Wonder Boy

– Implementation of the classic wonder boy arcade game

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Copyright Information

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The Game Design Document (GDD) it the blueprint from which a computer or video game is to be built. As such, every single detail necessary to build the game must be addressed in the document (or support documents). If it’s not in the document, then it probably won’t be in the game.

Below you will find an outline for a generic Game Design Document. The problem is that no generic GDD will be able to address all the various genres for which a game may be created. For example, consider the games PacMan, SimCity and Doom. All three games required detailed design documents, but if you think about it, those documents would be entirely different! As such, when using the outline below you will find sections that will be totally meaningless to your game. But also, there will be sections that your GDD requires to describe the game. Just because it’s not in my outline, it doesn’t mean that it doesn’t belong.

The GDD is a reference document. Members of the development team will constantly be using the document to find specific information for their specific needs. Consider the size such a document may grow to in order to document every piece of the game. We don’t want the GDD to cause information overload and then become a prop under somebody’s wobbly desk. As such it is important that you organize and format the document to make it easy to use. Also note that some of these sections might not appear in the GDD itself but instead would appear in supplemental documents such as an Art Bible or Test Plan. This helps make the overall document more manageable and readable.

One last comment, a game design document is meant to be a living document. Just as when the artist changes the design of his painting every time he takes his brush to the canvas, a computer or video game evolves as code and art are created. The GDD then is the communication tool from which all the members of the team can follow that evolution.

**Document Revision history:**

|  |  |  |  |
| --- | --- | --- | --- |
| Version | Date | Author(s) | Changes |
| 0.2 | January 16, 2013 | Emile Cormier |  |
| 0.3 | January 05, 2016 | David Burchill |  |
| 0.4 | March 07, 2024 | Jung Dae Kwon |  |

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# Section I - Game Overview

## Game Concept

The adventurous young boy goes out on a long journey to chase the Evil King, who had kidnapped his girlfriend. Players should guide "Wonder Boy" through an island and rescue her.

## Design History

https://github.com/users/JungDaeKwon/projects/1

## Feature Set

The game features stages such as lush forests, meadows, cliffs, underwater areas, caves, and challenging boss encounters.

## Genre

A side-scrolling platformer game

## Target Audience

Typically, be children and teenagers.

But adults, primarily those who played games in the early 1980s can be target audiences as well.

## Game Flow Summary

Wonder Boy, a classic platformer, follows the adventures of main character navigates diverse landscapes.

## Look and Feel

Dynamic and visually captivating arcade

## Project Scope

A summary of the scope of the game.

### Number of locations

Up to 6, but I think I can implement 2 or 3, because of the time line.

### Number of levels

No level system

### Number of NPC’s

Depends on the scene, usually 5 to 7

### Number of weapons

1, Stone axe

### Etc.

# Section II - Gameplay and Mechanics

## Gameplay

### Game Progression

Players navigate through various levels filled with obstacles, enemies, and challenging terrain.

### Objectives – What are the objectives of the game?

Rescue the girlfriend.

### Play Flow – How does the game flow for the game player

In this game, players encounter a dynamic and visually captivating arcade experience. The game features a diverse range of areas, each presenting unique challenges and enemies for Wonder Boy to overcome.

## Mechanics

What are the rules to the game, both implicit and explicit. This is the model of the universe that the game works under. Think of it as a simulation of a world, how do all the pieces interact? This actually can be a very large section.

### Physics

Bounding box and collision system.

Gravity.

### Movement

#### General Movement

Arrow keys and weapon keys. Jump.

#### Other Movement

Tripping with rocks.

### Objects

#### Picking Up Objects

If it collides, the player picks objects automatically.

#### Moving Objects

Enemies.

### Actions

#### Switches and Buttons

Action Key

Right Right arrow or D

Left Left arrow or A

Throw weapon Space

Jump Up arrow or W.

Speed down Same as Left (on Skateboard)

Speed up Same as Right (on Skateboard)

Pause P

Quit Q

### Combat

Simple collision and interaction.

### Economy

Items can extend the time limit, and increase scores.

## Screen Flow

### Screen Flow Chart

Menu – Play – Score records

### Screen Descriptions

What is the purpose of each screen?

#### Main Menu Screen

Play / Check scores / Quit.

#### Etc.

## Game Options

## Replaying and Saving

If the player has lives left, it will be respawned in the last spawn point. If not, the screen will turn into menu. The high score will be saved until the program is finished.

# Section III – Story, Setting and Character

## Story and Narrative

Specific details like scripts and cut scenes may not be in this document but be in the Story Bible.

### Back story

The player's mission is to rescue the girlfriend, who has been kidnapped by Evil King. To achieve this, players must guide Wonder Boy through diverse landscapes, overcoming enemies and obstacles in each level. The journey is characterized by a mix of platforming elements, strategic gameplay, and the exploration of different areas, making the quest both challenging and rewarding.

### License Considerations

This is for academic purpose to develop programming a game with the SFML engine in the classroom for the final project of the course.

### Cut Scenes

#### Cut scene #1

##### Actors

TomTom

##### Description

A lively and determined young boy, he has a smiling face and cheerful eyes. Wearing a simple active outfit to combat immediately, he exhibits excellent athletic abilities, including high jumps and fast movements. The skateboard provides him with rapid mobility, serving as a special feature in the game. Filled with passion and courage, he adventures to rescue his girlfriend.

#### Cut scene #2

etc.

## Game World

### General look and feel of world

A vibrant and diverse world that seamlessly blends natural landscapes with fantasy elements.

### Area #1

#### General Description

Forest Stage: The game typically begins in a lush forest setting, characterized by dense vegetation, trees, and vibrant colors.

### Area #2

etc.

## Characters

### Character #1

#### Back story

TomTom

The adventurous young boy goes out on a long journey to chase the Evil King, who had kidnapped his girlfriend. Players should guide "Wonder Boy" through an island and rescue her.

#### Personality

A lively and determined young boy

#### Look

##### Physical characteristics

He has a smiling face and cheerful eyes. Wearing a simple active outfit to combat immediately, he exhibits excellent athletic abilities, including high jumps and fast movements.

##### Animations



#### Special Abilities

Throwing weapons.

The skateboard provides him with rapid mobility, serving as a special feature in the game.

### Character #2

etc.

# Section V - Interface

## Visual System

### HUD - What controls

### Menus

### Rendering System

Grid system, Tile system with textures, animations.

### Camera

One main camera which moves with the player.

## Control System

How does the game player control the game? What are the specific commands?

## Audio

## Music

Background music - Cheerful melody and bright tone to create a positive and engaging atmosphere.

# Section VI - Artificial Intelligence

## Opponent AI

The active opponent that plays against the game player and therefore requires strategic decision making (example, Civilization or Chess, how is it to be designed?

## Enemy AI

Villains and Monsters

## Support AI

### Player and Collision Detection

Physics class with overlap and previous overlap position and distance between centers of bounding boxes.

### Pathfinding

One way side-scrolling game.

# Section VII – Technical

## Target Hardware and operating system

## Supported game controllers and peripherals

# Section VIII – Game Art

Only show concept art here (rough sketches)

This is provided in below webpage:

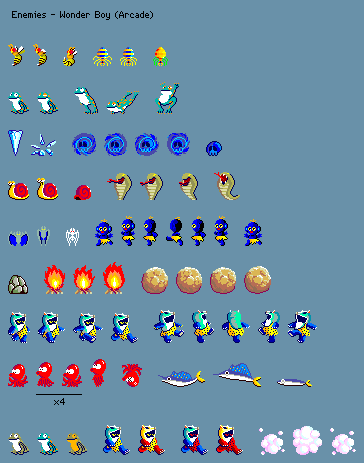
<https://github.com/JungDaeKwon/Wonder-Boy>

## Concept Art

## Style Guides

## Characters





## Environments



## Equipment

## Cut scenes

## Miscellaneous

