**Time Warrior**

**Team BMP**

**Technical Design Document & Asset List**

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**Executive Summary**

This is the Technical Design Document that contains all the possible tools, evaluations, assets, and overall development plan to make the game Time Warrior.

**Equipment & Tools**

Main equipment will be Visual Studio 2008 C++. A Map Editor tool will be created during development to assist in creating the maps. Map system will use characters for each individual Tile. A map file looks like this:

HBBBBBBBBBBBBBBBBBBBBBBBBBD

MGGGGGGGGGGGGGGGGGGGGGGGGGV

MGGGGPGGGGGGGGGGGGGGGGGGGGV

MGdGGGGGGGGGGGGGGGGGGGGGGGV

MGGGGGGGGGGGGGGGGGGGGGGGGGV

MGGGGGGGGGGGGGGGGGGGGGGGGGV

MGGGGGGGGGGGGGGGGGGGGGGGGGV

MGGGGGGGGGGGGGGGGGGGGGGGGGV

MGGGGGGGGGGGGGGGGGGGGGGGGGV

MGGGGGGGGGGGGGGGGGGGGGGGGGV

MGGGGGGGGGGGGGGGGGGGGGGGGGV

MGGGGGGGGGGGGGGGGGGGGGGGGGV

HBBBBBBBBBBBBBBBBBBBBBBBBBD

Source Control will be using Tortoise SVN + Google Code.

**Engine Evaluation**

The engine will be state-driven, consisting mostly of states such as “Title Screen” state or “Game” states.

**Platform Evaluation**

Time Warrior will not be multi-platform, being made specifically for the PC. Minimum specs are:

OS: Windows XP SP 3

Processor: Intel Core 2 Duo 2.2 GHz

Video Card: Intel 965 Mobile Chipset

RAM: 2 GB

Main build process will be done on Windows XP SP 3, and Windows 7, all using Visual Studio 2008.

**Coding Structure**

Coding structure will be mostly hierarchical, using inheritance from a base class. World will be the main holder of information, and each Entity needs to know some basic functions from World in order to determine collision. Each Entity will be aware of its own surroundings, and be in charge of its own collision.

Inheritance Diagram (Entity is base class)

World Composition

|  |
| --- |
| World |
| //divide the world into grids of entities  TemplateVector<Grid> m\_mapOfEntities  //the tiles it takes to visually make the world  TemplateVector<Tile> m\_mapOfWorld; |
| //various functions to create world from map, place entities, and update/draw each grid |

|  |
| --- |
| Grid |
| //keep track of each entity within the grid  TemplateVector<Entity\*> m\_mapOfEntities |
| //various functions to clear non-player entities, add/remove entities from the grid, and update/draw |

|  |
| --- |
| Tile (struct) |
| //visual tile to draw  SDL\_Sprite \* currentTexture  //flags to keep track of whether it can be collided with, animated, or is a spawn point  //location in world space & camera pov  SPoint pos, \*cam |
| //use pos & cam to calculate its screen location  SPoint getLocationScreen() |

All member variables of a class will use m\_(variable name). Each header file should always start with a comment, explaining the reason for the file, what it does, who made it, and who edited it last. After the comments, start with #pragma once, then begin all of the #includes.

If a function is reasonably short ( < 3 lines), put it in the .h file. Otherwise, make a .cpp and put it there.

**Development Plan**

The development plan of Time Warrior can be found in the Microsoft Project file “WBS Cut List with Integrations.mpp”. This is also the file that will be used to keep track of where the project is in accordance to the plan. Another file “WBS Who.xlsx” is keeping track of who is doing what, and is another version of the WBS.

**Asset List**

**Art**

The art will be done using bmp files, and using either Photoshop or Paint. Tile sets will only have one tile (32x32) per line, but have multiple lines. Exceptions are for animating tiles. All moving sprites will have four directions, Up being on line 0, Right on line 1, Down on line 2, Left on line 3.

|  |  |  |  |
| --- | --- | --- | --- |
| **File Name** | **File Description** | **Category** | **Picture** |
| “spriteTest.bmp” | Player Sprite | Sprite |  |
| “greenguy.bmp” | NPC Sprite | Sprite |  |
| “blunt.bmp” | Blunt Sprite | Sprite |  |
| “dummy.bmp” | Dummy Sprite | Sprite |  |
| “Dungeon.bmp” | Dungeon Tile Sprites | Tiles |  |
| “ghost.bmp” | Ghost Sprite | Sprite |  |
| **“**hub.bmp” | Hub world Tile Sprites | Tiles |  |
| “magic\_divine.bmp” | Divine magic Sprites | Sprite |  |
| “magic\_fire.bmp” | Fire magic Sprites | Sprite |  |
| “magic\_ice.bmp” | Ice magic Sprites | Sprite |  |
| “magic\_lightning.bmp” | Lightning magic Sprites | Sprite |  |
| “RocksandShrubs.bmp” | Rocks and Shrub Entity Sprites | Sprite |  |
| “skeleton.bmp” | Skeleton Sprites | Sprite |  |
| “slash.bmp” | Slash Sprites | Sprite |  |
| “slime.bmp” | Slime Sprites | Sprite |  |
| “textureSetHub.bmp” | Medieval world Tile Sprites | Tile |  |
| “Tree.bmp” | Tree Entity Sprites | Sprite |  |

**Audio**

All audio files will be in the .wav format. The file name’s will be Track(number). This is to easily switch between one track and the next.

|  |  |  |
| --- | --- | --- |
| **File Name** | **File Description** | **Category** |
| “Track0.wav” | $ - Finale | Background |
| “Track1.wav” | A few bits shy of a byte | Background |
| “Track2.wav” | A | Background |
| “Track3.wav” | B | Background |
| “Track4.wav” | BAH | Boss |
| “Track5.wav” | C | Background |
| “Track6.wav” | Crazy Song | Background |
| “Track7.wav” | Down in the cavern | Dungeon |
| “Track8.wav” | Rockish | Background |
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**Software**

All software should either be free to use, or free if you’re a student. We don’t want to pay.

|  |  |  |
| --- | --- | --- |
| **Software Title** | **Function** | **Buy or Free** |
| Visual Studio 2008 | Main Compiler | Free |
| Microsoft Paint | Art Tools | Free |
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**Miscellaneous**

|  |  |  |
| --- | --- | --- |
| **File Name** | **File Description** | **Category** |
| “HubWorldMap.txt” | Hub world | Map |
| “MedEngMap.txt” | Medieval England | Map |
| “Dungeon0.txt” | Dungeon | Map |
| “Dungeon1.txt” | Dungeon | Map |
| “Dungeon2.txt” | Dungeon | Map |