**Game Design Document:**

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| Project Overview |
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## Executive Summary

This game was developed by undergraduate students for midterm project. This game will be created in the JMonkey engine. We will be using Gimp and Blender to create textures and models. For audio assets, we will be using Audacity. Juggernaut will be made for PC with keyboard/mouse input. Juggernaut is a 2.5D action sidescroller with RPG elements. These elements include: a store, upgrade system, and level ups. At the store, you can buy weapons, armor upgrades and health/ammo. Each level up grants a certain amount of skill points that can be distributed to increase base stats and skills.

## High Concept

You are a super soldier from the year 2015 and are unfrozen to save the world from the overwhelming mass of aliens in the year 3027.

## Core Gameplay

Run and Gun, finding new weapons

## Genre

Action Adventure 2D sidescroller

## Target Audience

Teens 14+

## Team Personnel

### *Team Leader & Lead Game Designer*

* Jordon Kopp

### *Lead Audio Designer*

* Josh Kopp

### *Lead Game Art Designer*

### Derek Finch

### *Lead Programmer*

### Vince Smeraldo

### *Q/A Testers*

* Jordon Kopp
* Josh Kopp
* Derek Finch
* Vince Smeraldo

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| Story, Setting, and Character |
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## Story

The U.S. military had a super-soldier program that bred and trained soldiers to perform at higher levels than that of ordinary humans. The purpose of this program was to create soldiers and freeze them, preserving them for when they were needed. The program was closed for illegal gene splicing experimentation, thus stopping the production of any further super-soldiers. After waking to the alien threat, you are given the latest model of the super-soldier armor, Juggernaut model.

## Character

Soldier\_017

## Environment

Futuristic wasteland over run by aliens

## Level Overview

The map for each level will be designed like mazes were you come to crossroads with multiple paths to take. Some paths require unique abilities to advance, and others may just be dead ends. The map will not be just a linear horizontal map; it will include sections of verticality that will take you to new floors and areas. Within the game you are not locked into forward progress, you have the ability to backtrack to reach areas you were not able to access earlier. You will have access to the map of the world, although the only sections of the map that are visible will be the sections that you have already visited.

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| Combat |

## Enemies

* Standard
  + 1 hit kills
  + Random chance to drop health and ammo based off of player current health and ammo
  + Damage based off of player level
  + Enemies will chase you
* Bosses
  + First boss will have 25 health and each level after health will increase by 50%
  + First boss will deal 4 damage each hit and each level after will increase by 25%
  + Boss will shoot projectiles at you

## Weapons

The game will feature multiple weapons that can be bought and equipped throughout the game.

* Pistol
  + Unlimited ammo
  + Slow fire rate
  + 1 damage
* Mini-Gun
  + Limited ammo (relative to suit upgrade)
  + Extremely fast fire rate
  + Low damage per bullet
* Laser rifle
  + Low ammo
  + Extremely Slow fire rate
  + Very high damage

## Abilities

* Shoot
  + Basic Attack
  + Spammable
* Sprint
  + Gain a temporary movement speed boost
  + Operates off energy
* Dash
  + A Damaging ability that charges at an enemy
  + Operates off energy
  + Has a cooldown
* Shield
  + Protects against damage
  + Rechargeable through pickups
* Super Jump
  + Ability to reach higher platforms than normal jump
  + Operates off energy
  + Has a cooldown
* Hover
  + Allows the player to hover over terrain to reach platforms that cannot be spanned with the regular jump ability.
  + Operates off energy
  + Has a cooldown

## Score/Experience

* Killing enemies
* Finding Items
* Defeating Bosses
* Finishing a Level
* Bonus experience given for completing a level quickly
* You can use your score to buy upgrades from the store

## Store/Player Level

* In every level there will be a store were the player can purchase weapons, ammo, and health. Each level will have a section of the map designated for the store. The player will spend the points they have earned to purchase the items.
  + You can access the store by press “e” when you are near the vendor and it will pause the game and pop up a store window.
* Each time you achieve another level you will be able to spend attribute points to increase your base stats.
  + You can access the attribute menu by pressing “k”, which will pause the game and pop up a menu.

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| Interface |
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## Overview

Menu screen containing clickable buttons that redirect you to multiple menus of the game

## Interface Color Scheme

Dark grey, blues, metallic

## Game Shell

### *Game Title Screen/* *Menu Screen*

The title of the game will be centered at the top, and contains three buttons evenly spaced in the middle of the screen. The “Play” button will redirect you to the main play screen, The “Options” button will redirect you to the options screen, and the “Quit” button closes out the game.

### *Options Screen*

The options screen will have a title of “Options” centered at the top, and it will contain three buttons evenly spaced in the middle of the screen. The “Guide” button will redirect you to the Guide screen, The “Controls” button will redirect you to the controls screen, and the “Back” button will redirect you back to the Title Screen/ Menu Screen.

### *Guide Screen*

The Guide screen will have a title of “Guide” centered at the top, and will contain the player guide centered in the middle screen, and a “Back” button that will redirect you back to the Options screen.

### *Controls Screen*

The Controls screen will have a title of “Controls” centered at the top, and will contain the controls of the game centered in the middle of the screen, and a “Back” button that will redirect you back to the Options screen.

### *Control Screen*

W/Up Arrow – Jump

A/Left Arrow – Move Left

S/Down Arrow – Crouch

D/Right Arrow – Move Right

Spacebar – Shoot

Shift/Control – Active Abilities

### *Credits Screen*

Displays all people involved in development of the game.

### *Team Leader & Lead Game Designer*

* Jordon Kopp

### *Lead Audio Designer*

* Josh Kopp

### *Lead Game Art Designer*

### Derek Finch

### *Lead Programmer*

### Vince Smeraldo

### *Q/A Testers*

* Jordon Kopp
* Josh Kopp
* Derek Finch
* Vince Smeraldo

### *Win Screen*

A screen saying that you have beaten the game and redirects you to high score screen.

### *Lose Screen*

A screen saying that you have died and prompts you to either restart the level or to quit

### *High Score Screen*

A table of high scores pairing the names and their scores

## Main Play Screen

The main play screen will have the HUD. The HUD contains the Player in the top left corner along with a health, armor, and energy bar. Along the bottom of the screen there will be an experience bar. In the bottom left shows the current equipped weapon along with the current ammo. In the bottom center there is a weapon selection with three tiles that hold different weapons. In the bottom right it shows the current active ability.

## Store Pop-up

The store pop-up will have three tabs: “Weapons,” “Armor,” “Items.”

* Weapons Tab
  + In this tab will be available weapons you can buy
* Armor Tab
  + This allows you to upgrade the Juggernaut suit you are equipped with.
  + You can upgrade the Ammo Capacity, Energy capacity, Energy recharge rate, Armor capacity, and Armor recharge rate.
* Item Tab
  + Health and ammo will be found in this tab

## Attribute Pop-up

You can access this pop-up menu by hitting the ‘k’ key. Upon leveling up you gain 2 attribute points and then one ability point every other level.

* You can upgrade your base attributes with the attribute points
  + Health
  + Weapon Damage
  + Fire Rate
  + Movement speed
* Each ability you have unlocked will be able to be upgraded
  + Sprint
    - Increase speed
  + Dash
    - Increase distance
    - Increase damage
    - Increase energy cost
  + Shield
    - Increase Duration
    - Increase damage absorbed
    - Increase energy cost
  + Super Jump
    - Reduce energy cost
  + Hover
    - Increase duration

## Cameras

The camera will be fixed at certain areas of the map and it will changed based on players position in the world.

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| Controls |
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## 

## Keyboard

### *Menu Controls*

* You can use arrows to navigate the menus or use your mouse and click your menu selection.

### *Game Controls*

* W/Up Arrow – Jump
* A/Left Arrow – Move Left
* S/Down Arrow – Crouch
* D/Right Arrow – Move Right
* Spacebar – Shoot
* Shift/Control – Special Abilities

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| Game Modes |
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## Number of Players

* 1

## Hours of Gameplay

* 5-10 Minutes per level

## Victory Conditions

* When the Boss is defeated at the end of each level