

Title: Mobile Word Scape Game Development Challenge

Objective: Develop a mobile application for either Android or iOS platforms that emulates the functionality of the "Word Scape Game" as described in the provided web page <http://43.202.59.48/>. The app should have words moving across the screen in a similar manner, with user interaction capabilities to capture these words.

Key Requirements:

1. **Game Mechanics:**
 - **Word Movement:** Words should move horizontally across the screen from left to right. Each word should move at its own speed.
 - **User Interaction:** Users should implement the following ways to capture the moving words:
 1. **[Tier 1]:** tap/click on moving words to "capture" them.
 2. **[Tier 2]:** say out loud the moving word using the device ASR to "capture" them.
 - **Multiple Lanes:** The app should feature multiple lanes (at least 3), each with its own set of moving words.
2. **Performance:** The app should be optimized for smooth performance, ensuring that word movement is fluid and responsive to user interactions.
3. **Reset Functionality:** Include a reset feature that allows users to restart the game, resetting all words to their original positions.
4. **Code Quality:** Your code should be well-organized, commented, and adhere to best practices for mobile app development.
5. **UI/UX Design [BONUS]:** The interface should be user-friendly and visually appealing. You may come up with the design you want. Pay attention to the layout, colors, and animations.
6. **Text To Speech [Tier 3]:** For those words that scape (i.e. reach the finish line on the right) use the system TTS engine to utter the words that managed to scape.
7. **Echo Cancelling [Tier 4]:** In the instance a word is being pronounced by the TTS and the system is listening for the speech input from the user, catch only the user's input.

Deliverables:

- Source code for the Android or iOS versions of the app on a private github repository.
- APK file for the Android app and an IPA file for the iOS app (if applicable).
- A brief document explaining your design choices and any libraries or frameworks used.

Evaluation Criteria:

- Design: Separation of concerns and diagrams included?
- Functionality: Does the app correctly mimic the behavior of the web-based Word Scape Game?
- Code Quality: Is the code well-structured, readable, and maintainable?
- Performance: Does the app run smoothly without lag or glitches?
- Tier level and Bonus: Architecture, Tier and Bonuses will have an impact on the seniority level. You are NOT required to deliver all tiers and bonuses only Tier 1 is mandatory.

- **Generative AI Policy:** When utilizing generative AI tools like Co-Pilot and ChatGPT to assist with tasks, it is important to use them responsibly, as you would collaborate with a human partner. Directly copying solutions or asking the AI to provide complete answers is not acceptable. Instead, generative AI should be leveraged as a thought-partner, with the human maintaining agency over the final work product. If generative AI is used, it is ethical to acknowledge the contribution, such as adding a paragraph describing how the tool was used as part of the process. The key is maintaining human creativity and discretion over the end results, while benefiting from the generative capabilities of AI.