Tambaletra: Project Documentation

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Introduction

Tambaletra is a mobile single player sliding block puzzle game that incorporates characters from the Baybayin script, also known as Alibata. Baybayin is an ancient Filipino writing system that is not widely used today. The game's design integrates Filipino elements by utilizing Baybayin characters, making it a fun and engaging way for people to learn about the Baybayin script and Filipino culture.

Development Process

Tambaletra will be developed using Flutter, a popular open-source framework created by Google for building beautiful, native-compiled applications for mobile, web, desktop, and embedded devices. Here's a breakdown of the development process:

1. **Project Setup:**
   - Setting up a new Flutter project using the Flutter CLI (Command-Line Interface).
   - Installing required plugins for functionalities like swipe gestures and potentially Baybayin font support (if not included by default).
2. **User Interface (UI) Design:**
   - Designing the game's UI using Flutter's rich widget library. This includes:
     - Creating the 4x4 grid layout for the game board using widgets like Container and Row.
     - Designing the game tiles using widgets like Container and Text, incorporating the chosen Baybayin font.
     - Designing the title screen, menus, and buttons using relevant Flutter widgets.
3. **Game Logic Implementation:**
   - Programming the core gameplay mechanics using Dart, Flutter's programming language. This involves:
     - Implementing logic for tile movement using gesture detection (swipes) and animations.
     - Writing code to handle tile merging, including collision detection, character sequence logic, and updating the game board.
     - Developing win/lose conditions and scorekeeping logic.
4. **Baybayin Character Integration:**

- o Finding or creating a compatible Baybayin font for use within the Flutter app.
- o Implementing logic to display Baybayin characters on the game tiles and potentially other UI elements.
    - ▪ This might involve using text rendering features in Flutter or custom widgets to handle Baybayin characters correctly.

2. Design and Development Process

- Tambaletra's core mechanics are based on the 2048 game. Players swipe tiles in four directions (up, down, left, right) on a 4x4 grid. When two tiles with the same Baybayin character collide, they merge into a single tile with the next character in the sequence. The game continues until the player creates a tile with the highest character, fills the board, or is unable to make any more merges.
- The game's design incorporates Filipino elements through the use of Baybayin characters. The game's title screen, menus, and instructions can also be localized in Filipino.
- The development process would involve:
    - o Selecting a game engine or framework (e.g., Unity, Unreal Engine)
    - o Designing the game assets (tiles, background, UI elements)
    - o Programming the game mechanics
    - o Implementing Baybayin characters

Technical Decisions

Utilizing the Flutter framework for tambaletra was a deliberate choice driven by its robust toolset and cross-platform capabilities, perfectly suited to our multi-platform goals. Flutter's native performance and versatile widget library ensure a smooth gaming experience on mobile devices. Dart's simplicity streamlines development, facilitating efficient code writing and maintenance of complex game mechanics. Additionally, Flutter's active community and extensive plugin ecosystem provide essential resources for integrating features like swipe gestures and Baybayin font support, enhancing accessibility and inclusivity. This decision aligns with tambaletra's aim of delivering a polished, cross-platform gaming experience while maximizing development efficiency and flexibility.

Reasoning Behind the Chosen Theme

- Baybayin was chosen as the theme for tambaletra to promote awareness and appreciation for Filipino culture and history. Baybayin is a beautiful and unique writing system that is an important part of Filipino heritage.
- Using Baybayin characters in a game can help to introduce people to this writing system in a fun and engaging way.
- Tambaletra can also be used as an educational tool to help people learn Baybayin characters and their meanings.

Mechanics

- **Gameplay**: Played on a 4x4 grid, players swipe tiles in four directions (up, down, left, right).
- **Tiles**: Each square tile displays a Baybayin character.
- **Merging:** Swiping creates movement, and when two tiles with the same Baybayin character collide, they merge into a single tile displaying the next character in the predetermined sequence.
- **Objective**: The goal is to create a tile with the highest-valued Baybayin character. The game continues until you achieve this, fill up the board with no more possible merges, or encounter a situation where no valid swipes are available.
- **Educational Value**: Alibata's core gameplay loop encourages players to learn and recognize Baybayin characters as they strategically merge them. This can spark interest in Filipino culture and history.

Additional Considerations:

- While the core mechanics are established, the development process can incorporate additional features like a scoring system, animations or sound effects for successful merges, and even a menu to display the Baybayin character sequence for reference.

Conclusion

Tambaletra is a mobile puzzle game that combines the addictive gameplay of 2048 with the beauty and history of Baybayin script. The game is designed to be a fun and engaging way for people of all ages to learn about Filipino culture.