Scrap Dash Technical Design Document

This page: Table of Contents and Team Member Listing

Table of Contents

Game Development Team Members

PRODUCER
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PRODUCTION MANAGER
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PRODUCTION COORDINATOR
Jacob Golden-Needham

GAME DESIGNERS
Blake Myers, Garrison Price, Jacob Barger, Jacob Golden-Needham

SYSTEMS/IT COORDINATOR
Jacob Golden-Needham

PROGRAMMERS
Balke Myers, Garrison Price, Jacob Barger, Jacob Golden-Needham

TECHNICAL ARTISTS
Blake Myers, Jacob Barger

AUDIO ENGINEERS
Jacob Barger, Garrison Price

UX TESTERS
Blake Myers

1 Executive Summary

Game Overview

Scrap Dash is a top down/third person shooter where the player is an apocalypse survivor attempting to gather resources and survive. The player must fend off the horrors of the wasteland with whatever guns they can find and whatever supplies they can scrounge up. The player must utilize what weapons and ammo they find to defeat enemies while collecting scrap resources.

Technical Summary

Scrap Dash will be developed in approximately one month by four people using the Unity game engine. For 3D asset creation Blender 2.81 will be used, with FireAlpaca and Aseprite for texture work. The total production cost of the game will be $0.

The game will be deployed for PC.
The minimum requirements include:

Nvidia Geforce 940m or Equivalent
Intel i5 or Equivalent
4GB of RAM
XGB of Disk space

2 Equipment

Hardware

Members of the team will be utilizing different personal equipment for all game development and asset creation.

Software

All software utilized during production will be able to produce high end visuals and effects while still being able to deploy across different platforms should we choose to do so. Additionally, all software being utilized is either free to acquire, or was already owned by a member of the team.

3 Evaluation

Game Engine

The game engine utilized for the development of Herding Hysteria is Unity because it allows us to implement basic functionalities of a 3D game with relative ease and then build off of that with more advanced game development techniques. It helps facilitate the beginnings of game development while not placing a ceiling on the complexity or optimation possibilities later on. Unity also allows us to deploy to many target platforms should we choose to do so later on.

Target Platform

Scrap Dash will be deployed to PC only. This helps narrow the focus of development and allows us to not have to implement multiple control schemes, or having elements of the design work equally well across multiple platforms(ie UI working well on PC or console, but being difficult to read on mobile). This is also the platform where the bulk of the game's audience would likely be located due to its roguelike nature.These games are prevalent in the PC market, while other markets typically focus on other styles. However, there are not may top down 3D roguelike shooters which will help our game stand out.

4 Scheduling

Development Plan

Original development plan was to have the core systems(procedural levels, player controls, and simple enemy ai) working by the end of March. Then the focus would be to have a networked multiplayer component where the players compete for scrap and score. From there enemy ai could be improved, and art assets could be generated. However, this schedule has been drastically thrown off by changes due to COVID-19 and other courses eating time.

Milestones

4/21/2020 - Prototype testing

Updates, Maintenance & DLCs

5 Work Environment

Remote Collaboration

Due to social distancing and self isolation requirements all collaboration for this project has become remote. The team has been utilizing discord to communicate, and was using gitlab from day one to work on different branches of the same project to safely iterate on a common project remotely.

6 File Formats and Naming Convention

The team has chosen to stick with the standard naming conventions for development in C# for Unity

7 Levels

The levels of Scrap Dash will ideally be procedurally generated and utilize forms of perlin noise to generate unique landscapes. The levels will include spawn points for scrap to collect, health and ammo consume, and enemies to fend off. However, if procedural level generation becomes a problem, design could be shifted to include at least 3 pre generated levels that utilize procedural techniques like perlin noise in their initial construction. Regardless the levels will be natural terrains scattered with buildings.

Asset List

Players: Survivor(s)
Enemies: Brain Squid, Acid Crab
Props: weapons, health and ammo pickups
Environment: ground, sky, buildings