**Juggernaut**

**Symbiotic Games**

**Technical Design Document & Asset List**

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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.

**Equipment & Tools**

**JMonkey**JMonkey is a Java based open source engine developed by the JMonkey crew.

<http://jmonkeyengine.com/engine/>

**Gimp**

Gimp is a free 2D image editing program and is an alternative to Photoshop

<http://www.gimp.org/>

**Blender**

Blender is a free 3D model editing program and is an alternative to 3DSMax

<http://www.blender.org/>

**Audacity**

Audacity is a free audio editing program

<http://audacity.sourceforge.net/>

**Engine Evaluation**

Jmonkey includes all of the following features in libraries:

* Shaders
* Lighting
* Physics
* Special Effects
* Asset System
* Supported Formats
* Texturing
* Terrain
* Graphical User Interface
* Networking
* Misc.

**Platform Evaluation**

**Requires PC, keyboard, mouse**

**Coding Structure**

* Naming Convention
  + Variable names will be short but descriptive
  + Variable names will be declared using camel casing
    - exampleVariable
  + Class names describe the object
* Comments
  + Comments will be placed before the line being commented.
  + Loops will have comments placed before them describing what the loop does and how it is being iterated. Iterators will be an exception to the camel casing naming convention. The iterator will be defined as the objects being iterated name followed by “\_itr”
    - example\_itr
  + Classes/Structures will have a block of comments before providing a description of the class and its intended implementation. Comments will be provided for each variable within the class/struct.
  + Functions within a class definition will have comments describing what the function does, the return type, and the parameters used.
  + Areas of sloppy code that needs to be rewritten will be preceded by large blocks of comment to describe the intent so that someone can come back and rewrite.
* Conditional Statement
  + Regardless of how many lines follow an if/else statement, the block will be surrounded by curly brackets ‘{‘ ‘}’

**Development Plan**

* + Learn Jmonkey SDK
  + Generate/Find art and assets
  + Test assets within engine
  + Create Level
  + Run through level
  + Implement weapon system
  + Include enemies
  + Add Boss fight
  + Set up experience system
  + Include level up and store
  + Thoroughly test**Asset List**

**Art**

|  |  |  |
| --- | --- | --- |
| **File Name** | **Category** | **Picture** |
| Rust.jpg | Texture |  |
| citydestroyed.jpg | Background |  |
| Cracked-Concrete.jpg | Texture |  |
| war\_destroyed\_city-8678\_1680x1050.jpg | Background |  |
| White-Concrete.jpg | Texture |  |
| Destroyedcity\_2.jpg | Background |  |
| FieryLava.jpg | Texture |  |
| Gery-alluminum.jpg | Texture |  |
| Jet\_pack.png | Icon |  |
| city-ruins.jpg | Background |  |
| Metal-Floor.jpg | Texture |  |
| running-man.jpg | Icon |  |
|  |  |  |
|  |  |  |

**Audio**

|  |  |  |
| --- | --- | --- |
| **File Name** | **File Description** | **Category** |
| 2x\_barre-The\_Pain-1042 | Gun shot | guns |
| 50cal\_D-BlackCow-1232 | Gun shot-50cal | gun |
| Are\_you\_-Darren\_E-7464 | Are you ready | Start sound |
| Bleeep-Public\_D-17 | Beep | Menu selection sound |
| bubbley-xrikazen-83 | High pitch beep | Menu selection sound |
| bassheav-eyespy-194 | Menu music | Menu music |
| Cell\_Pho-Corey-1548 | Background music | music |
| Clicka-TM-533 | Two beeps | Menu selection |
| Colt\_45-BlackCow-1513 | Reload | reload |
| Computer-Herb\_Gla-2284 | Squeaky beep | Misc |
| disengag-Public\_D-386 | Mechanical/piston sound | Misc |
| Dloop-Public\_D-338 | Low pitch beep | Misc |
| Dubbed\_o-thegenui-760 | In game music | Music |
| Eerie\_sp-Cosmic\_D-191 | Eerie music | Music |
| electric-burcin\_g-54 | Arcing electric | Misc |
| elevator-public\_d-329 | Elevator | Elevator |
| elevator-TDR-376 | Elevator | Elevator |
| Energy-Mystery-2370 | Power-up sound | Misc |
| Explosio-Jhon-197 | Explosion | Misc |
| Footstep-WormNut-1472 | Foot step | Walking |
| Fwoofwoo-Public\_D-3 | Landing | Misc |
| Hurt1-kayden\_r-8958 | Hurt | Hurt |
| Hurt2-kayden\_r-52 | Hurt | Hurt |
| In\_INTRO-adijux-1505 | Background/Boss music | Music |
| industri-dog-301 | Shield | Shield |
| laser-domson-2136 | Laser | Gun |
| laser-domson-2136 | Teleporter | Teleporter |
| Loaded\_S-Mark\_E\_B-1126 | Menu Selection | Menu |
| Missile\_-Diode111-8760 | Missile | Gun |
| PowerUp-Mark\_E\_B-1129 | Shield/Power up | Shield |
| Rocket\_l-Diode111-2367 | Rocket | Gun |
| Rocket\_l-Diode111-2367 | Rocket explosion | Gun |
| Rocket\_l-Diode111-2367 | Pistol | Gun |
| SwitchOn-SCOOB200-7374 | Teleporter | Teleporter |
| TEMPLE-Adam\_Goh-38 | Background music | Music |
| The\_Fuck-Marisa-768 | Background Music | Music |
| tormenta-Rycott-1187 | Ray gun | Gun |
| Victory\_-arewhyae-1167 | Credit music | music |
| vwoom-Public\_D-148 | zwoom | Misc |
| Welcome-FlashKid-1386 | Welcome | Menu |
| worm-drfdune-273 | Death | Death |
| Zoop\_up-xk-114 | Zoop | Misc |

**Software**

|  |  |  |
| --- | --- | --- |
| **Software Title** | **Function** | **Buy or Free** |
| **JMonkey** | Engine | Free |
| **Gimp** | 2D Art | Free |
| **Blender** | 3D Art | Free |
| **Audacity** | Audio | Free |
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**Miscellaneous**