APPLICATIONS DEVELOPMENT & EMERGING TECHNOLOGIES

Pop-a-Mole

**Description:**

The "Pop-a-Mole" is an exciting and fast-paced game where players must use their quick reflexes and strategic thinking to score points. The game features a grid of holes, and moles randomly pop out from these holes at varying intervals. The player's objective is to whack as many moles as possible before they disappear back into their holes.

Additionally, amidst the frenzy of moles popping up, there's a special character known as "Toxic Bubble." Bubby is a toxic character, easily recognizable by his cheerful demeanor and friendly waves. However, players must exercise caution as whacking Toxic Bubble results in an instant game over. This adds an extra layer of challenge, requiring players to carefully discern between friend and foe amidst the chaotic gameplay, lest they prematurely end their run.

**Objectives:**

**Specific**

**Develop a user-friendly interface Pop-a-Mole game by implementing JavaScript to generate random mole appearances and handle user clicks.**

**Measurable**

**Record the number of non-toxic characters whacked before hitting a toxic character, which will be displayed as the player's score.**

**Achievable**

**‌Ensure the game is responsive and playable on both desktop and mobile devices.**

**‌Utilize existing libraries and the topics that was tackled to simplify the development to ensure it's completed on time.**

**Relevant**

**Provide an entertaining game for users, even without internet access, to ease their boredom and enjoy during their pastime.**

**Time-bound**

**Complete the development of the app by the end of the second semester. This will be achieved by getting the proposal approved, followed by progressively developing each part of the app until the target date.**

**Scope:**

As the player progresses through the game and accumulates points, they can unlock different power-ups that can aid them in their quest to become the ultimate mole-whacking champion. Here are some suggested power-ups:

* Freeze Power-Up: At a certain score threshold, the player can activate the "Freeze Power-Up." When activated, this power-up temporarily freezes the moles in their current positions for a few seconds, allowing the player to easily whack them without the risk of them disappearing.
* Slow-Mo Power-Up: Another power-up that can be unlocked is the "Slow-Mo Power-Up." When activated, this power-up slows down the movement of the moles, making it easier for the player to track and whack them.
* Big-Whack Power-Up: For players who have reached an even higher score, the "Big-Whack Power-Up" can be unlocked. This power-up allows the player to whack multiple moles with a single click or tap, providing a significant advantage in quickly racking up points.
* Bonus Hole Power-Up: At a specific score milestone, the player can unlock the "Bonus Hole Power-Up." This power-up adds a special bonus hole to the grid, and every mole whacked from this hole awards the player with extra points.
* Time Warp Power-Up: For the true mole-whacking masters, the "Time Warp Power-Up" can be unlocked at the highest score threshold. When activated, this power-up temporarily slows down time, giving the player a brief window to whack as many moles as possible with lightning-fast reflexes.
* X2 Score Power-Up: At a specific score milestone, players can unlock the "X2 Score Power-Up." When activated, this power-up doubles the points awarded for each mole whacked during its duration. This means that if a mole is typically worth 10 points, whacking it while the X2 Score Power-Up is active will award the player 20 points instead.

**Limitation:**

* Game Logic Complexity: As the game has features and power-ups, the underlying game logic and code may become more complex, potentially leading to performance issues, bugs, capability issues or scalability challenges if not optimized or refactored properly.
* Touch Input Accuracy: The game's accuracy and responsiveness may be limited by the precision of the touch input and the device's touch screen sensitivity, potentially leading to missed whacks or unintended actions.
* Sound Effects and Music Quality: No Sound Effects
* Lack of Innovation: While the whack-a-mole concept is a classic arcade game, the “Pop-a-Mole" game seems to lack any truly innovative or groundbreaking features that set it apart from similar games or previous iterations of the same concept.
* Simplified Graphics and Visual Effects: By adopting a simpler visual style and limiting the use of graphics or visual effects.

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