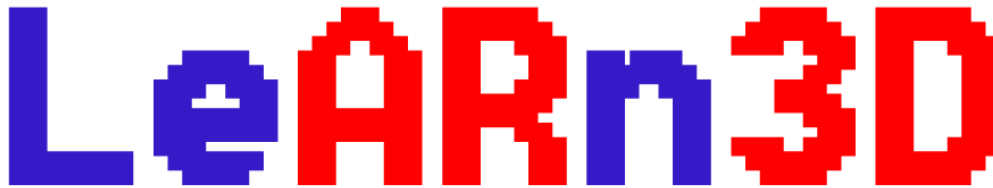


ARASM - User Manual



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Application Overview:

The project is a mobile application of a card game, made for kids, in order to help them learn new information about animals, musical instruments and places of the world.

We designed cards which will represent a questions' category. The application will use the mobile phone's camera in order to recognise the categories' cards.

When the app recognises a specific card, it will show a question of the respective category. The categories are: Animals, Musical Instruments and Monuments.

After the player selects the answer, the game will show if the option is correct or not. Depending on the score, in the end of the game it will show the final score.

System Requirements:

- OS: Android 5.0 Lollipop or higher
- Disk space: 75MB

How to download the application:

You can download the application by clicking [here](#)

How to install the application:

- Before you can install it on your phone, you will need to make sure that third-party apps are allowed on your device.
 - Go to Menu > Settings > Security > and check Unknown Sources to allow your phone to install apps from sources other than the Google Play Store.
 - Newer versions of Android do things a little differently. Rather than check a global setting to allow installation from unknown sources, you'll be prompted to allow your browser or file manager to install APKs the first time you attempt to do so.

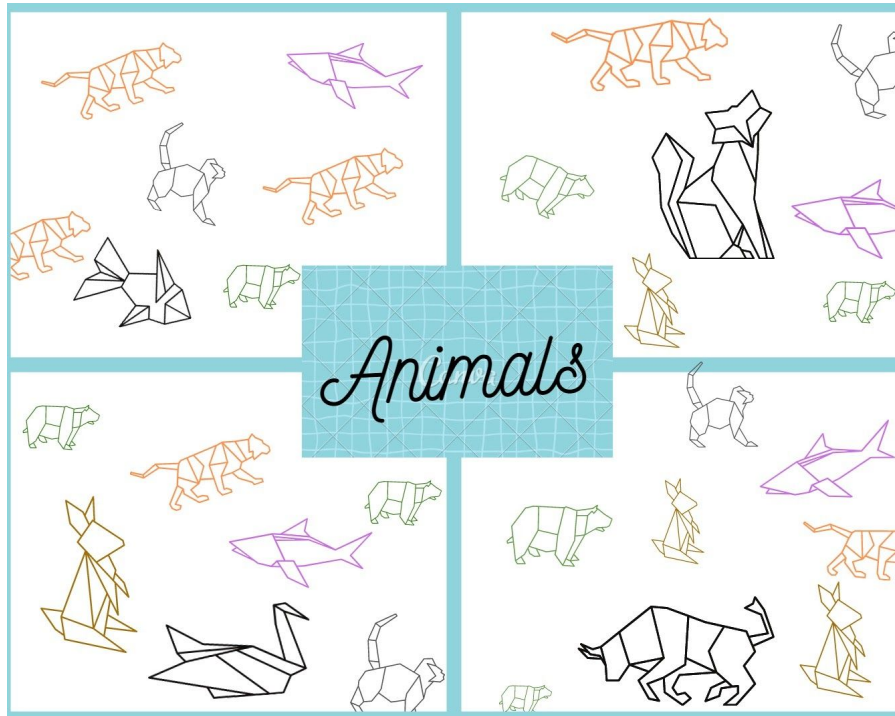
You can now install it by clicking it.

How to play the game:

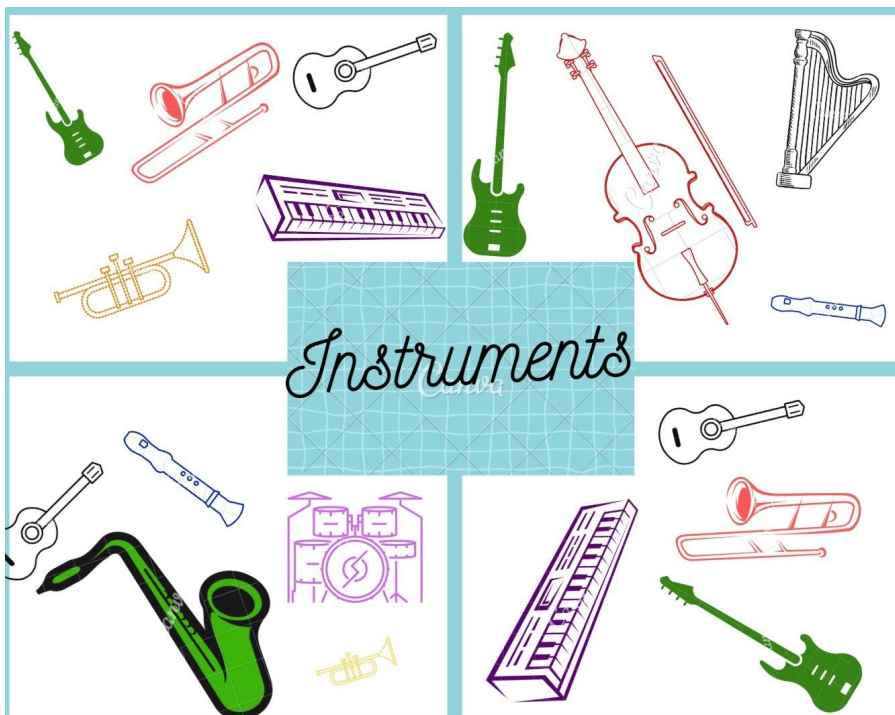
Boards

There are 3 cards/boards available, indicating a category:

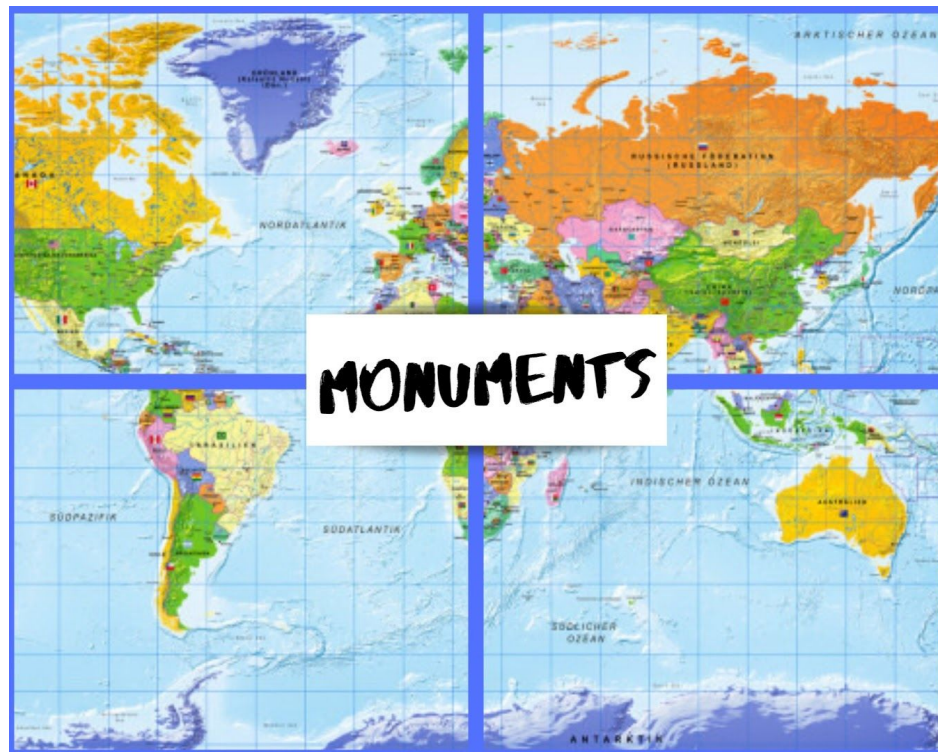
- Animals



- Musical Instruments

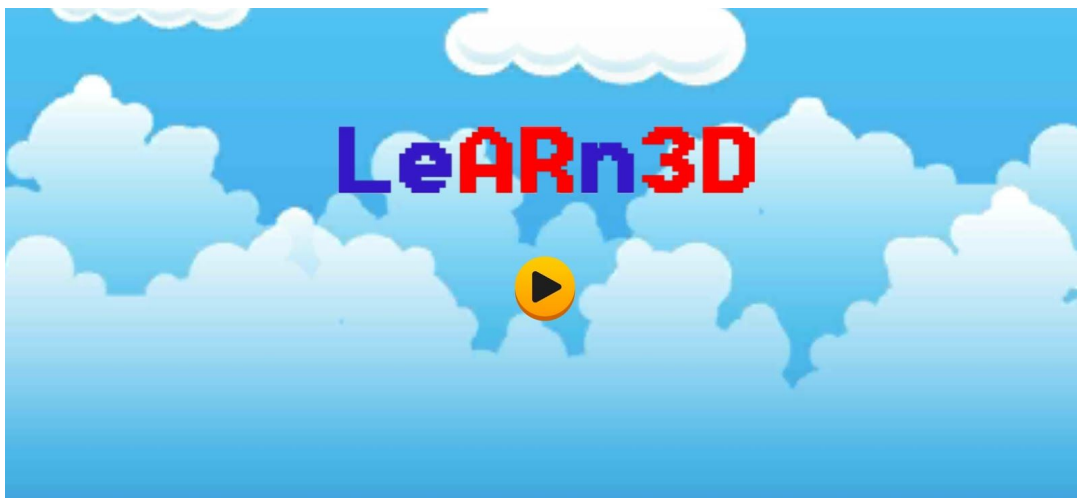


- Monuments



By scanning the respective board, the player chooses the category he wants to play. Once the board is scanned, depending on the category, 4 different and random 3D objects will appear.

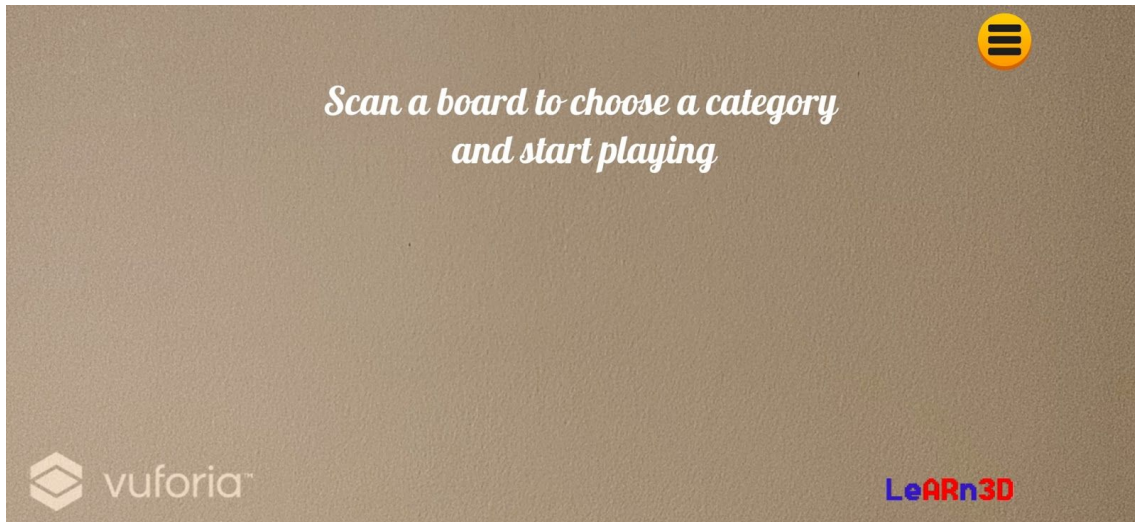
Starting Screen:



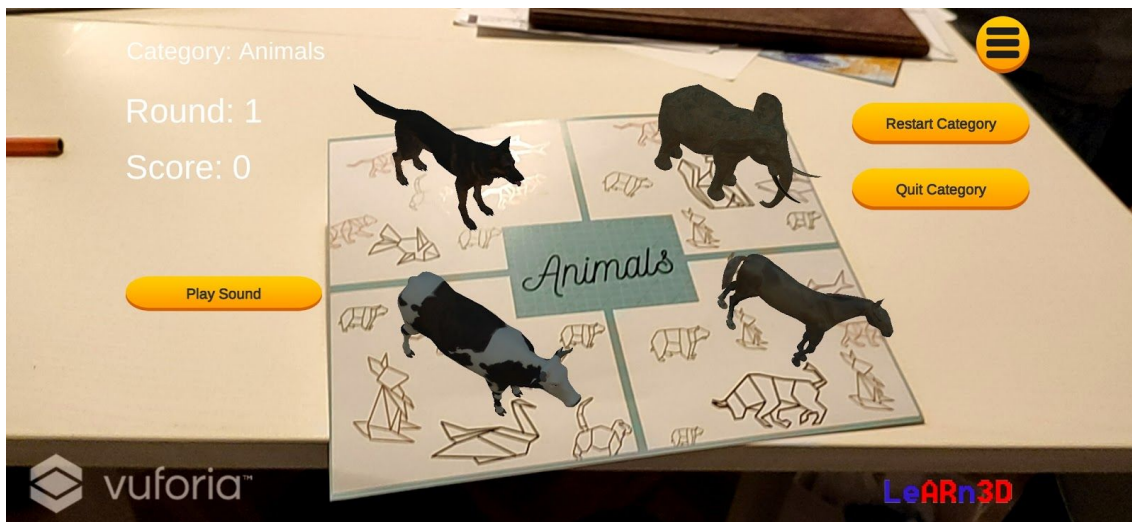
Once the user runs the application, this starting screen will appear. In order to start the game, the player has to hit the play button.

Game mode - Scan a board:

The phone's camera is enabled, and instructions are shown on the screen. The user has to point the camera to one card.



- Example with animals board:

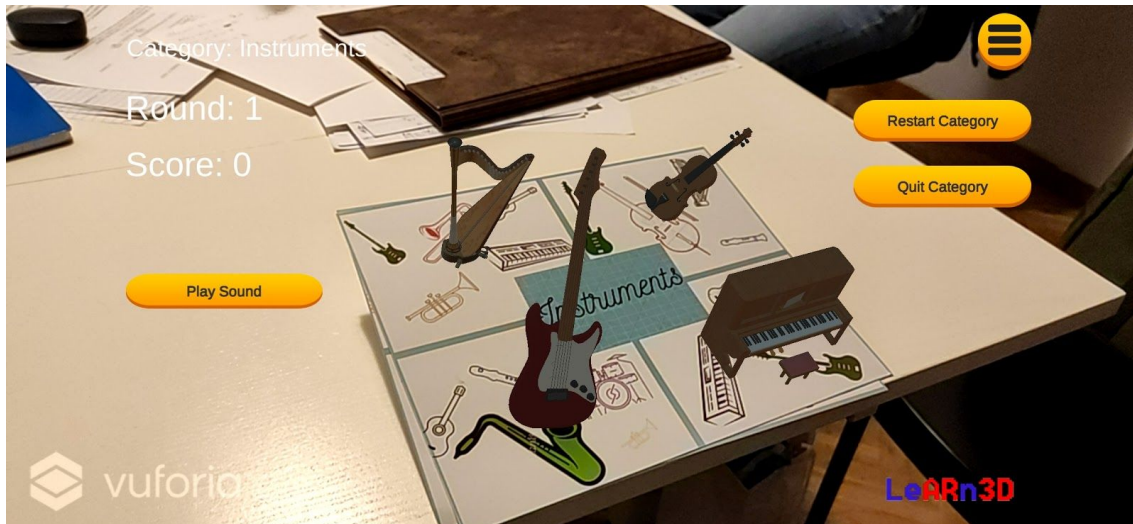


In this case, 4 3D animals appear on the board, and the game plays a sound of an animal's sound. The player has to select the correct animal depending on its sound. In case the player wants to hear the sound again, he can press the "Play sound" button.

Also, in the screenshot we can see two more buttons:

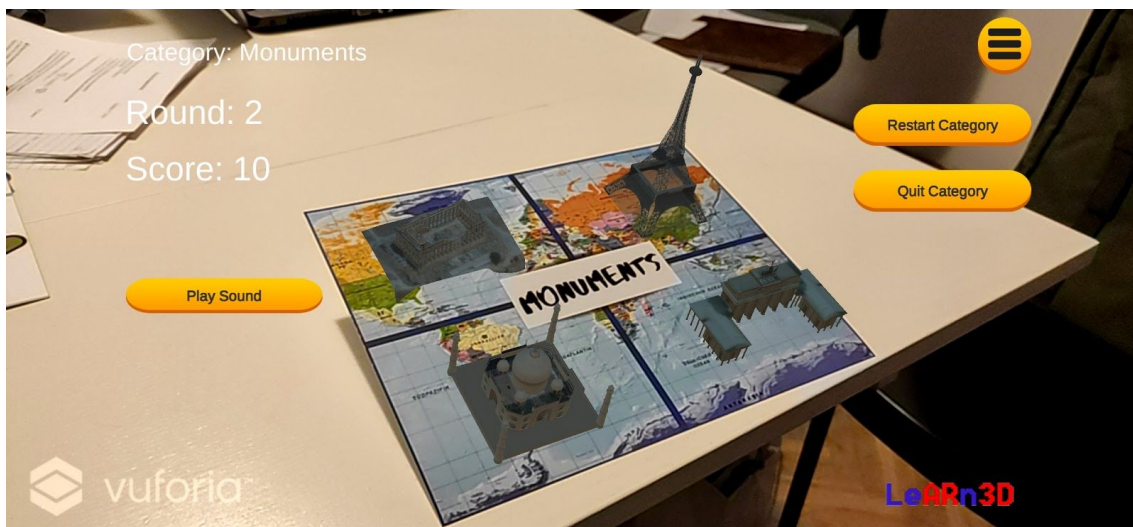
1. Restart Category: the game restarts from round 1, in the same category
2. Quit Category: the game stops and we return to the "Scan a board" screen

- Example with Musical Instruments board:



The same applies in this case. The game will play a sound of the instrument and the player will have to select the correct instrument.

- Example with Monuments board:



The same applies in this case. The game will play a sound which will indicate the country of the respective monument. Example: "This monument is in Greece".

After the player selects an answer, the game will indicate whether the answer is correct or wrong.

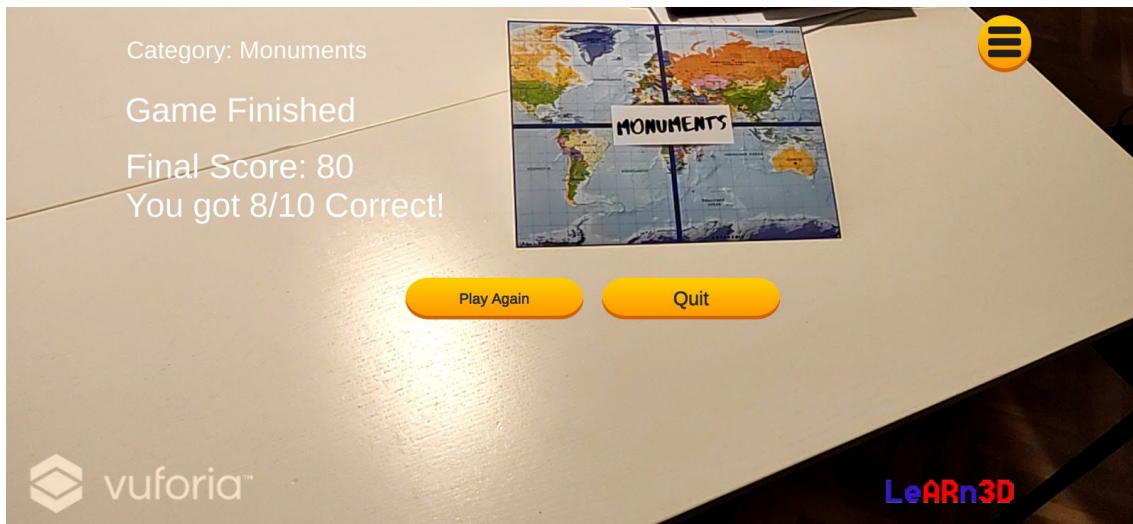
- Example with correct answer



When the user chooses an answer, the 4 3D objects appear and if the object pressed is the correct one (with the correct sound) the user gets a message that the answer is correct, which animal/monument/instrument it was, and gets +10 points in the score.

If the answer is wrong, a red text appears saying that it was wrong, mentioning the correct answer.

Game Mode - Game Finished



Above there is a screenshot of the Game Finished screen. The game finished after 10 rounds of playing. The user can see the final score and how many correct answers he had. Also there are two buttons:

- Play Again: The category restarts from round 1
- Quit: The user quits the category and returns to the “scan a board” screen



Here is a photo of a user playing. We can observe the playing board in the table and the screen of the phone, where the augmented reality is. The user can adjust

his point of view in order to have a better vision by moving the phone and getting a different camera angle.

Conclusions

- The application is targeted to children of young age, so that they will be able to learn about animals, instruments and monuments of the world, with a more fun and interactive way.
- It can also be upgraded in the future with more categories. The scalability is easy.
- The AR is giving interactivity to the experience of the user. Instead of a normal application, the AR 3D application is making the experience more real and fun. AR is a real trend nowadays not only in the technological world, but in the everyday life of everyone. It has also conquered social media (eg Instagram/ Facebook) recently.
- Kids nowadays have the ability to adapt really fast to new technologies and they are a generation that is growing in a concept of fast evolving technology and multimedia. That is why such kind of apps would be ideal for kids.