

Serious Games

TeachAR Essay

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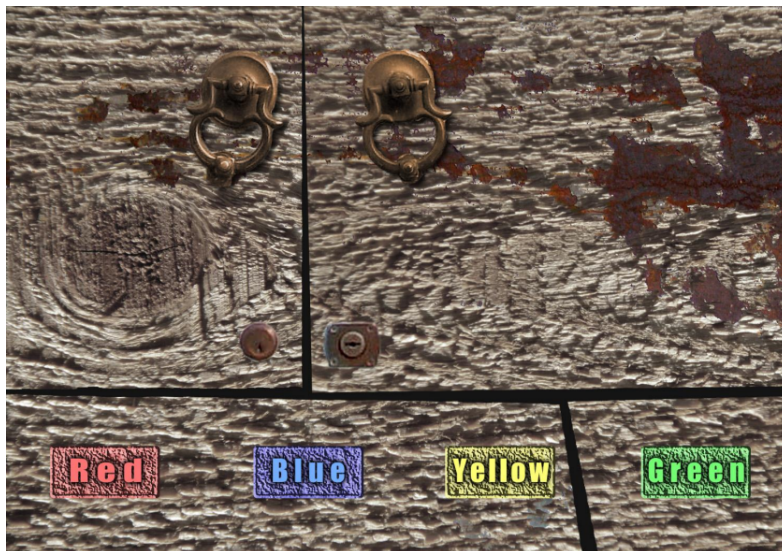
THE PROJECT

With the project "TeachAR", I want to create a mobile application that allows young kids to learn by playing.

With the mobile application and one printed sheet with a specific image, will be possible to play.

When the camera scans the sheet, a question and several possible answers will appear.

An example of an image that could be used to play is the one below.



When we scan the paper with our mobile phone, we will see a question that appears at the top of the image, and the possible answers in the four rectangles.

The question will appear as 3D text, while the answers may be images, 3D text or 3D objects.

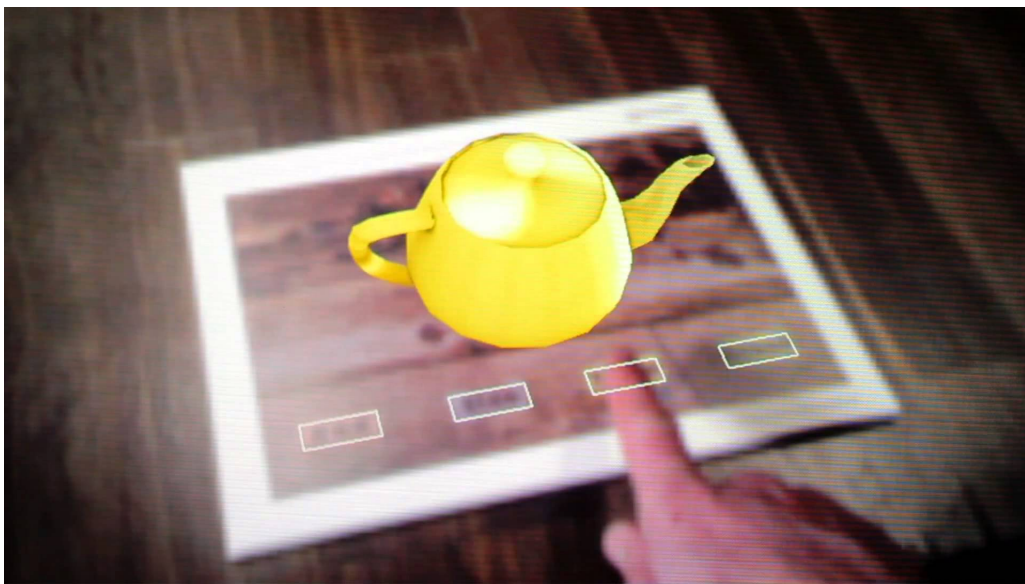
To give the answer, the user can tap on the screen the rectangle with the answer, or he can put a finger over the rectangle (not in the mobile screen but the real paper).

For example, a simple question that could appear is:

$$4 + 5 \times 2$$

And the possible answers could be 12, 13, 14 or 15.

To give the answer, the user can tap on the mobile screen in the correct rectangle, or can push the button like in the image below.



When the user give the answer, another question will appear and after 10 questions the game will end.

At the end of the game, the user will receive a score calculated from the given answers.

The idea is to give the opportunity to share your score on facebook, in order to compare the result with friends, but I'm not sure this will be possible because of the used framework.

FRAMEWORKS

To develop the application, I decided to use Unity3D, which is a cross-platform game engine with a built-in IDE (Integrated Development Environment). It is used to develop video games for web plugins, desktop platforms, consoles and mobile devices.

Starting from May 2013, mobile application development with Unity has become free, and it allows the developer to compile and run the same application on devices with Android OS

and iOS, without changing a single line of code.

To use the Augmented Reality in the mobile application Unity is not enough, and is required also the Vuforia plugin, that is well integrated with Unity.

Vuforia is the software platform that allow the developers to use Augmented Reality (AR) to create mobile applications.

With support for iOS, Android, and Unity 3D, the Vuforia platform allows you to write a single native app that can reach the most users across the widest range of smartphones and tablets. The most part of the development with Unity is made through the graphical environment, but it is also required some code written in C# and JavaScript.

As an alternative to Unity, is possible to use the native IDE for the mobile operating system, that is Eclipse SDK (or Android Studio) for Android and XCode for iOS.

Developing in this way, is not possible to run the same application in both OS, and will be required two different applications for the different platforms.

APPLICATIONS

TeachAR belongs to the category of quiz games. This kind of games allow the user to learn concepts more or less important through a game.

My project's goal is to create an application with the same concept of the other quiz games, but with the addition of Augmented Reality to make more appealing and innovative the interaction with the user.

CONCLUSIONS

Augmented Reality is becoming increasingly popular in recent years, and thanks to Google Glasses is becoming famous among people all over the world.

The use of Augmented Reality in games that facilitate learning has the goal of making more conscious and aware the user regarding the subjects covered in the game.

In this way, users will be more encouraged to use games useful to learn.