deleting. In fact, all of these operations will be performed by custom written methods that will be called from different sections of our software. We just need to check that the databases are suitable for storing the results of these activities. The most important thing for proper operation is to make sure that the database is always in the right place [11]. Then we will create our software interface. We will start from the user interface to identify the necessary elements and things. We will then define the appropriate classes and methods [12]. We will examine the activity of each function, including sample data, individually within each class. We will then test the functionality of each class, including our database. We also need to check the data format entered by the user.
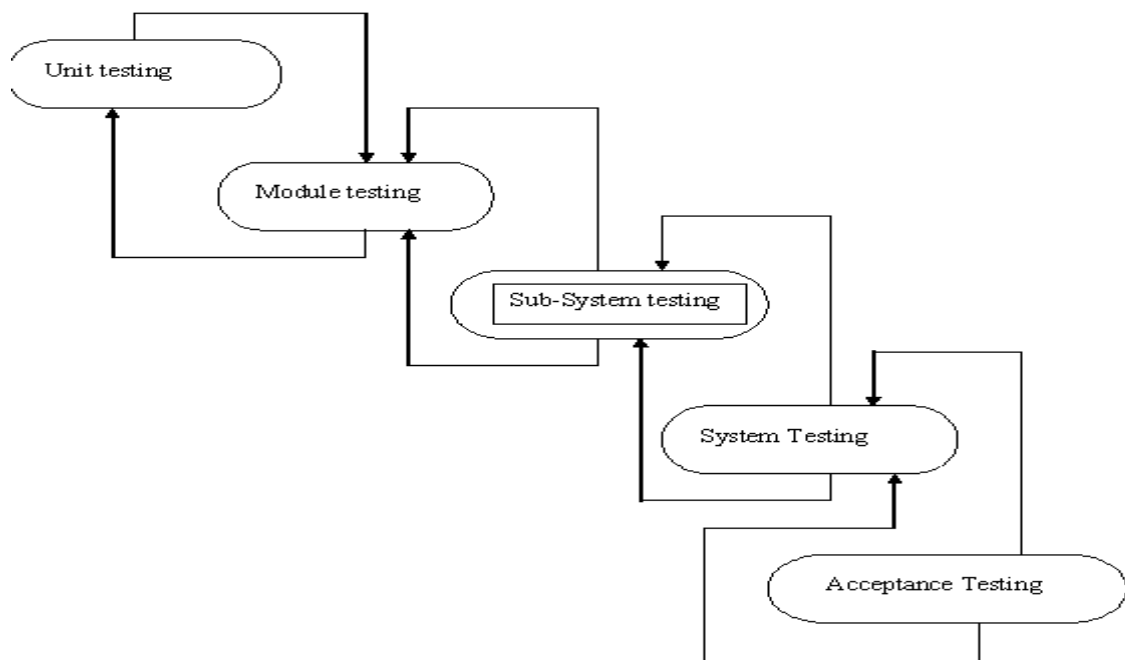

Figure-3: Testing Process of the System

5. Conclusion

At any time of the day, people do different kinds of work. So boredom is very common among hard working or lazy people. For this he / she may lose interest in the work. This time he needs some kind of entertainment. A game with this vision gives him full entertainment. This game is very easy to play and available. This game has the ability to entertain its users. In this sense it is a successful project.

6. Future Development

We can increase usability adding more classes later according to user requirements. We also can share it as free software so that everybody could use this package in their relative work.

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