Fruit Basket

Game Design Document

Game by Team Hawks
Xavier Hancock
Sarthak Saxena
Nathaniel Dixon, Scys Sang, Vincent Zhang, Xavier Manieri

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Overview

Fruit Basket is a short, arcade-esque VR game, with gameplay styled after what one might find at a traditional carnival. The game is specifically meant to be built for the Oculus Go, and using Unity as its engine, as per the client brief.

Gameplay

The player's objective is to throw coloured "balls" into matching baskets and earn points, earning the most when successfully throwing a ball into a matching basket. The player is also timed; however this is only intended to serve as another method of scoring the player.

The game ends when the player either successfully fills every basket or runs out of balls to throw. The latter can be done by either only allowing the player to throw a ball once, or by disabling the previous ball when a new one is requested.

Core Pillars

- Appealing aesthetic
- Simple and short gameplay
- Repeatability

Controls

Given the device it must be built for, the control scheme is rather simple, consisting only of:

- Controller movement to aim and throw.
    - Touching a touchpad surface to visually display what the controller is aiming at.
- Pressing the trigger for interacting with gameobjects.
- Pressing a face button to reset the game, or potentially access the pause menu, if implemented.

The controller also has a built-in button for accessing the device's home menu, however this only means that an internal equivalent is not entirely needed.

UX and UI

Experience

The game is intended to be one that can be enjoyed by anyone who can use an Oculus Go, in short sessions.

UI

Being a VR game, all UI and menus will be implemented in the *worldspace*, as opposed to being a camera overlay.

The core gameplay UI (scoreboards) will be repeated three times around the player, to allow them to comfortably see it regardless of where they're facing. These each display the points the player has earned, and the time that has elapsed.

There will be a menu that appears when the game ends that displays the final results, and gives the player the option to replay the game, or quit. If time permits, this will also include a leaderboard of some kind.

Programming Requirements

Technical details

The game must be built for the Oculus Go, using Unity as the base engine, and main game editor. Scripting will be done in C#, using Visual Studio as the editor.

The limitation of hardware primarily means that the game can only account for 3DOF on both the headset and controller.

Scripting Needs

- Systems for assigning and checking basket and ball colours.
    - Baskets would have a colour randomly assigned to them at the start of the game, and balls would have the same done to them when a new one is spawned.
        - These should be done in a way that produces a balanced result- ie, it *cannot* make all but two baskets one colour, and so on
- Basket and ball disabling, ball spawning
    - A player gets a new ball after either landing a ball in a basket, or requesting a new one, or alternatively after simply throwing the ball.
    - When any of these conditions are met, the old ball needs to be functionally disabled, preventing the player from using it again, as would the basket the ball landed in, if applicable.
        - Preferably, disabled balls and baskets would have their colour changed, to show they've been "used."

Art Requirements

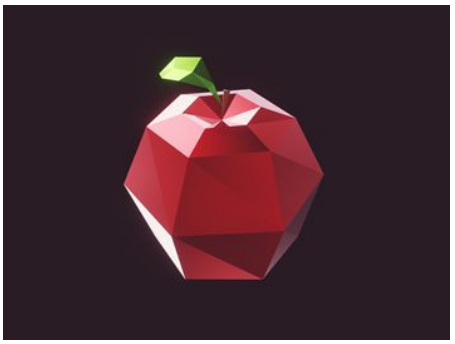
Overall Aesthetic

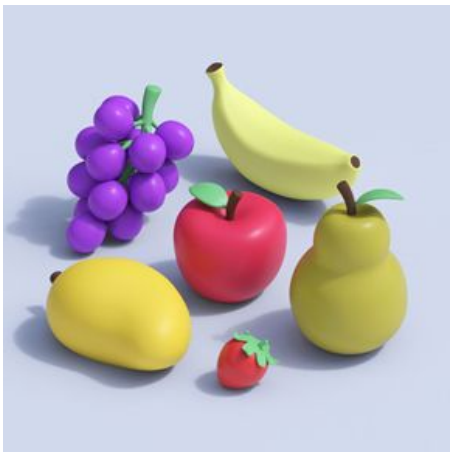
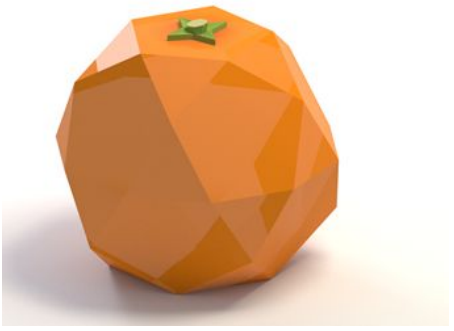
The target aesthetic is defined by the following:

- Bright colours
- Simple designs
- Low-mid poly counts (<50k triangles)

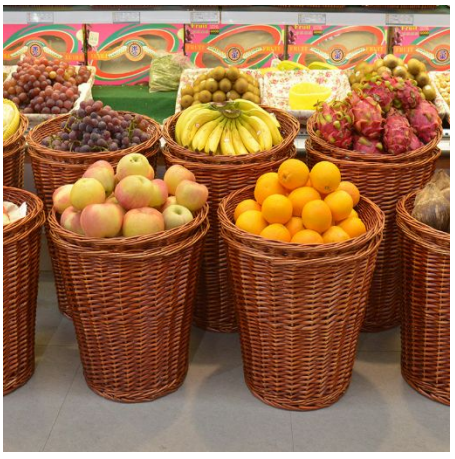
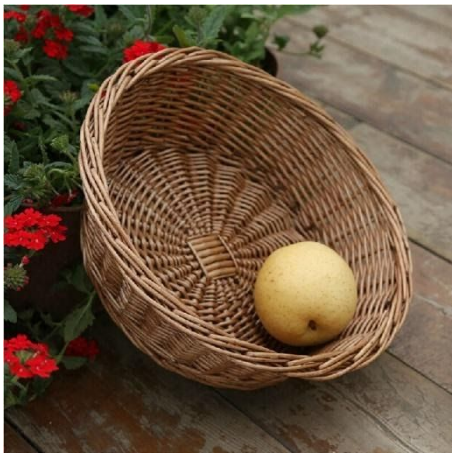
Assets

- Fruit
    - Serves as the ball.
    - Generic fruit objects, preferably made to be recolourable in-engine, or otherwise account for this need.



- Basket
    - A wicker basket, similarly designed to be recolourable in-engine, or otherwise account for this need.

    - A second, shallow basket would be desirable, for use as the ball receptacle.
- Environment
    - The player is standing in a grassy field, surrounded by trees (if time permits).
        - The former can consist of a flat texture over a primitive quad, which serves as the floor.
        - The latter would serve as a defining boundary for the playspace, and would preferably have custom geometry, but this is not a requirement.

Not Required

- Hand

    - Something to represent the player's hand.
    - An Oculus devkit asset is already in place for this, but can be replaced.
- UI panels/buttons
    - Custom sprites for UI panels and buttons.
        - Thematic, but function is required more than form.
    - This includes:
        - Scoreboard panel
        - Pause menu/Results screen panel
        - Universal button
- Prizes
    - Objects to be displayed on the end screen, as a representation of how well the player did.
        - Passing certain thresholds gives better rewards.

Production

Software

SWOT

The game does not need deep or complex mechanics Game is expected to be repetitive 3DOF restriction reduces need for details beyond a set point	The game may be considered repetitive by target audience Lack of movement can be disorienting Lack of positional controller tracking can limit gameplay
VR is still a relatively new market, providing ample room to break into it Wide target market, with primarily hardware as a limiting factor	Other, larger games like this could easily appear and dominate this one Target audience may not be interested in VR games

Production Timeline

	Designer	Programmer	Artists
10/06/2020 Final week: Preproduction	• Prototype prepared • This document finalised and delivered to team		
16/06/2020 First week: Production	• Full UI/Menus rough pass	• Rough colour system pass	• Rough gameplay assets pass

24/06/2020 Final week: Production	• Clean UI pass • Rough SFX and GFX pass, time permitting	• Ball/Basket disabler pass • Polish with time	• Clean gameplay assets pass • Rough pass of additional assets

16/06/20 Results

Production goals were met this week, with an updated and fully functional UI being implemented, alongside the framework for the colour system, as well as three different models for the ball, with associated textures.