Design Document for:

Stickman Run

Endless Runner

“Something funny here!”™

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Version # 1.00

Sunday, March 08, 2015

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Design History

This document describes the Stickman Run game. That was developed by Vladislavs Marisevs for educational purposes and Games Fleadh competition. The software that has been used is mostly open source and game engine is Unity3d. Games Fleadh suggested that 2015 theme should be endless runner as this would allow developer flexibility in designing either a 2D or 3D game.

Version 0.10

I've started with simple game idea, where player should run and jump over obstacles including collecting some score points. First my idea was to develop a 2D game where character will run in the city, and jump over trash bins and phone boxes. I tried to do all the animation in one style, where whole world design would be like retro 8 bit game. (See appendix Version 0.10)

1. Painted the game character in retro 8 bit game style.
2. I have also painted game obstacles: trash bins, phone boxes and street lights.
3. Started to code the player's configurations, world objects, ground and bounds that will destroy objects in case they gone out of the screen.
4. Created and applied gravity and physics for all gaming objects.

Version 1.00

Version 1.00 is the first version of the design where a major revision has been made.
Included in the changes are:

1. I stuck with an issue where it was hard to keep all objects in one 8 bit style, because I am not that experienced in design and animation and my player, due my skills was pretty similar to Mega Man, I have made more global changes into design.
2. I came up with idea of a stickman run, because it is a bit easier in design and animation part, I could spend more time testing and coding the actual game.
3. Changing the game style I have changed a game logic a bit. In this case player will run and jump from one block to another to avoid falling down or stop, either way he dies.
4. In this case it would be a pretty simple game, to make it a bit funny I have added an option where player can try to fly. But because he is a man, he is waving his arms and slowly falling down.
5. The score counter is dependent on how many coins player collected.

Version 1.10

Version 1.10 has several small changes over that of version 1.00. The key areas are in many of the appendixes.
Included in the changes are:

1. Background during the game is using a texture that coded to look like animation, the sun and moving clouds.
2. While user is working with menu, on the back ground he will be able to see the real player running on a straight platform.
3. To divide the front menu screen from animated background, I decided to add tinting behind the menu button, to distinguish that user should operate with menu.

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Game Overview

Philosophy

Philosophical point #1

This game is developed for audience that will play it during their free time. It doesn't need to be online to play it. So in this case user wouldn't be bothered to run the game and get the message that it needs the latest update. The game should be simple that makes it more addictive, but at the same time adding more assets and features will make it fun.

Common Questions

What is the game?

From my point of view the term "game" has lots of meanings. One of them is to allow users to do stuff that they couldn't do in real life, or get the feeling of being good at something. Let's see term gamification. According to Wikipedia, gamification is used game thinking and game mechanics in non-game context to engage users in solving problems. In most of the cases games are challenging users to be the best. But some of them let users relax their mind and do some random stuff. What I was trying to say that the game is the way of spending free time to achieve some sort of feelings.

Why create this game?

I have created this game, because sometimes people get bored waiting in the long queues, but they don't want to spend much of their attention and play hard games like chess. This game is short and fun and user won't be much worried about losing. And while trying to get better score, time goes quicker.

Where does the game take place?

This game probably would affect on busy audience that during their waiting in the queue or travelling somewhere speed up the time.

What do I control?

The player will control the man that looks like a stick. This stick man will be able to jump and try to fly by waving his arms, but unfortunately it will barely help him.

What is the main focus?

The main focus is to speed up the time, while playing on the mobile devices. But also it gives you a feature to share the high score on twitter or facebook, which will challenge your friends to beat that.

What's different?

There are many stickman running games in the market, and while going with this design I hadn't considered that. But my character has a crazy way of "flying", that unfortunately does not helps, but he is insistent and keeps running and jumping to get there.

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Feature Set

General Features

2D graphics
Randomly generated world
Share the high score over social networks
Stickman player that can jump and collect points

Multiplayer Features

Doesn't support multiplayer

Editor

No editors supported,
But I might upload this project into public github, to let people branch it and do their updates.

Gameplay

Main game play is based on few simple things, the main thing is survive, in this case player shouldn't fall dawn or stopped by other block. The player is not fixed to the screen view position, and in case he is stuck for a bit he will be closer to a death… To keep player moving forward he can jump and slow down the falling by waving his arms. Because this game is developed for mobile devices like android or windows phone the controls are simple, user can tap anywhere on the screen to jump and hold while player falling to keep waving his arms. To encourage players I have added scoring system that based on the collected points and kept in the device memory. User should collect coins to get better score.

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The Game World

Overview

The game world is designed in 2D platform, to keep whole game in one style I have used grayscale colors to split background from foreground and player.

Background

I have slightly animated background that makes users feel that player is moving forward. The sun stays at the same position, but the clouds keep moving.

The Physical World

Overview

This game is developed in 2D. Player – Stickman is an object that has a rigid body and physics applied to him. He is not allowed to spin, but can fall down using gravity rules.

Main ground is created from blocks, which are randomly generated.

Key Locations

Up in the skies, where all blocks are holding and let the player jump from one to another.

Travel

The main character keeps constantly running from left side of the screen to right, as all infinite runners eventually he dies on the way somewhere.

Scale

The game that I was building, I was doing all my sketch drawings in one Photoshop file to see the size of the objects and depending on main character I was drawing other game objects.

Objects

At this stage there is only one object that can be found, this is a coin. By collecting the coins users get their points.

Weather

It is always sunny in the game, and just few clouds are drifting around the skies.

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Rendering System

Overview

The game screen orientation for the windows phone or android devices is landscape and no matter which side user turns, it automatically picks the right position depending on the ground.

2D/3D Rendering

I have used Unity3d for game development, with an option to create a 2D platformer game.

Camera

Overview

In my game camera stays at the same position all the time, and even while player animated that he is running he stays at the same place, but all the objects are coming towards him.

Game Engine

Overview

I am new with Unity3d, and this game designing engine sorted my needs. In short period of time I have developed a nice prototype that I can user in future gaming projects.

Game Engine Detail

Because game is pretty simple I have created whole game with menu in one scene. And one scene is divided into several main gaming objects. One of them is Canvas - it holds all UI elements and responsible for menu display. There are controllers that responsible main gaming attributes like:

- Player Speed - changing it all game objects that on the screen are changing the speed.
- Is game running - defines that the game is running or not.
- Menu controller is responsible for all UI buttons functionality.
- Map controller is responsible for map generation and all objects that it holds.
- Sound controller is responsible for all sounds and music that is playing.

Water

It would be hard to explain to users what is doing water in the skies, and to draw the grayscale water.

Collision Detection

Unity3d has several ways to keep an eye on the objects that you are creating. Creating a blank game object you can specify which values it should keep, or we can add rigid body, physics and textures to make it as a player and apply scripts so it would be able to do stuff. Most of the collisions appear when user destroys the object and tries to access it. And associated message with error description is given in the console window. Also to verify that some of the parts of code were activated we can add our own messages into console.

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Lighting Models

Overview

I am not using 3D objects, and all the 2D doesn't need any lighting.

The World Layout

Overview

Most of this stuff was defined in Game World chapter.

Game Characters

Overview

My character is a Stickman.

Creating a Character

To draw and animate my character I have used Flash MX to draw a smooth animation and Photoshop to combine into one picture so Unity3d would accept the picture and split into frames.

Enemies and Monsters

I have no enemies in my game.

User Interface

Overview

Whole game is grayscale; I tried to keep this basic old school style, even in menu. Also rounded edges are doing game more fashionable.

Screen Orientation

The screen orientation is docked to landscape, but use can choose which side is the bottom

Musical Scores and Sound Effects

Overview

The sounds that I have in the game are very basic. One of them when player is flapping his arms, collecting coins and dying.

Sound Design

Most of the sounds and music were created on http://www.beepbox.co/ that allows to export files into wav format and some sounds were edited via Audacity.

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Single-Player Game

Overview

Story

Welcome to Stickman's world. Our hero is trying to run away from his old life. On the way to his new life He is not allowed to stop or fall down. There are few ways to survive run, jump and flapping arms to keep moving.

Hours of Gameplay

It is a simple game that is not expected to take hours of game play. It just depending on the queue what you are waiting for.

Victory Conditions

Player can’t win in ENDLESS RUNNER.

Weapons

Overview

No weapons used in this game. I prefer less violent games.

Multiplayer Game

Overview

Not supported

Character Rendering

Overview

The game engine takes care of all rendering.

World Editing

Overview

Is not supported

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Extra Miscellaneous Stuff

Overview

Currently I am working on all academic projects, but still thinking to do more mobile games during the summer.

Junk I am working on…

I am working on other academic projects that are not related to the game topic. Mostly web development and database management.

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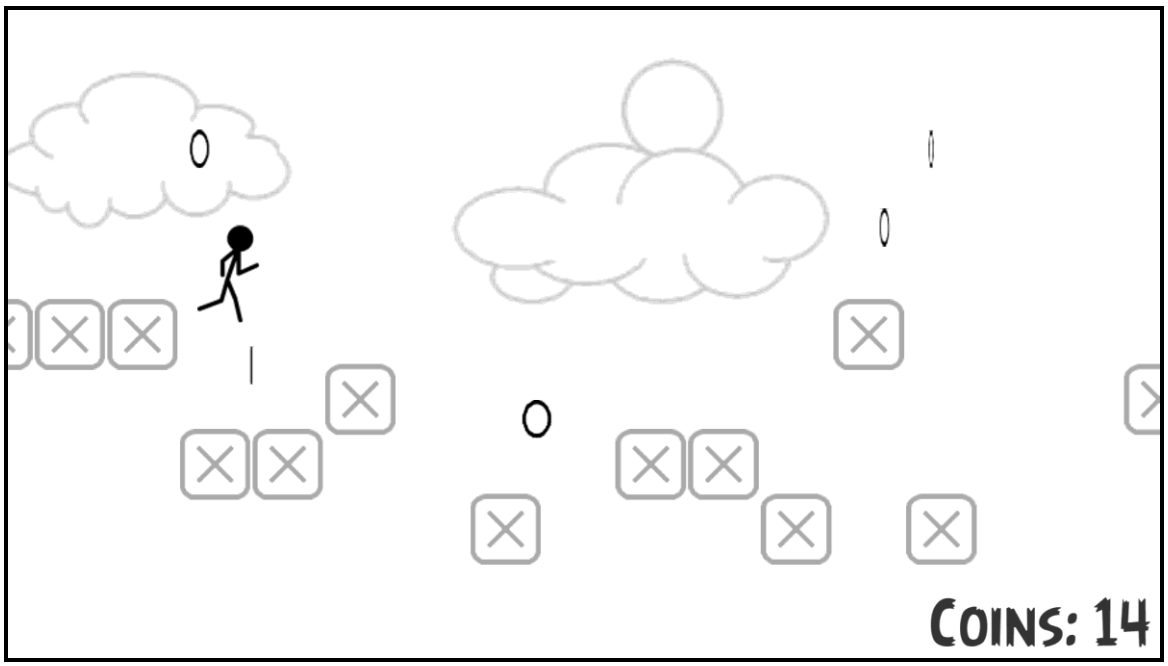
“Game Screenshots Appendix”

Game screenshots attached here:



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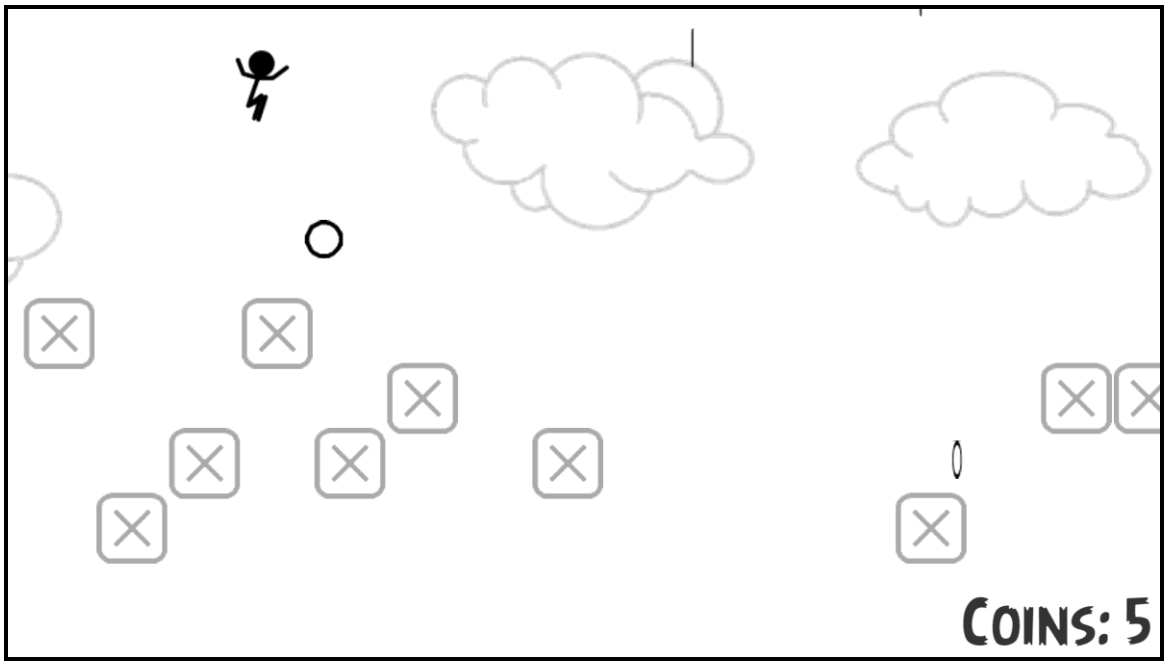

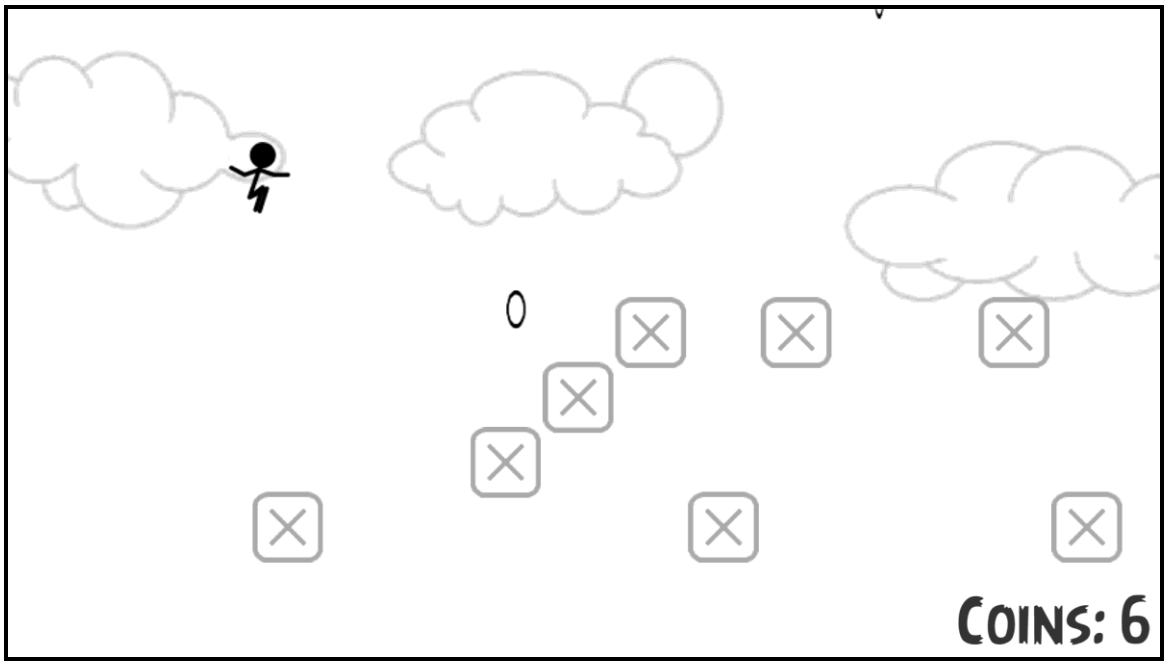

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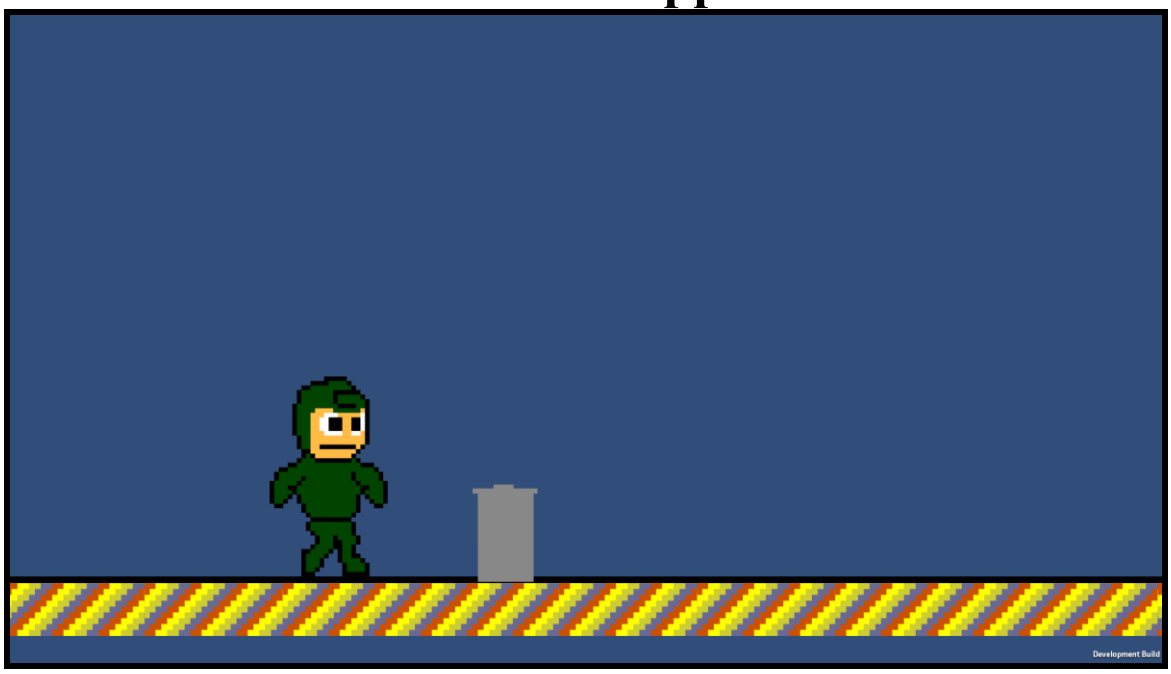
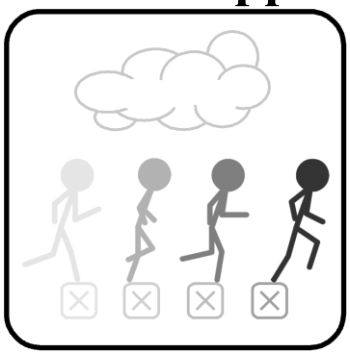
“Version 0.10 Appendix”



“Game Icon Appendix”



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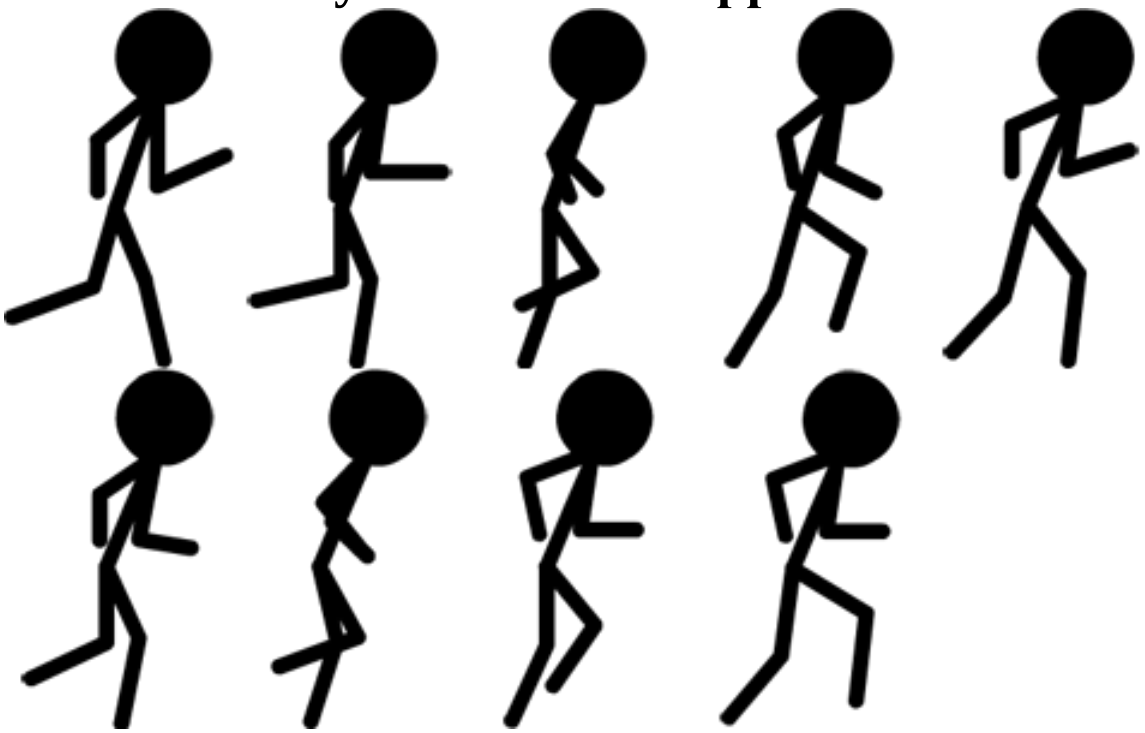
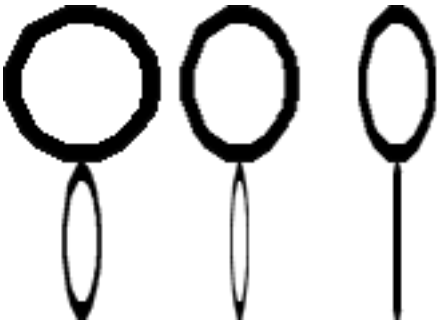
“Player Animation Appendix”



“Coin Animation Appendix”



“Game Links on Market Appendix”

Android Market
https://play.google.com/store/apps/details?id=com.GMIT.StickmanRun
Windows Phone
http://www.windowsphone.com/en-ie/store/app/stickmanrun/6f760ce3-7b42-439e-97df-70b7994fed66