Dragon Attack

Game design document

GAM150S18

Spring 2018

Team D-Sync

|  |  |  |
| --- | --- | --- |
| **Student Name** | **Official Role** | **Coding Responsibilities** |
| Jacob | Producer |  |
| Javon | Technical Director |  |
| Andrew | Lead Designer |  |
| William | Product Manager |  |

Table of Contents

[Table of Contents 1](#_Toc504150231)

[**High Concept** 3](#_Toc504150232)

[**Summary** 3](#_Toc504150233)

[**Story (TBD)** 3](#_Toc504150234)

[**Game Flow** 3](#_Toc504150235)

[Title screen 3](#_Toc504150236)

[Main Menu 3](#_Toc504150237)

[Level Selection <Insert Diagram Here> 3](#_Toc504150238)

[Gameplay <Include Diff Curve> 4](#_Toc504150239)

[Scoring 4](#_Toc504150240)

[**Game Mechanics** 4](#_Toc504150241)

[Character Movement 4](#_Toc504150242)

[Choice of Movement Modes 4](#_Toc504150243)

[Character Attack 4](#_Toc504150244)

[Win Conditions 4](#_Toc504150245)

[Lose Conditions 5](#_Toc504150246)

[Scoring System 5](#_Toc504150247)

[**Game Characters** 5](#_Toc504150248)

[Player Character / Bob 5](#_Toc504150249)

[Merlin 5](#_Toc504150250)

[King Arthur 5](#_Toc504150251)

[**Game Resources** 5](#_Toc504150252)

[Enemies 5](#_Toc504150253)

[Power-ups 5](#_Toc504150254)

[Items 5](#_Toc504150255)

[Bosses 5](#_Toc504150256)

[Platforms 6](#_Toc504150257)

[Hazards/Dangers 6](#_Toc504150258)

[**Game Environment** 6](#_Toc504150259)

[Courtyard / Gatehouse 6](#_Toc504150260)

[Inner Keep / Grand Library 6](#_Toc504150261)

[Grand Corridor / Throne Room 7](#_Toc504150262)

[**Game Controls** 7](#_Toc504150263)

[Mouse 7](#_Toc504150264)

[Keyboard 7](#_Toc504150265)

[**Visual Design** 7](#_Toc504150266)

[Art style 7](#_Toc504150267)

[Camera Position 7](#_Toc504150268)

[**Audio Design** 8](#_Toc504150269)

[Audio Style 8](#_Toc504150270)

[**Behaviour Design** 8](#_Toc504150271)

[Enemy AI 8](#_Toc504150272)

[Basic Types 8](#_Toc504150273)

[Elite Types 8](#_Toc504150274)

[Special Types 8](#_Toc504150275)

[**Physics Design** 8](#_Toc504150276)

[Physics 8](#_Toc504150277)

[Gravity 8](#_Toc504150278)

[Collision 8](#_Toc504150279)

[**Appendices** 8](#_Toc504150280)

# **High Concept**

Dragon Attack is a 2D single-player action platformer set in a medieval fantasy environment.

# **Summary**

Dragon Attack is a **2D action platformer** where the player plays as a dragon attacking a castle to gain its treasures. The player fights his way through the levels to reach the King and collect coins. The objective of the game is to defeat the King of the castle.

# **Story (TBD)**

A screenshot of a cell phone

Description generated with very high confidenceIn a fantasy realm, a young dragon named Bob has been constantly belittled for his extremely underwhelming name. So, he sets out to conquer the castle of the most famous king of the realm, King Arthur and steal his treasures.

Figure 1 Overall Game Loop

# **Game Flow**

## Title screen

This will include the Digipen Logo and introduce the team name and the game’s title.

## Main Menu

The main menu will include Play, Level Select, Help, Volume and Credits.

## Level Selection <Insert Diagram Here>

The level selection screen will allow players to select from up to 15 levels, with 3 main stages split into 5 sub-stages each.

## Gameplay <Include Diff Curve>

The player has basic fighting skills like Slash and Fire Ball. The plyer will need to use these skills to defeat enemies and bosses. The quantity of enemies will slowly increase and difficulty will gradually increase as well until it hits a difficulty ceiling.

Enemies

Enemies will gradually increase in quantity and variety as the game progresses. Enemies will be coming at the player from the front. However, there will be some who are stationed on platforms above the player. These enemies will shoot arrows at the player. Different enemies require different methods of dealing with them.

Environment

As the player progresses into the game, more platform puzzles will be introduced. These puzzles will have traps like spiked ceilings, wall arrows and ground spears. Players who solves the puzzles will receive a lot of coins or temporary power-ups.

Temporary Power-Ups/Heal

Power-Ups and Healing Items can be found throughout the game. These Power-Ups gives the player improvements like Double Damage, Increased Movement Speed or Increased Defence. Healing items are in the form of Foods laid throughout the map.

Boss Battle

There are Mini-Bosses every mid-stage and a Stage Boss at the end of the stage. The Mini-Boss will have similar skills to their Stage Bosses to prepare the player for the Stage Boss. The Stage Boss will have special skills unique to him, and will have 2 phases. The Stage Boss will test the player’s skill with the mechanics.

## Scoring

At the end of each sub-stage, players will be able to see their total score they’ve gained from the sub-stage. Scores are calculated by the enemies you kill and the coins you collect.

# **Game Mechanics**

## Character Movement

The character can move left, move right, jump, and crouch. The character can also fly for a period of time.

## Choice of Movement Modes

There are two modes of movement. Normally, the character is on the ground and moves as such. In Fly Mode, the character can fly for a period of time.

## Character Attack

/////

## Win Conditions

Main Objective – Defeat King Arthur.

Sub Objectives – Collect a certain amount of coins and kill a certain number of enemies to clear a sub-stage.

## Lose Conditions

When Health is zero, the player loses.

## Scoring System

Score is based on coins, treasures and the enemies you defeat. Depending on the player’s remaining health, a multiplier will be applied to the final score.

# **Game Characters**

## Player Character / Bob

Bob is a dragon. Bob’s name is too underwhelming, in terms of dragon culture. He has no treasures to lord over and is constantly being looked down upon by other dragons.

## Merlin

Merlin is the archwizard of King Arthur’s kingdom. He is a few hundred years old and knows a variety of advanced magic.

## King Arthur

King Arthur is the strongest human in the human realm and the King of the castle that Bob attacks. He owns a huge amount of wealth and treasures that he personally guards over.

# **Game Resources**

## Enemies

Soldier – fast moving, light attack, low hp

Knights – slow moving, heavy attacks, can block with shield

Archers – slow moving, long range light attacks, low hp

Cross-bow operators- stationary, long range heavy attack, cross platforms to kill

## Power-ups

Speed Up (Common) – Increased movement speed

Flight Duration Up (Common) – Increased flight duration

Shield Bubble (Rare) – Makes the player invulnerable for a period of time

Attack Up (Rare) – Increased attack for period of time

## Items

Food – restores lives of the dragon when picked up

Coins – Adds to the total score of the player

Treasures – Rarer spawn rates and only accessible by clearing platform puzzles

## Bosses

Stage 1:

Big Dog (One Head) (mini-boss)

Cerberus ( Final boss)

-Bite

-Tackle

-Quick Attack

Stage 2:

Wizard ( mini-boss)

Merlin ( Final-boss)

-Blink

-Energy

-Arrow Rain (Stands on a Platform and Shoots)

Stage 3:

Black Knight ( mini-boss)

King Arthur ( Final – boss)

-Dash (Speed Up)

-Call Allies

-Regeneration

-Pillar of Light

## Platforms

## Hazards/Dangers

# **Game Environment**

Dragon Attack will feature 3 main levels with different themes. Each level will feature new enemies and different mechanics (?).

## Courtyard / Gatehouse

This level will feature outdoor areas that the player will have to fight through to reach the gates. These areas will generally feature weaker enemies to serve as a tutorial for controls. As the player reaches the gatehouse, the environment will change to feature more castle-like environments. These areas will feature enemies like dogs and lightly armoured knights.

The mini boss of this level will be a large dog and the final boss of this stage will be Cerberus.

## Inner Keep / Grand Library

This level will feature castle interiors which the player moves through in order to get to the throne room. The enemies in these areas will include knights and archers. Upon reaching the grand library, mages will appear as a new ranged enemy type.

The mini boss of this level will be the wizard and the final boss of this stage will be Merlin.

## Grand Corridor / Throne Room

This level will feature majestic castle interiors as players make their way toward the throne room. The enemies in these areas will include all of the enemy types featured previously as well as more challenging variants, serving to challenge the player and test their understanding of the mechanics and controls.

The mini boss of this level is the black knight and the final boss of this level will be King Arthur.

# **Game Controls**

## Mouse

For ranged attacks, aiming is based on the cursor position.

In flight mode, RMB (Right Mouse Button) is Flame Breath while LMB (Left Mouse Button) is Fire Ball.

In land mode, RMB is Tail Whip while LMB is Slash.

## Keyboard

In flight mode:

W - Fly up

A - Fly left

S - Fly down

D - Fly right

In land mode:

A - Move left

D - Move right

S – Block

SPACEBAR – Jump

Others:

F – Activate flight

# **Visual Design**

## Art style

Dragon Attack aims to go for a pixel art aesthetic.

## Camera Position

Camera will follow character.

Camera will have a pre-animation zoom and pan out for boss fights.

# **Audio Design**

## Audio Style

Fantasy folk music, with comedic elements

# **Behaviour Design**

## Enemy AI

All enemies’ line of sight will be determined by the camera’s position.

### Basic Types

Basic enemies like the soldiers and archers have a basic patrol pattern. Only once the player comes within a specific range will they move toward the player, and once the player is in attacking range will they attack the player.

### Advanced Types

Advanced enemies like mages and knights will spawn in certain positions that do not patrol the stage but always face a certain direction. Once the enemy comes into view, they will immediately move toward the player and try to attack them.

### Bosses

Each boss fight will have 2 phases. They will have basic attacks and a unique move in each phase.

Phase 1 will start as the fight begins, with each specific boss having their own mechanics.

Phase 2 will start as the boss’s health reaches 50%.

Cerberus will only have melee attacks as it is the first boss.

In phase 1, its attacks will include Triple Bite and Slash.   
In phase 2, Cerebus will be enraged and stop using Triple Bite but instead uses quick attack to take down the player.

Merlin will have a set of range attacks and a basic melee attack that he would only use if the player is in close proximity. He would also be able to blink throughout the fight and do so every few moves.

Phase 1, his range attacks consist of energy ball and spread-shot energy ball.

Phase 2, Merlin would employ his remaining magical energy and start using his ultimate move – arrow rain. A magic circle would appear in the sky and shower down arrows on his enemies.

King Arthur’s basic attack employs his magical sword that deals physical damage and shoots slash projectiles.

In phase 1, he has the ability to slash and triple slash. Slash can be avoid with one jump, however, triple slash can’t be avoided with one jump – the player has to jump on a platform to avoid it.

In phase 2, Pillar of Light will beam down light pillars to attack. Call allies allows King Arthur to call reinforcements while he uses Regeneration to heal back his lives. His regeneration will be disrupted when he receives damage. In addition, his abilities from phase one can be used.

# **Physics Design**

## Physics

Let’s not say it this bluntly>>>Since the game is more combat focused, there isn’t a need for very detailed physics functions.

### Gravity

Simple gravity will be implemented in the game to allow players to drop downwards after flying and for certain projectiles like arrows.

### Collision

The collision detection is needed in the game to detect collisions between the player, platforms, enemy projectiles and enemies themselves. When the player is damaged by any collision, they will be pushed back slightly and given invulnerability for a split second.

# **Appendices**

For any additional aspects of design that do not fit any of the above categories.