

Final report

- Trivia Math –

Student:

Simona Tuns (IE2)

Data: 16.05.2021

Coordinator:

Maftciu-Scai Liviu Octavian

1. Abstract

Through this report I will provide an overview of the project, present the target audience and the goal of this application. I will also give some insight of the app's functionalities. In addition, I will compare my application with other applications available on Google Play and at the end I will describe the tech used to achieve this project by providing a meaningful use case diagram and brief explanations of how the tech itself is used. References will also be provided.

2. Goal and potential users

Now-a-days many pupils struggle with mathematics, mostly because they don't have a solid foundation and we all know that you cannot skip any steps when climbing the "math ladder" and sometimes it's not really fun taking all those steps. This is where this app comes in to help. The goal of this project is to provide a fun way for pupils, from around 5th to 8th grade, to accumulate basic math knowledge through a more fun way, namely, trivia.

This is not aimed only towards middle grade pupils, students and other people can use this app as well in order to brush up on their math knowledge.

3. Introduction

After opening the application, the user can start playing. They can choose from a set of multiple choice questions which consist of a number of categories such as geometry, arithmetic, algebra and so on. When answering correctly the player receives a certain amount of points.

4. State of art

At the moment, there are several applications available on Google Play that are similar to this project that have some pros and cons associated with them.

HQ Trivia

HQ Trivia is one of the most popular quiz games from 2018. It features a game show style unlike anything else on this list. That includes a real host that asks you questions live at certain times of the day. Those who answer correctly proceed while those who answer incorrectly are eliminated. The con of this app is that if you have free lives, if you miss a question and don't say not to use a free life, they will use it for you.

Logo game

Logo Game is one of the few free quiz games available on Android. This one is a simple guessing game where you see a logo and then you have to guess the brand. It includes over 2285 globally recognized brands, 73 levels, and the difficulty increases the

longer you play. It also comes with Google Play Games services, including achievements and leaderboards.

Trivia 360

Trivia 360 is one of the newer quiz games. It's looks and feels like a traditional style trivia game. It comes with thousands of questions, true or false questions, riddles, and various categories. There are also leaderboards to see how well you're doing. Aside from that, it's a relatively simple trivia game. The interface is colorful, but easy to learn. About the only downsides are that the landmark questions are generally US based.

5. The original contribution of the author

As the title of this section states, now we will discuss and analyze what this project brings to the table as compared to the other similar applications discussed at the previous section "State of art".

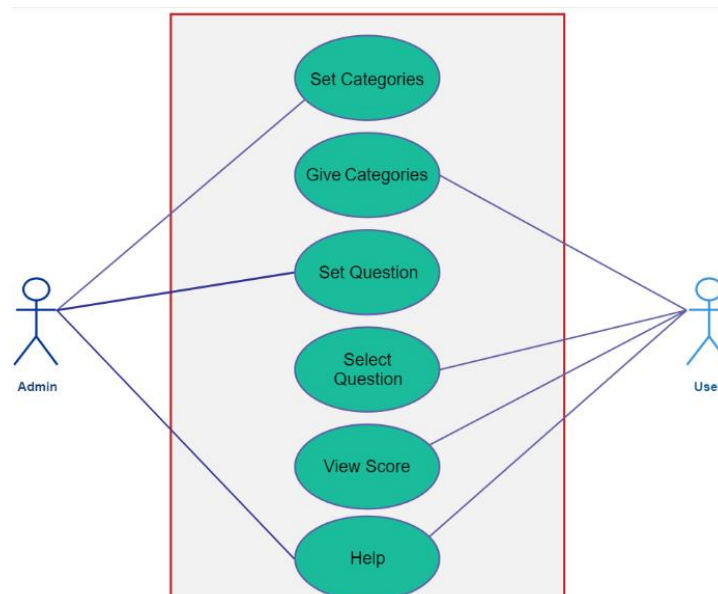
- The main idea of the application
- The more info activity which gives an explanation to how you get the right answer
- The design
- The graphical interface (If I use inspiration from someplace else I will specify so)

6. Development plan

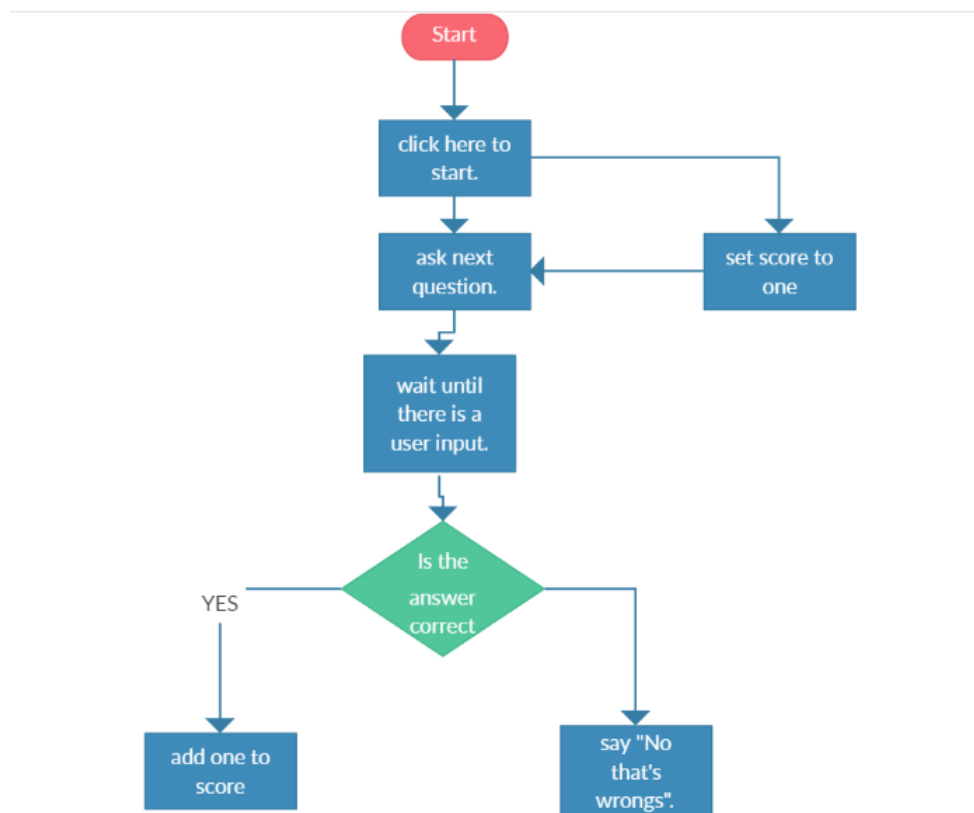
The application is coded following the object oriented programming approach.

For this application the main program/technology used is IntelliJ's Android Studio for an easier development cycle. Android Studio provides top notch functionality built in that helps the developer develop, right inside the IDE, XML layouts and the code itself.

Use case diagram



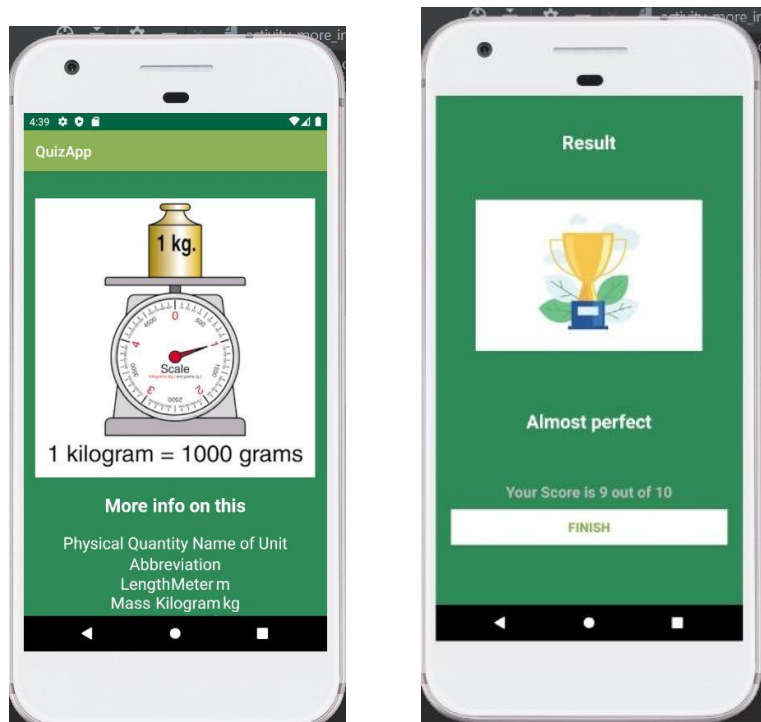
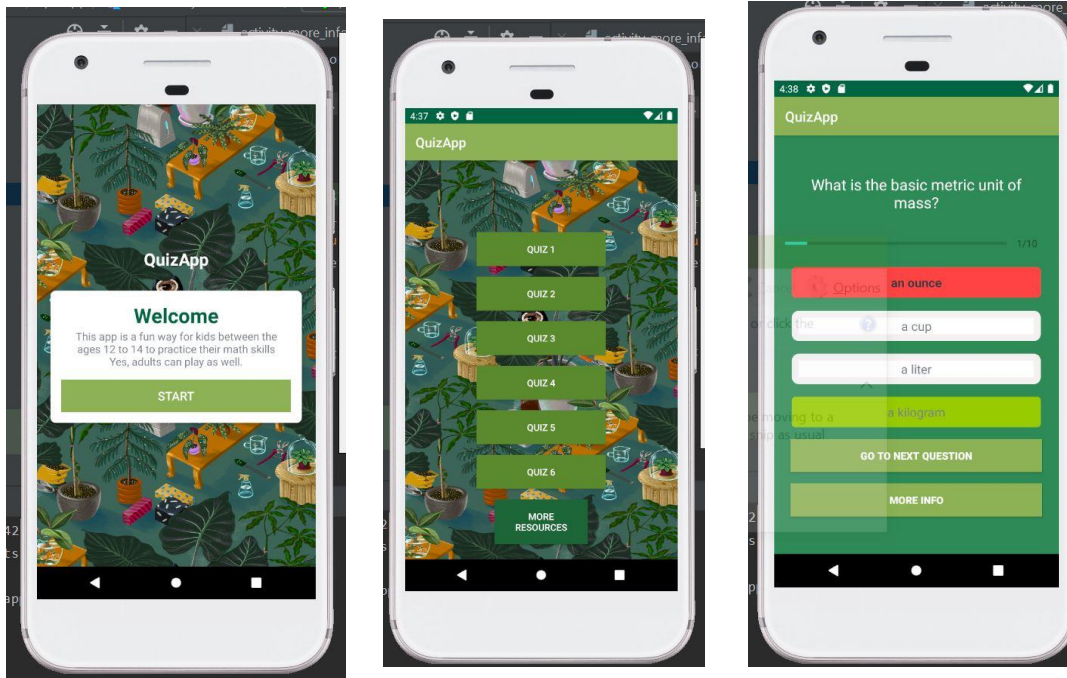
Flow chart



6.1 Explaining the user interface

- The Start button, it literally starts the game
- The quiz list, there you can pick any quiz starting from easy to hard
- After starting the quiz, there is the SUBMIT button and MORE INFO buttons, after tapping on SUBMIT the user can see whether or not they answered correctly, and then move to the next question by pressing GO TO NEXT QUESTION, on MORE INFO the user can see the explanation and the right way to solve the problem
- The MORE RESOURCES, the user can find more places where they can improve their math skill outside of my app
- The FINISH, after going through one quiz, the user gets their score with a message depending on how well they've done and can press on the FINISH button to return to the Main activity

INTERFACE



7. References

- [1] Kotlin/kotlin-examples: Various examples for Kotlin (github.com)
- [2] TheAlgorithms/Kotlin: All Algorithms implemented in Kotlin (github.com)
- [3] nikartm/FlatButton: The button which can use with icon, text, divider, custom ripple effect, border, corner radius e.t.c. (github.com)
- [4] Dribbble.com
- [5] <https://developer.android.com/studio/intro>