

Gnome Bocce

Game Design Document v12

Steel Doughnuts

Version History

Time	Version and Changes
September 12, 2016 - 6pm	V1 - Initial version
September 26, 2016 - 6pm	NA - v1 - miscommunication no changes
October 3, 2016 - 6pm	V2 - updated to what has been created and changed since v1's initial creation
October 10, 2016 - 6pm	V3 - Incorporated information from mushroom/flower/replay features that were added for prototype 2
October 17, 2016 - 6pm	V4 - Included midterm updates and information
October 26, 2016 - 6pm	V5 - Included Team Member list. Included updates since midterm.
October 31, 2016 - 6pm	V6 - Updated vuforia progress and technical issues.
November 7, 2016 - 6pm	V7 - Added different flower models and textures to build. Added beginnings of AI player. Added team member responsibilities/work accomplished.
November 14, 2016 - 6pm	V8 - Incremental progress from everyone and vuforia drag events working.
November 21, 2016 - 6pm	V9 - Decisions about UI and lots of progress on animations.
November 28, 2016 - 6pm	V10 - Thanksgiving
December 5, 2016 - 6pm	V11 - Reorganization of design doc. Vuforia implemented to a playable level.
December 12, 2016 - 6pm	V12 - Final Design Document

Table of Contents

[Gnome Bocce](#)

[Game Design Document v12](#)

[Steel Doughnuts](#)

[Team Structure](#)

[Game Overview](#)

[Game Concept](#)

[Feature Set](#)

[Genre](#)

[Target Audience](#)

[Game Flow](#)

[Look and Feel](#)

[Project Scope](#)

[Number of locations](#)

[Number of levels](#)

[Number of NPC's](#)

[Gameplay](#)

[Game Progression](#)

[Mission/challenge Structure](#)

[Objectives](#)

[Physics and Mechanics](#)

[Throwing gnomes](#)

[Replaying](#)

[Setting and Character](#)

[General look and feel of world](#)

[General Description](#)

[Physical Characteristics](#)

[Characters](#)

[Interface](#)

[Visual System](#)

[Menus and Screens](#)

[Camera](#)

[Lighting Models](#)

[Controls](#)

[Audio](#)

[Music](#)

[Sound Effects](#)

[Help System](#)

[Artificial Intelligence](#)

[Technical](#)

[Target Hardware](#)

[Development hardware and software](#)

[Development procedures and standards](#)

[Game Engine](#)

[Network](#)

[Scripting Language](#)

[Vuforia](#)

[Game Art](#)

[Concept Art](#)

[Style Guides](#)

[Color Palettes](#)

[Characters](#)

[Gnomes](#)

[Flowers](#)

[Textures](#)

[Management](#)

[Schedule From Syllabus](#)

[Budget](#)

[Risk Analysis](#)

[Localization Plan](#)

[Progress by Chronological Meeting Synopsis](#)

Team Structure

Art Leads

- Alexander Sierputowski
 - Design and Communications
- Spencer Everhart
 - Particles and Style Sheet

3D Modeling/UV

- Robert (Bobby) Lauer
 - Rigging and animation, UV'd models
- Robert Pigza
 - Bomb flower and rigging
- Summit Heino
 - 3D animations, and Models, Gnomes, Seeds, and Flower

Interface

- Zach James
 - Design, Layout, Color and Buttons

Texturing

- Bowen Sun
 - Texture and Details
- Stuart Collins
 - Blocking Textures and Rendering

2D Effects

- Carolyn Merklein
 - Explosion animation and Illustrations in interface
- Colin Wolfe
 - Wind, Explosion, and Pop animation
- Morgan Todd
 - Ground explosion

Sound

- Rin Danhara (Dalton Greggs)
 - Recorded the sound effects with our resident voice actor Stuart Collins

Programming

- Cameron Danner
 - Made the throw mechanic move more like a parabola and rotate sometimes
- Chris Tsuei
 - Mushrooms
 - Generating
 - Landing/sprouting
 - Physical interactions with gnomes (bouncy)
 - AI

- Automatic throwing towards pallena
 - Automatic turn taking
- Duan Li
 - Overhead camera/HUD
 - Texture placement
 - Fence/play area texturing
- Emma Bardwell
 - Menu System and stylization
 - Help screen
- Joe Fennimore
 - Game Structure/throwables/list/initial playable demo
 - Flowers
 - Generation/throwing
 - Sprouting
 - Model placement and different effect re wind tunnel/physics interactions
 - Merging mushroom behaviour with similar flower behaviour
 - Scoring math (closest player, number of gnomes closer than closest other player)
 - Gnome texturing and animation
- Joseph Tate
 - Sound
 - Background music - continuous
 - Sound effects - per throw/land/event
 - Initial replacement of spheres with gnome models
 - Refactored throwable classes into hierarchy and in general has been keeping us closer to accepted design patterns.
 - 2D animations
- Marvin Do
 - Throw mechanic refinement
- Ryan Nowacoski
 - Vuforia integration
- Sarah Whelan (Lead)
 - Replay System
 - GnomePro (gnome point of view)
 - End of round
 - End of game
 - Display text and buttons for replay/end of game
 - Settings system
 - Attempted vuforia integration

Game Overview

Game Concept

Gnome Bocce is exactly as it sounds: a game of Bocce Ball, with a twist: flinging gnomes instead of balls. Two players take turns tossing their diminutive garden guards at a target created by the first tossed gnome. All this is mobile augmented reality to bring the game to life! To take advantage of AR technology, a point of shared reference between all players must be established. For the moment we think that a reasonable way to do this would be to implement Dr. Michael Fu's suggestion of using a unique object, possibly a dollar bill, placed in the physical room to differentiate from the background. Virtual boundaries would be established around the point of reference within which the gnomes could be thrown. It was also discovered that the technology Vuforia has a limited capacity to do spatial mapping, and so if the point of reference was placed on a surface such as a table, it would be possible to map a few small objects that would then act as real surfaces within the game.

Steel Doughnuts is excited to explore the possibilities of incorporating AR into the game as a means of investing players in a game experience that feels unique, and even, through the spatial mapping, customized. Steel Doughnuts is also excited about expanding past the traditional game of bocce. Why should a gnome fall like a dead weight? What if there were interactable obstacles, such as flowers, obstructing the field of play, requiring bounces and trick shot throws to get the closest gnome? What if the gnomes had something to say about being thrown about? We, as Steel Doughnuts, intend to answer these questions, and produce a game which is accessible, humorous, engaging, and replayable!

Feature Set

1. Throw Gnomes and Flowers
 - a. Throw a normal gnome, a slightly larger gnome, and a dart gnome in succession in attempts to get them all closest to the target gnome.
 - b. Flowers are obstacles on the playfield thrown by the player at the beginning of the game in random order:
 - i. "Wall flowers" - these can land anywhere and cause the gnomes to immediately stop in place
 - ii. "Fan flowers" - these land anywhere and place a wind current in a oscillating direction that is in place for the duration of the game - the gnomes will move in the wind.
 - iii. "Bomb flowers" - these land anywhere and once hit the explode shaking the surrounding area - these can move any and all of the gnomes nearby

2. Mushrooms are generated after the target is thrown as more static objects that are very bouncy. The gnomes can bounce off of any of these obstacles and the exterior walls of the play field.
3. Instant Replay of last thrown gnome

Genre

Casual, Humorous, Mobile, Virtual Sport Simulation

Target Audience

Gnome Bocce is meant to be a social gaming experience accessible to a broad range of mobile users. The game is very simple to play since throwing Gnomes is the only user action, and so it should be enjoyable for players young and old. The zany humor of the gnomes and the bright carnival appearance of the game is likely to appeal more to younger audiences, but fine tuning of strategical twists on the game of bocce and the inclusion of more subtle humor through voice and sounds of the gnomes should help endear adults as well.

Game Flow

Each game of Gnome Bocce is broken up into rounds. For each round, an initial gnome, the pallen, is thrown to designate the target for the rest of the game. From a fixed position, players will take turns throwing one gnome at a time, attempting to land their gnomes the nearest to the pallen, until all of each player's gnomes are thrown. At the end of the turn, points are awarded to the player with the gnome(s) nearest to the pallen: one point for each gnome nearer than the opponent's nearest gnome. The game is played until a score of 11 is reached, or until a tie is broken past the score of 11.

Look and Feel

The overall feel of the game is bright, colorful, and quirky. The background and borders are backyard themed. A picket fences become the boundaries of the throwable space. The generated obstacles are the flowers and helpful surfaces would be mushrooms. Gnome Bocce's sounds will make it feel lighthearted. The game should also feel like it has a hint of fantasy since, after all, the gnomes being thrown are not ceramic, they are real gnomes who make intriguing sounds while being thrown and bouncing around.

Project Scope

Make the game of bocce in its original form playable with gnomes replacing the traditional bocce balls. Add flower and mushroom elements. Create a menu system and allow replaying the last

thrown gnome's flight. Provide an "AR" version where the playfield is projected in space with respect to a real world object.

Number of locations

There is one replayable virtual location, a box-shaped room outlined by fences. For the AR version a field with shorter walls is projected where the player looks down on the field to drop the gnomes making technically a different location but the same game mechanics. The AR field can be projected anywhere there is a dollar bill in real life but the dollar bill doesn't change the play field structure leaving only one (two depending on if you want to count AR as separate) location.

Number of levels

There is no idea of leveling in Gnome Bocce.

Number of NPC's

There are no real NPC's. The AI component could be considered an NPC where the player is competing directly with the AI.

Gameplay and Mechanics

Gameplay

This game is played in a generated space. First a player throws three flowers then the target gnome. Then the players take turn throwing three gnomes in attempts to get their gnomes closer to the target gnome. The AR mode does not change game play other than before the first flower is thrown the game space is mapped by Vuforia by way of the player placing a dollar on a surface and pointing their camera at the dollar.

Game Progression

At the start of the game either player can throw the flowers and target gnome. Then the game will be played in rounds until a set amount of points (11) is reached. Each round will consist of a players alternating throwing their gnomes at the pallena. After all of the gnomes have been thrown, the player with the closest gnome to the pallena will receive points equal to the number of gnomes closer to the pallena than the opponent's closest gnome.

Mission/challenge Structure

The objective of this game is like bocce, where the player aims to get their gnome to stop closest to the pallena (target) and sabotaging the other player's gnomes through a collision with a thrown gnome by the player.

Objectives

The main objective of each round of the game is to get your gnomes closer to the pallena than your opponent's gnomes. Points will be awarded at the end of each round for the number of gnomes closer to the pallena than your opponent's closest gnome. The overall objective of the game is to reach a set number of points (11).

Physics and Mechanics

All objects are affected by gravity and respond to interaction with other objects similar to how they would in the real world most of the time. Rules of the game are that the players alternate throws until the round is complete. Different gnomes may have different physical properties that change how they interact with the world. Physics involved are projectile movements and collisions of gnomes. Gnomes can collide with each other, flowers, mushrooms, and boundaries.

Throwing gnomes

A swipe across the screen will be the throwing of the gnome at the pallena (target). After being thrown, the gnomes will come in contact with an obstacle (another gnome, a wall, object on the

table, pallena, etc). That gnome will then collide and either bounce off or knock down that obstacle as it would in the real world.

Replaying

After a player takes their turn the throw can be replayed and watched from the player's or the gnomes perspective. Alternatively, the replay can be ignored and the game can continue with the next player.

Setting and Character

General look and feel of world

General Description

The general setup will start with a typical backyard garden, outlining the edge of the course. Elements can be added to the course based on what objects are placed on the table being mapped.

Physical Characteristics

The edges of the field will be picket fences. The field will be styled as grass. All other characteristics of the field will be from the layout/orientation of the gnomes and other objects.

Characters

- Normal Gnome
 - Wiggles around
- Slightly larger Gnome
 - Moves feet if they are in the air
- Dart Gnome
 - Sticks fast to the first thing they hit
- Mushrooms
 - Bouncy/Trampoline-like
- Fan Flower
 - Oscillates and push the objects within its range away
- Wall Flower
 - A bush that blocks a space of the field and swaying lightly in place
- Bomb Flower
 - Explodes if collided with and moves all nearby gnomes away

Interface

Visual System

Gnome Bocce is a mobile game to be played on phones or tablets (android). The mobile aspect lends itself to vertical orientations for menus and game play.

Menus and Screens

Open app > Splash screen with team name > Main Menu

Main Menu > About > General Game information contained on one static screen.

Main Menu > Rules > Game Rules with images explaining/providing examples of how to play (static page)

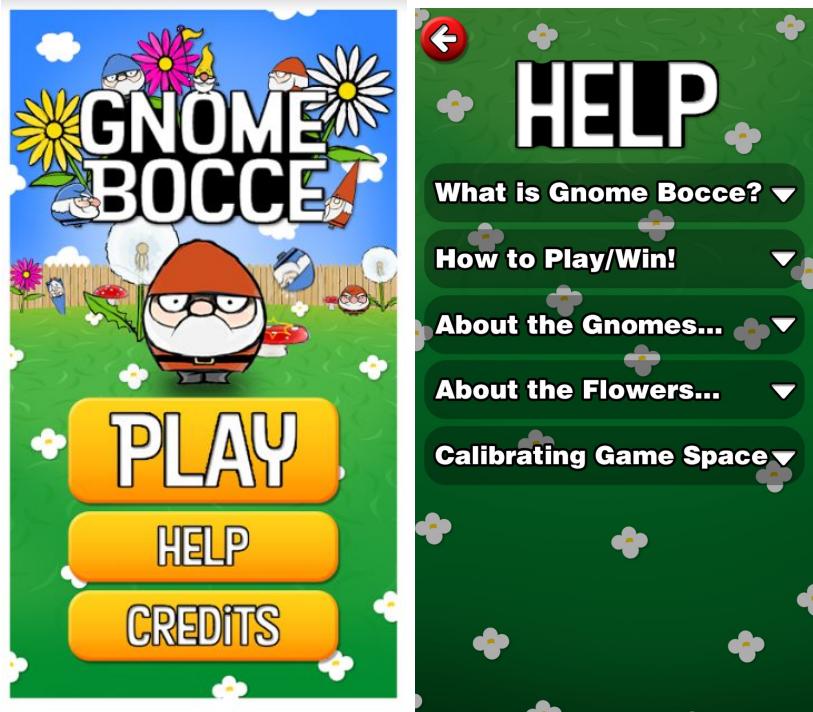
Main Menu > Settings > Change the name that gets displayed to nearby people/other settings

Settings:

- AI difficulty (off -> easy -> medium -> difficult)
- Music on/off
- Sound effect on/off
- AR on/off

Main Menu > Play > Play a game against another person or an AI player based on settings. AR mode is also based on settings.

In AR mode an information box pops up to indicate to the player to place a dollar on a surface to start the game. Once the game is over the results will be displayed on a screen.



The help screen for the game. The background is a green grassy field with small white flowers. At the top center, the word "HELP" is written in large, bold, white letters. Below it is a list of topics with dropdown arrows:

- What is Gnome Bocce?
- How to Play/Win!
- About the Gnomes...
- About the Flowers...
- Calibrating Game Space

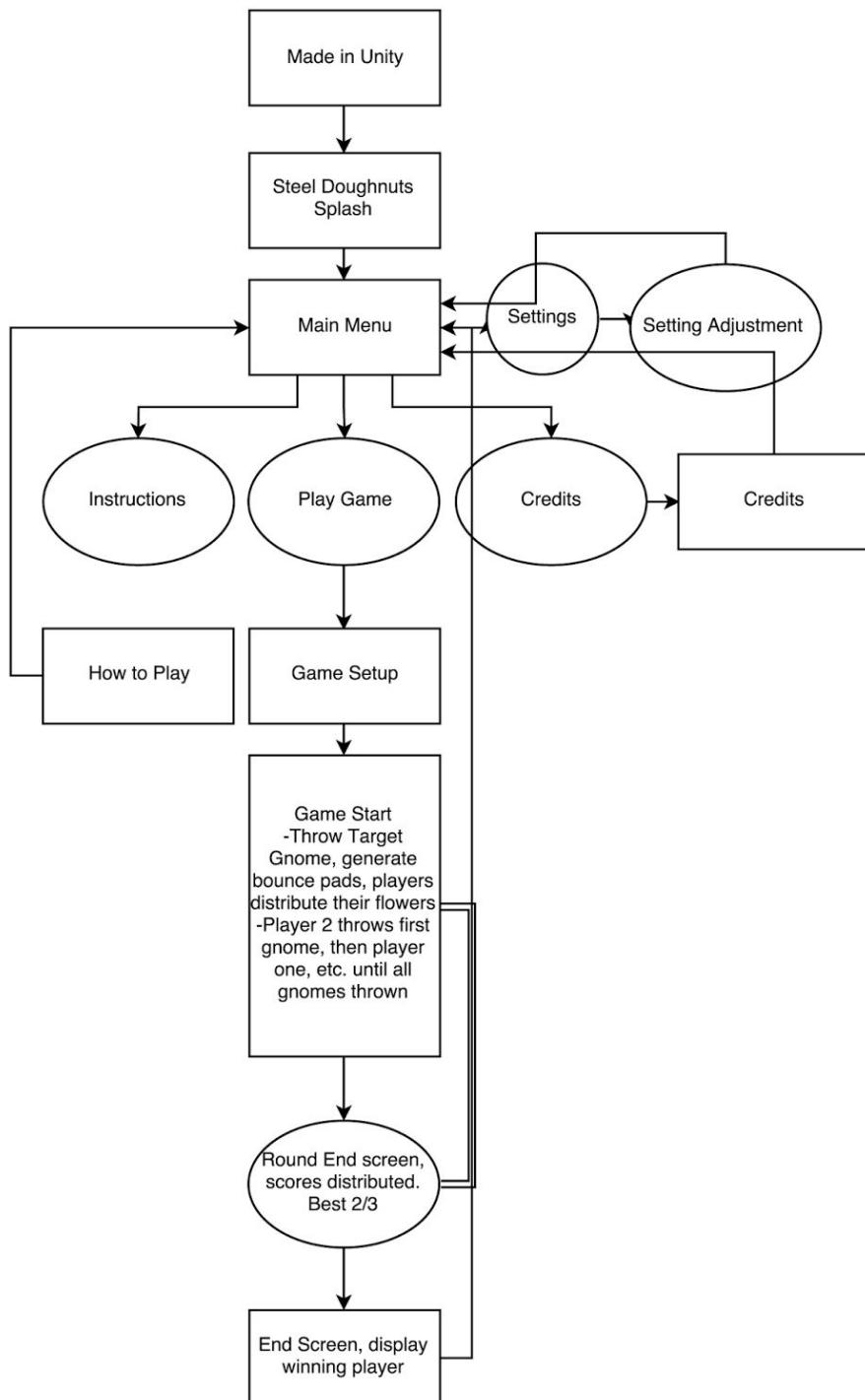
The settings screen for the game. The background is a green grassy field with small white flowers. At the top center, the word "SETTINGS" is written in large, bold, white letters. Below it are three sections with sliders:

- Music: A slider with a volume icon.
- SFX: A slider with a sound effect icon.
- Start in AR: A toggle switch with "ON" and "OFF" buttons.

The credits screen for the game. The background is a green grassy field with small white flowers. At the top center, the word "CREDITS" is written in large, bold, white letters. Below it is a list of roles and their contributors:

- Art Leads: Spencer Everheart and Alexander Sierputowski
- Programming Lead: Sarah Whelan
- 2D Effects: Colin Wolfe, Morgan Todd, and Carolyn Merklein
- 3D Modeling/UV: Bobby Lauer, Robert Pigza, and Summit Heino
- Texture Artists: Bowen Sun and Stuart Collins
- User Interface: Zach James and Rin Danbara
- Programmers: Cameron Danner, Chris Tsuei, Duan Li, Emma Bardwell, Joe Fennimore, Joseph Tate, Marvin Do, and Ryan Nowacoski

Here is the flow chart of the game walkthrough:



Camera

We will be displaying whatever the phone camera sees as the background to the game. Though the game will actually be played on the projected game field. Additional camera will be required to track the replays. Specifically we're really excited about the "gnome-pro" camera that shows the point of view of the flying gnome.

Lighting Models

We light the virtual boundaries and gnomes with directional lighting emulating a static sun.

Controls

As this is a mobile game the devices all will use touch screens to interact with the game. Players navigate the menu screen by tapping options. The main game play includes throwing the gnome with a swipe gesture that can be used to change the direction of the throw (think similar to the pokemon go pokeball throwing mechanic). There will be an HUD of an aerial map of the gnome playing field.

Audio

The audio settings will be manageable from the settings menu.

Music

This game is very light and fun and the music will reflect that. There will be light/happy music throughout the game play. We will also change the music for menus and when the game ends.

Sound Effects

The sound effects will add to the goofiness of the gnome throws. When the gnomes are initially thrown we'd like them to say something/shout/yell etc. Think old man gnome voices. Then when the gnomes bounce off of something we'll need some over-exaggerated bouncing noise. There should be several different bounce noises that are played around the same amount or the noises themselves should indicate something about the bounce ie if the gnome hit with some pre-determined range of force play this one otherwise play a different one. This will be especially important for different types of gnomes or different levels of bounciness in the walls.

Help System

The help system for this game will be very simple. From the main menu clicking on a help/rules will show text based information on how the game is played. There will be images to supplement with examples of how to play the game. There will be a few in game indicators of what to do.

Artificial Intelligence

AI presence in Gnome Bocce will be limited to an artificially intelligent opponent for the player to play against for practice or when friends are unavailable for a game. At its core, this will be a relatively simple AI to implement, as the ideal strategy is simply to throw the gnome's as close to the target gnome as possible, which in the base case can be easily solved for since the AI will have access to the level layout. Complicating matters are the potential for obstacles, either terrain, other gnomes, or various effects, to block the ideal throw to the target. In this case alternate throws can be found using ricochets off of the obstacles, which would be more computationally intensive but should still be feasible. Various difficulty levels of the AI opponent can then be easily implemented by introducing some random error to the ideal throw parameters. This error rate is set by a slider in the settings menu.

Technical

Target Hardware

Android Phones

Development hardware and software

Personal laptops/desktops/mobile devices

Unity/Vuforia

Perforce

Development procedures and standards

Convert tabs to spaces within git/perforce but allow either to be pushed.

Write nice code and comment it.

C# Standards: <https://msdn.microsoft.com/en-us/library/ff926074.aspx>

Pull out constants and strings into instance variables.

We intend to conduct pull reviews.

Game Engine

Unity and Vuforia

Network

Determine location to share games. Phones that are connected to the same wifi should be allowed to play against each other.

Scripting Language

C#

Vuforia

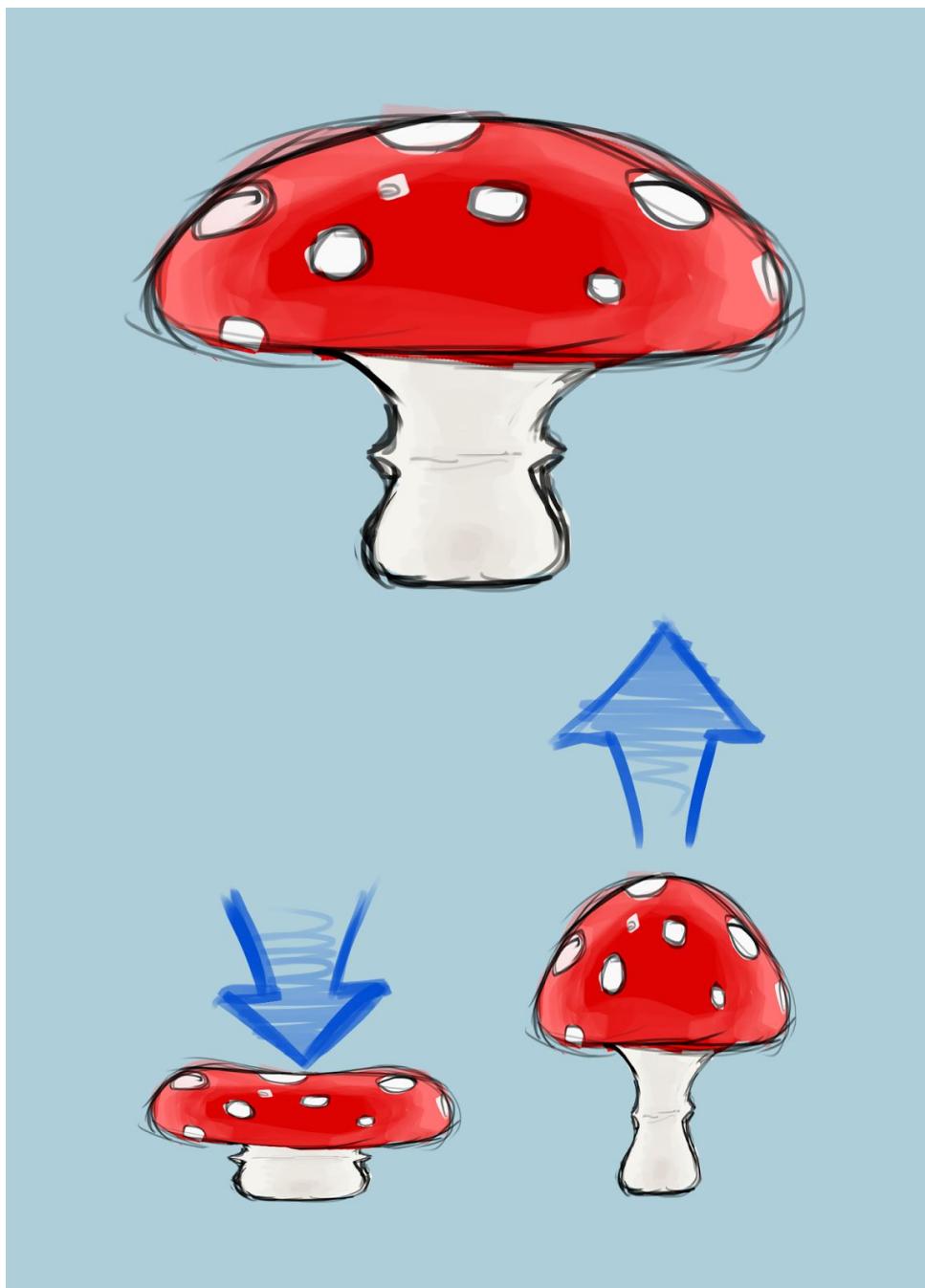
The AR mode of the game is handled by having a separate scene with all of the same components as the “Normal” scene except for the floor and walls.

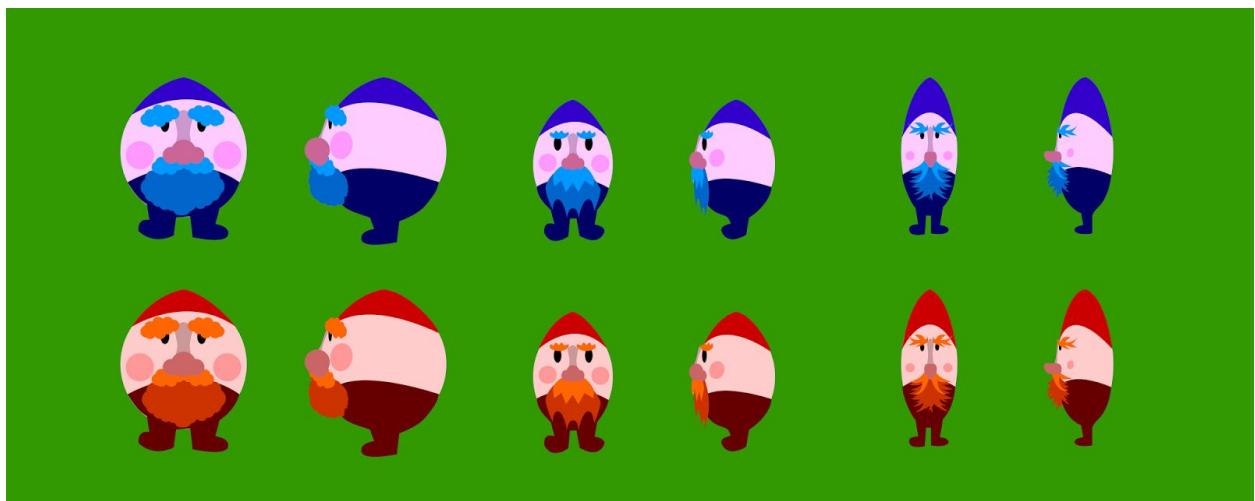
Game Art

Concept Art

Mood boards and concept art is made for everything including gnomes, flowers, and UI elements.







heughh

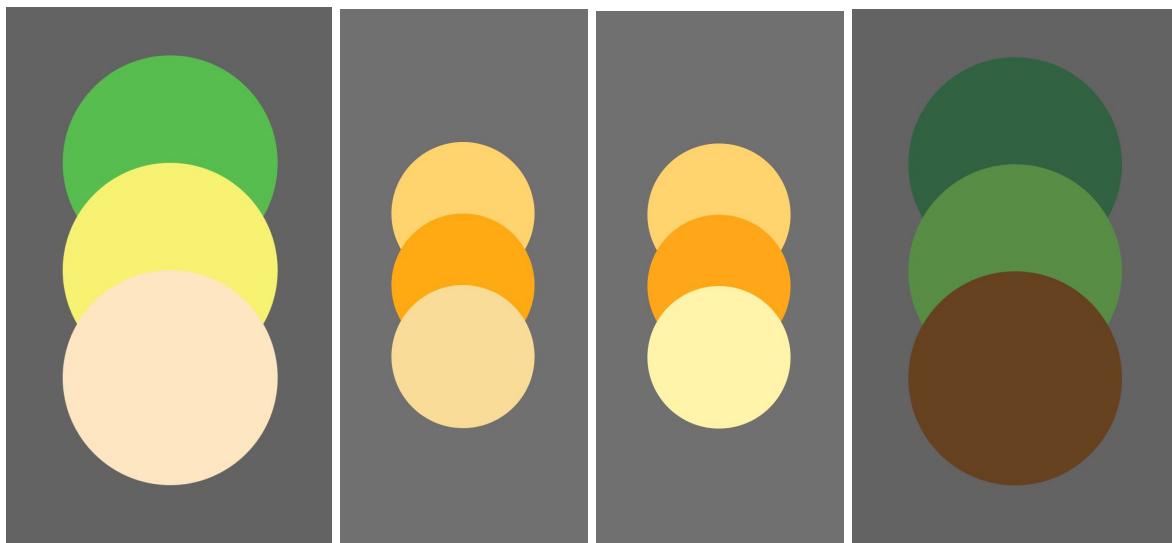
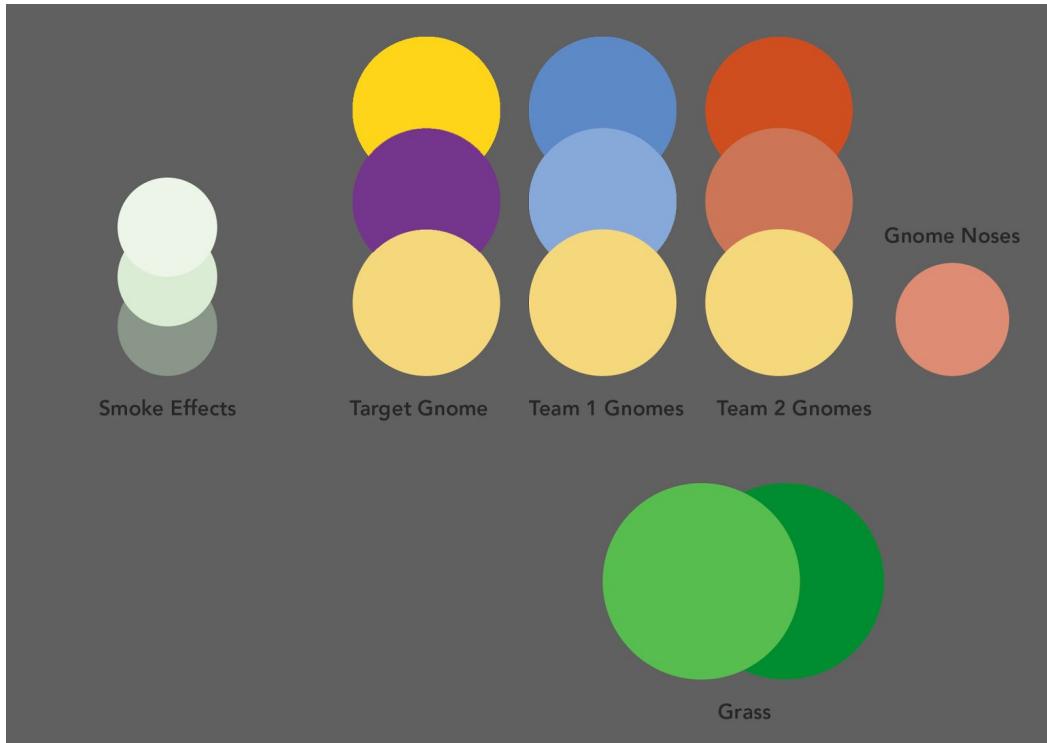


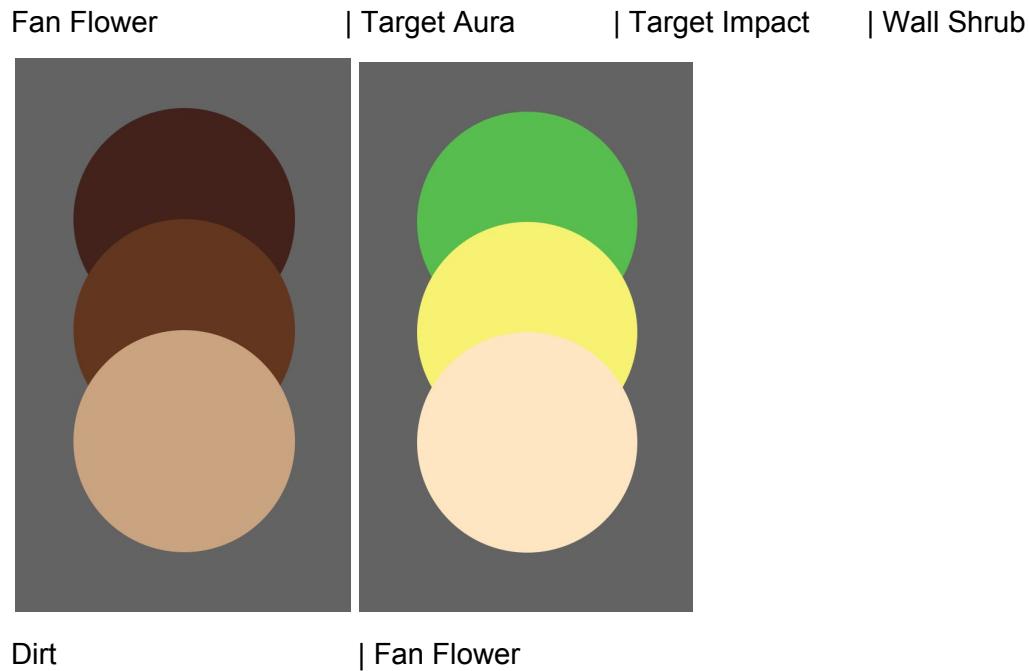
Style Guides

The style guide is a living document that can be found here:

<https://docs.google.com/document/d/1tzYGlqu9M0vc0OuBt5wJR5j0p1W-raM0mdXUh0tX4b4/edit>

Color Palettes





Characters

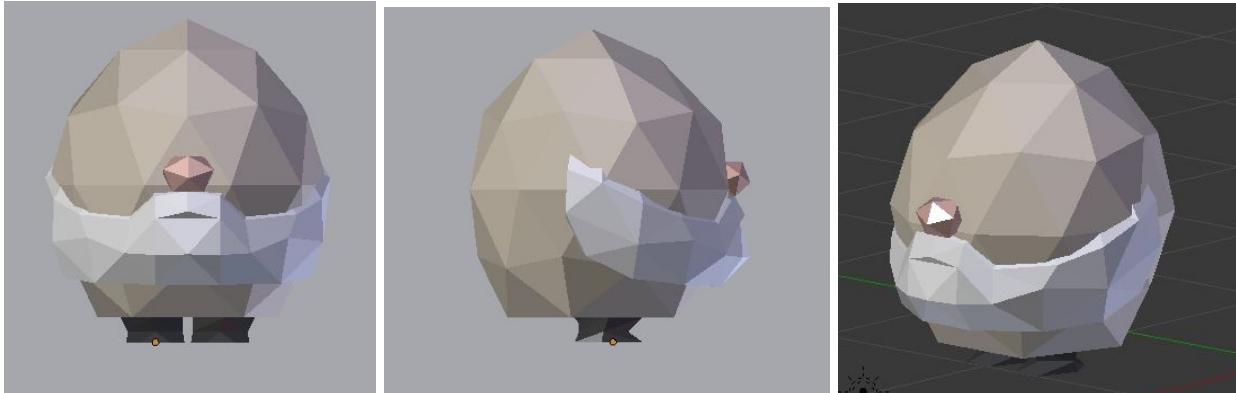
Gnomes - 3D models based primarily on spheres

This is the character sheet. The yellow gnome with the flag is the pallena/target gnome.



Gnomes

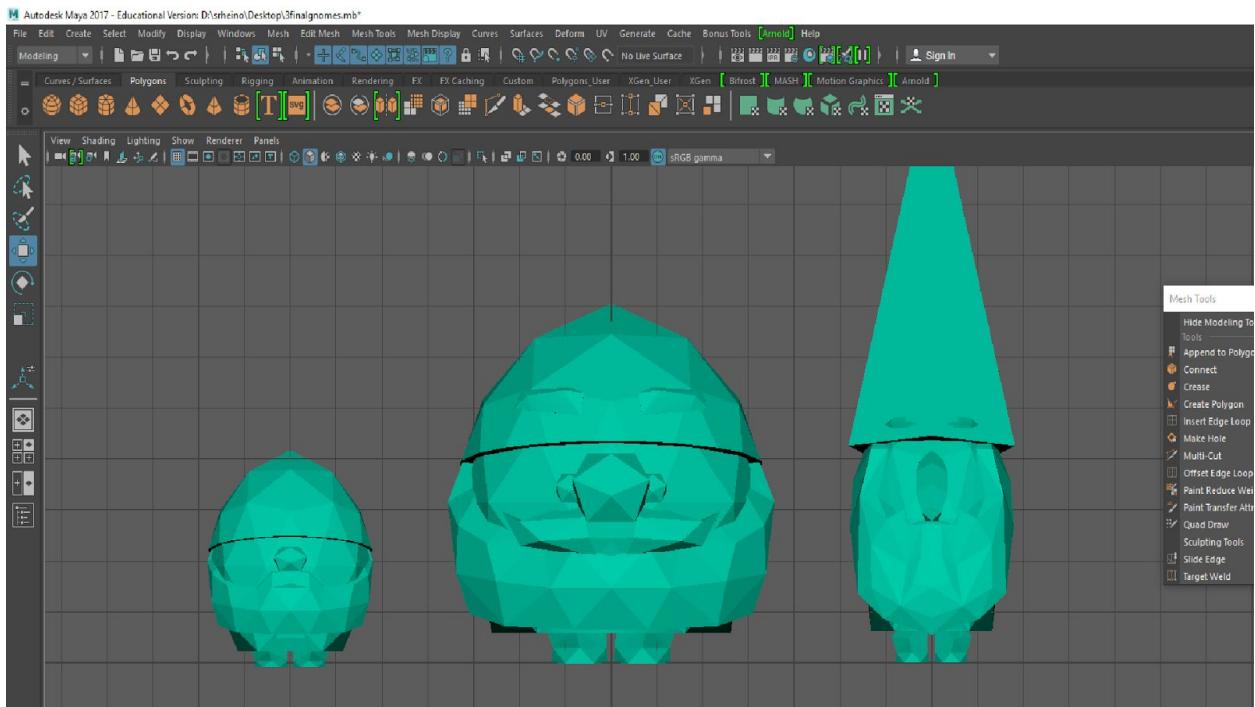
Normal:



Beginnings of UV:

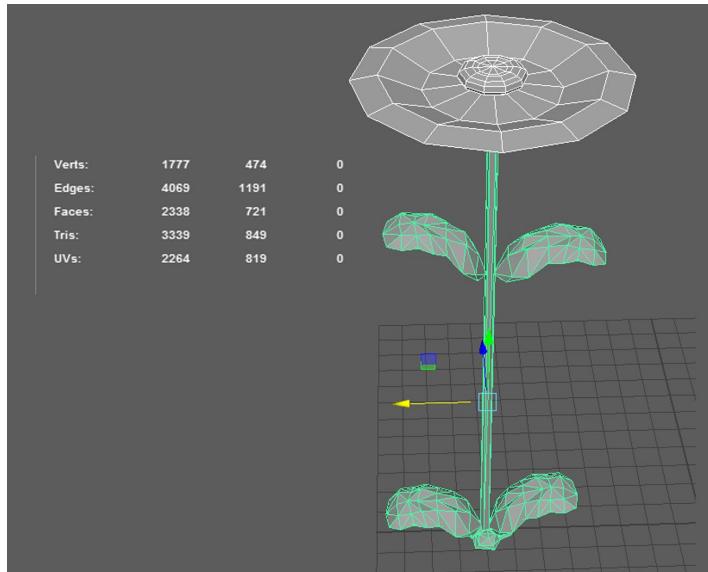
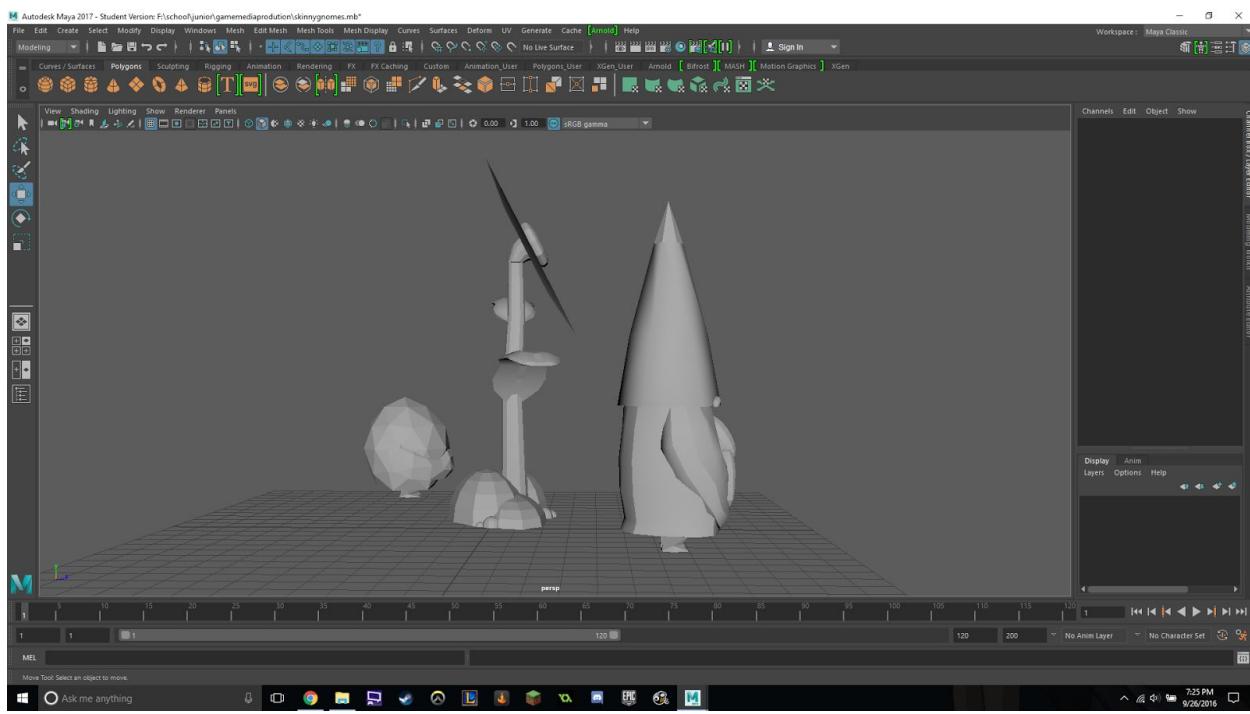


Gnome Bocce | Steel Doughnuts | 25

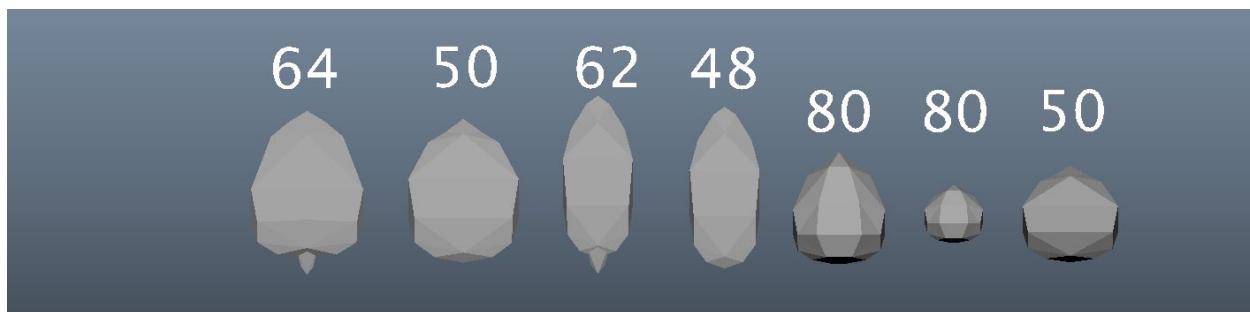


Flowers

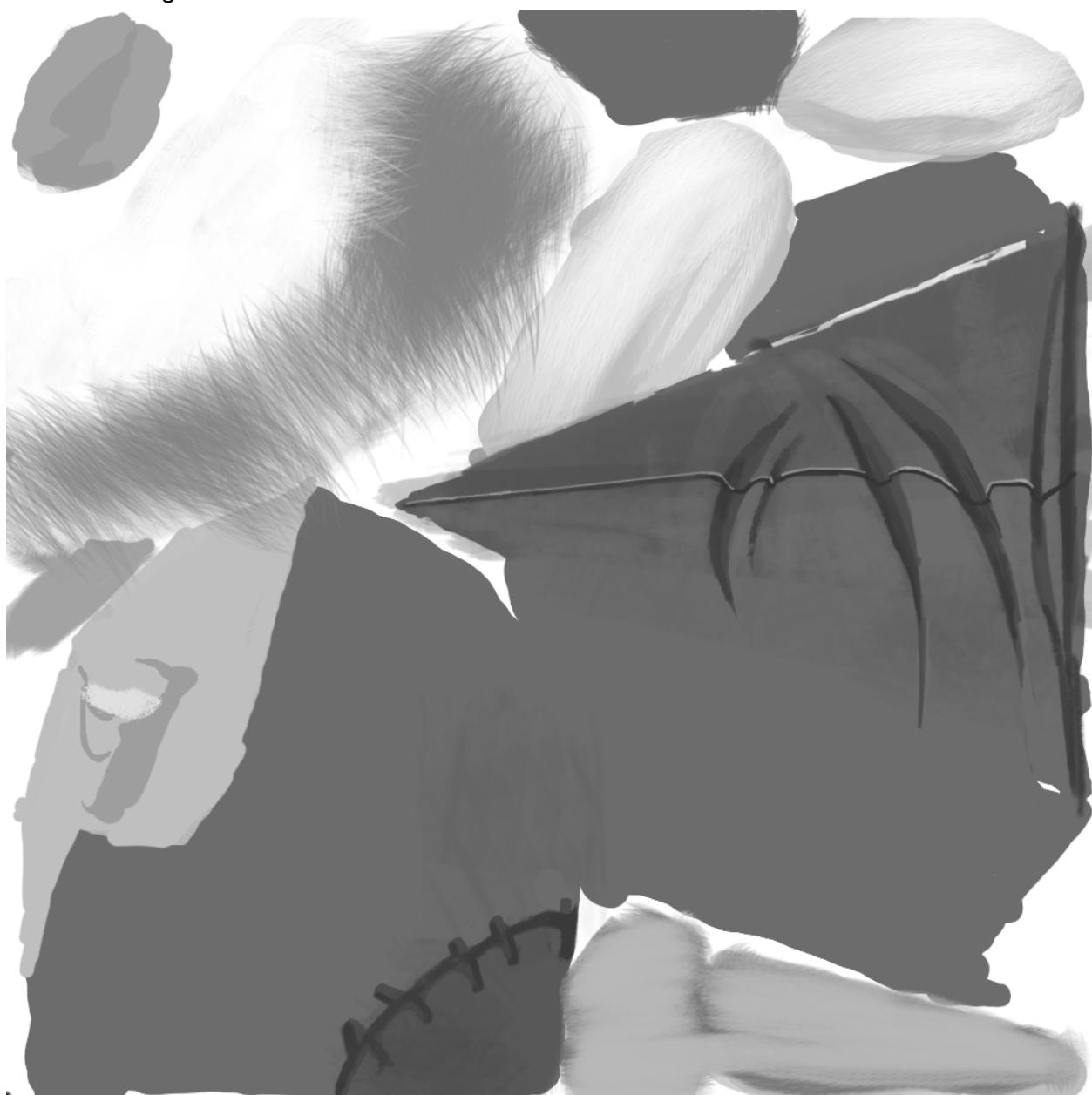




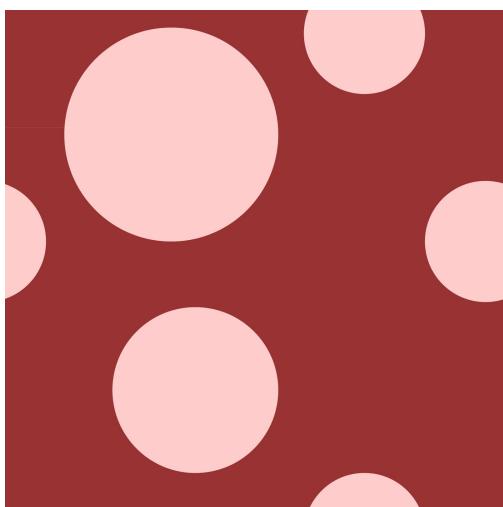
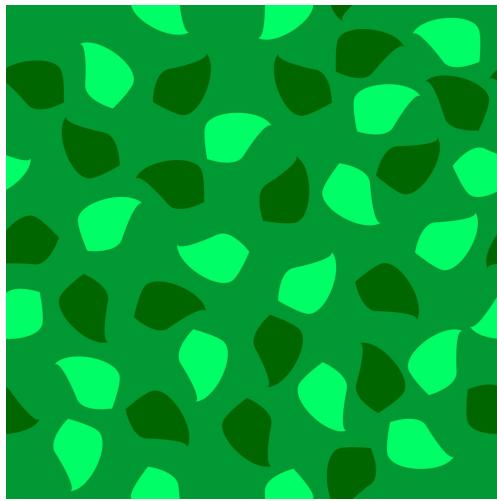
Flower Seeds:



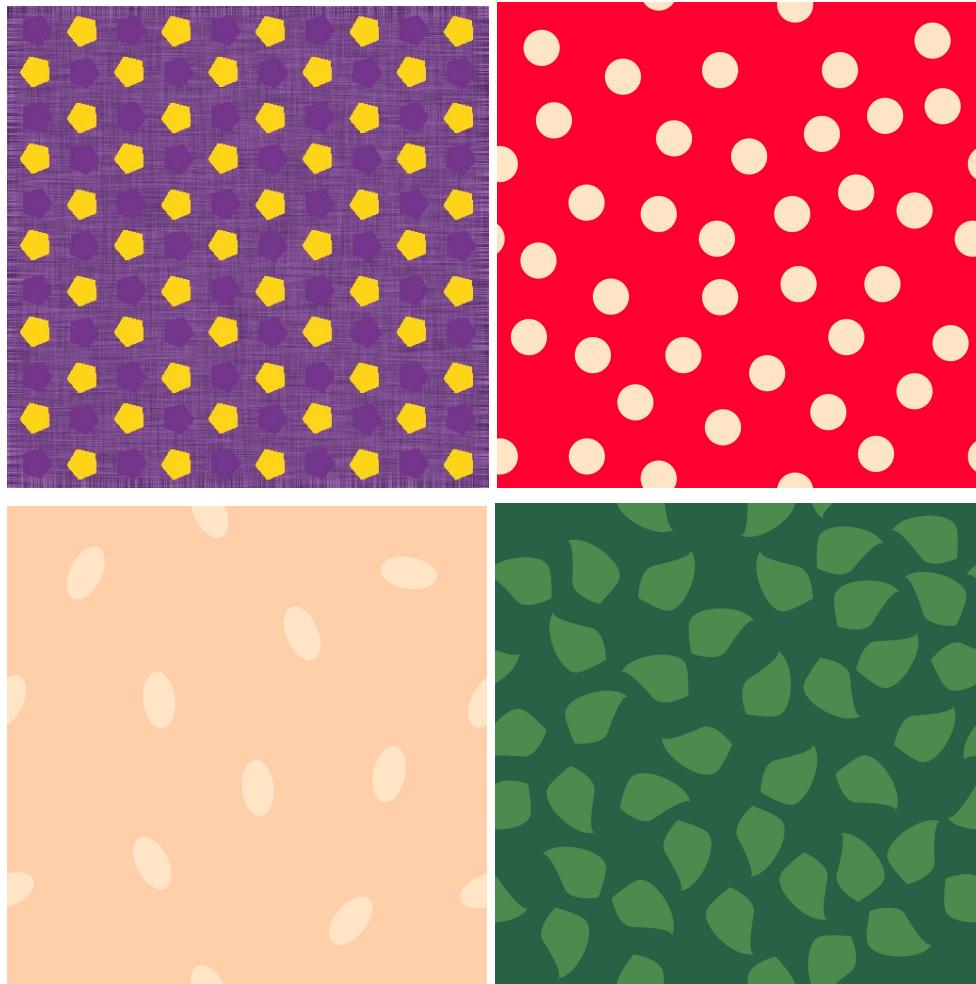
Initial UV of a gnome:



Textures







Management

Schedule From Syllabus

Preliminary Design Document	Sep 12
Risk Assessment and Test Plan	
Final Concept Art and Pre-production Content	Sep 16 9PM
Prototype 1	Oct 3 6PM
Prototype 2	Oct 10 6PM
Midterm Presentation	Oct 18 - 20
Art & Programming in Progress Group Reviews	Oct 27
3D Model and 2D Illustrated Assets Refinement	
Game Level Design	
Technical Design	
Art Bible	
Audio and Musical Score Integration	
Story Development	
Playtesting and Debugging	
Press Kit Creating	
Detailed Testing Process, Results, and Survey	
Final Critique of Game Jacket & Marketing Materials	
Final Presentation	Dec 16
Final Game Design Document	Dec 12

Final Game Design Source File for Archive
(Art and Code)

Dec 12

Budget

All of the tools we are using are paid/proprietary tools but all of them have student versions that are free to use for this project (perforce, unity, vuforia).

Risk Analysis

There are not many games incorporating AR or gnomes and even fewer that have both.
There are a few bocce simulators but nothing with themes.

Localization Plan

We do not intend to internationalize this app during this semester.

Progress by Chronological Meeting Synopsis

Tuesday 8/30/16 - First Day of Shared Class - separated into groups with the initial idea of AR CSI

Tuesday 8/30/16 - CIA only class - brainstormed three ideas: gnome bocce, ar csi, home alone

Wednesday 8/31/16 - Outside of class meeting in Nord 204 - Spent 20 minutes per idea to flesh out mechanics

Thursday 9/1/16 - CWRU only class - talked about technologies we would need to use ie perforce, vuforia, unity etc

Sunday 9/4/16 - Deadline 7:00pm - turned in 3 page document with 1 page per idea explaining the concepts

Tuesday 9/6/16 - Shared Class - Person from case (Mindy) gave presentation about communication. We decided emails would be used for major updates and slack for everything else including mentions of major updates. Also decided on game concept: Gnome Bocce

Tuesday 9/6/16 - CIA only class - fleshed out more gnome bocce and was told about preliminary design document supposedly due 9/9/16

Thursday 9/8/16 - CWRU only class - figured out team members. Moved Preliminary Design Document deadline to Monday 9/12/16 6pm, assigned sections of design document to programmers

https://docs.google.com/document/d/1vi8zDF-iNtbTcfl06hrKd_2eQSFamyWIFB41mOOK6mU/edit

Sunday 9/11/16 - Group Meeting Nord 204 (2pm-4pm) - Filled out v1 Design Document as a group

Monday 9/12/16 - Preliminary Design Document submitted!

Tuesday 9/13/16 - Shared Class - Got some feedback on the design documents. Mainly to include more art. Then broke off into groups and talked about platforms and what was left to do.

Tuesday 9/13/16 - CIA Only Class - Talked about flowers and play flow in terms of players throwing seeds for flowers

Thursday 9/15/16 - CWRU Only Class - Was told we would have a perforce server by end of day or next day. Talked about different sections of the program we would need to make and blocked out trello tasks for them.

Thursday 9/15/16 - Technical Get-together to play with unity - With Sarah, Chris, Emma, and Duan in attendance we just started messing with moving a cube around in Unity.

Sunday 9/18/16 - Weekly Sunday meeting, Chris, Carolyn, Stuart, Sarah - made slides for the Tuesday presentation

Tuesday 9/20/16 - Tuesday Shared class - gave presentations and got feedback Marc B is still wanting us to map the whole room even though that is something that isn't really supported by vuforia/on mobile

Tuesday 9/20/16 - CIA only class - The CIA students got together in the computer lab and made 3d models

Thursday 9/22/16 - CWRU only class - all programmers in attendance it was awesome. Dr. Fu helped us all set up Perforce.

Saturday 9/24/16 - Chris, Emma, Sarah - got together and looked into improving the throwing and using vuforia some progress was made.

Sunday 9/25/16 - Spencer, Stuart, Ryan, Joe F, Chris, Emma, Amy, and Sarah meeting - walked through game and determined what all exactly we would need. See trello for assignments from this meeting.

Monday 9/26/19 - Was informed that design document would need to be updated every week as there is a design document do at the end of the semester. Sarah will submit them on Mondays.

Tuesday 9/27/19 - Shared class - Whole group got together and gave updates on where each side was and at that point we had just gotten perforce worked out so there was no code but we knew what needed to be made based off the meeting on Sunday 9/25. Art had made progress as well there were more 3d models and other assets to be put in. Spencer created a style guide. We went through the weekly status document and there weren't any major issues. The teachers talked to us about the same things. Programmers left and artists continued.

Wednesday 9/28/19 - 9pm Code Jam - Programmers got together. Joe F, Chris T, and Ryan N had made significant progress on Tuesday so we got everyone up to date on the code base and broke off to make improvements in different areas. At the end of this meeting we had a playable thing where the turns alternated and indicated who won the round (could throw panella and three gnomes a piece). Work had started on a Main Screen and the buttons were in place to go to other unity scenes. Ryan had vuforia set up, finding, and tracking a dollar - this portion still

needs to be worked into the other stuff but the example he was able to make looked really good. We also decided what each person could work on next but at this point we basically had mockup 1 (due Monday 10/3/16) done.

Thursday 9/29/19 - CWRU only class - Talked to Dr. Fu about documentation and deliverables. Jesse the other team's tech lead also had some questions about grading and the like so we talked about that for a bit. Basically grades are peer and effort based. Also got perforce setup for the people that couldn't make it to the code jam. (That is everyone now!) Next Thursday at this class will be a presentation from one of the art teachers about how to place art into unity. Sunday 10/2/16 - Meeting - Talked about what we had made so far. Spencer indicated that he would like some rotation/spin placed on the gnomes in flight as they seemed a little stiff when flying. Talked about how to add animations specifically on the target gnome. This is still in discussion as the target gnome can subsequently move it may change what we want to do with the animations. Also talked about what sounds /audio we would like and general art integration goals.

Tuesday 10/4/16 - Shared class - Got feedback on prototype 1. Good job everyone on producing something that was playable at this stage. Need to improve some parts of the throw and the gnomes can be dragged through the playing field and fall forever so we'd like to not allow that. Also got suggestions for adding something similar to the fruit ninja type style of a light line that follows the path of the throw.

Wednesday 10/5/16 - Code Jam 9pm - Joseph Tate had placed the gnome models in and replaced the cubes with gnomes but when he went to share it we were unable to sync the change with perforce. Chris T worked on the mushroom spawning from the target gnome and Sarah W worked on replay system. Emma B worked on menus and Duan worked on the heads up display. Marvin fixed his set up environment then worked on placing art onto the walls. Ryan continued to attempt to integrate vuforia smart terrain. (edited)

Thursday 10/6/16 - CWRU class - Fixed the gnome mesh applying syncing issue by checking out the scene files explicitly and clicking *both* save scene and save project.

Saturday/Sunday 10/8-10/9/16 - Chris, Joe F, and Sarah all attempted to merge in their parts into the repo ie flowers/mushrooms/replay. Flowers and mushrooms made it successfully in and are working as we would like for now. The replay works except it can't handle the mushrooms properly yet so it has been taken out for prototype 2. There is a video of it working in the design doc/Google folder. Sarah also messed up the flower throwing while merging. (You see both the flowers and the seed flying through the air when we only want to display the seed. - This means Sarah is bad at merging as Joe F had it right initially.) The sunday meeting was cancelled as there was no need to sync up art/tech this week as we talked on Tuesday and everyone has worked on their parts.

Monday 10/10/16 - Updated design document with the previous weeks logs and the new images from the google drive and any videos from the week.

Tuesday 10/11/16 - Shared class - got feedback on deliverable - decided for the next week that we would: add placeholder music and sound effects, fix the mushroom and flower behavior, add rounds, add scoring to 11/end of game, link up main menu buttons to the other scenes, and work on the throw mechanic.

Wednesday 10/12/16 - Code Jam - Made considerable progress on fixing gnomes and flowers and playing music/sound. Two people ran into issues with unity that were not resolved. We also ran into an issue where the mushroom prefabs are not syncing across perforce so we need to look more closely at why the flower ones are saving but the mushroom ones are not. (edited)

Thursday 10/13/16 - CWRU class - The professors showed us how to "bake in" the light so that starting a new round doesn't start in the dark. Fixed one unity issue by filling in a missing reference the other unity error persisted. Also talked about midterm evaluations and what all would be involved for that. Worked on the replay button. (edited)

Saturday 10/15/16 - Made Thrower class and all placeholder sound and music was in. Replay button working for all cases.

Sunday 10/16/16 - 2pm meeting turned into code jam - Added rounds and end of game conditions so now you can play to a specific score. Added heads up display to see gnomes in the blind spots of the camera. Worked on throwing mechanic. Also fixed remaining unity error (missing assembly files). Got main menu in and backgrounds placed for main menu and help screens.

Monday 10/17/16 - Created slides for presentation and submitted version 4 of design document along with an executable for the midterm.

<https://drive.google.com/open?id=0BxFbl4tOMsHZUEVJMWRlZlZQLVU>

Tuesday 10/18/16 - Shared Class - Gave midterm presentation. Feedback was:

- be explicit and say what each artist is doing/has done
- don't ever tell investors your issues (or at least don't for this presentation)

Wednesday 10/19/16 - Code Jam - Semi-cancelled because of midterms. Chris T, Joseph T, and Sarah W were still able to meet and got a gnome pro camera that replays each throw from the view of the gnome. Also added logic for gnomes to bounce off of mushrooms. Also refactored the sound effects/music playing code to respect the user's settings.

Thursday 10/20/16 - CWRU only class - Joe F, Sarah W, Dr. Fu, and Duan all worked on getting the mushrooms to be more closely aligned to flower behavior. This was done because Perforce was not saving the mushroom prefab and they were done differently. After this class the mushroom prefab was saving/syncing so we think this problem was solved.

Sunday 10/23/16 - No Meeting Fall Break

Tuesday 10/25/16 - CIA only class (CWRU Fall Break) - Progress was made on the interface and animations. Sarah W and Alex S talked about what needs to be done moving forward a little no major/crazy decisions just next steps. Including mostly user interface on the main game screen and how vuforia will work in with everyone's vision.

Wednesday 10/26/16 - Code Jam - Chris T, Joseph T, Emma B, and Sarah W met in the village and tried to update the sound and menu systems with the latest assets. Started on an AI player and tried to integrate vuforia.

Thursday 10/27/16 - CWRU only class - Joe F, Amy Li, Emma B, and Sarah W talked to Dr. Fu about Vuforia integration. Ryan N pushed up what he had so far with vuforia which was a working set up/camera/target finder but he had run into being unable to drag items which is apparently a known issue but one the vuforia docs does not solve.

Wednesday 11/2/16 - Code Jam - Chris T worked on throwing for AI player, Joe F worked on a perforce/merging bug, Amy pushed textures and troubleshooted with Joe F. Emma had pushed menus earlier. Sarah worked on dragging items in vuforia.

Thursday 11/3/16 - CWRU only class - Joe F and Amy got the perforce issue worked out. Sarah and the teachers worked on vuforia dragging items.

Tuesday 11/8/16 - Shared Class - Chris, Emma, Duan, Joseph Tate, and Sarah discussed what we were doing for the week and how our timeline was looking. Got a little feedback on the current build.

Wednesday 11/9/16 - Code Jam - Everyone made a lot of progress at this event (or at home with informing the group prior). Perhaps of most interest to the teachers would be that drag events work in vuforia so can actually play the entire game in AR mode. Made some decisions about menus and figured out the best way to implement those (it's going to be more work than we thought but I think the end product will be really nice). Chris T made progress on AI auto-throwing. Amy was trouble shooting saving and persisting textures (was figured out Thursday). Sarah was helping Ryan with vuforia drag events. Joseph Tate started looking into animations and how difficult they would be to place out of the box.

Thursday 11/10/16 - CWRU Class - Everyone reported to Dr. Fu about what they had done this week. Amy got textures to persist by placing the texture in both the texture and the materials folder and linking to both on the object that should have the texture. We also worked out next steps for everyone.

Tuesday 11/15/16 - Shared Class - Jesse and Sarah talked with teachers about final presentations. Joe F placed Bobby's 3d animation on the bush flower and it was beautiful. Sound effect list finalized.

Wednesday 11/16/16 - Code Jam - Ran into a wall with animations and opted for asking on Thursday.

Thursday 11/17/16 - CWRU Class - Got answers to the animation questions and good progress was made.

Tuesday 11/22/16 - Shared Class - Talked about latest executable.

Wednesday 11/23/16 - Code Jam - Did not happen - Thanksgiving Break

Thursday 11/24/16 - CWRU Class - Did not happen - Thanksgiving Break

Tuesday 11/29/16 - Shared Class - Made a list of everything that is left to do and worked together to hammer out the details of who would be giving the presentation. Spencer from the art side and Joe F from the programming side.

Wednesday 11/30/16 - Code Jam - Got in-game UI (Sarah), help menu(Emma), and 2D animation progress (Joseph T). 3D animations and texturing of main objects Joe F did over Thanksgiving. Chris worked on the AI player and Amy worked on the fence. Cameron pushed the updated behavior for the dart gnomes.

Thursday 12/1/16 - CWRU Class - Gave updates on the week. Fu indicated that Vuforia should be in the game by Tuesday or cut. I think as of Monday 12/5/16 Vuforia will stay unless people express strong opinions.

Tuesday 12/6/16 - Practice Presentation in White 411 (Shared Class) - Was told to put in gifs or videos of bocce and our game. Get a screenshot of each item or a screenshot with all of the items in it. Be happier. Go slower on the demo.

Wednesday 12/7/16 - Last code jam of the semester - Marvin made the heavy gnomes heavier. Chris made auto throw better and put mushroom colliders back in. Joe F worked on trying to add a ring for scores but for various reasons that wasn't finished and probably won't be in the final product. Ryan worked on Vuforia. Joseph T placed all of the final sounds. Emma, Duan, and Cameron had already finished all of their parts and were excused.

Thursday 12/8/16 - CWRU Class - Gave updates (re what was done on Wednesday night).

Monday 12/12/16 - Submitted final build and design document.