Last Man Standing: Game Design Document

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Formal Game Design Document for the proposed Last Man Standing zombie survival game.

Contents

1   Document History

Version	Author	Date	Comments
1.0	Gordon Swan	19th Feb	Initial Write up
1.1	Kyle Pagan	20th Feb	Additions to work from Gordon
1.2	Gordon Swan	20th Feb	Added charts and images

2 Overview and Vision Statement

Figure 1: Dead-Ops Arcade

Dead-Ops Arcade is a zombie survival mini-game included with Call of Duty[1] Black-Ops. The game is an arcade style spin-off of the first-person shooter zombie survival levels often included with Call of Duty[1].

2.1 Inspirations

The design of Last Man Standing is very much inspired by the arcade-style zombie survival mode from Call of Duty[1] known as Dead-Ops Arcade, as seen in Figure 1.

2.2 Player Experience Goals

Last Man Standing aims to provide more than just a shoot-em-up experience, requiring an element of skill and strategy to survive through the ever increasing rounds. We want the players to feel that their abilities are challenged the longer they last as well as entertained.

2.3   Audience and Platform

Last Man Standing is targeted at male players aged between 16 and 25 years old, interested in war-focused first-person shooters and battle royale style games. Last Man Standing will be attractive to those with an interest in TV shows and video games with a zombie-survival narrative. With moderate gun violence towards human-like entities, and a sensation of being overwhelmed, Last Man Standing will achieve a Pan-European Game Information[2] (PEGI) 16 rating due to violence and fear.

2.4   Legal Analysis

In a real-world scenario, in which this product were to be published commercially, the following legal obstacles should be closely considered.

2.4.1   Copyright

Last Man Standing will feature no copyright-restricted media as such that a copyright infringement does not occur. Sound effects, music and graphics will either be specifically created or provided under the Creative Commons Share-Alike Licence[4].

2.4.2   Trademark

As of 10th of May 2017, there exists a (video-game associated) trademark with the British Intellectual Property Office[3], for the title "Last Man Standing", and therefore this game would be in breach of UK trademark legislation if released under it's current title.

2.4.3   Licensing

3   Gameplay

3.1   Overview

- A retro-style arcade shooter.

- Large open map to explore with various items to interact with.

- In-Game shop style mechanics allowing the player to trade their earned points for new weapons.

- Challenging, yet entertaining game play for both the casual and enthusiast player.

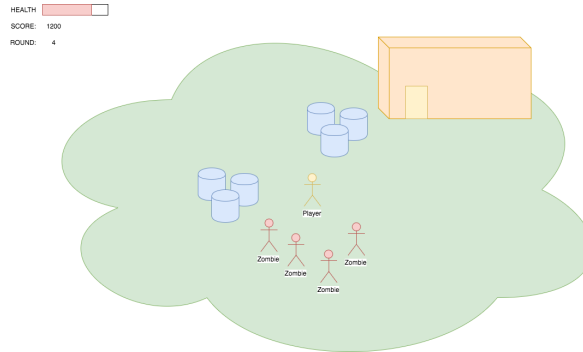- Requiring an element of strategy to survive the later rounds.

3.2 Player Mode

Last Man Standing will be single player only. No networking or online play features are planned. It will also not include any co-op local play

3.3 Screen Mockup(s)

3.3.1 Menu Screen

3.3.2 In Game

3.4 Formal Elements

3.4.1 Players

Last man Standing will be a player vs AI type game, we know these sort of FPS games are popular, the only role the player will have is to survive as long as possible.

3.4.2 Objectives

The primary objective is to survive as many rounds of zombies as possible, achieving the highest score that you can.

3.4.3 Procedures

The procedures of the game for the player are to be able to move on and shoot. The player will also be able to reload before their ammo clip hits zero. Future work will incorporate them being able to throw grenades and/or sprint, crouch and jump.

3.4.4 Rules

The rules of the game are simple, in our first version of the game the player will have unlimited ammo, however will have to reload. Each round they will take on more and more zombies and the game will continue until the player dies, which will happen when their health hits zero. The players movement will also be restricted to the map provided. The player will be restricted to 3 weapons that they can cycle from and if they go a length of time not taking damage their health will regenerate to full

3.4.5 Resources

The game will not have too many resources. The players resources will be weapons, health and ammo. The zombies will only have health and the ability

to deal damage. There is also the idea that the game will include power ups (extra health or ammo for example) however this remains just a concept and not something we are definitely going to implement

3.4.6 Conflict

The conflict of the game is simple. As the game goes on and the rounds get higher, the zombies will become more difficult to kill and more of them will spawn in each round, meaning the players skill level will be tested further.

3.4.7 Boundaries

The boundary for the game is the map we have created which has defined boundaries on the edge of the map, the plan is to use obvious boundaries, perhaps a fence or water to show where the player can't enter. There are no boundaries that we expect the player to meet.

3.4.8 Outcome

The end state of the game will be when the player is overwhelmed by the zombies and can no longer survive. This is caused when the zombies do enough damage to the player that their health will fall to zero

3.5 Controls

Last Man Standing will be playable either with an Xbox 360 controller[7] or mouse and keyboard.

Action	Mouse and Keys	Xbox Controller
Movement	'W' 'A' 'S' 'D' Keys	Left Analog
Aim	Mouse Cursor	Right Analog
Fire	Left Mouse Btn or SPACE	Right Trigger
Pause Game	Esc Key	Select Btn

3.6 Levels

- Levels will be created using Tiled Level Editor [5]

- Main level will feature a large military base with various obstacles, such as walls, fences, Anderson shelters etc.

- Another level which could be implemented is a street or village setting, featuring a civilian type setting, with trashed cars, and houses to navigate around.

3.7 Flowchart

3.7.1 Gameplay Flowchart
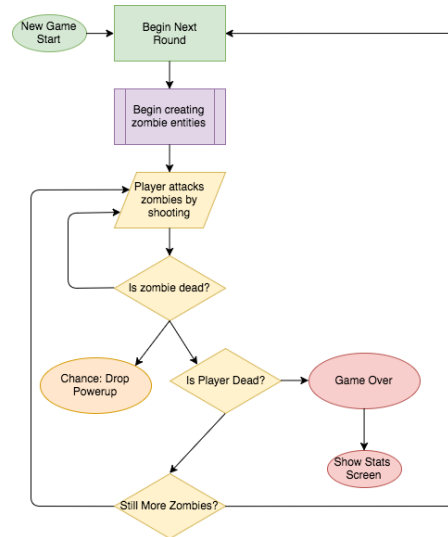
3.8 Editor

No custom editor is planned, levels will be designed using Tiled Level Creator[5]

3.9 Characters

Last Man Standing will feature one playable character - Army Guy - who attacks many non playable characters - Zombies

3.10 Story

Due to a failed biological experiment to produce a super-effective antibiotic, a virus has been produced, which has contaminated most of the modern world, turning the population into living-dead zombies which attack any non-infected being. Army Guy is trapped on his military base, with more zombies appearing by the minute, he must survive as long as he can using his available resources on the base.

3.11 Game World

Last Man Standing is set slightly in the future, in a world where regular antibiotics no longer work. Experiments are being conducted in attempt to create a functional super-antibiotic, but with dire consequences.

4 Required Media

4.1 User Interface Assets

Name	Description
Fonts	The game over and tutorial message in the game

4.2 Environmental Assets

Name	Description
Map	Area the player and zombies can move

4.3 Character Based Assets

Name	Description
Sprites	Looking different depending on different actions eg shooting, moving

4.4 Animations

Name	Description
Zombies	Movement and attack sequences of zombies

4.5 Sound Effects

Name	Description
Guns	Sounds from gun fire
Damage	Noise made when player takes damage
Zombie	Screams could be random or when zombie is killed

5 Technical Specification

5.1 Development Platform and Tools

Last man standing will be written in modern C++ on both Windows and macOS. The IDEs being used for development are Visual Studio 2017 and Visual Studio Code with C++ extensions. The Windows executable will be compiled using the Microsoft Visual C++ Compiler. The macOS executable will be compiled using the LLVM (Clang) C++ Compiler.

5.2 Delivery Mechanism

Last Man Standing will be supplied as a zipped archive file, containing the necessary game files and an executable file. Two archives will be created, one for Microsoft Windows and one for Apple macOS.

5.3 Game Engine

Last Man Standing will be designed on top of a custom game engine, with graphics being supported by SFML (Simple and Fast Multimedia Library)[6] for C++

5.4 User Interface Technical Requirements

The main game, user interface and menus will follow the 16:9 aspect ratio, and will have two defined resolutions. 1280x720 and 1920x1080.

5.5 Controls Technical Specification

Standard mouse and keyboard configuration or a standard Xbox 360 controller[7] are required. No special input.
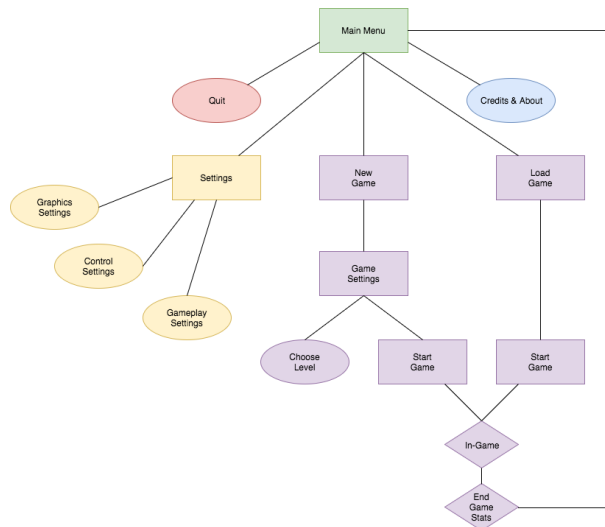
5.6 Network Requirements

Last Man Standing does not have any network functionality.

5.7 System Parameters

The maximum number of players is 1. There will be no co-operative or network functionality.

5.8 Flowcharts

5.8.1 Main Game Flowchart

References

[1] Call of Duty: Black Ops is an entertainment experience that will take you to conflicts across the globe, as elite Black Ops forces fight in the deniable operations and secret wars that occurred under the veil of the Cold War.
https://www.callofduty.com/uk/en/blackops

[2] The Pan-European Game Information (PEGI) age rating system, established in 2003 to help European parents make informed decisions on buying computer games.
http://www.pegi.info/en/index/id/952

[3] The Intellectual Property Office (IPO) is the official UK government body responsible for intellectual property (IP) rights including patents, designs, trade marks and copyright.
https://trademarks.ipo.gov.uk

[4] This license lets others remix, tweak, and build upon your work even for commercial purposes, as long as they credit you and license their new creations under the identical terms. This license is often compared to "copyleft" free and open source software licenses.
https://creativecommons.org/licenses/

[5] Tiled is a 2D level editor that helps you develop the content of your game. Its primary feature is to edit tile maps of various forms, but it also supports free image placement as well as powerful ways to annotate your level with extra information used by the game.
http://www.mapeditor.org/

[6] SFML provides a simple interface to the various components of your PC, to ease the development of games and multimedia applications. It is composed of five modules: system, window, graphics, audio and network.
https://www.sfml-dev.org/

[7] Microsoft Xbox video game console and peripherals.
https://www.xbox.com/en-GB