Tortuosity

A geology web quiz

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**Executive Summary:**

* A web based geology quiz using HTML, JS, CSS, JQUERY and Firebase.
* A knock-out quiz with a scoring system and leader boards.
* Used as a refresher for geology lectures within MMU.
* A fun and competitive learning experience that is refreshing from the status quo of lectures.
* Students can connect using their phones, with an adaptive design allowing for different screen sizes.
* Students progress through the quiz, once they are knocked-out they solidify within the volcanoes chamber. Students must pass through the volcanoes without solidifying to win.
* A convenient and easy way to change questions for teachers with little to no programming experience.
* A Realtime database used to store questions, users and scores allowing for responsive feedback.

**High Concept Statement:**

The tortuosity project is at it’s core, an online quiz game. However, the theme is the movement of rock and liquid within a magma chamber. Each question represents a chamber, and each player represents a liquid. If a player is to get the question wrong, they would solidify within the chamber and would be knocked out of the quiz. Players that successfully answer questions pass through the magma chambers and reach the volcano.

The game itself will feature two views. The host view and the player view. The host view will be projected onto a whiteboard, so students can see the game board. The player view will be accessed by students on their phones. The design of the gameboard is similar to “Blockbusters”. There will be multiple hexagons each representing a magma chamber, these hexagons will have letters on. These letters represent a question, students can vote to choose a question.

Once the quiz is over, a leader board will appear with scores and player names. This is important as it creates a fun yet competitive environment which can further enhance learning. The aim of this project is to refresh students’ knowledge on keywords within lectures.

**Genre:**

2D, quiz, hosted online accessible to anyone.

**Hooks:**

* Questions are all based around the geology learning specifications which will mean students are learning whilst playing. This allows for a fun and refreshing way to learn and revise.
* User authentication and nametags will allow for students to create a persona or use their real name. This can negate any embarrassments of getting questions wrong, but can also further students pride when they get questions correct.
* A competitive environment with the use of leader boards and scores. This will create friendly competition between students allowing for a fun environment.
* This quiz will be highly relevant to the students. As they are studying geology, the game board should interest them as it revolves around their degree and interests.
* A Realtime database allowing for responsive and quick gameplay. This allows players to instantly get feedback throughout the quiz and keep the gameplay flow consistent.

**License:**

No license will be needed.

**Gameplay highlights:**

* Very easy to set up, one quiz master and one player is required.
* Players progress to the player screen and enter an onscreen name they would like to use.
* The host pulls up the game view allowing students to see the game board.
* Players then chose a question for the quizmaster to select. That question gets pushed to their phones.
* Players then answer the question, if they get it wrong they solidify on that question which is then displayed on the game view.
* Players that successfully progress can then vote for a new question.
* Once the game has been completed a leader board is shown with all the players and their score.
* Additional information such as where the player solidified could be shown to further feedback.

**Online Highlights:**

As this game is entirely online, the gameplay highlights for online will be the same as the standard gameplay highlights.

**Technology Highlights:**

The quiz is being developed for different browsers on the web. It is being developed with HTML, CSS, JavaScript, jQuery and Firebase. Hosting will be done through Firebase.

**Art and Audio Highlights:**

The game will feature a minimalistic design allowing for instant understand of the website. The gameboard will consist of multiple hexagons which will vary in colour to represent solidification or liquid. The player view will consist of a sleek text box containing the question and a place for the player to enter their answer.

**Hardware:**

Any device with the ability to display web pages with Javascript.