CST2120 Coursework 1- Game Website Game Proposal

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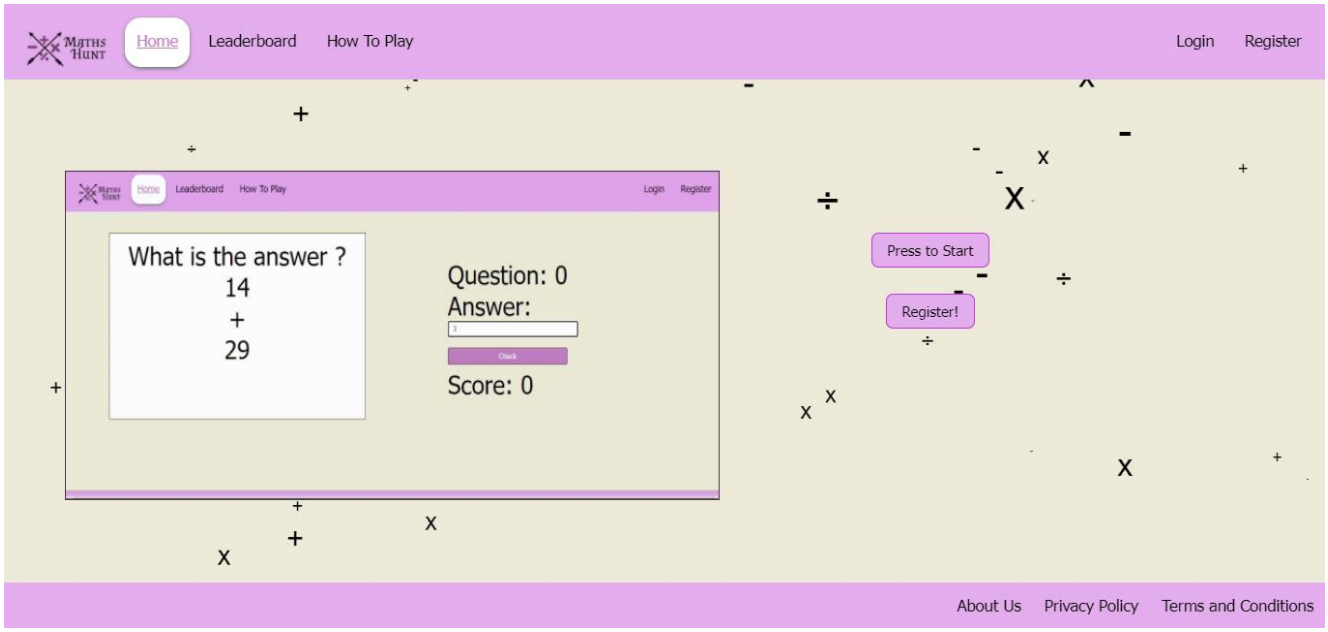
Overview

The game I have created is a maths game called Maths Hunt which consists of randomly generated numbers and operations, the game gives the user the opportunity to challenge themselves by picking the level according to their skills and aptitude; the levels are easy medium and hard. If the user answers questions correctly then game validates the answer using a sophisticated function in JavaScript where in this case the border of the answer box will thicken to green through the help of CSS and HTML, if answered incorrectly the border of the answer box will thicken to red before moving on to the next question.

Main Page



This is the index page in essence my main page, the background with maths operations is moving in the website, this has been done trough using canvas whereby a set of maths operations are selected at random once the window is loaded they have been positioned to bounce back and forth inside the body.The animation box besides the two buttons called Press to Start and Register! Is a looping animation (a gif to be specific) of what the game looks like while playing. Users can login or register to play, if registered their scores will be updated in the leaderboard if user is not registered scores will not be saved.

Registration

If users want to record theirs scores in the leader board they must do this by registering and logging in before playing the game, when registering the form, the user will go through many different types of validations. The input fields in my registration page has been made using solely JavaScript to check and alert the user with appropriate messages, in addition none of the fields cannot be left empty.

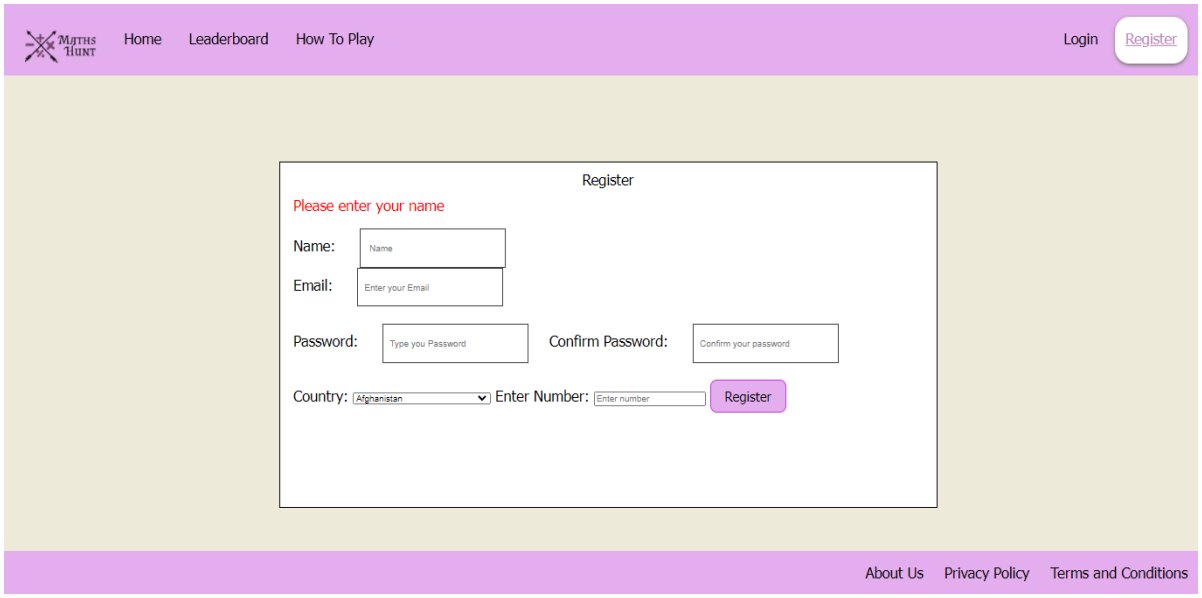
(This is the registering form page with various input fields.)

Input Fields

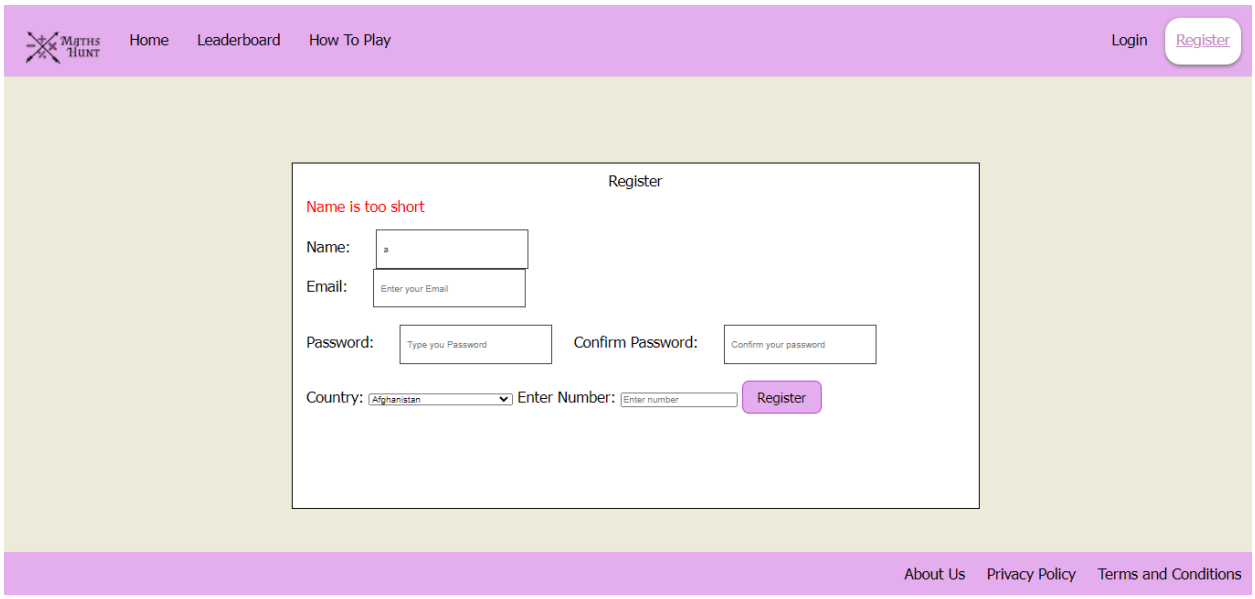
- Name – If nothing is entered in this field user will be notified that they must enter a name, the name also must be more than one character otherwise the user will be notified again to enter an appropriate name.
- Email – Emails must contain an "@" and at least one "." In order to continue successfully input the email field.
- Password – Passwords must contain at least eight characters one capital letter and one-digit number otherwise a message will appear notifying issues with specific messages.
- Password Confirmation- If password is left empty or it does not match the password input field a message will pop specifying the issue.
- Country – allows user to the select their country from a dropdown list of countries
- Number – In the number input field characters are not recognised by default therefore the only message that appears is if the user leaves the number input field empty.

Validation

Name

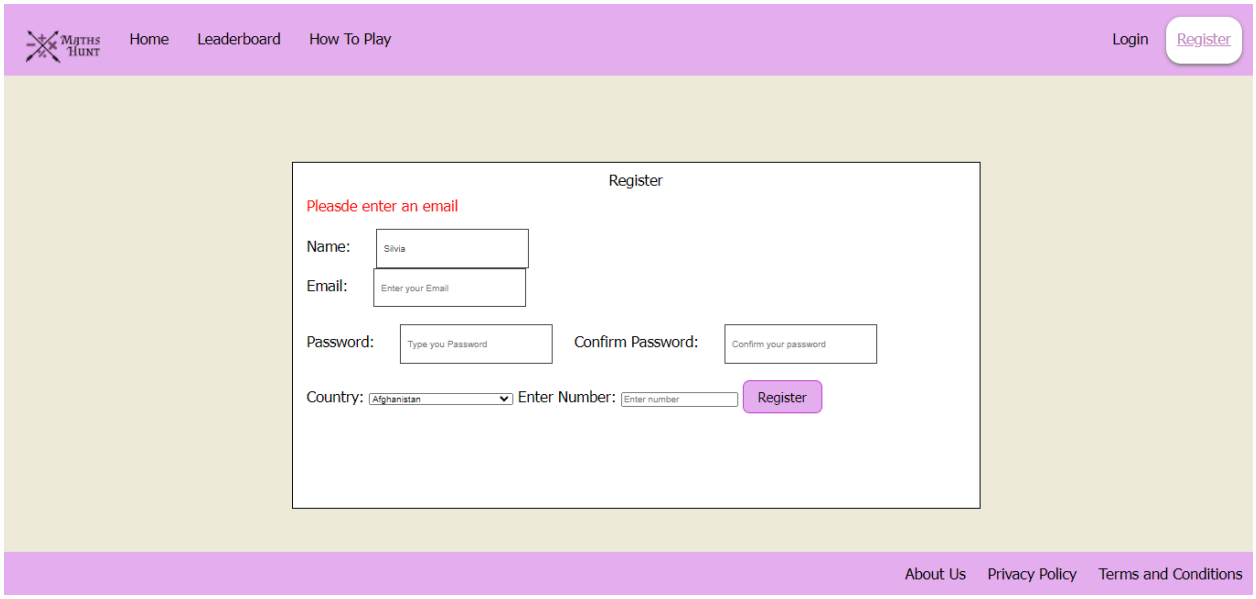


(Registration Page – Empty Fields, if user decides not to enter details in any of the input fields the register form will detect this and won't allow user to register and request input fields details one by one.)

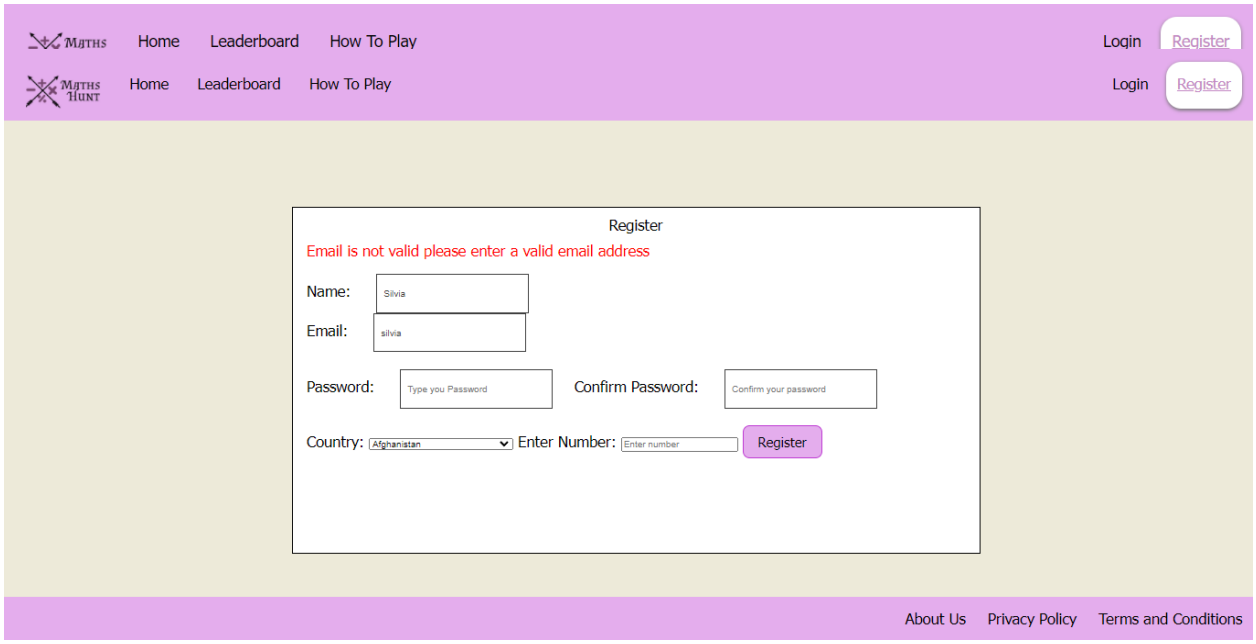


(Registration Page – Must be more than one character, if user decides to enter a name shorter than one character the registrations form will detect this and not allow user to succesfully register and relay the massage that their name is too short.)

Email

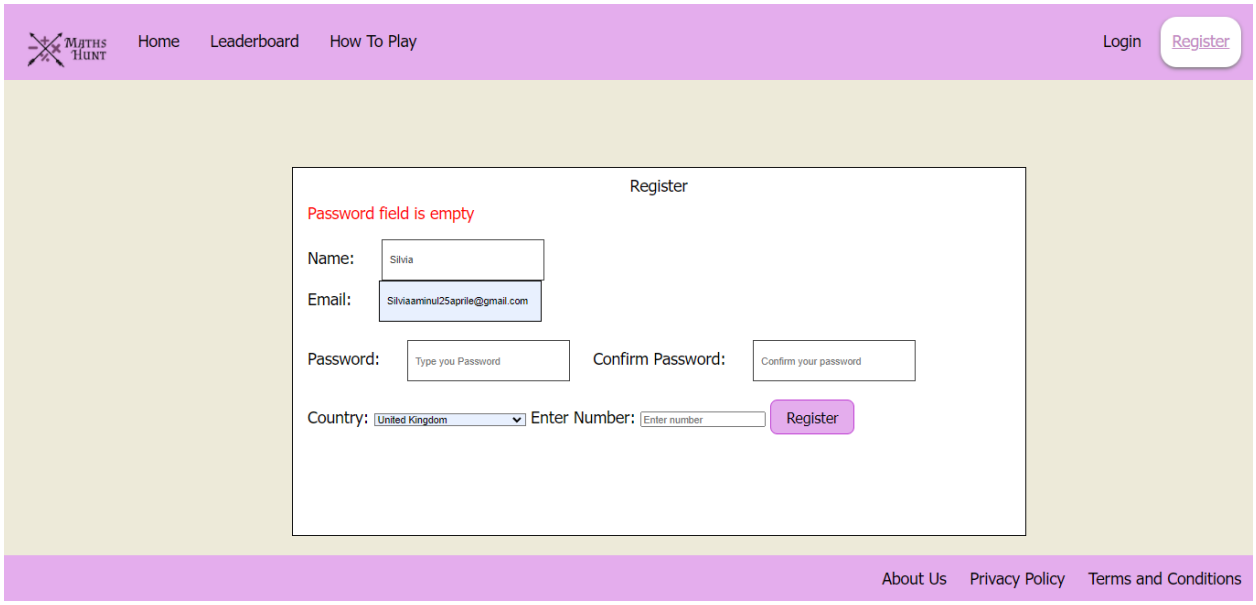


(Registration Page – Emails consists of one at "@" because the use has not inputted such details registration form won't be successful and inform the user that the email is not valid.)

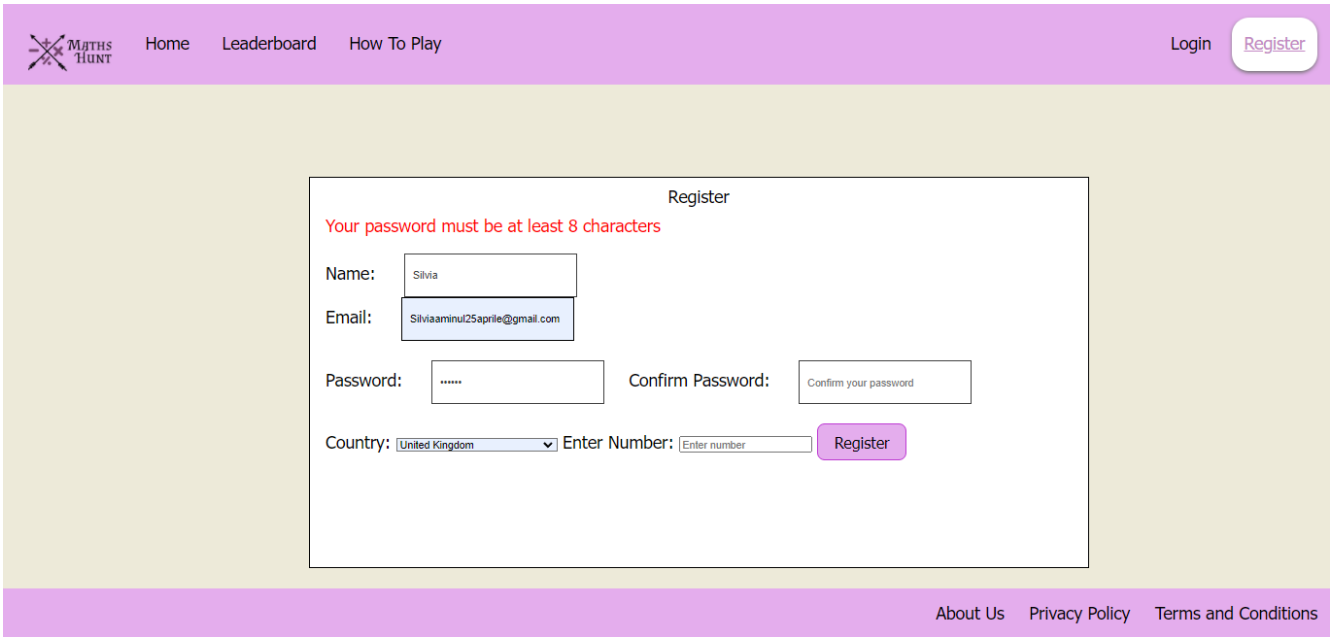


(Registraton - Emails also contain an a full stop sign to improve acccuracy and ensure the user has entered correct details it will relay the same message.)

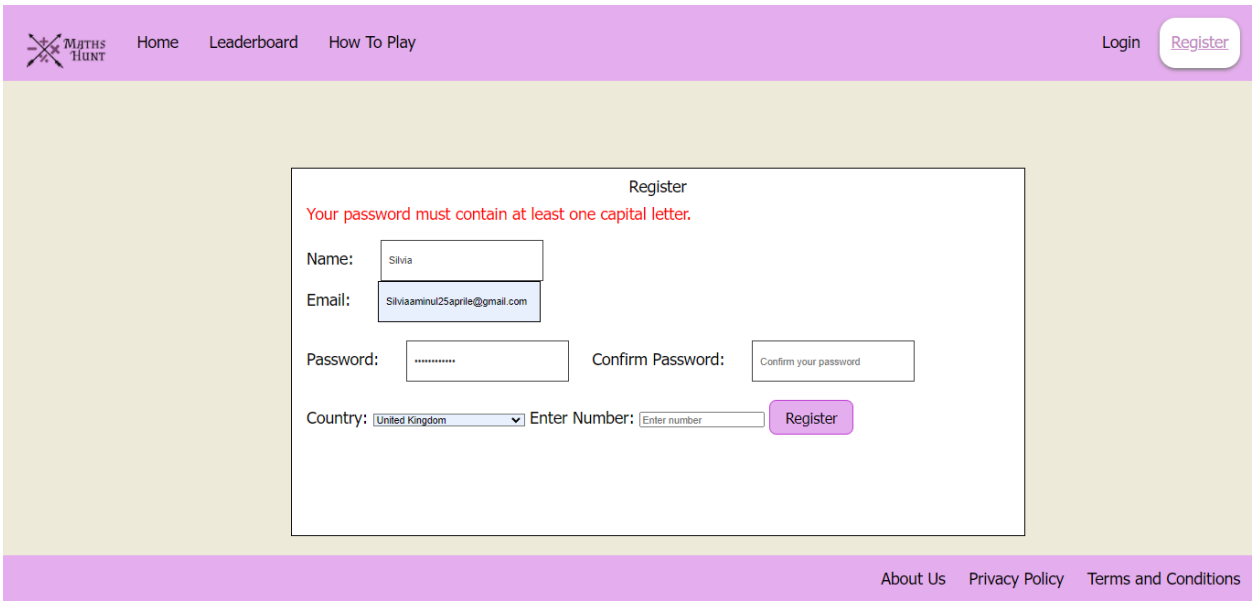
Password



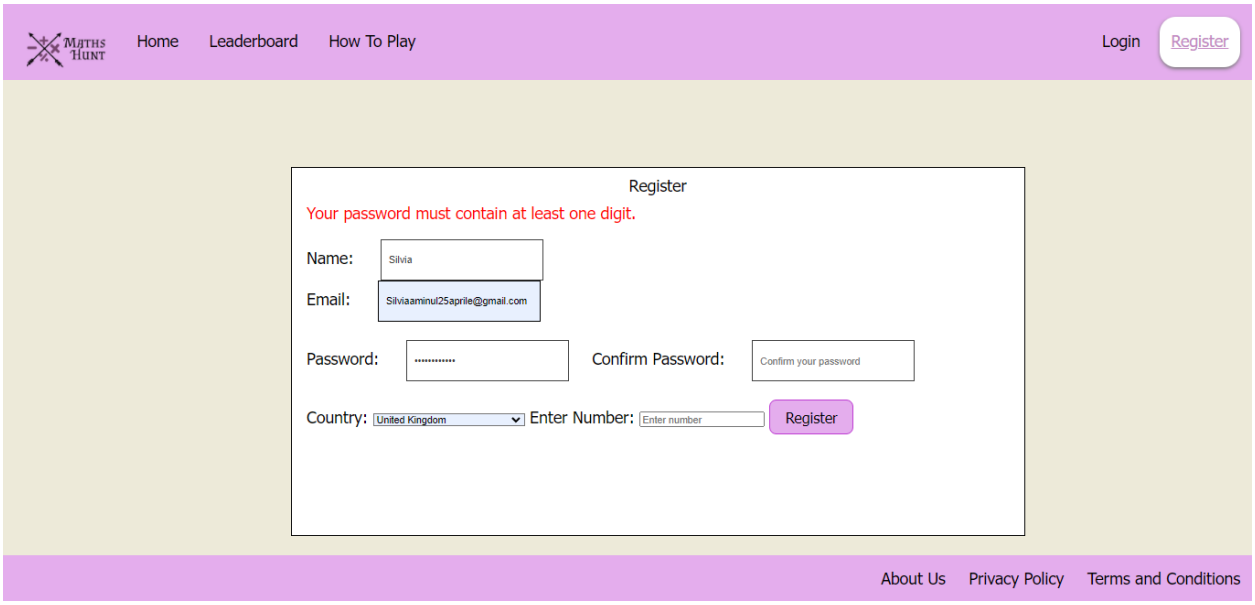
(Registration – Password field cannot be left emoty otherwise the registration will not proceed, the user will be asked to enter a password.)



(Registraton – Password must contain at least eight characters.)

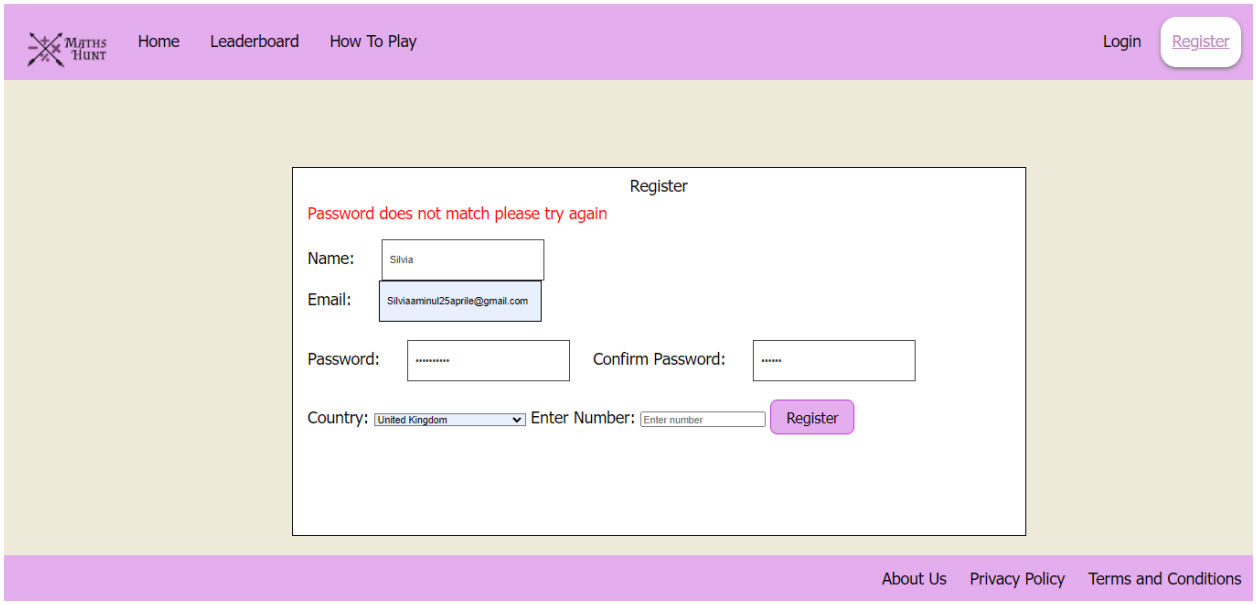


(Registraton – Password must contain at least one capital letter.)



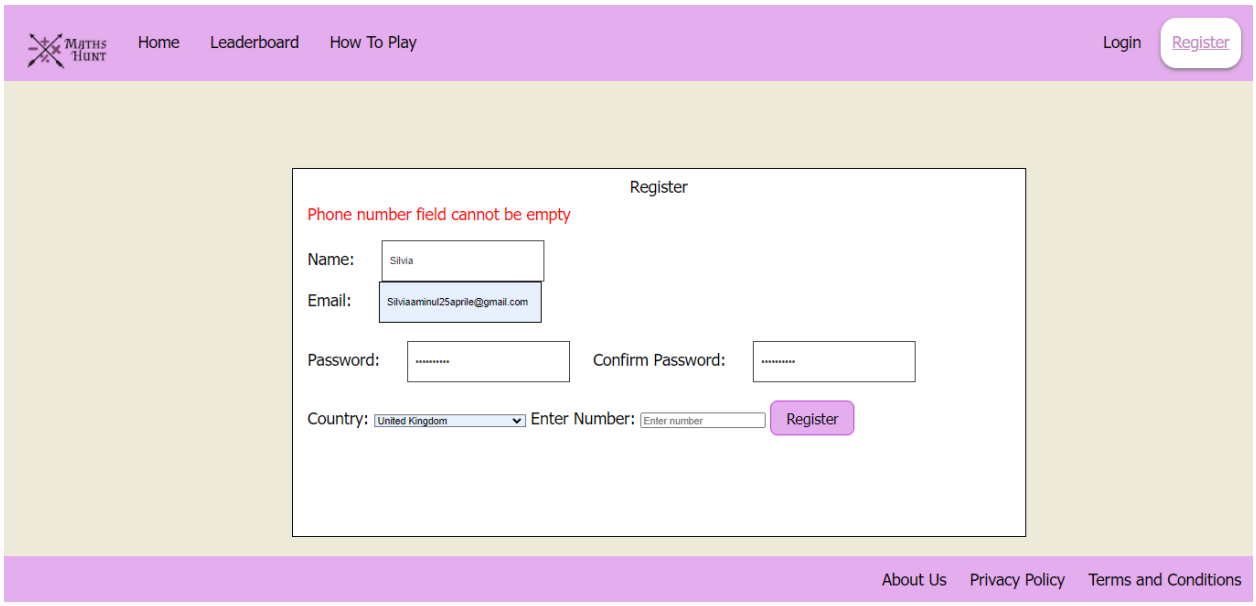
(Registraton – Password must contain at least one capital letter.)

Password Confirmation



(Registraton – Password confirmation must match with password)

Phone Number



(Registraton – Phone number cannot be empty.)

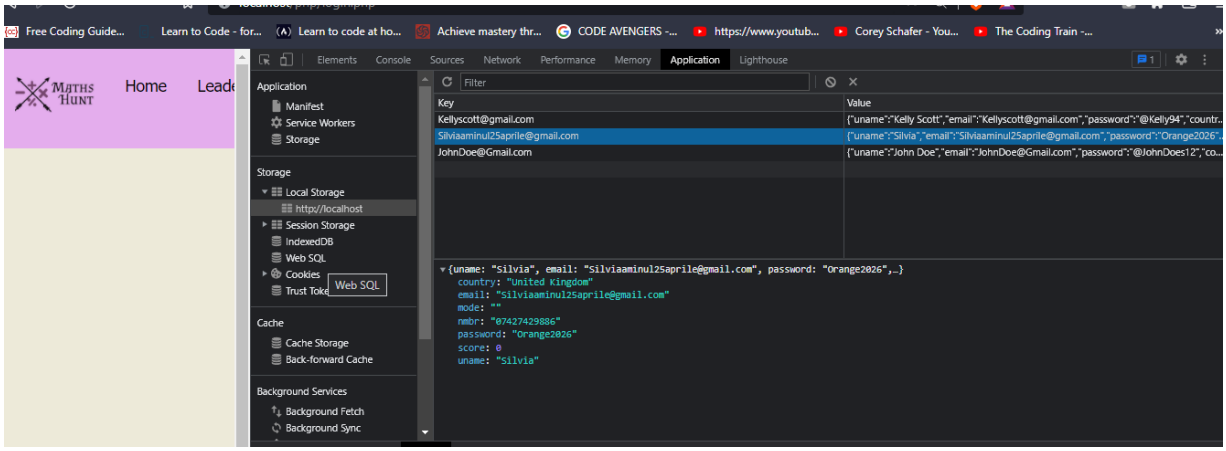
Successful Registration

(Registraton – If the users successfully register they will be notified with a success message which will disappears after five seconds before loading the login page.)

Local Storage

The following details are recorded in the local storage Name – If nothing is entered in this field user will be notified that they must enter a name, the name also must be more than one character otherwise the user will be notified again to enter an appropriate name.

- Email
- Password
- Country
- Number



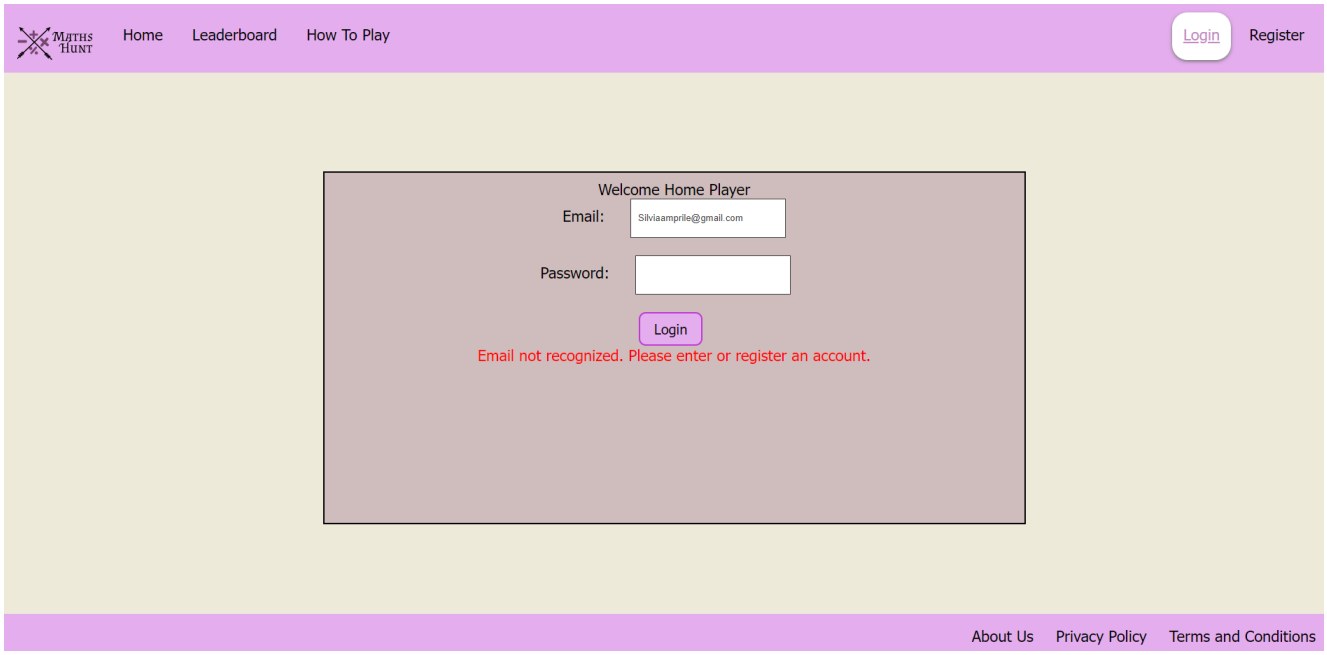
(Local Storage – an example of what local Storage looks like once successfully registered)

Login

The Login page consists of the following

- Email – If email inputted is wrong then login form will notify user that users' email is not recognised
- Password – If password is typed incorrectly user will be asked to try again
- Success – If successful before loading the game page the user can check their status in the login page where if the user is logged in it will be shown as "user" is logged in

Email



(Login – if the users' email is not recognised it produces the message above)

Password

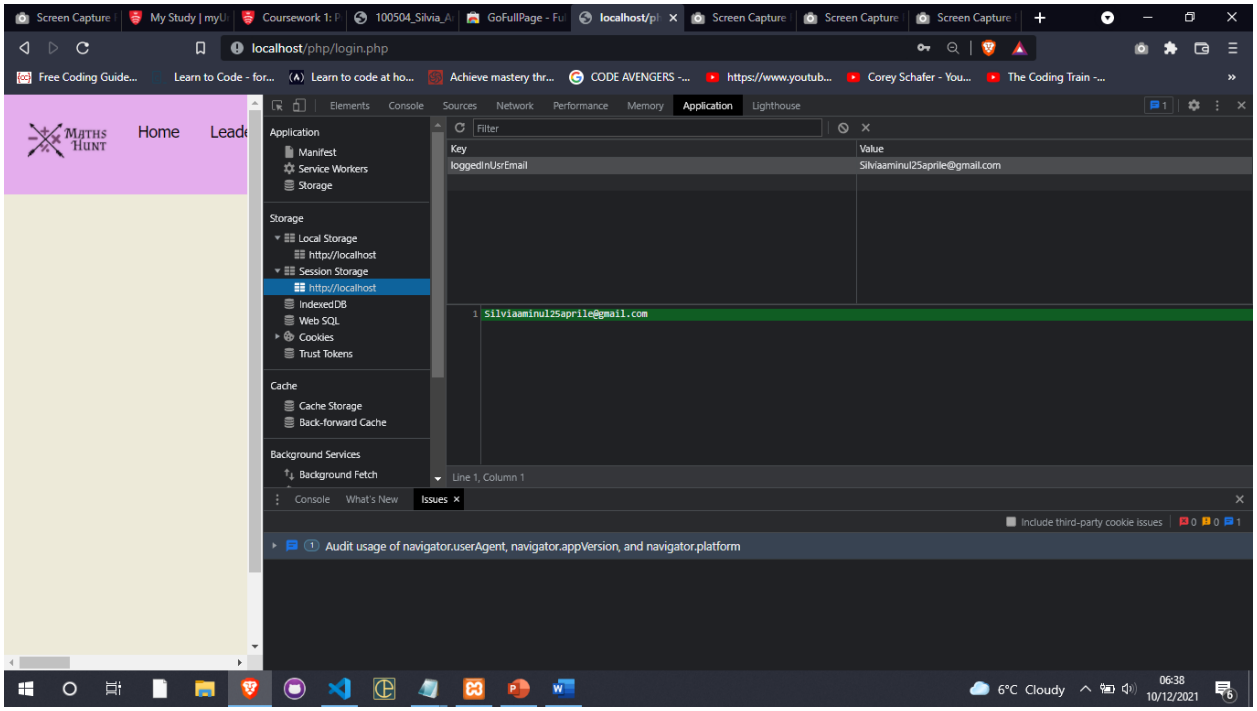
(Login – if the users' password is not recognised it produces the message above)

Success Message

(Login – If user is successfully logged in then it will produce the meassage above until user closes browser, when closed data from session storage is removed.

Session Storage

User' email is temporarily in the session storage



(Session Storage- this is where users email is temporarilty stored in the session storage)

Game

The game starts with a start button which is always displayed at the beginning of every game.

Levels

Once start button is clicked three levels are displayed.

Easy

Easy questions consist of only operators “+” or “- “with the minimum random number being from one to the maximum number being ten

Medium

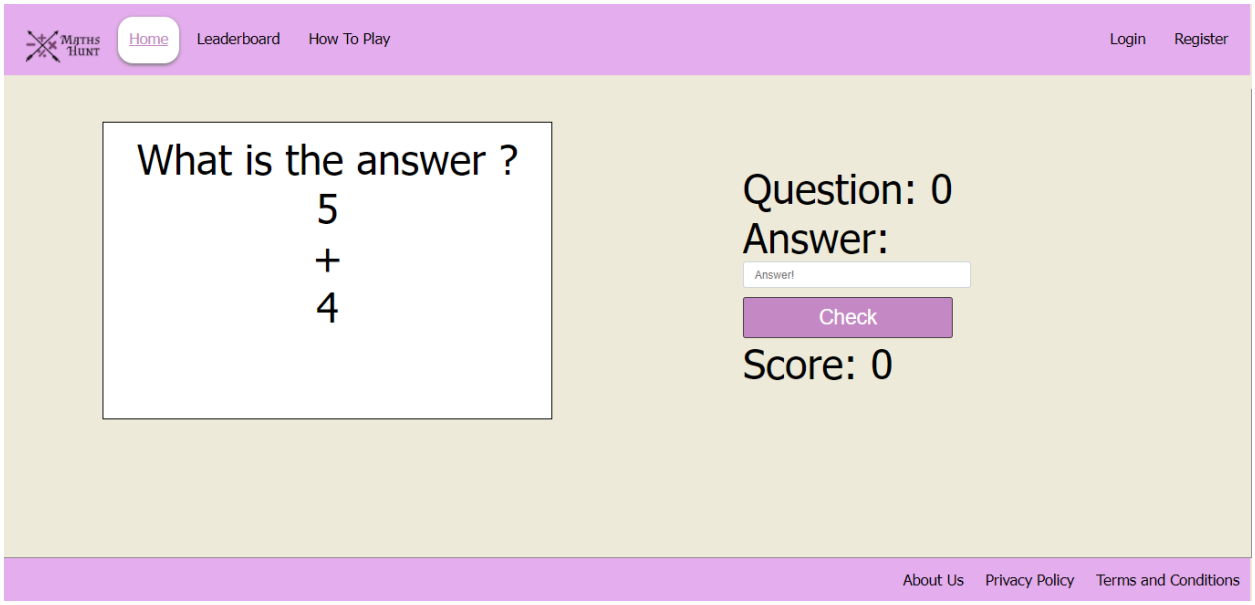
Medium questions consist of only operators “+”, “- “and “*” with the minimum random number being from one to the maximum number being thirty.

Hard

Hard questions consist of only operators “+” or “- “with the minimum random number being from one to the maximum number being fifty

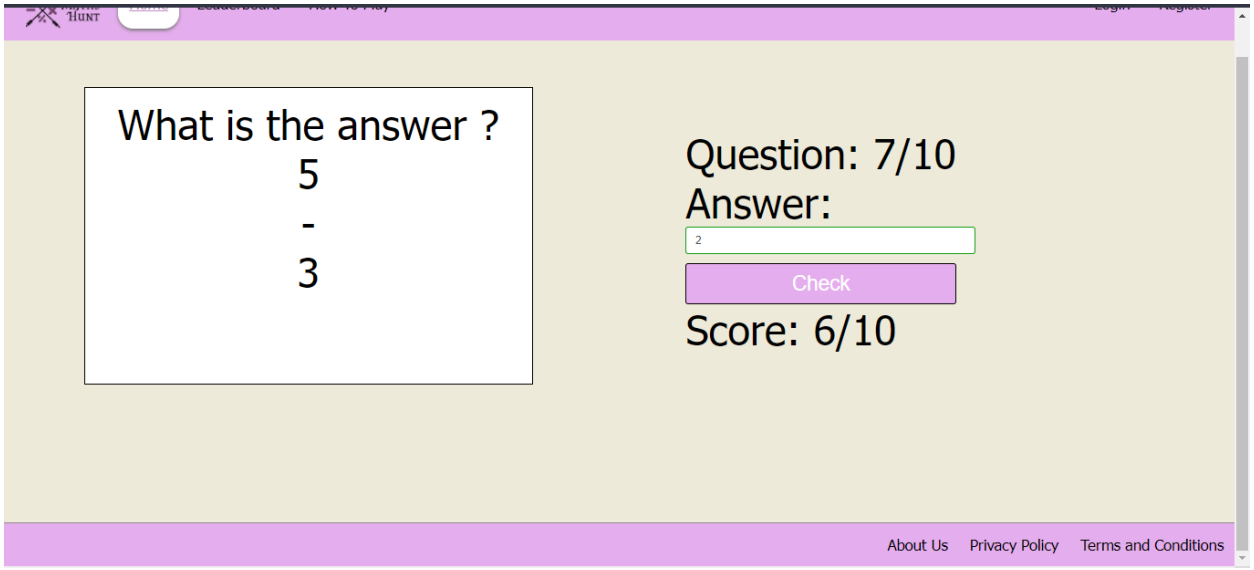
Game page

Game page depending on mode selected will display randomly generated maths questions. The questions increment as each question id loaded to give the user an idea as to when the game will end. The score on the other hand will only increment whether the user have answered the question correctly or not.

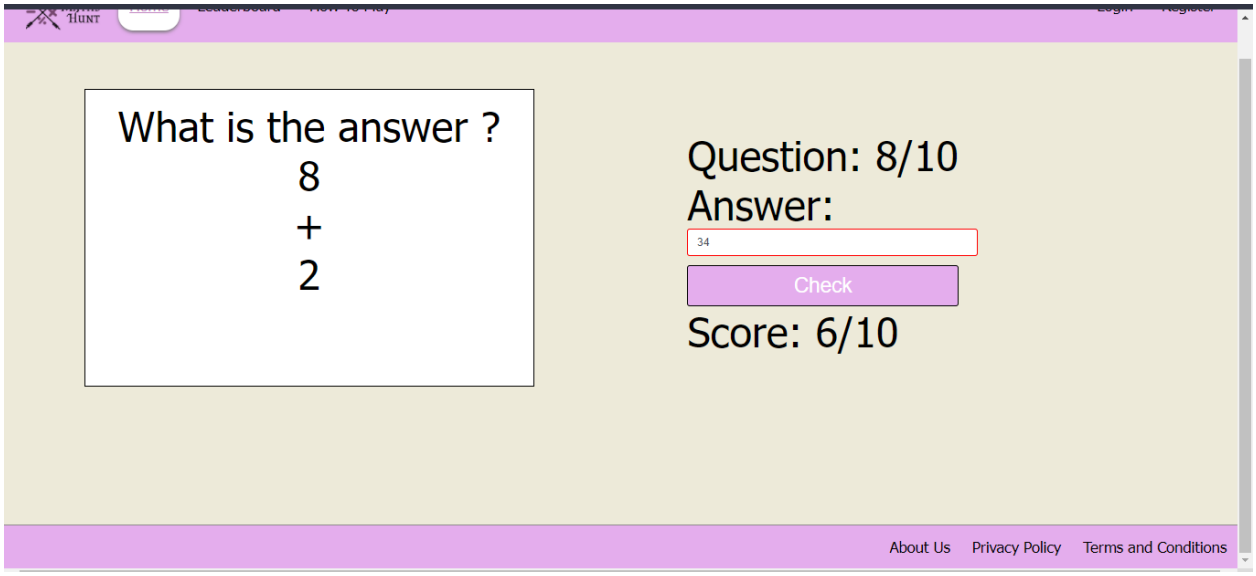


Correct

If question is answered correctly the question box will increment after clicking check button (as it loads the next question) the answer box border will go green for a few seconds before it goes back to normal, the score number will also increment.

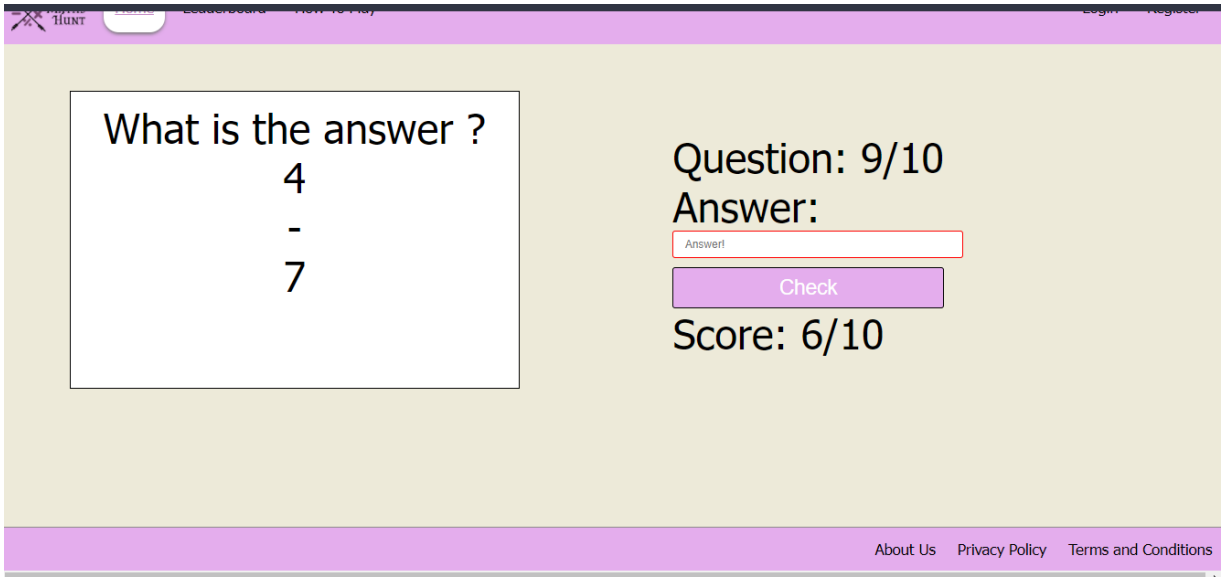


Wrong



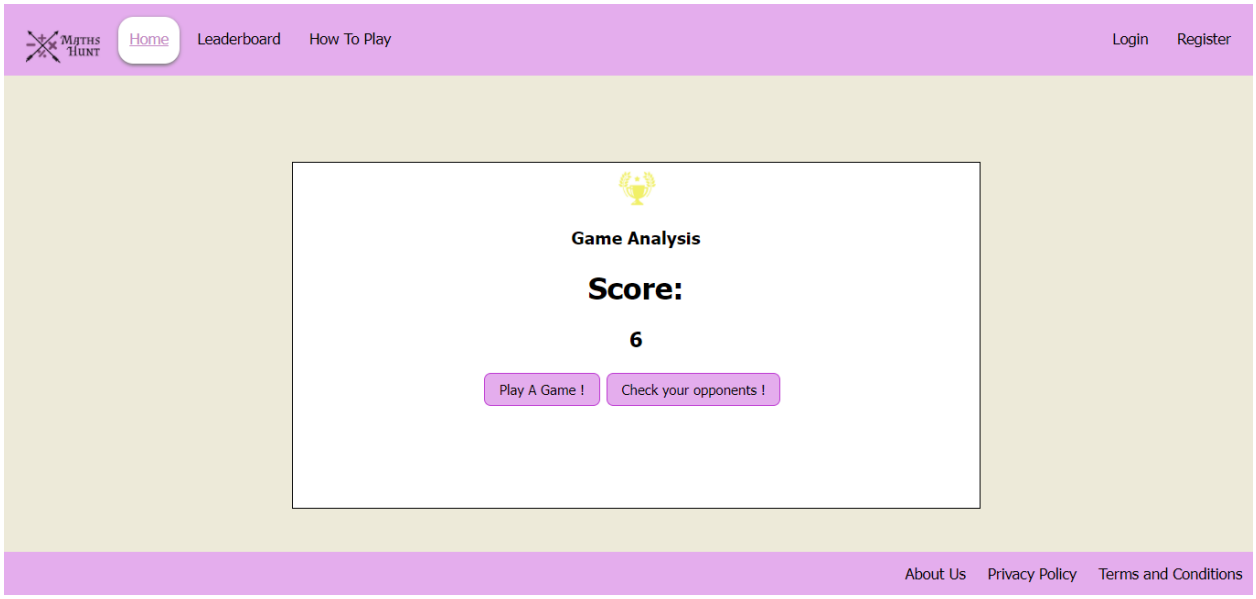
If the user answers question incorrectly the question answer will increment regardless after clicking the check button the answer box border will turn red and as for the score will not be incrementing by one.

Empty



If user decides to input nothing in the answer box my code will deem it as incorrect and therefore treated just like a wrong question, the border will turn red the question number will increment and the score number will not.

End Page



After completing the game user will be take to a new page whereby they can view their overall score the button below the score number leads to either playing again or leads to the leaderboard.

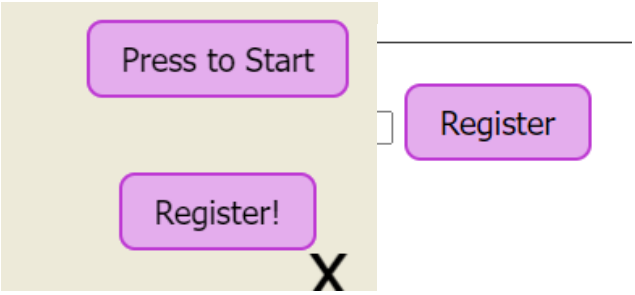
Leaderboard

This is where the users' game details will be recorded if they are registered in which case if they are then my code will compare scores if the has previously played and their old score is higher it will not updated however if the users new score is higher than the old score saved in the local storage it then the users' then the score will be updated in the leaderboard,in the case that the user is new to the game and have never played before the score that they have gotten from the first game will be the score it will be compared next time the user decides to play.

Speacial Features

Bootstrap

I have added bootstrap for my buttons, to improve design and user experience.



Class

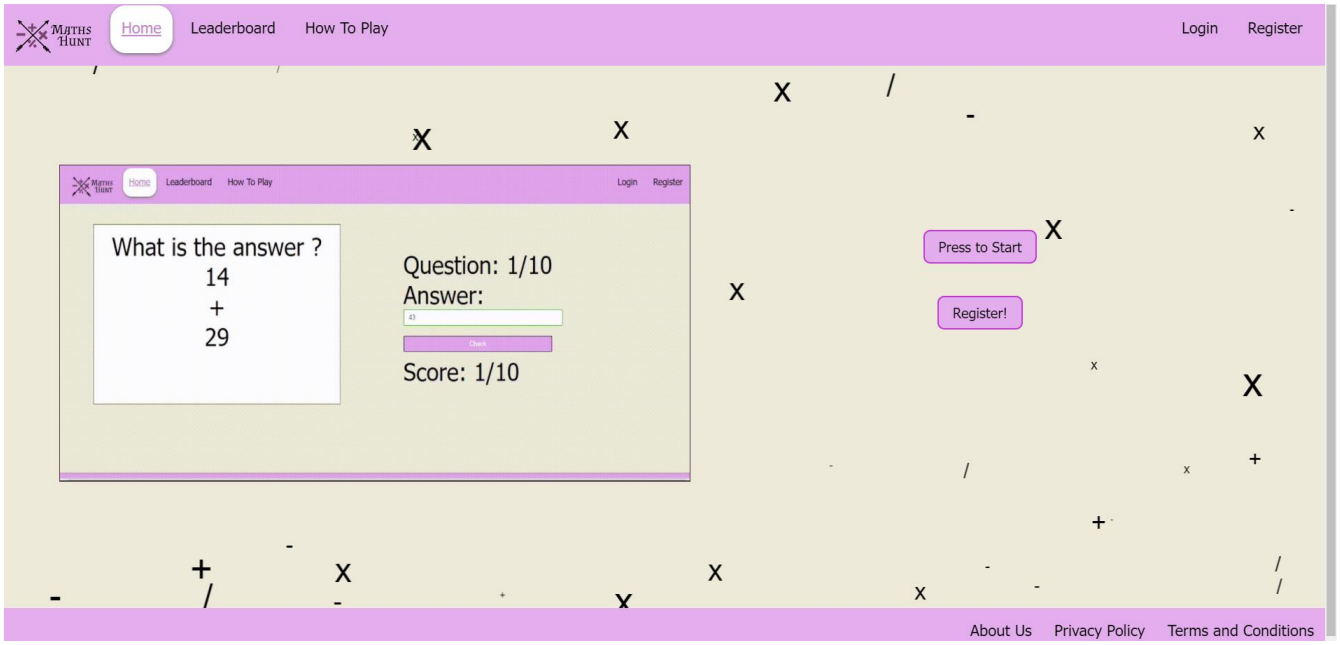
Class was used in my game in order to connect the buttons and call the variables that dynamically generate numbers. Depending on which button is picked it calls game levels by levels and text. The class also contains a constructor which initialises the field members depending on the user interaction in essnce clicking level button.

Canvas

Canvas was used in my main page as a I mentioned earlier in Main Page - “the background with maths operations is moving in the website, this has been done trough using canvas whereby a set of maths operations are selected at random once the window is loaded they have been positioned to bounce back and forth inside the body.The animation box besides the two buttons called Press to Start and Register! Is a looping animation (a gif to be specific) of what the game looks like while playing. Users can login or register to play, if registered their scores will be updated in the leaderboard if user is not registered scores will not be saved.”

Animation

A looping animation has also been added to my main page, which is using graphic interchange format technology to provide motion to a sequence of images.

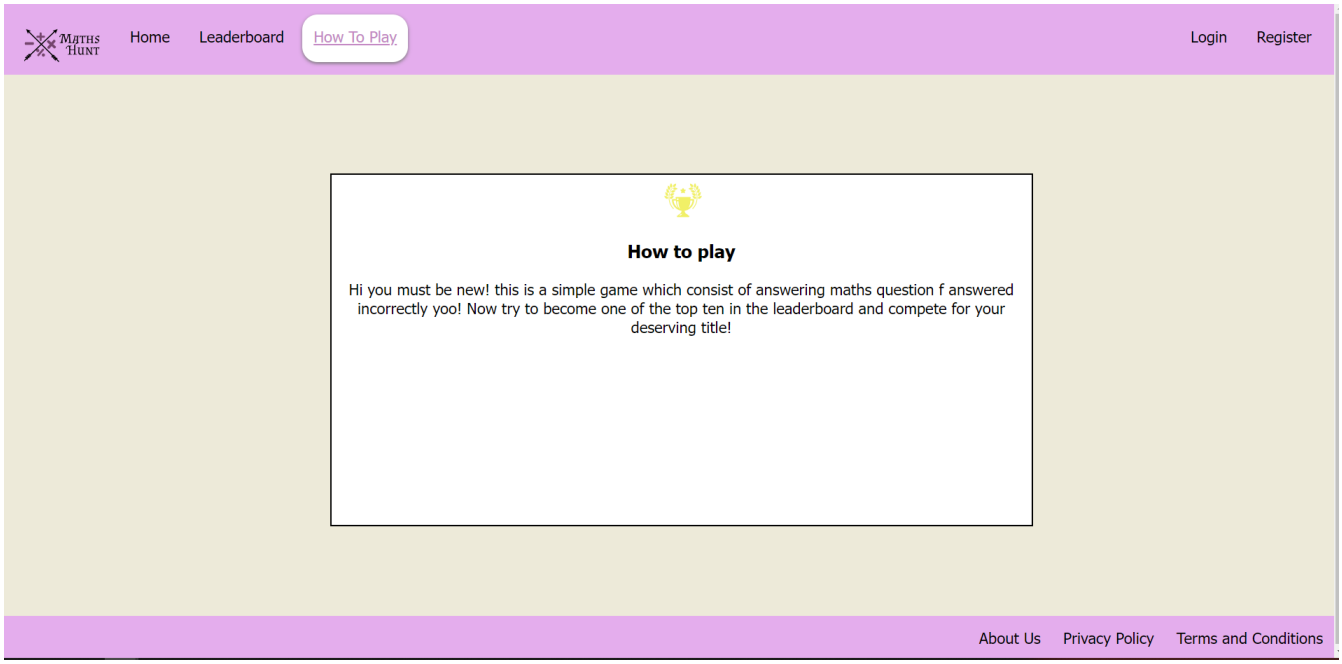


Sound

A looping sound has been added in my common.php so that on clicking anywhere in the website on any of the pages sounds is played in a looping motion.

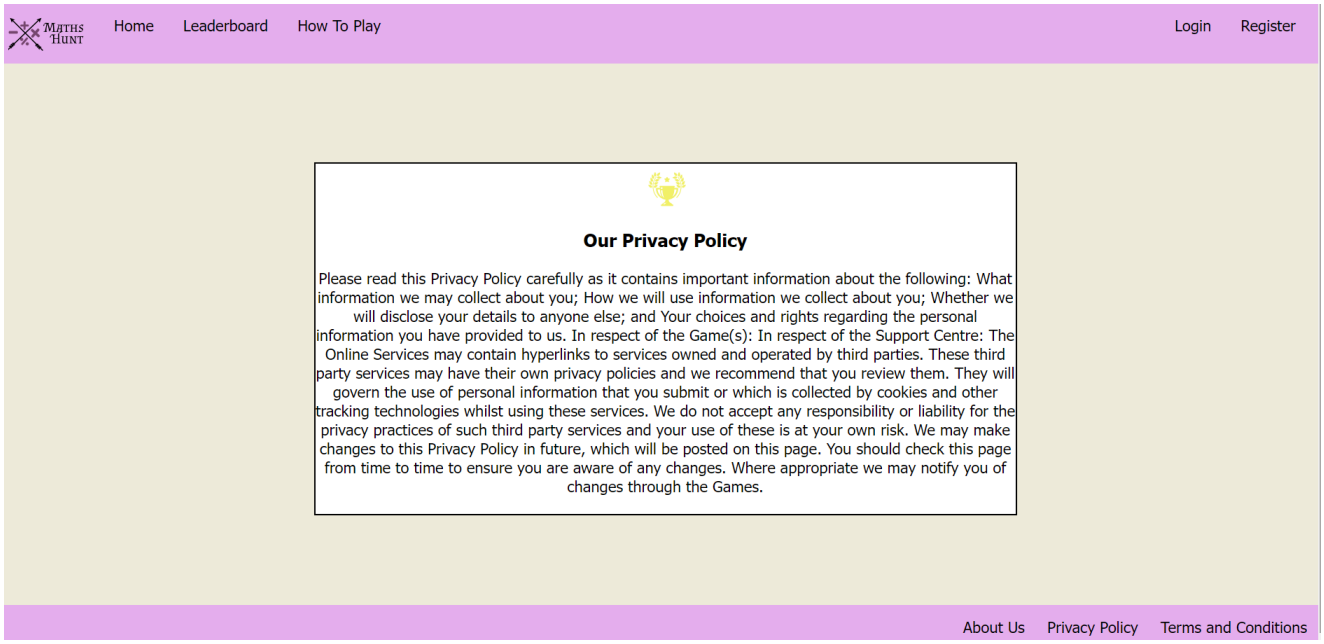
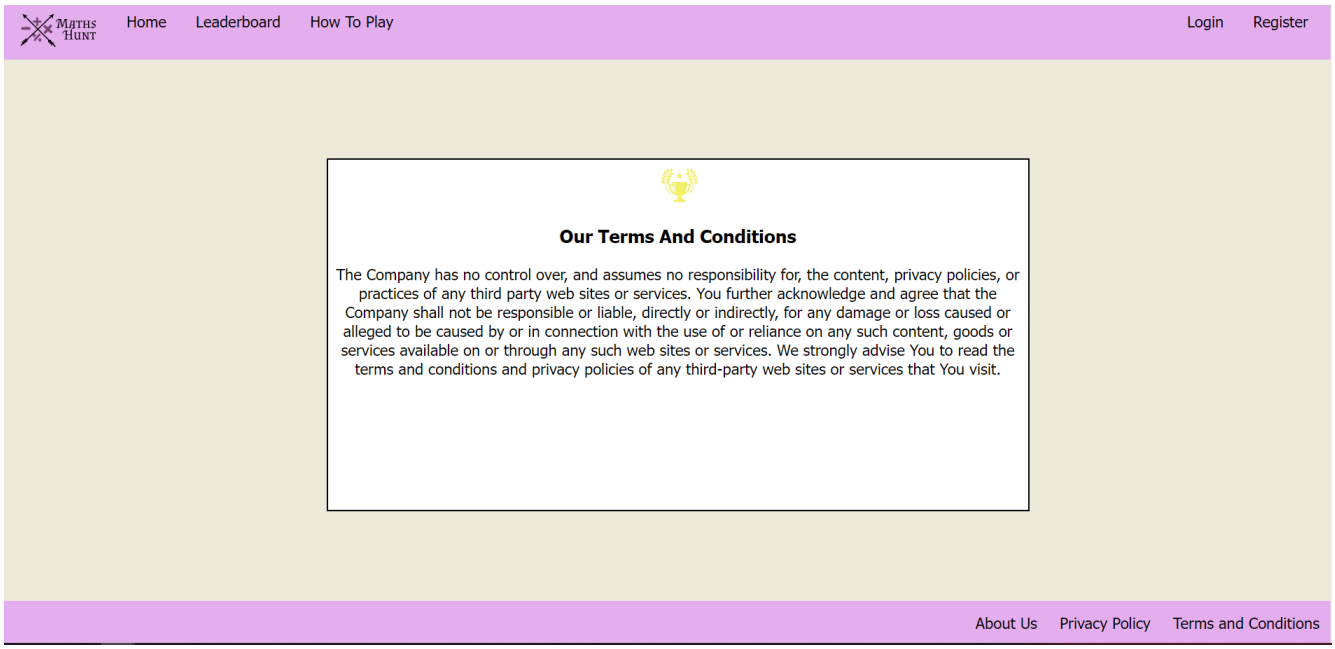
Screenshots

Game Instruction Page



About me Page

Privacy Policy



Terms and Conditions