
How to Use the ON-OFF4youngsters Augmented Reality Mobile Game Application

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Revision History

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1.0	15/10/2019	Creation of the document	C	12

(*) Action: C = Creation, I = Insert, U = Update, R = Replace, D = Delete

Executive Summary

The purposes of the document are the following:

- Describe the concept behind the ON-OFF4youngsters Augmented Reality (AR) mobile application
- Provide teachers with useful guidelines about how to install the application and use it in class

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1. The ON-OFF4youngsters AR game

1.1. What is an AR application?

When referring to Augmented Reality, you need to think about the real world enhance with virtual objects. In particular, AR is actually the result of using technology in order to superimpose those objects in the form of sound, image, or text – on the real world (Empspak, 2018). On the other hand, an AR application is a software application that integrates this information into the user's real environment in direct view (Margaret Rouse, n.d.).

Be careful though! Augmented Reality (AR) should not be confused with Virtual Reality (VR) or Mixed Reality (MR)! The following article can show you why!

- [‘What’s the difference between AR, VR and MR?’](#)

When it comes to AR applications, they are supported by special 3D programs that allows us to tie the digital object to a ‘marker’ in the real world. The most common use of such applications is related to gaming, while a lesser part of young people uses it also in education (ThinkMobiles, n.d.).

1.2. The ON-OFF AR application!

1.2.1. The app context

That been said, you can now have a closer look at the project AR game.

What we did was to develop an AR application for Android mobiles aiming to motivate youngsters (students aged 12 – 16) embrace specific strategies that promote a balance between time you spend online and offline. In fact, within the application, you will be able to see information about the key concepts of each of the training modules. Those modules are:

1. [Reasons behind constant online use](#)
2. [Types of online engagement](#)
3. [Impact on children’s physical, cognitive, social and emotional development](#)
4. [Strategies towards gaining a balanced life](#)

The application also serves as an assessment tool being based upon a quiz-like layering approach, which will allow you to identify the risks behind constant online use and the ways to embrace strategies that offer an online-offline balance.

Be the first to answer all questions correctly to get your badge (*trophy*)!

1.2.2. How it works

STEP 1. Print the infographic!

The first step in the design of the AR game application was the creation of the ‘real’ part. To that end, an infographic was designed including images ‘tied’ to each key concept of each module. The infographic is displayed in the following picture:



Image 1. ON-OFF4youngsters AR application infographic

Each column of the infographic is related to a different module, while each image within the module refers to a different concept. As shown, there are five key concepts per module, which turns up to 20 concepts in total.

Sequentially, the concepts covered are:

1. [Reasons behind constant online use](#)
 - a. Social Media Addiction
 - b. Gaming Addiction
 - c. Personality traits related to internet addiction
 - d. Motives for extensive use
 - e. Symptoms and effects of internet addiction

2. [Types of online engagement](#)
 - a. Passive Screen Consumption
 - b. Interactive Consumption
 - c. Social Media Communication
 - d. Communication
 - e. Content Creation
3. [Impact on children's physical, cognitive, social and emotional development](#)
 - a. Favorable or unfavorable effects of excessive internet
 - b. Internet addiction can effect physical health
 - c. Psychological Effects of the Internet Use
 - d. Internet addiction effects on social life
 - e. Risks of internet addiction
4. [Strategies towards gaining a balanced life](#)
 - a. Awareness of media and self
 - b. Embracing quality media usage
 - c. Selective single-tasking
 - d. Carving out times and places to disconnect
 - e. Nurturing relationships and face to face conversation



Now that you have a clearer idea of what the infographic depicts, all you have to do is to print it in A3 size!

- ⋮ STEP 2. Download and install the AR mobile application!

The application is already available in the project website!

It is an Android Package Kit (APK) type of file that installs applications for Android smartphones. To open such a file on your Android mobile, you just need to download it like any file and then open it once asked.

Use your Android mobile to visit the results of the [website](#), find the AR mobile application for youngsters section, and click on the [link](#) to start downloading the game.

You may see a pop-up asking if you let your browser save files to your storage, which you need to accept, or the warning 'This type of file can harm your device'.

Since the application is installed outside Google Play, there might be a security block. To bypass it, click on your **Settings > Security** (or *Settings > Application* on older devices) and then put a check in the box next to **Unknown sources**. You might have to confirm this action with a simple **OK**.

If the APK file doesn't open on your Android, try browsing for it with a file manager like [Astro File Manager](#) or [ES File Explorer File Manager \(Lifewire, n.d.\)](#). In fact, you just need to open the file explorer application, and go to your 'Downloads', allowing any required permissions if asked.

Last step: Install the application!

The application icon will appear within your list of the already existing mobile applications.



Image 2. ON-OFF4youngsters AR application icon

*However, you need to know that the app is not compatible with all Android devices. In the project website, you will be able to find the [list](#) with the compatible mobiles.

☺ STEP 3. Dive into the app!

Now that you have printed the A3-sized infographic and installed the ON-OFF4youngsters AR application in your mobile, it is time to start familiarizing yourself with the app!



The first step is to *create your profile* within the app, filling in your:

- Name
- Email
- Password of preference

Then, select one of the avatars to play with. All avatars are designed in accordance with the target group’s age (students 12 – 16 years old) and level to give a lighter and more entertaining character to the game.

Finally, **Create a new User** in order to start playing!

** The profiles are kept only for reporting reasons within the app, so you do not need to worry about privacy policies! Your email and all information you provide will be kept confidential.*

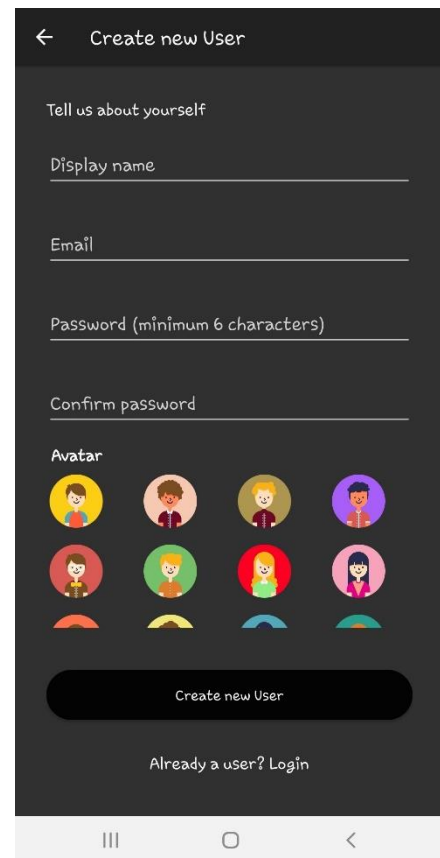


Image 3. ON-OFF4youngsters AR application login page



The second step is *scanning!*

You will see the following message popping-up:

'Please focus on an infographic to advance your user's progress...'

In order to reveal the information (digital object) appearing behind each image (real world), use your mobile camera to scan hovering over the image. Make sure your camera is close to the image to capture only the image you want!

Once the image is detected, a short paragraph with useful and to-the-point information of what is displayed in the image will appear.

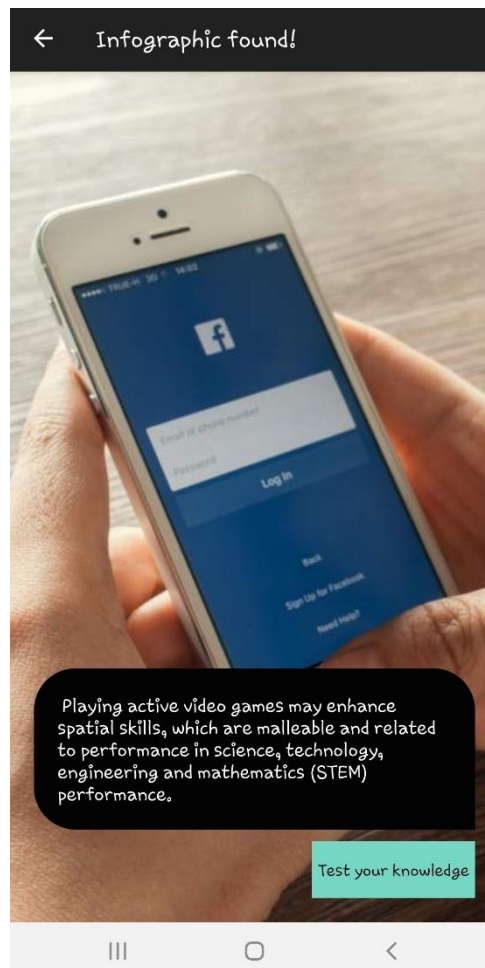


Image 4. ON-OFF4youngsters AR application example key concept

The navigation within the modules (column of the infographic) and their concepts is free, so you can scan any image you prefer!



Third step? *Test your knowledge!*

After you have read the information related to the concept, it is your turn to evaluate your knowledge. Of course, the information provided works only as a summary of the content, which means that you need to study all the modules throughout!

The questions serve as learning scenarios and are in multiple-choice format, while the correct answers appear in green and the wrong ones in red once answered.

After you answer the question, the app asks you to detect another image and so on until you scan them all.

Note that different information appears every time you hover your camera over the same image!

You have 5 attempts to answer correctly!

If you answer all questions correctly, you will earn a Trophy as a badge for your achievement!

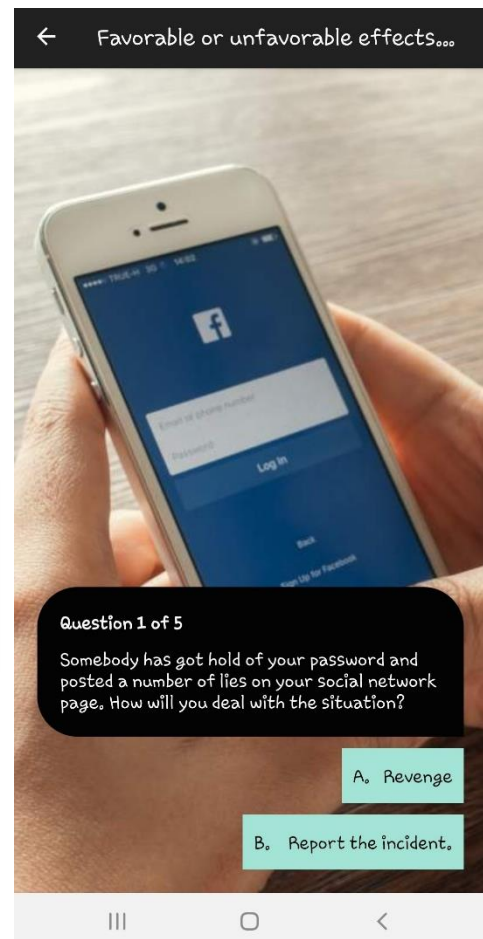

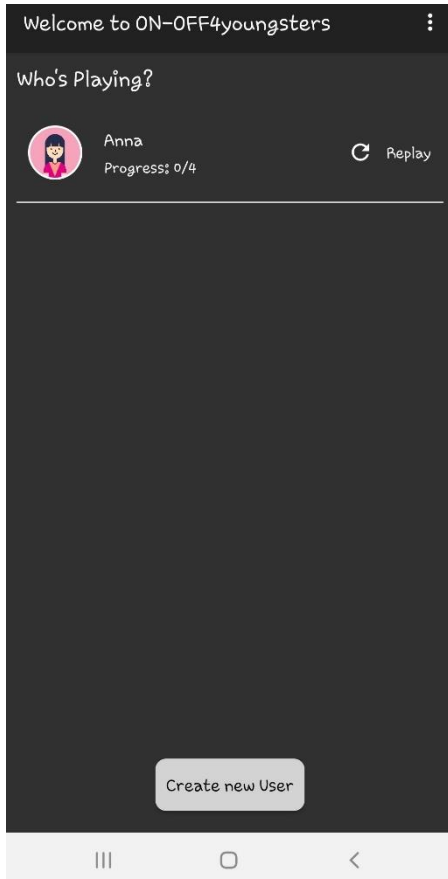


Image 5. ON-OFF4youngsters AR application example quiz

 The game is now over! Do you want to *play again*?



A result screen appears at the end of the game or if you close the application.

The page reveals information about your progress within the four modules of the application, while it gives you the opportunity to either play again or create a new user.

Reporting about time spent in the application are kept in the database for improvement purposes.

Image 6. ON-OFF4youngsters AR application results page

For any queries, you can contact us through the project website contact form:
<https://on-off4youngsters.eu/contact>

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