Educational game analysis

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Introduction

The objective of the analysis is the development of an educational application for children.

The application will be developed with JavaFx, using a file to store the 10 best scores in each game.

When the application starts, it will show a UI where a username and age must be entered.

Depending on the age, an interface will be shown for those over 3 years old and another for those under 3 years old.

In the interface for children under 3 years you will be given a choice between the mini games, catch the mouse or how many are there?

In the interface for people over 3 years old, you will be asked about the activity to be carried out between:

- Sums.

- Subtraction.

- Subtraction with carries.

The behavior of each minigame will be quite similar, a problem that the child will have to solve will be displayed on the screen, while he is hitting it, numbers will be added, when he fails the correct result will be displayed, pressing a key will show the 10 best scores of the game. mini game and you will return to the home screen.

The minigame catch the mouse will be different. It will show on the screen the sprite of a mouse moving, and the child will have to make the mouse cursor, at which point, it will show on the screen how long it has taken, along with the 10 best times.

Functional requirements

- The user can enter the username and age.

- Depending on their age, the user can choose between some minigames or others.

- The application will be in charge of displaying the problems to be solved on the screen.

- Once the result has been entered, the system will be able to check the result.

- A record will be saved by means of a file of the 10 best scores of each minigame that will be shown.

- The application can be installed on Windows, OSX and Linux.

- The application will animate a sprite for the minigame, catch a mouse and capture the moment when the user clicks on it.

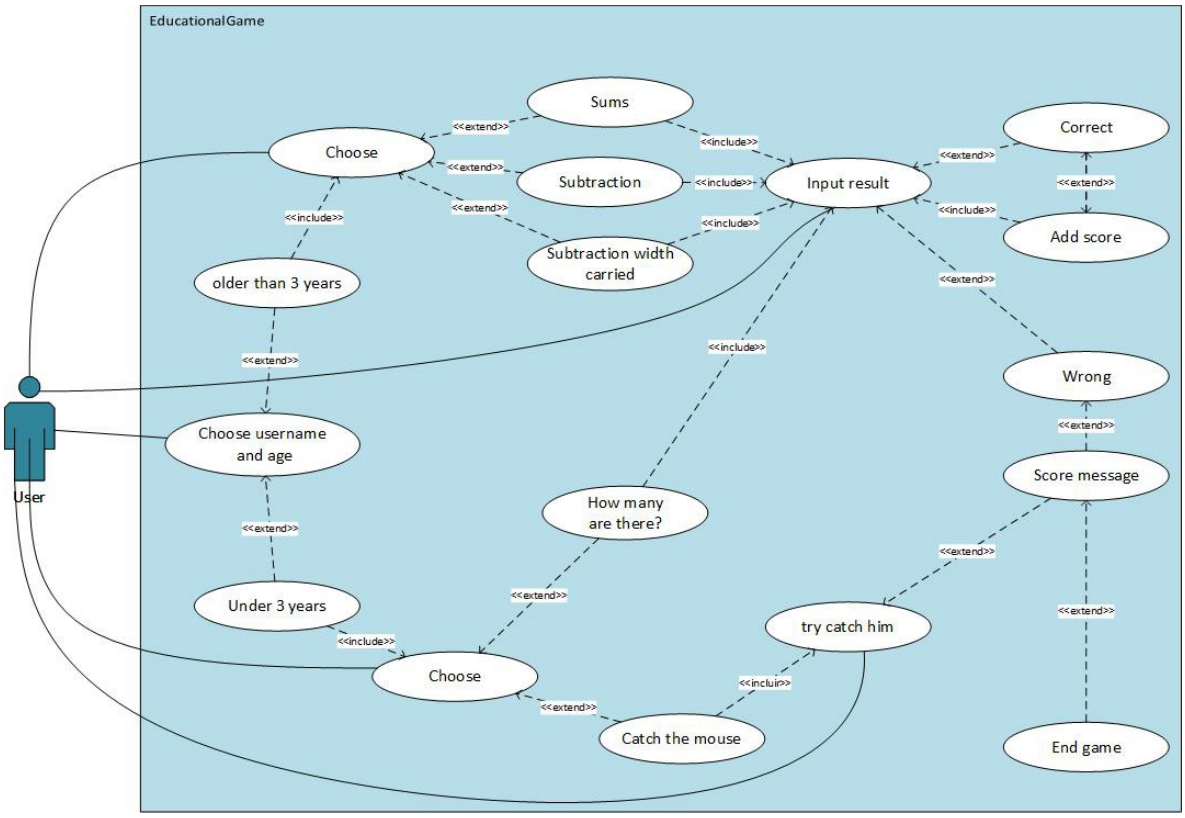
Non functional requirements

- System access permissions can only be changed by the data access administrator.
- The system should provide error messages that are informative and end-user oriented.
- The application must have a “Responsive” design in order to guarantee adequate visualization on multiple personal computers.
- The system must have well-formed graphical interfaces.

System requirements

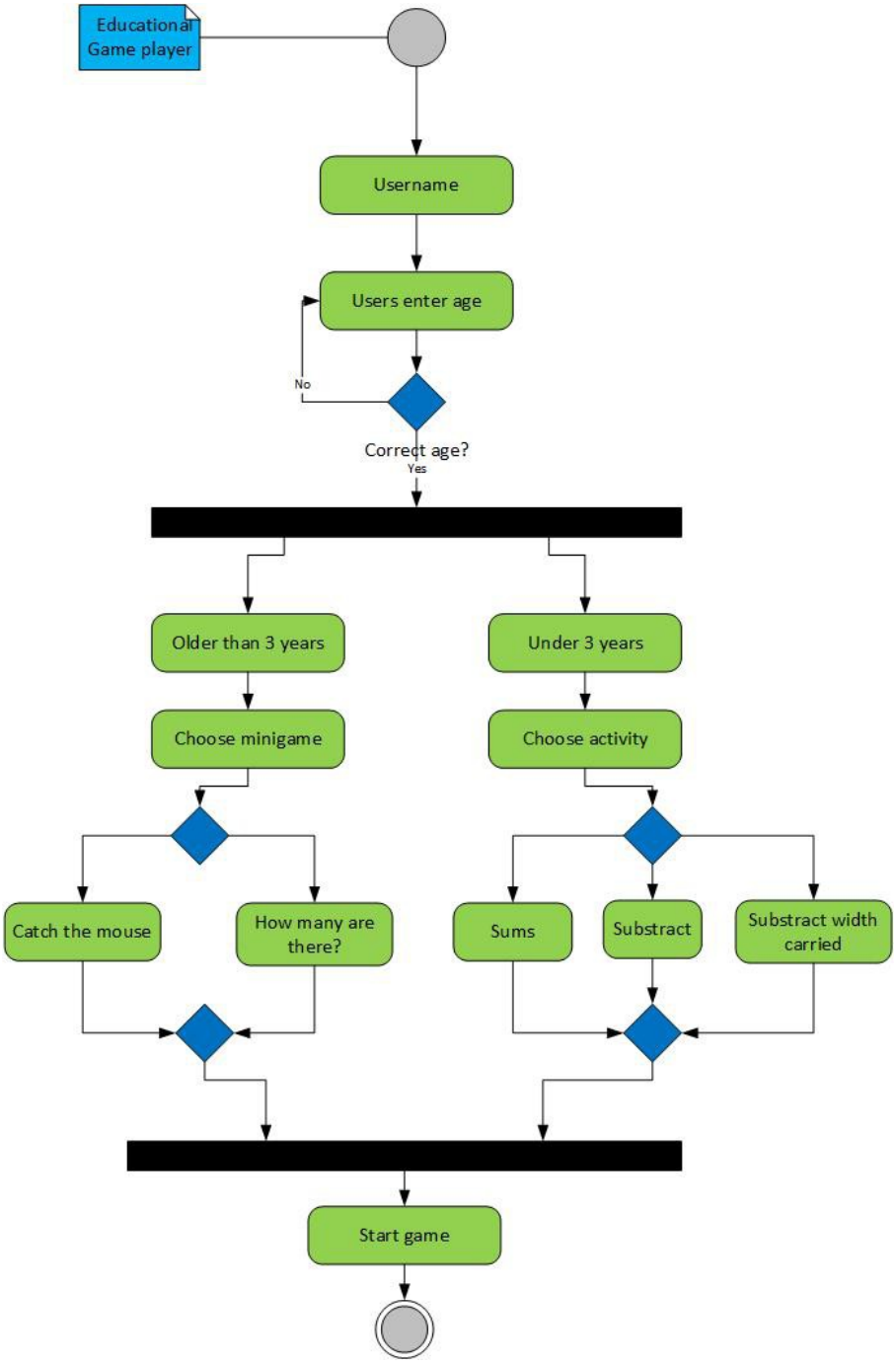
- The data will be saved on a file.
- To install the application, the PC will have minimum requirements for proper operation.

Use case diagram

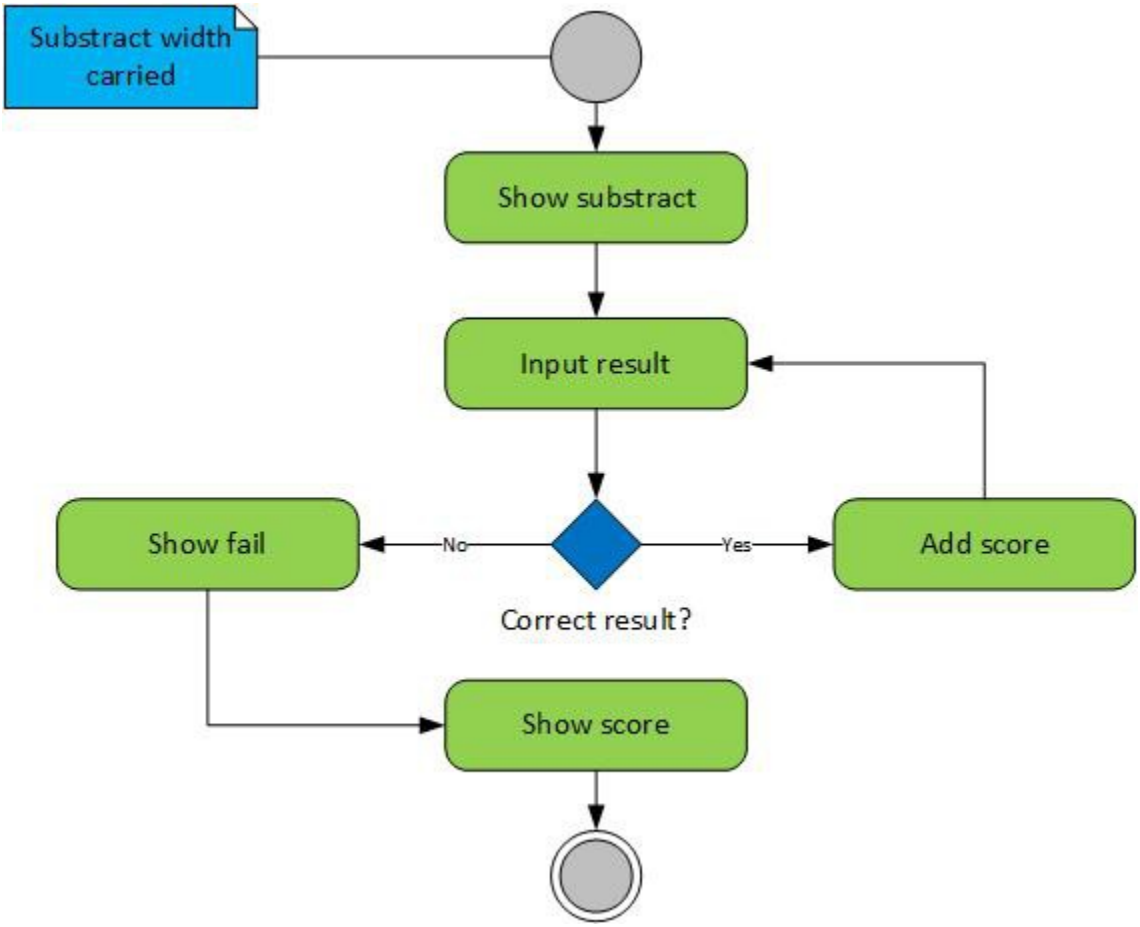


Activity diagrams

Use case start menu



Use case subtract width carried



Class Diagram