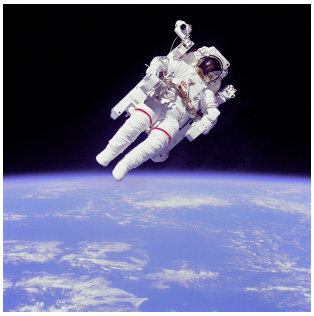
College Grad Simulator



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GDD Template Written by: Benjamin “HeadClot” Stanley

Overview

Theme / Setting / Genre

- Comedic Overtones
- Space Fast Food Station Orbiting Earth
- Zero-G Environment

Core Gameplay Mechanics Brief

- Locomotion: Grab onto railings in the environment and move around using them.
- Grab small objects and combine them with a simple crafting system.
- Craft objects to address a changing list of items that will be “served” to “customers”

Targeted platforms

- Oculus Rift
- PC with MS Windows
- HTC Vive (Stretch Goals)

Monetization model (Brief/Document)

- As of (09/19/2018) There is no plan to monetize this game.
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Project Scope

- Game Time Scale
    - Cost? $0
    - Time Scale? Six months to a year
- Team Size
    - Team VeR
        - Artemis Grimes
            - Team Lead
        - Brendan Maletski
            - Movement & Grabbing Mechanics
            - Modularized Modeling
        - Stephen Ogden
            - Order System
            - Play Testing
        - Dan Knenlein
            - Level Design
            - Storyboarding
        - Ben Layle
            - Textures
            - Animation
            - Modeling

Influences (Brief)

- Job Simulator

- Virtual reality game
- In this game, robots have replaced humans in the workplace and you as the player get to experience what it was like in the past to have a job. Its tongue-in-cheek atmosphere is similar to the atmosphere we want to create in our game. It is also a similar concept to ours - performing menial jobs in VR.

- Overcooked

- PC and console Video Game
- This game is an influence to our game design because the premise of Overcooked is that you need to work cooperatively with other chefs to create meals made from ingredients in the level. The ingredients and menu change and becomes more difficult in each level challenging the players to improve their efficiency. Our game is service industry focused so there will be challenges in it related to assembling food with various ingredients and time constraints. Link to wikipedia page here

The Elevator Pitch

College Grad Simulator is a VR game in a Zero-G environment where you have to fulfill orders in a fast-food space station, while moving around by dragging yourself through the air.

Project Description (Brief):

This game is based in a Zero-G environment, which means that movement and loose objects will behave counter-intuitively enough to present a challenge but simple enough to be easy to use. This is a movement system that has not been explored much in VR, and we hope that it will be an effective way to move without causing motion sickness. The loose objects in the game (ingredients, tools, etc.) will be free to float around, meaning the player must either be careful to not let them drift far or chase them around the room. In addition, the level will have a 3-dimensional layout, forcing the player to move around in the 3d environment.

The gameplay will feature a flow of orders that the player must fulfill. Players will be rewarded for how quickly and accurately they can fill the order. It will not necessarily wait for the player to finish the previous order, however, so they will stack up if the player is not quick enough. The orders will have a variety of types of food to cook and assemble, which must be done correctly to receive full payment.

Project Description (Detailed)

The game takes place in the kitchen of a fast-food space station, where the player must fulfill orders while navigating a Zero-G environment. The orders will be displayed on a screen with the first on top and last on bottom. The order list will continually fill up while the player tries to empty it. The player will receive a payment for each completed sale, which will be subtracted from the School Debt Tracker. The payment received is reduced by the amount of time taken and by submitting the wrong food items. The orders will be randomly generated from a list of available ingredients, and may be

absurd and unexpected as a result.

Ingredients will be dispensed from “vending machines”. These ingredients can then be cooked by putting them in the cooking machines. The cooking machines will operate similarly to a microwave oven – open the door, place the food inside, and press a button to start. The food can then be assembled (such as putting a burger together) and placed inside a container. This container, once filled with the next order on the list, is then placed into the airlock to be given to the customer. The airlock also operates similarly to the cooking machine.

The lack of gravity will pose a challenge to the player, as they and the objects may not move as they expect at first. Putting a hamburger down on a table will result in the burger floating away. The player must therefore keep track of anything they are using at all times. The player will also not stay anchored to the station they are at unless they are constantly holding on, so if they drift out of reach of a bar then they will lose precious time until they reach another grip. The kitchen itself will be a 3-dimensional design with multiple floors. This design will keep the player moving in space to fill orders. There may be multiple sections to it, but there will only be one main room.

What sets this project apart?

- First of all, our project is a food preparation/job simulator which is a genre that primarily is only seen in a top-down or third person perspective. We are making our project a first person virtual reality where the player is actually controlling the character and performing tasks.

- Second, our location is a future space station/fast food joint where the player will be traversing around the station to reach ingredients and food preparation tools in order to complete an order. We are unique because of the location being a space restaurant.

- Finally, because our game is a parody of students whom upon graduating college are stuck in a fast food job, we have made the focus of this project to be the pursuit of student loan repayment. Each order

fulfilled will reduce a counter of the amount of loan yet to be repaid, each mess up will increase the counter. The loan repayment goal is a unique focus in our chosen genre where other games like it focus on accumulating points and earning certain ratings on how well they performed and order.

Core Gameplay Mechanics (Detailed)

- Locomotion

- There is a static (unmoving) grab bar in front of the player, which they can reach out and hold by holding down the grab button. While holding, the player then moves their hand back which in turn moves the player's headset, in game, forward. If they're still moving forward as they let go of the grab bar, they will continue to drift forward and be allowed to move their now free hand without impacting their movement. They can stop drifting by grabbing onto another grab bar.

- The movement works by tracking the change in position of the hand controllers in relation to the player headset when the hand controller has grabbed onto an object that is static and tagged as a grab point. So when the player has grabbed onto a handhold and moves their hand up, the headset in the game will move down the same amount their hand was raised up. The velocity of the hand movement will also be checked when they let go, so the camera can receive the inverse of that velocity to give it faux momentum.

- Grab Objects

- Objects, such as meat patties or cups can float around in the space station and be grabbed by the player. They'll carry on their momentum from any collisions or if the player throws them. They can be put inside the airlock for delivery and can be cooked or processed in any cooking stations. Cooking stations will make them change color and be considered cooked for the sake of fulfilling orders.

- The physics behind objects are already fairly well implemented by Unitys rigidbody system with gravity turned off. The Oculus SDK for Unity also already comes with a basic VR character controller that allows you to pick up and throw objects as described. The only things that really need to be added to objects is data for what

menu item they represent and whether or not the item is cooked or processed.

- Orders

- On a display panel on the wall all three orders of varying food items will constantly be shown. This will allow the player to not only check and make sure they're making orders right, but also plan ahead on future orders down the list. All of the items that belong on that list should be put in the airlock and shot out into space in order to consider an order fulfilled.

- Orders will be handled by a queue of lists (orders). The queue will hold up to 3 lists. The each list will hold all the food necessary to fulfill the order's requirement. When an order is completed, it will be removed from the top of the queue with another order being put into the bottom of the queue. In order to grade how well the player has completed an order, a trigger collider in the air lock will see what the player has put inside the airlock versus what the actual order demands. This grade will later impact how much the player makes when the debt counter goal is implemented.

- Cooking Stations

- Cooking stations work like a futuristic microwave such that you throw items inside of it, close a door, hit a button, wait a bit, and get a cooked item out of it ready for delivery. It's a relatively simple process that will require the player plan out their uses of the cooking stations around their wait times.

- Firstly, the cooking station will have a door that needs to be closed in order for it to "cook" anything. This will keep the player from interrupting the cooking process. When the player hits the large cook button on the station with the door closed, a trigger collider in the cooking space will check what the player has put inside it and change the data values so the item is considered cooked as well as change any materials to make the item look

cooked. It will wait it’s prescribed time before opening back up to allow the player to grab things from the cooking station.

Story and Gameplay

Story (Brief)

As a recent college grad you need money to pay off your loans. You work on a fast food space station as a result.

Story (Detailed)

In the year 20XX, you, the player, have finally graduated from MTU after too many years. However, you're unable to find a job anywhere but in a space-station fast food restaurant. At least you don't have to pay rent.

Now you're here. In space. Slinging burgers. Hopefully one day you'll pay off your student debt. But will you be able to stay sane as the customers become more and more demanding?

Hopefully.

There isn't a lot more to this story then that. As with most VR games, our focus is on mechanics first. Also, the simpler it is, the more realistic it is.

Gameplay (Brief)

Assemble food to fill orders while dealing with zero gravity. Also, move yourself in VR in zero grav.

Gameplay (Detailed)

Get ingredients, cook them, and assemble meals for the demanding customers. If you're not fast enough, you'll lose money - and maybe the sale. Put the correct food in the airlock before time runs out, and you'll pay off some of your student debt. And while you're at it, have fun flying around the kitchen in zero gravity and using the high-tech new cooking machines.

In addition, you'll be required to move yourself about in zero gravity without really walking. You will be moving your arms in order to do so, either by climbing ladder rungs or using your magnetic space gloves to latch onto surfaces.

Assets Needed

- 2D

- Textures
  - -To save time and offer more wiggle room in other aspects of the game, textures will start out as simple flat textures on each object without too much detail aside from what can be expected such as labels or buttons.
- Etc.

- 3D

- Characters List
  - - Main character (Player)
  - - (Stretch goal) animated customers
  - - (Stretch goal) Manager/ Intercom voice
  - - etc.
- Environmental Art Lists
  - -Hand drawn posted papers around room:
    - -Drawing of sunset posted over airlock window
    - -Badly cropped graduation photo.
    - -Futuristic post it notes around the room (Offers tips/ Hints)

- Sound

- Sound List (Ambient)
  - - Main level
    - - Cooking, sizzling sounds
    - - Airlock whoosh
    - - New order sound
    - - Timer beep from machinery
    - - Food impact sounds (Food colliding with other things)

- Sound List (Player)
  - - Character Movement Sound List
    - - Metal ting / Magnetic hum as player grabs onto surfaces or railings.

- **Code**
    - Character Scripts (Player Pawn/Player Controller)
        - Oculus SDK script
        - Hand to object vs. railing script
    - Ambient Scripts (Runs in the background)
        - Airlock Script
        - Cooking machinery script
        - Random order script
        - Score keeping

- **Animation**
    - Environment Animations
        - Buttons / Switches
        - Doors/ Hatches
        -(Stretch Goal) New Machine animations
        -(Stretch Goal) Outside environment animations
    - Character Animations
        - Player
            - Hand animation
            -Since it is VR no other animations necessary.
        - (Stretch Goal) NPC

Schedule

- Sprint 1

- Movement
- Grabbing objects
- Airlock
- Level design; mainly sketching/storyboarding

- Sprint 2

- Level design (modeling)
- Textures (simple)
- Cooking stations
- Order system
- Debt counter

- Sprint 3

- Refining World Textures
- Refining Order Screen
- Debugging/Polishing