DESIGN DOCUMENT MAD 3

Name: Garreth Ward

G Number: G003374946

Contents

Title: Hungry Runner

I have decided to design and develop a 3D Endless Runner for my Mobile Applications Development 3 project. This will a time-based game, the player having to dodge obstacles and collect pickups in a certain amount of time to advance onto the next level. There will be three levels with increased speed and obstacles per level making it increasingly more difficult per level.

The name of the game will be "Hungry Runner". The player will be endlessly running out of time and must eat apples to get more time before they starve to death. This game is based on Team Cherry's game called "Hungry Knight" developed for the Ludum Dare Game Jam 27 with Temple Runs mechanic added. Temple run is a popular 3D Endless Running game on Android and IOS. What made it so popular, and addicting was the fast game play and rank system. As the player got further into the run, the player would get faster run speed making it harder to turn in time and a boosted score system, increasing faster and faster as the game progressed.
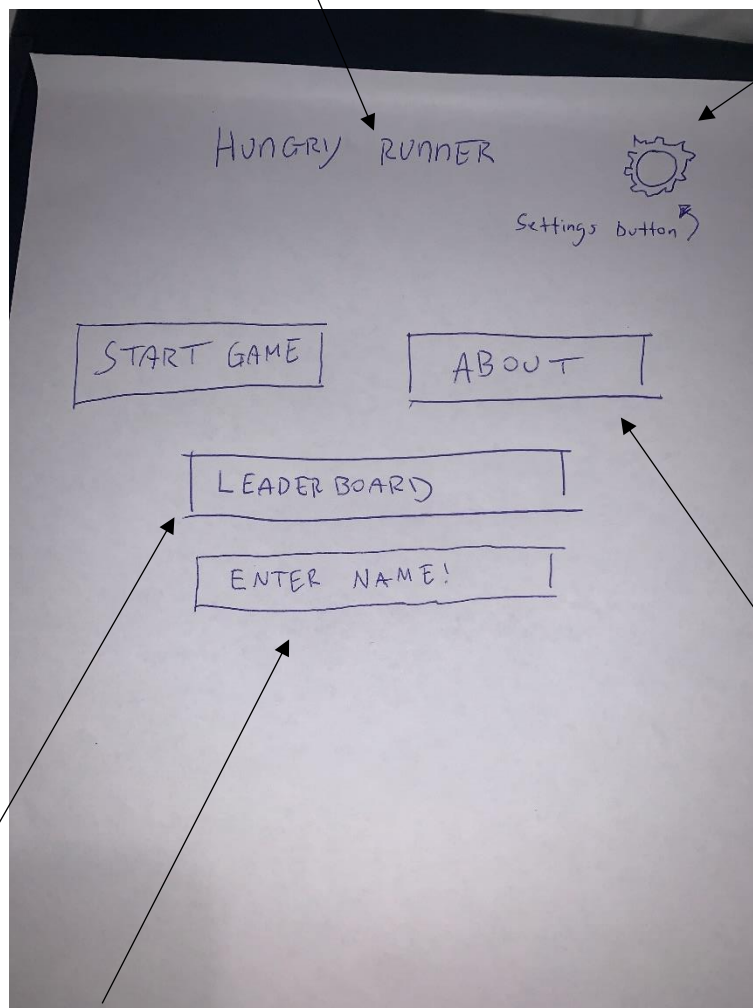
 The aim of this Hungry Runner is to combine the mechanics of Hungry Knight and Temple Run

This page is to be displayed when game launces, starting screen

Settings Wheel

Game Title

Leader board/ Enter Name

About Game

Game Title: This should display the game title

Settings Wheel: This can be used to turn on/off sound

Leader board: Displays the top players names and score

About: This will tell the player about the game, what it's based on and objective of the game

Enter name: Player can enter a name and saved to leader board in list of high score

Leader Board Sketch   Place   Player name   Score

Leader board with UI example

shutterstock.com · 2157719971

IN- GAME MENU

The user should be able to press the escape button to pause the game and pull up a menu.

Resumes the game

Brings up options

Exits the game

The user should be able to control the game volume in options

CONTROL MECHANISIMS

This will be a vertical endless runner with WASD controls

A - To move player left

D – To move player right

S – To make player crouch/slide/roll

W – To make player jump

Escape – Brings up the pause menu

Pickups will spawn on a random basis, with certain items having a higher spawn rate such as red heart over blue heart

Obstacles will have a much higher spawn rate per level

The game will have three levels with increasing difficulty

Start Screen will have:

- Single Player Option
- Multiplayer Option
- Settings
- Leader board

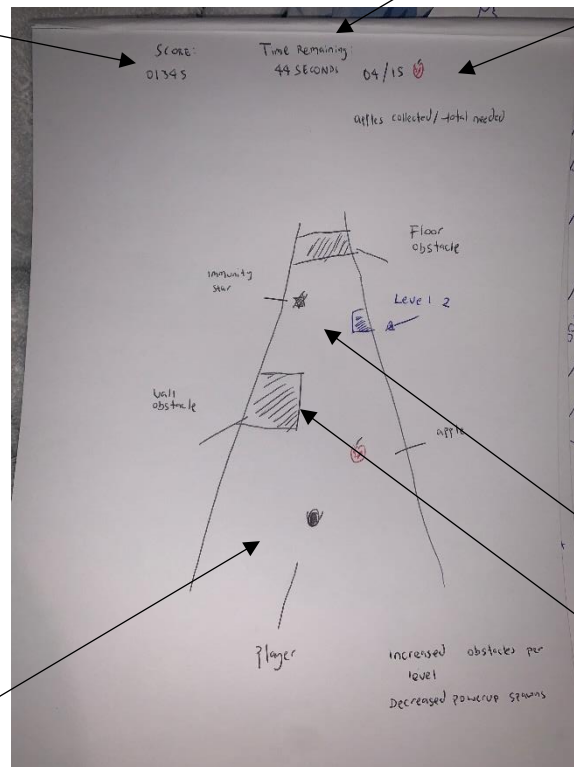In Game:

- Pause Menu
  - Resume
  - Settings
  - Exit Game
- HUD Displaying
  - Score/Timer
  - Health
  - Level
  - Apple Count

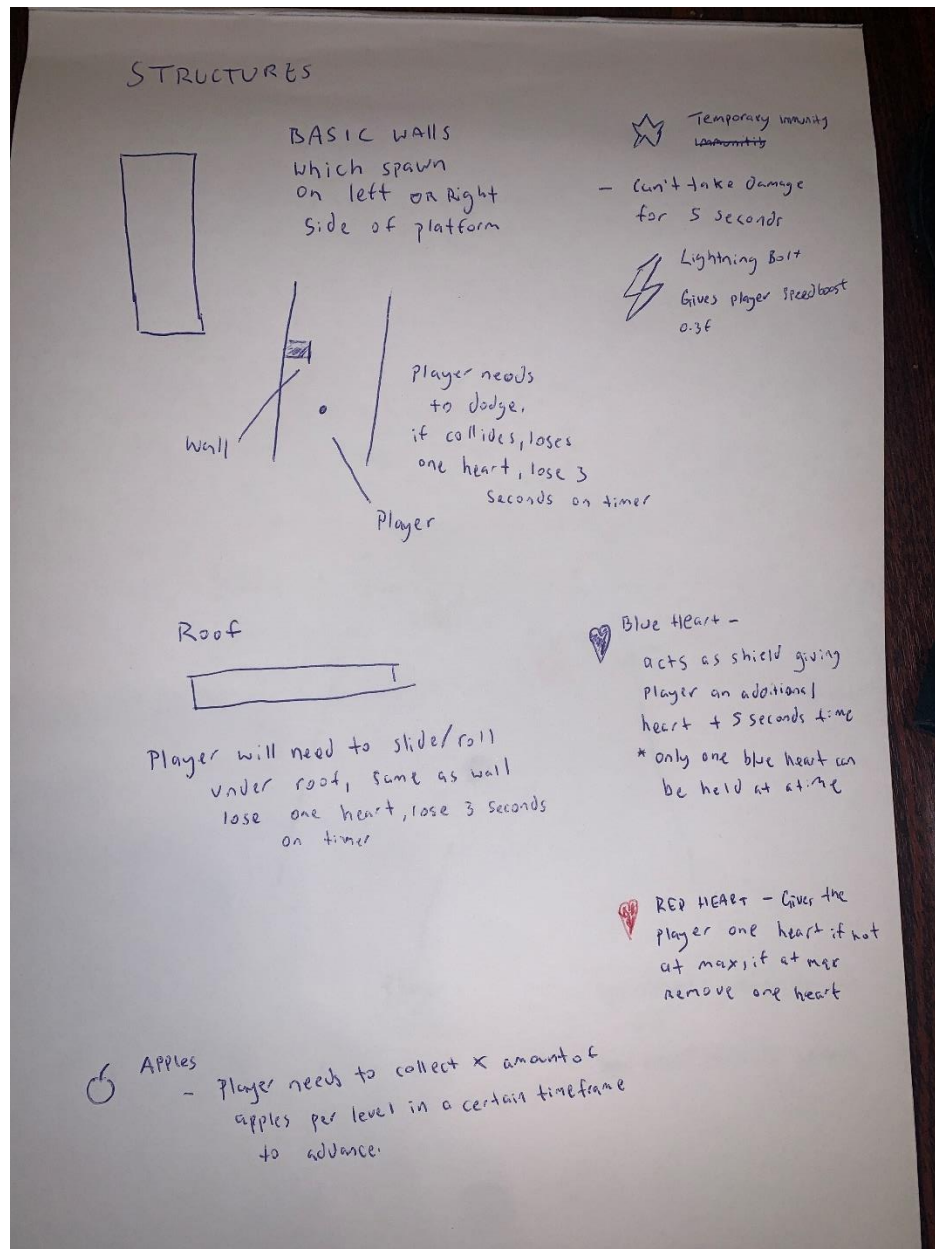Score   Game Design – In Game   Timer   Collected Apples

Player View   Obstacles/
Power Ups

The three levels will be similar, but more and more obstacles per level with increased player speed making it harder and harder to dodge

STRUCTURES

BASIC WALLS
which spawn
on left or Right
Side of platform

Temporary immunity
~~Immunity~~
- Can't take Damage
  for 5 seconds

Lightning Bolt
Gives player Speed boost
0.3f

Wall

Player needs
to dodge,
if collides, loses
one heart, lose 3
Seconds on timer

Player

Roof

Player will need to slide/roll
under roof, same as wall
lose one heart, lose 3 Seconds
on timer

Blue Heart -
acts as shield giving
player an additional
heart + 5 seconds time
* only one blue heart can
be held at at time

RED HEART - Gives the
player one heart if not
at max, if at max
remove one heart

Apples
- Player needs to collect X amount of
  apples per level in a certain timeframe
 to advance.

The player will have to dodge left, right, jump or crouch to avoid obstacles, if the player collides with an obstacle, he will lose a heart and lose 3 seconds on timer. This game is time based and

the player will need to collect a certain number of apples per level in a time frame to advance to the next level or lose

The player will get increased speed per level to make it more difficult to dodge oncoming obstacles, with increased obstacles and decreased power ups.

More structures will get implemented as levels advance making the skill gap increasingly more difficult per level.
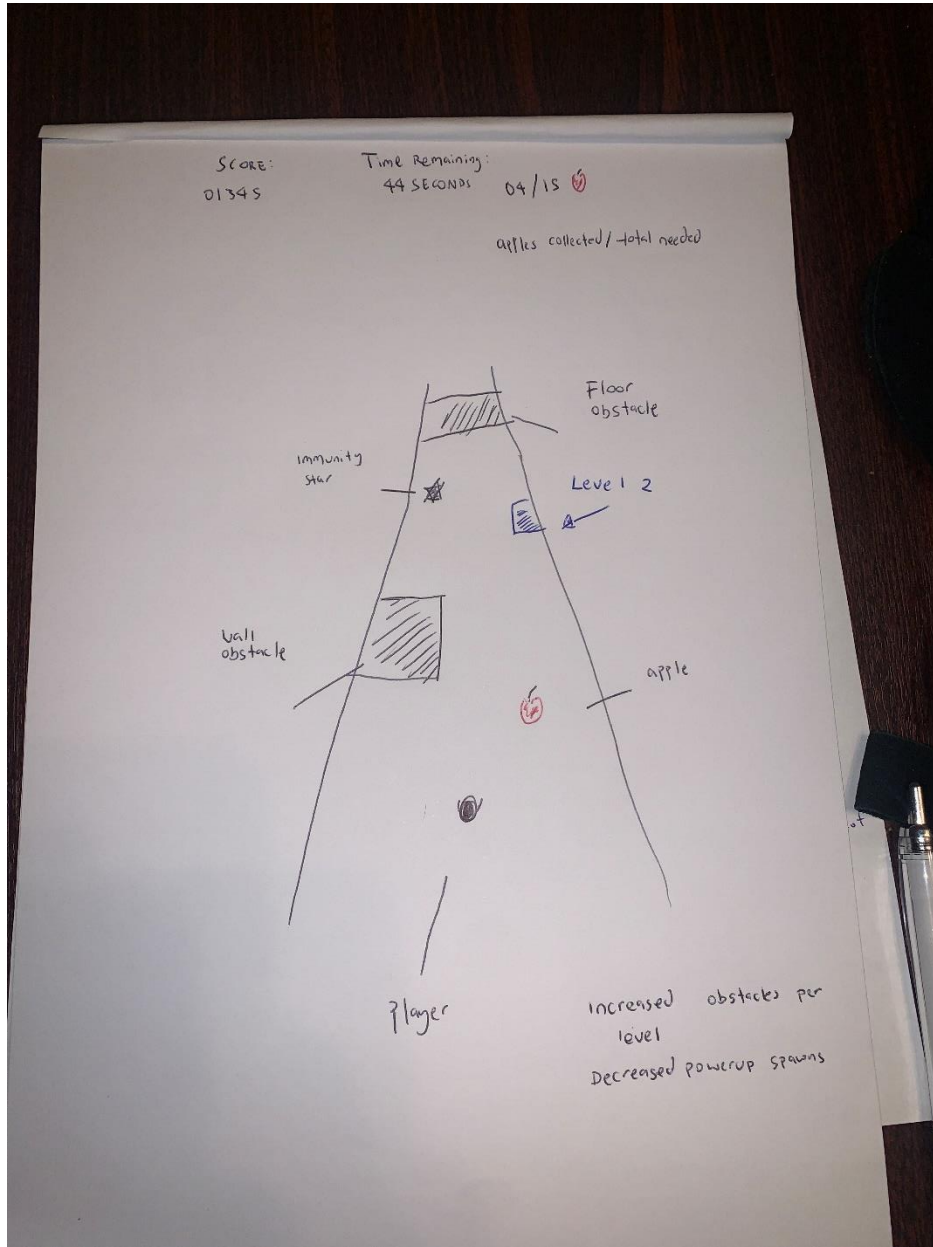
Level 1 - Only wall obstacles, high power up spawn rates

Level 2 – Added Roof / Floor obstacles, decreased power up spawn rates

Level 3 – High Spawn rate for obstacles, no power ups

The game view will be top down, in higher levels, obstacles will spawn closer together to make it harder for the player to react and dodge in time. The player will have to get apples in a certain time frame, apples will increase time left by 3 seconds. On higher levels apple will spawn every more scarcely to make it harder for player to collect all in time.

Level Background

The world design for this game is based on both games:

Temple Run -

And Hungry Knight -

One Design will suffice for the three levels but have slight changes. The design for these games is jungle/forest and ancient buildings

The obstacle designs can be:

- Stone walls
- Trees
- Falling trees
- Crumbled walls

ENEMY/TARGETS

Timer:

- Will have to collect X number of apples in a timeframe, less time per level
- Game Over if timer hits 0, or if health hits 0

Walls

- Player needs to dodge walls if player collides with wall remove one life
- Decrease player speed by a tiny amount
- Three Types of walls:
    - Low Horizontal Walls – Player will have to jump to avoid hitting
    - Vertical Walls – Player will need to dodge left/right to avoid hitting
    - High Horizontal Walls- Player will need to crouch/roll/slide to avoid hitting

COLLECTIBLES/POWER-UPS
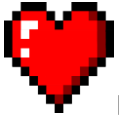
 Heart

This will add a live/heart to player, give player 5 seconds to time left

- If the player has one/two lives, add another life on
- If has three already, remove one life
- Will spawn randomly but not often, every 12-20 seconds
- Increase time by 5 seconds.

 Shield

This will give the player shield

- Can only spawn if player has max health
- Will have a small spawn chance, 10%
- Can only hold one shield at a time

 Apple

- Player will have to eat a certain number of apples to advance to next level
- Have a high spawn rate

 Speed Increase

- Collecting lightning bolts will increase the players speed by .1

These have a pro and con:

- Easier chance to collect all apples in time
- Less time to react and dodge obstacles.

 Star

- This power up will grant the player immunity/invulnerably for 5 seconds, player cannot take damage colliding with obstacles.
- Freeze timer for 5 seconds
- This power up can only spawn in the first two levels once

The second player can play as friend or foe, either spawn de-buffs or health.

On a random time, rate player two will get prompted with help(k) or hurt(l) and they will have to decide whether to help the player or hurt them

Pressing help will spawn a red heart, blue heart, or star at random

Pressing hurt will cause one red heart damage to the player

References

Leader board image [Game Leaderboard Abstract Background Stock Vector (Royalty Free) 2064316073 | Shutterstock](#)

Hungry Knight [Hungry Knight! (newgrounds.com)](#)

Hungry Knight World
https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.igdb.com%2Fpresskit%2F2r9n&psig=AOvVaw2uR3n-w-2MX28DwUhu49DH&ust=1665756180481000&source=images&cd=vfe&ved=0CAwQjRxqFwoTCOjIo72v3foCFQAAAAdAAAAABAD

Temple Run [Temple Run - Wikipedia](#)

Temple Run Endless Run Layout https://play-lh.googleusercontent.com/DCyG8bS5TVmhLliav6U_7enQycZtVxt-3uuCenBXspCJzfyB3TUCMD2dijIsqoM4jQ=w526-h296-rw

Pause Menu Screen
https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.pinterest.com%2Ftiffanyjuliergoodwin%2Fpause-menu%2F&psig=AOvVaw0qPKPu51Xn4vTKvgnSPIaA&ust=1665742876827000&source=images&cd=vfe&ved=0CAwQjRxqFwoTCOCnu_f93PoCFQAAAAdAAAAABAI