



SET08101 - Web Technologies
Quiz Website

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1. Introduction

This essay discusses the quiz website which will be developed in the next month. The task is to create a quiz website from scratch about a favourite topic and explain the work behind it. Therefore, the following pages will address the website idea, the context, the background research, the features, the organization, the structure, and design. Besides, all the previous elements will be achieved through personal knowledge provided from the studies conducted using the university materials, external sources and personal projects which led to increase the experience and evaluate the studied topics.

2. Quiz description

The chosen topic for the quiz questions is music. Specifically, when the user starts the quiz, they will be prompted with general music related questions such as “To consider a band as a Big Band what is the minimum number of musicians to be needed?” and the available answers are “a.11, b.21, c.12, d.10(correct)”. The game includes 20 questions in total, where each of them can take up to a maximum of twenty-five seconds, so the quiz as a whole cannot take longer than five-hundred seconds which is translatable in about eight minutes and twenty seconds in total.

The quiz is divided in 3 sections:

Introduction: This part includes the start button which is the first and only element in the page that appears as soon as the user enters the website. Then, once pressed the start button sends the user to the guide page where the game rules are explained, and it is possible to understand how to answer to the questions.

Body: This is the main part of the game, here the questions are prompted, and the user has the possibility to answer them in the given time. If the answer was left blank or was not given in time the quiz will block the multiple-choice boxes and only allow the user to go to the next question.

Conclusion: The last part of the quiz is the results display. It shows the score achieved and allows the player to go back to the main screen through a button to start a new game or share the results on social medias. Also, the results screen includes a judgment message which will be more or less positive based on the achieved score.

3. Background research

Since the beginning of the project many resources have been analysed. First, a fair amount of time has been dedicated to the website structure, how it should be organized and what kind of files hierarchy allows better to obtain the required outcome. To achieve the previous goal much browsing has been done as well as to understand how other quizzes online work and take inspiration to choose a topic.

Once defined the website structure and navigation tree, the focus has been moved on the design. At this stage it was helpful looking on the web what kind of user interfaces other pages implemented but at the same time undertake a personal identity to make the website unique and original.

In addition, have been researched the tools to design the digital prototype of the website, the colour palette and the logo. However, the full resources names and links can be found in the bibliography at the end of the report before the appendices.

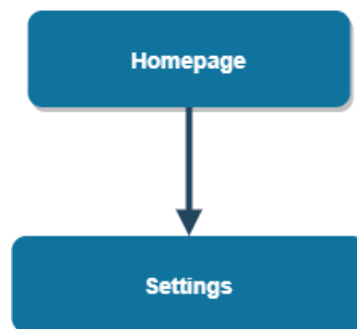
4. Features

The website contains many features which allow the quiz to count time, keep track of the score and more. For instance, instructions are provided at the beginning of the quiz to let the user know what they will be asked and how they can navigate through the questions as well as how to give answers. Subsequently, once the game started, a timer is shown in the top right area of the screen to allow the user to understand how much time is left for the current question. Then, as soon as the time is up, the multiple-choice selection is locked and the correct answer is revealed. Hence the user can only click on the button to go to the next question.

Thus, JavaScript is used to switch between the different parts of the game, obtain a working timer and track the correct and incorrect answers. The latters are added to a list which is analysed and counted when the game is over. Moreover, the same programming language has been used to show different messages at the end of the quiz based on the score as “well done!” if the score is higher than the half of the achievable total or “try again...” if it is lower. Additionally, at the end of the quiz it is possible to share the statistics with friends on social medias through the dedicated button.

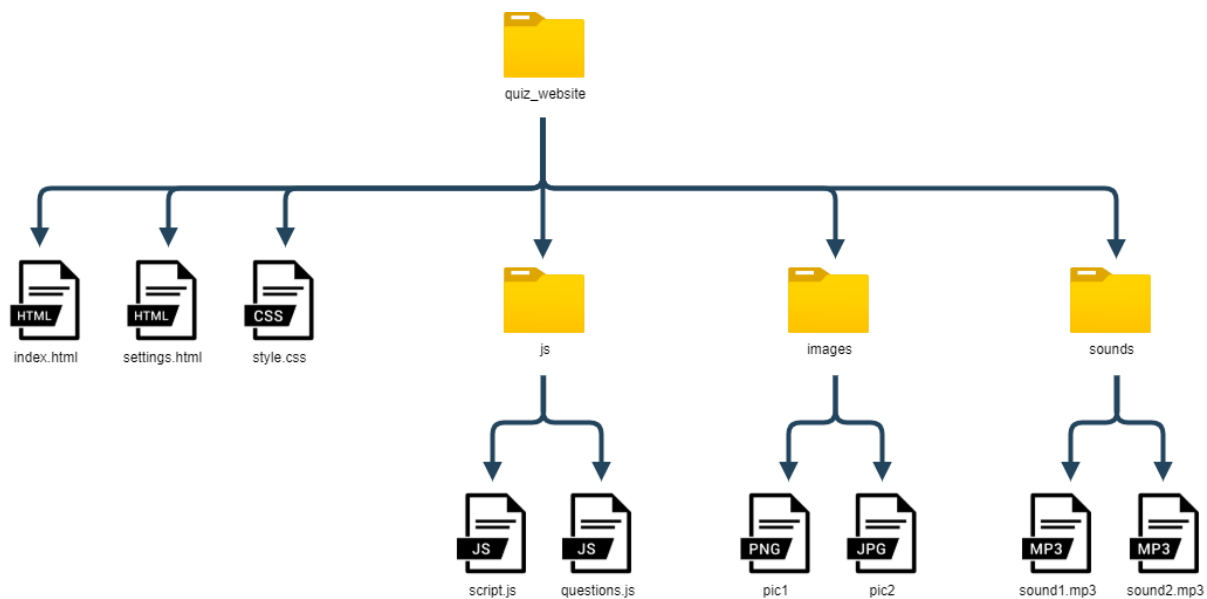
5. Site organization

The website is organized in two pages (Pic.1), the first is the homepage where the player can start the quiz by pressing the central button and the second is the settings page where the user can review the instructions and mute the sound effects volume.



Pic.1 Navigation tree diagram

The site file structure is shown in the diagram below (Pic.2).



Pic.2 Website files structure

6. Design & UI prototypes

The initial plan was to keep the user interface (UI) as minimal as possible without displaying too much on the screen other than the questions and the answers. Despite this, considering that to reach a certain quality of the website some features must be included, the design has to be redefined multiple times. Originally, the very first prototype of the website was the following (Pic.3), at the time the quiz topic was not chosen yet so the question in the image is just an example. This first version was realized just to give an idea of what the questions could have been looked like and how the page was subdivided in 3 categories, starting from the top with the quiz name, middle with a description about the game and bottom with the questions and answers. Additionally, at the beginning the idea was to create a html page for each question, but this would have created problems for possible updates of the website in the future because it would have become difficult to handle too many pages. Furthermore, there would have been a content redundancy issue since the only elements changing in each html file would have been just the questions and their answers.

The Great Quiz

This website will be used to develop the module coursework.

- what is the study of chemistry of?
 - A
 - B
 - C

Pic.3 First prototype

The second prototype (Pic.4-6) is a handmade sketch which introduces quite a lot of substantial elements to the drawing, starting from the initial screen where the title of the quiz is the main component followed by the 'start' button. Also, it is possible to see the settings button at the bottom right corner but it was included without a clear idea of which settings the game could have provided at the moment of the drawing. Indeed, there is not a 'settings' page in this design yet.

The chosen main colour is between pink and violet, because it represents friendship, affection, harmony and inner peace, which are the type of emotions that the quiz wants to communicate to the user when talking about the chosen topic which is music.

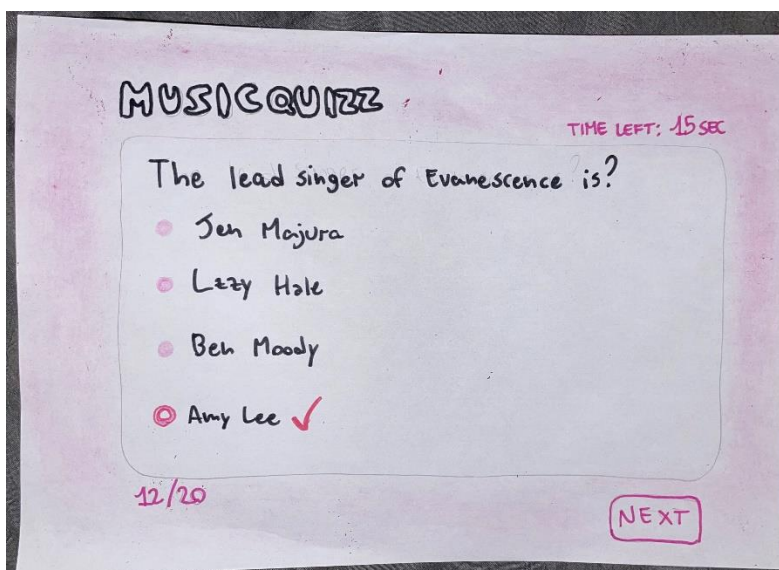
The second prototype main screen (Pic.4) contains the game title which is 'Music Quizz' with a double 'z' to make it more friendly, the 'start' button to start the game and the 'settings' button which is leading nowhere in this design.

The second screen (Pic.5) shows a typical question which will be asked during the game and lets the user know on which question they currently are and how much time is left to answer before going to the next page. After the answer is given or the time is up the correct question will be shown through a little tick icon and the given answer will be marked with a cross icon if is wrong.

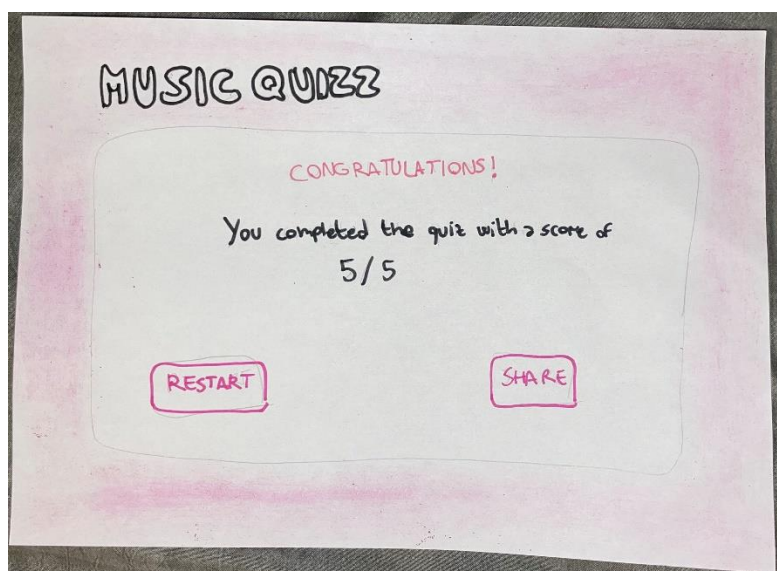
The third screen (Pic.6) shows the results with a message based on the score, also allows the user to restart the game through the first button on the left or share the score with friends on social medias by clicking on the second button on the right.



Pic.4 Second prototype – main screen

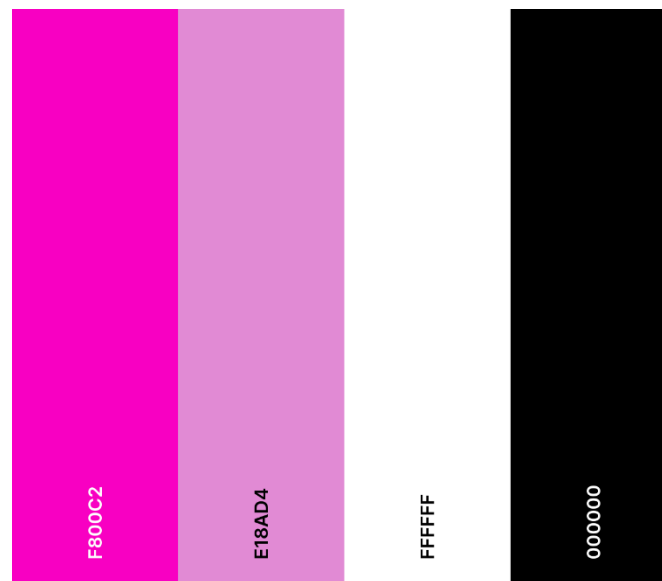


Pic.5 Second prototype – in game screen



Pic.6 Second prototype – results screen

Subsequently, before creating the digital and last prototype a deeper study around the colours to use has been made: The colour palette shown below (Pic.7) includes the four colours used in the majority of the website's elements. Usually, a good colour palette should not comprehend too many colours and the selected ones should be similar or based on a logical relationship between each other but "Despite there being many theories for designing harmonised colour schemes, or so-called colour harmony theories [...] these are not fully understood, nor well tested, and cannot be used effectively due to a lack of direct link to colour science" (Luo, 2006). Hence, the colour study doesn't follow defined rules, it is mostly about what the author wants to personally communicate to the user.



Pic.7 Colour palette

The third prototype is built through an online service named Figma which allows to design user interfaces for the most common devices on the market. The following is a representation of how the website is supposed to appear on a desktop browser as Chrome (Pic.10-13).

A new logo (Pic.8,9) has been designed for the quiz, the headphones represent that the quiz is about music and the question mark is to communicate to the user that the game consists in answering questions about the main topic. The look and feel are minimal and clean because a logo needs to be simple so it can be iconic. Otherwise, complexity would create a sense of confusion in the user which would struggle to familiarise with the design and therefore enjoy the overall experience.



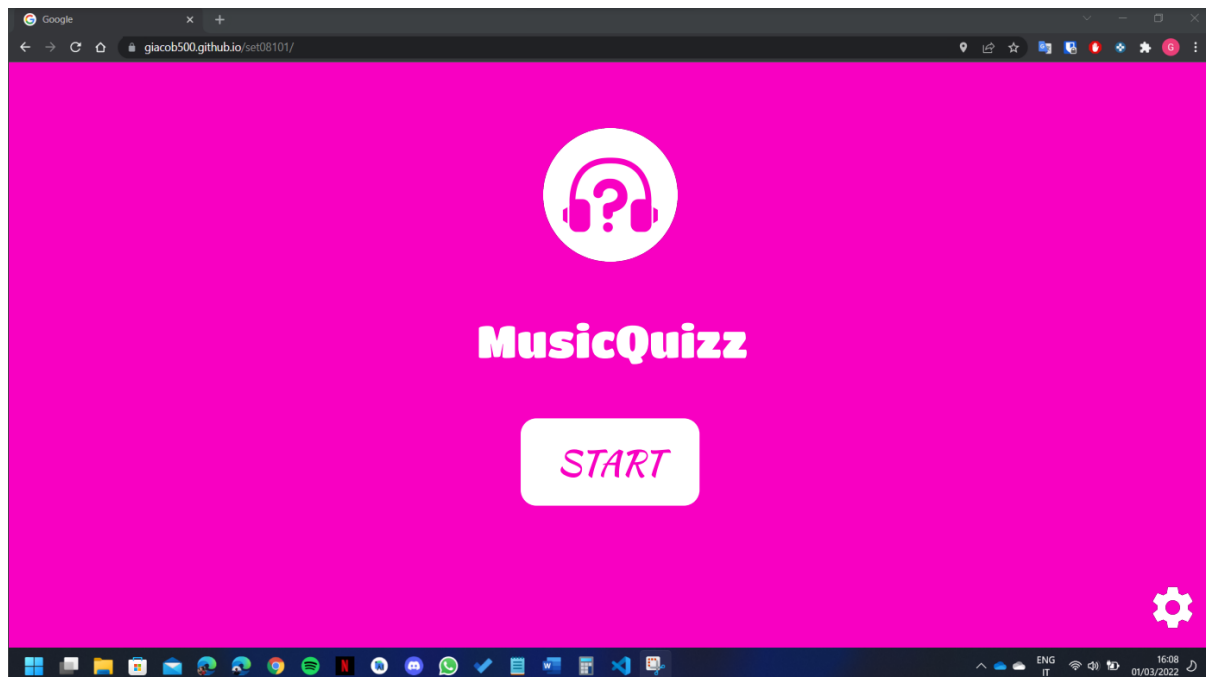
Pic.8 Logo



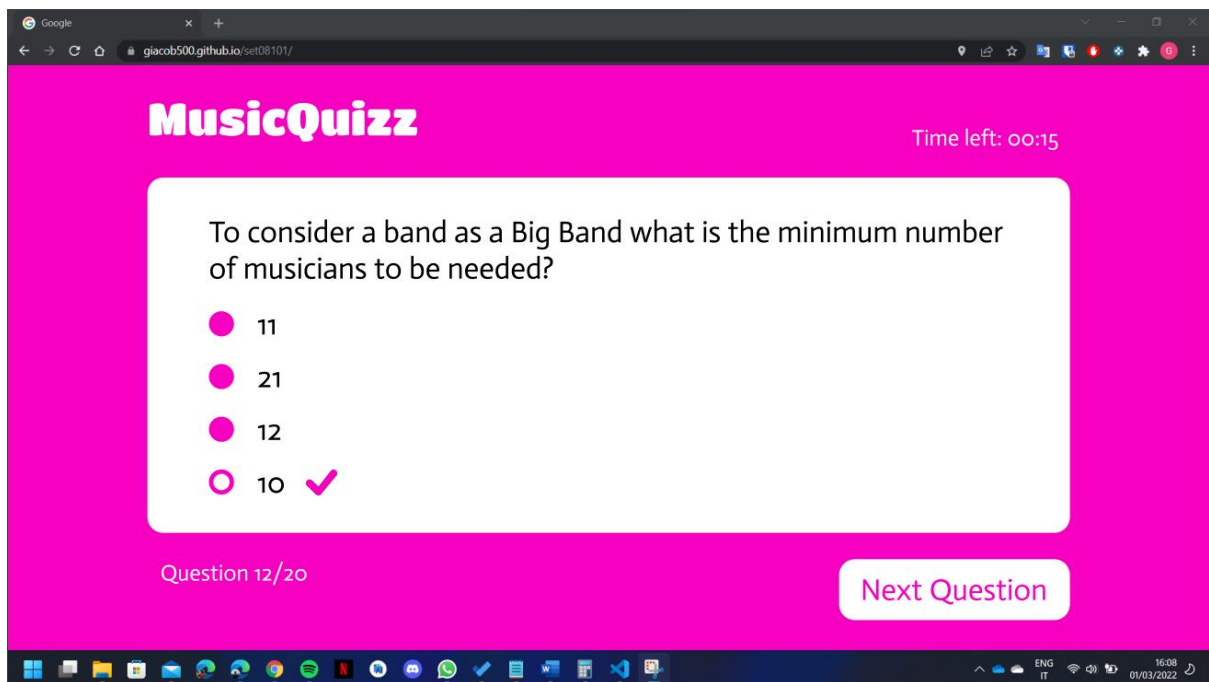
Pic.9 Logo – white theme

The chosen fonts are friendly and playful, to match the transmitted emotions by the colour palette previously described.

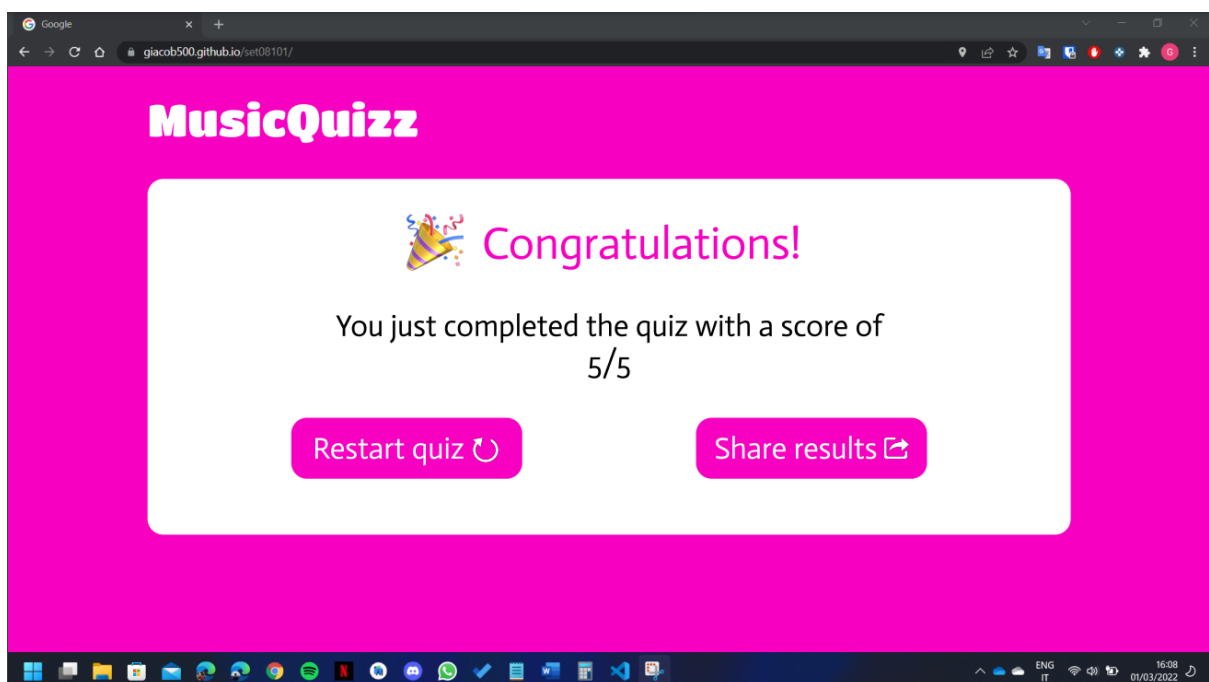
From the previous drawing (Pic.4-6) a few things have changed and been introduced in the third and final prototype (Pic.10-13). Specifically, in the starting page (Pic.10) before beginning the game a logo has been placed on the top of the title, the current question during the game is shown with a “question” label before the question number over the total (Pic.11), and the time left is now represented in a ‘digital clock’ style showing the minutes and seconds left instead of the previous “sec” text after the seconds. Next, the results screen (Pic.12) shows a little emoji next to the main message which will change based on the score and a logo has been added to the ‘restart’ and ‘share’ button. Eventually, a settings page (Pic.13) has been introduced, where it is possible to review the game instructions in case of necessity and switch on or off the sound effects.



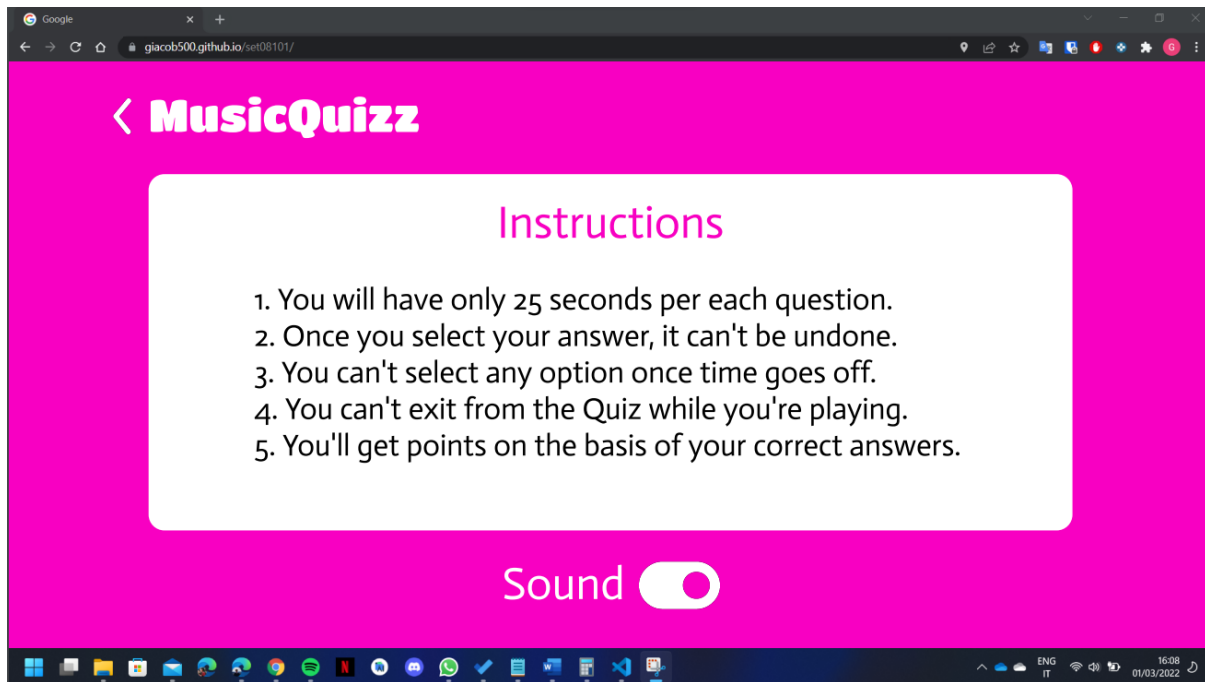
Pic.10 Third prototype – main screen



Pic.11 Second prototype – in game screen



Pic.12 Third prototype – results screen



Pic.13 Third prototype – settings screen

7. Conclusion

The previous paragraphs described the process and studies behind the website to this stage, starting from the first moment where there was not even an idea about the topic for the quiz to the present where the design is ready and the quiz includes a full set of features to work properly with even some extras as the volume settings, the personalized messages based on the score and the possibility to share these on social medias.

In conclusion the website structure and design are currently just at a developing stage: during of implementation some aspects and features may be added, changed or removed. However, the work done so far provides a solid base to begin producing the website albeit the appropriate changes should and will be applied where necessary.

8. Bibliography

Luo, M. R. (2006). Applying colour science in colour design. Optics & laser technology, 38(4-6), 392-398. From <https://doi.org/10.1016/j.optlastec.2005.06.025>

Colour palette - <https://coolors.co/000000-f800c2-e18ad4-ffffff-e0efda>

Logo - https://www.canva.com/design/DAE5v2qZQCK/u3M5B58Rc5vPBeQKpy-h8w/view?utm_content=DAE5v2qZQCK&utm_campaign=designshare&utm_medium=link&utm_source=homepage_design_menu

Third prototype - <https://www.figma.com/file/n5tibf3Y9fPC4b6hIdQtSo/Untitled>

9. Appendicies

Some of the music quiz websites used to take inspiration about the website structure and questions:

<https://www.popkwiz.com/>

<https://readymadepubquiz.com/tag/music/>

<https://www.sporcle.com/games/druhutch/you-only-get-one-shot>

<https://www.stokesentinel.co.uk/whats-on/whats-on-news/100-music-quiz-questions-answers-4151112>

The website is hosted by GitHub Pages: <https://pages.github.com/>

Copyright free images which could be included in some questions of the quiz:

Pictures taken from <https://unsplash.com/s/photos/music>

