

Game Proposal (Draft)

Game Programming Lab 2016

Jessica Falk, Sandro Lombardi, Sandro Ropelato, Don Schmocker

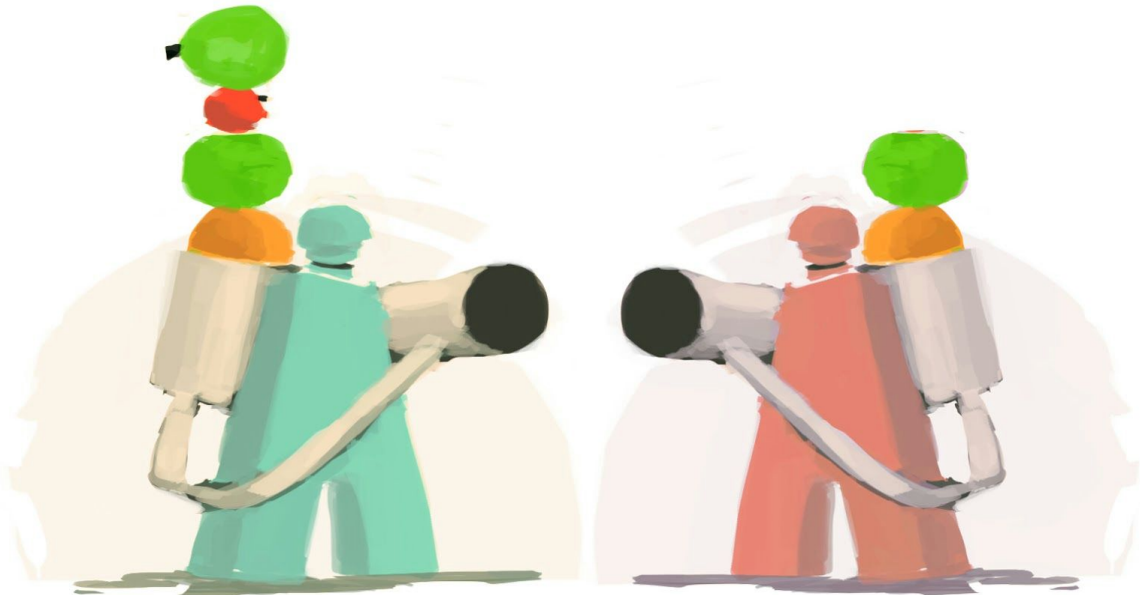
7th March 2016

Game Description

Overview

<Game Title> is a 3D action shooter where the player has to collect food items while shooting his opponents and avoiding being shot at the same time.

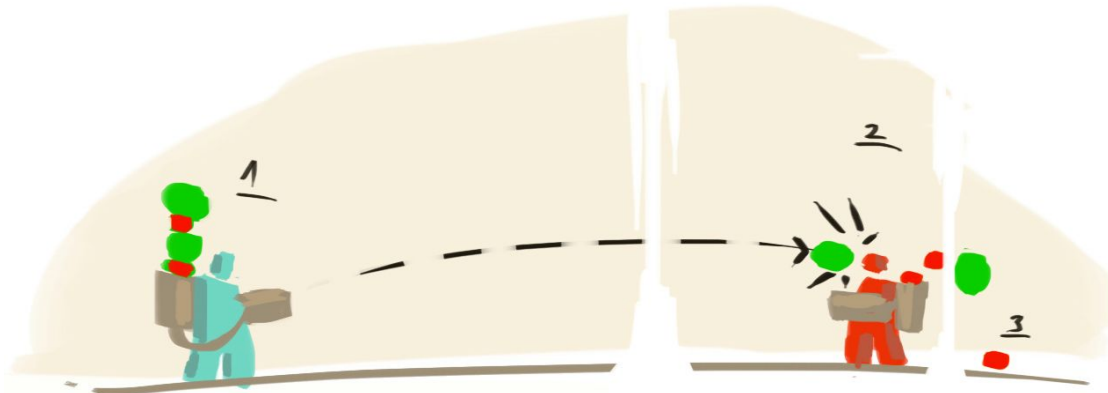
Food items (such as apples, bananas or melons) spawn at different locations on the map and can be picked up by walking over them. The player can use collected food items as ammunition to shoot at the other players.



Game Mechanic

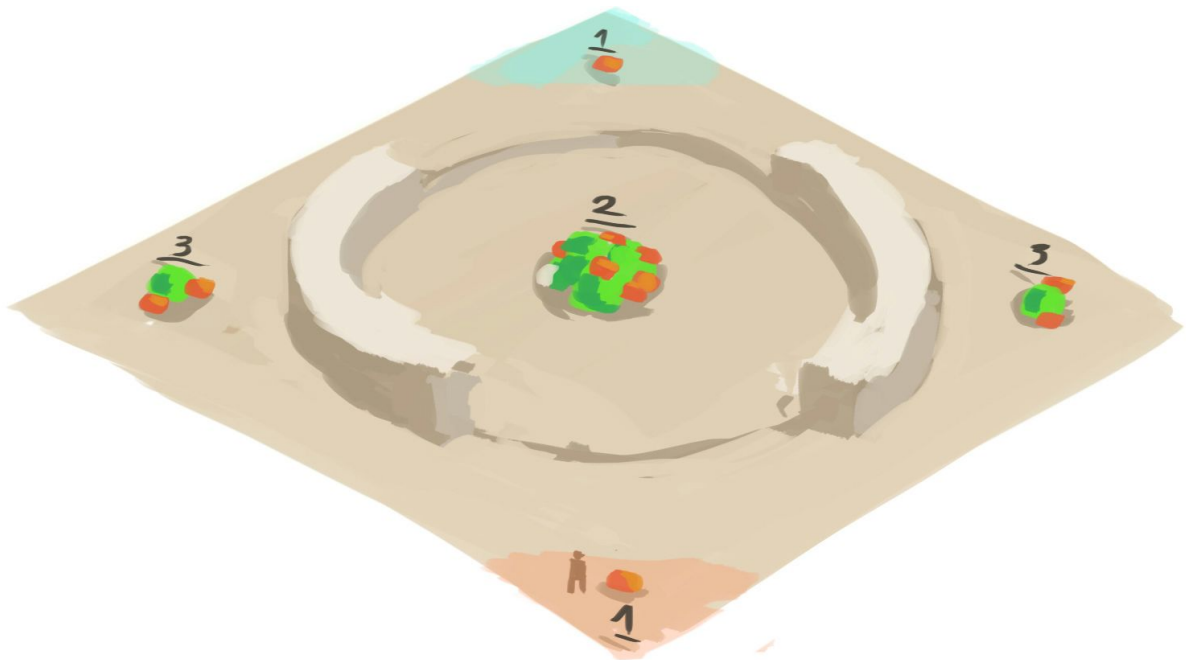
We plan to have a set of different sorts of food items, each having specific properties such as value and attack strength.

When a player is hit he loses some of the collected items in his inventory. The exact amount depends on the size of the inventory according to the attack strength of the food item with which he is hit.



Possible scenario when two players engage in a fight:

1. The blue player has a variation of food items he can use as ammunition.
2. If the red player gets hit, he loses some of his food items.
3. The players can collect the food on the ground.



Example design of a map
with spawn locations of the players (1),
primary food stock (2) and secondary food stocks (3)

Gameplay

<Game Title> is a local split screen multiplayer game for up to 4 players. The player's character is controlled from a first person or third person perspective and can look and walk in all directions. Furthermore, the player can rotate through the different kinds of food items in his inventory to equip them as his weapon. Usually, the thrown items will follow a parabolic curve in space.

Goal

The game is time-based, i.e. after a certain amount of time the game ends and the player with the inventory worth the most points wins the round. Therefore, the individual goal of each player is to increase the size of his own inventory by picking up spawned or dropped food items while decreasing his enemies' inventories through body hits with thrown food.

Platform

We will support Windows and Mac OS X as deployment platforms. However, as the game will be played with a controller (e.g. PS4 or Xbox) it is possible to deploy it on console platforms as well in the future.

Technical Achievement

We consider the ability to smoothly control the player through the world a very critical point in our project as it directly impacts the fun of the game and therefore plan to integrate a 3D physics engine. This will also allow us to realistically model the behaviour of thrown food items (e.g. bouncing off a wall, parabolic trajectory). Since the MonoGame framework does not offer such features, we think that a proper integration of an external physics engine is in fact a technical achievement.

Big Idea Bullseye

The main idea behind <Game Title> is the combination of the classic shooter concept and collecting items. Neither pure shooting skills nor a strategy in efficiently collecting food alone make a good player, only a good combination of both does.

Project Scope

The ideas and features we collected have been sorted into layered categories sorted from absolutely crucial to nice-to-have extras.

Functional minimum

- Game
 - Playable game for two players supporting split screen
 - Game ends after 2 minutes of playtime. Screen displays winner.
- Food items
 - Apples
- Shooting / aiming mechanics
 - Thrown items follow a straight line.
- Map design
 - A simple, almost empty map
 - A few obstacles with working basic collision detection
 - A simple spawn point for food (no appealing visuals)

- Animation
 - Static player models
- Music & sound
 - None
- HUD & Menu
 - No selected weapon icon
 - No enemy inventory overlay
- Gameplay
 - Pick up food items by walking over them

Low target

- Game
 - Integrated 3D physics engine
- Food items
 - Melons
 - Bananas
- Shooting / aiming mechanics
 - Thrown items follow a parabolic trajectory.
- Map design
 - A small map with simple objects (buildings) forming something like streets
- Animation
 - Animated player models
- Music & Sound
 - Simple sound effects: Getting hit, Picking up items, Throwing items.
- HUD & Menu
 - Menu: Possibility to pause or end the game and change settings
 - Icon for currently selected food item
- Gameplay
 - Player loses random amount of items when hit.

Desirable target

- Game
 - Playable by up to 4 players
- Shooting / Aiming mechanics
 - Thrown items follow a parabolic trajectory and can bounce off walls and obstacles.
- Map design
 - Textured and diverse building models
- Animation
 - Animated player models: Walking, Aiming, Throwing / Shooting, Picking up
- Music & Sound
 - Background music
 - Different hit sound effects for individual food items
 - Walking sound

- HUD & Menu
 - Minimap displaying obstacles, food and player locations
- Gameplay
 - Food has weight and makes players move slower.
 - More food makes players lose more when hit.

High target

- Map design
 - Additional map(s) to offer a variety of environments
- Animation
 - Visual effects (e.g. splash effect when a player gets hit)
- Gameplay
 - Additional game mode: Deliver food to base

Extras

- Game
 - Network multiplayer
 - NPCs

Project Plan

We maintain a Google Docs spreadsheet in which we keep track of all tasks and milestone dates and compare the planned timeline with the one achieved in reality.

What	Who	W8	W9	W10	W11	W12	W13	W14	W15	W16	W17	W18	W19	W20	W21	W22
Brainstorming / Formalize game idea for pitch	JF, SL, SR, DS															
Presentation: Pitch of game idea (01.03.2016)	JF, SL, SR, DS															
Setup project structure and Git repository	SL, SR															
Game proposal: Draft (07.03.2016)	JF, SL, SR, DS															
Game proposal: Final version (14.03.2016)	JF, SL, SR, DS															
Presentation: Formal game proposal (22.03.2016)	JF, SL, SR, DS															
Create static player models	DS															
Create models of food items	DS															
Implement walking, picking up food items and shooting	JF, SL, SR															
Setup split-screen layout	JF, SR															

Extract from the project plan (blue: planned, green: actual)

The project plan is a dynamic document and is being updated as we progress with the project. It can be read by anyone and is accessible via the following link:

https://docs.google.com/spreadsheets/d/1kSC_-6Fpb9hnY9kOgc5clv_Ttj21lx7IkFuBN-BGiyA/edit?usp=sharing

Assessment

We want <Game Title> to be an action-packed fun shooter that stands out in its way of combining combat action with strategic elements of collecting the right items and avoiding to be attacked by opponents.

The handling of the game should be easy to learn and appeal to game novices as well as experienced players.