

# Gameplay Programmer Task: Report

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## Implementation

The aspect that captured my attention most outrightly, during my research for Balatro, was how visually interesting and captivating the game is. Vlambeer are renowned for creating engaging and satisfying game experiences by way of “juice” - enhancing the game feel.

Balatro seems to use the same methods too - with subtle details, satisfying feedback, and ample polish. My aim was to emulate some of the subtle card animation movements, UI feedback and effects, because I believe a great looking game will always attract players who are willing to tell you where the gameplay needs improvement/balancing.

## DOTween

My first step was to import the DOTween plugin. This framework is a lightweight solution for basic animations, best used for user interfaces (UI), in my opinion.

This was used for the following scripts I wrote up for this task:

- Checkered Background Generator
- Move And Spin UI
- Rotate UI
- Scale UI

The Checkered Background Generator script creates a scrolling dark and light tiling background by instantiating two tile prefabs in a grid format based on the gridWidth and gridHeight parameters.

The starting position of the grid is calculated to the centre of the screen, and assigned to the gridStartPos variable.

I used the orthographic size of the main camera to calculate the screen height and width.

The ScrollBackground method then moves each tile on the x and y axis using the scroll speed parameter - to give the impression of diagonal scrolling.

When the tile moves past the height and width of the screen, its x and y positions are adjusted to the top of the grid.

The Move And Spin UI script was written to animate the cards being dealt onto the table.

This was achieved by moving the card element off screen, then tweening it back into position while spinning on the z axis.

The original position of the rect transform was stored on Awake to ensure it was going to be moved back to the correct spot after the animation was set to run.

I set this script to be called from the SetCards and ClearTable methods of the CardTableUI script, as this is where the table cards were set to display on screen.

The Rotate UI and Scale UI scripts were both written to achieve similar results with UI elements. They would animate an element to subtly rotate on the z axis or scale.

I used these scripts to emulate some of the brilliant ways Balatro kept its screen alive and engaging.

## UI

I imported a number of art assets to upscale the look and feel of the poker game. These assets were then applied to a couple of the prefabs that were set to populate the screen when the application was run.

This list of prefabs include:

- Texas Holdem Poker UI
- User UI
- Participant Hand
- Game Participants

I tweaked a couple of the scripts attached to the prefabs as part of the UI upscaling. The scripts include:

- Texas Holdem Poker UI
- User UI
- Card Table UI
- Card Interaction

I also noticed that some of the buttons within the User UI prefab were non-functional, and set out to debug the issue. What I found was that the method call, Receive Flow Messages - determining what the button message would trigger - was missing their UpdateCurrencyValue() calls for the Increase Bet, Decrease Bet, and Fold selections. Once that was fixed, button functionality resumed and the gameplay loop could be completed.

## Findings & Further Ideas

- This was a very interesting and fun challenge to undertake!
- During my research of Balastro, the task seemed broad and overwhelming as there are a lot of cool features to the game. I decided to focus on one manageable aspect of Balastro that could be completed and seen as playable within the time constraint.
- The project codebase was readable and well laid out, which is one of the reasons I was able to spot the User UI bug.
- If I had a bit more time, my other goals were to:
  - Implement a sudo-start-screen, where the player would be able to set their name and select a character profile image.
  - Add sound effects and music
  - Add game over parameters and screen
  - Add a screen to show the hands hierarchy
  - Add the ability to unlock/switch between different card sets