Games Design Document, Hopscotchers

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Title: Hopscotchers

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Games and Games Design
Simple game based on traditional childhood game Hopscotch with additional adventures.

History of Your Games Genre
This game is a mix of Physics Catapult and Platform game.

The most prominent visual of Physics Catapult is Angry Birds by Roxio Entertainment. Started on 2009, it has been world phenomena on Apple's iOS, Android, Symbian, Window phone, including consoles and PC games.

Picture 01 – Game Angry Birds

While for Platform games, most of us still remember the good time of playing Donkey Kong and Mario. User will control the player, moving from place to place in the game storyline.

Picture 02 – Game Donkey Kong
Picture 03 – Super Mario Bros.

On this Hopscotch game, the part of Physics Catapult is when player (Batek) will throw the stones to respective space.For Platform part, the player will jump within spaces of Hopscotch to collect points and additional bonus coins.

Picture 04 – Hopscotch game interface

Short Description (Synopsis)

A playful tiger cub name Batek, playing Hopscotch with his 2 best friends, MJ the sweet little orang utan, and Bob the sceptical Elephant calf. While having fun playing Hopscotch, they were approach by a 100 years old pirate ghost name Ye Olde Captain Blackbeard Jango. What will happen to them? Why Captain Blackbeard Jango appear after 100 years?

Game Type/Genre

It is a mix of Platform Game with Physics Catapult.
Physics Catapult used during throwing rocks to targeted space.
Platform used during the jumping from space to space.

Scenario/Environment

The environment of this game (Level 01) is on one open space on a tropical jungle of Selva Raya. The environment will change on advance level, showing other places of Selva Raya jungle including beach, river & waterfall side and rocky mountain.

Long Description

In a one fine day, the playful little cub, Batek invite all his friend to play Hopscotch. Fate leads them to new exciting adventure when they accidentally unearth some hidden gold stash, hidden by Ye Olde Captain Blackbeard Jango about 100 years ago.

Batek and friends become excited with the treasures, when suddenly a ghost claim to be Ye Olde Captain Blackbeard Jango appeared to protect the treasures. He fail try to scare these kids and (accidentally) tells all the location of the treasures, and how to unearth it using secret moves. This makes Batek and friends become more and more excited.

You will play the game as Batek, Bob and MJ to collect all the treasures using secret moves that (accidentally) taught by Captain Blackbeard Jango, and avoid his sudden attack during the game.

Game System

The first objective of the game is to play Hopscotch using all the rules we know about the game. Point will be collected started from throwing the rock, and jumping to spaces.

Second objective is to collect coins and treasures that appear in the game. This including small coins, big coins and a stash full of gold and treasures.

Additional challenge added to the game where Captain Black Beard Jango will appear and attack Batek. Here the third objective is avoiding Jango attack and stay alive until end of the level.

Breakdown		Action
Character	Batek	First character of the game Hopscotchers
	MJ	Second character of the game Hopscotchers
	Bob	Third character of the game Hopscotchers
	Captain Jango	Antagonis in this game play
Mission	#1 Play Hopscotch	Just playing Hopscotch and having fun with friends
	#2 Collect Coins	Collect coins and special stash full of golds and treasures
	#3 Stay Alive	Avoid Jango attack and stay alive until end of level
Props	Rock	To be throw by the player on the start of the game
	Coin	To be collect by the player, along the way during playing Hopscotch
	Special stash	To be collected by the player, Batek on the end of every level
User Interface	Coins	Staged on left top corner of the screen, showing the scores
	Total Scores	Staged on left top corner of the screen, only apprear on Winning Screen. Showing updated scores of the game.
	Guide Blink	Showing user on next space to be (in the beginning of the game)
	? Button	Button to show the tutorial of the game
	X Button	Botton to close the game and back to Main Menu
Notification	Notify	A series of dialogue from the characters in the game, mostly from Jango
Background	Sky	Non animated, non-interactive
	Trees	Non animated, non-interactive
	Bushes	Non animated, non-interactive
	Ground	Non animated, non-interactive
	Spaces	This is range of spaces that the player should jump.

Table 01 – Breakdown list of Game System.
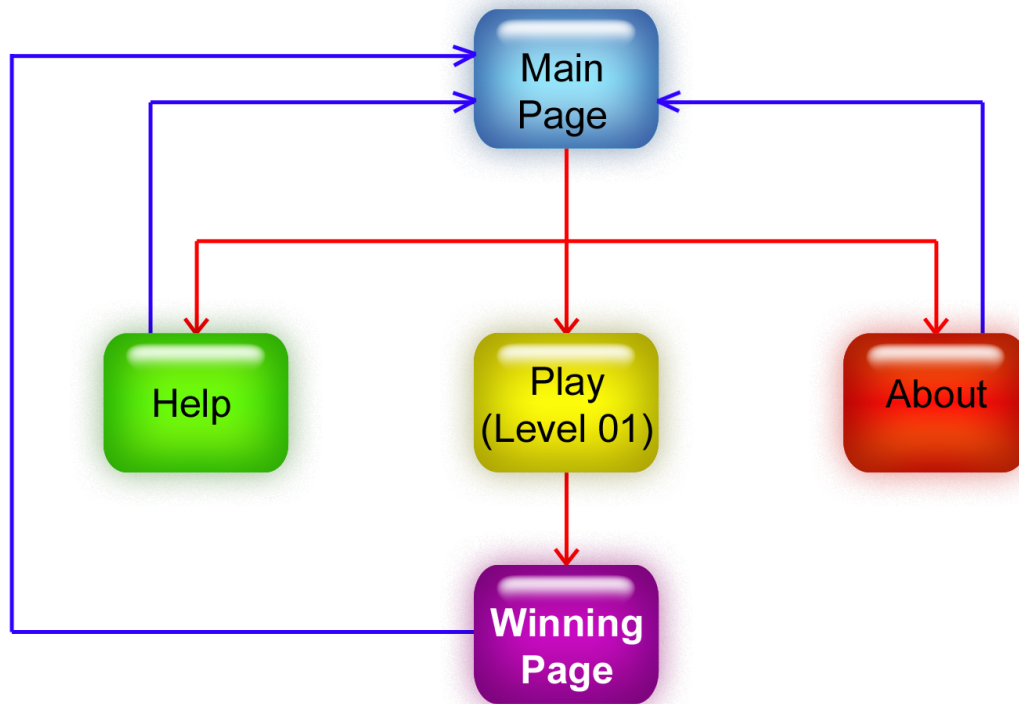
Narrative Structure / Storyboard

Chart 01 – Game Structure.

Game Play

Beginning of the game, user will see Main Menu. There are 3 buttons at the bottom of the screen, Help, Play and About. User could select the button my clicking or touch the screen. It will show other respective pages.

On Level01 page, user needs to hit some key on keyboard to control the game.

Spacebar – Use spacebar to throw the rock
Arrow Up – To make the character jump around.
Arrow Left – Character will turn left and move to the left
Arrow Right – Character will turn to right and move to the right.
Ctrl – User need to hit Ctrl key to make the character bend and pick up the rock.

Level Design/Room Map

Main Menu
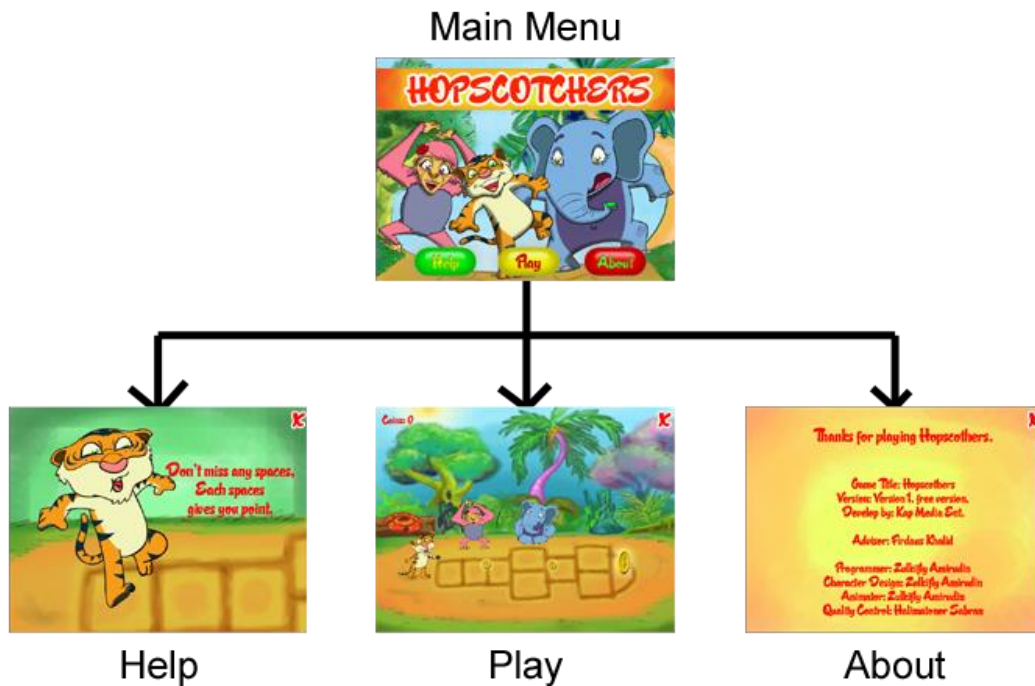
Help   Play   About

Chart 02 – 4 layout in the game

In this game, there are 4 important layout that user will see.

1) Main Menu
The first visual that user will see. There will be 3 buttons at the bottom of the screen, Help, Play and About.

2) Help
This is the tutorial or "how to play" instruction. It plays linearly, and loop-able so user could repeat it again. Button "x" at the top right screen will lead user to Main Menu again.

3) Play
This is the main playing stage of the game. User will lead to Level01 layout where the game will start. Based on instruction given, player will start the game. There are button "?" just in case user forgot the instruction. Also button "x" at the top right screen will lead user to Main Menu again.

4) About
This last menu of the game is telling user on information about the game, and game developer. Button "x" at the top right screen will lead user to Main Menu again.

Title and Information Screens

1. **Main Menu**

This is the first layout that user will see. The title Hopscotchers will appear, and after few second, all 3 buttons also appear. Each button clicked will go to each respective layout.

2. **Help**

On Help layout, instruction will be given linearly. Images will we shown after few seconds and change to other images. The X button on top right corner will bring user to Main Menu again.

3. Play

This is the main game play layout. System will show Level 01. Text "Coins:0" on top left corner shows how many point user have collected. Button "?" is for instruction and button "X" to exit current game and return to Main Menu.

4. About

On this layout, user will see information and credits of the game developer. The X button on top right corner will bring user to Main Menu again.

Art and Audio Requirements

1) Game Ideation

Basically the first ideation of this game is just to play Hopscotch in a form of digital games. During the game development stage, some storyline added to make the game more interesting.
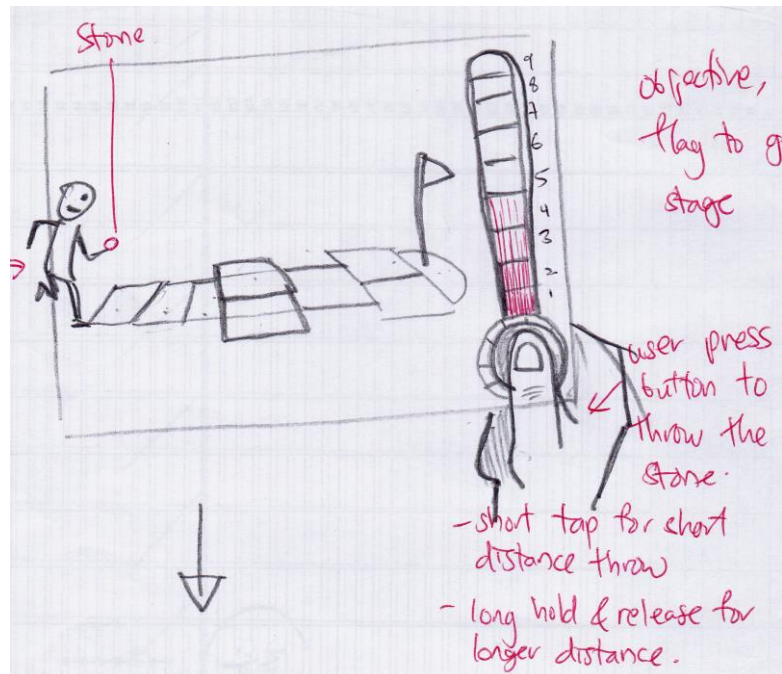
Sketch 01:Initial idea of Hopscotcers as mobile game. Hold button on the screen to control the throwing power, using Physics Catapult concept.
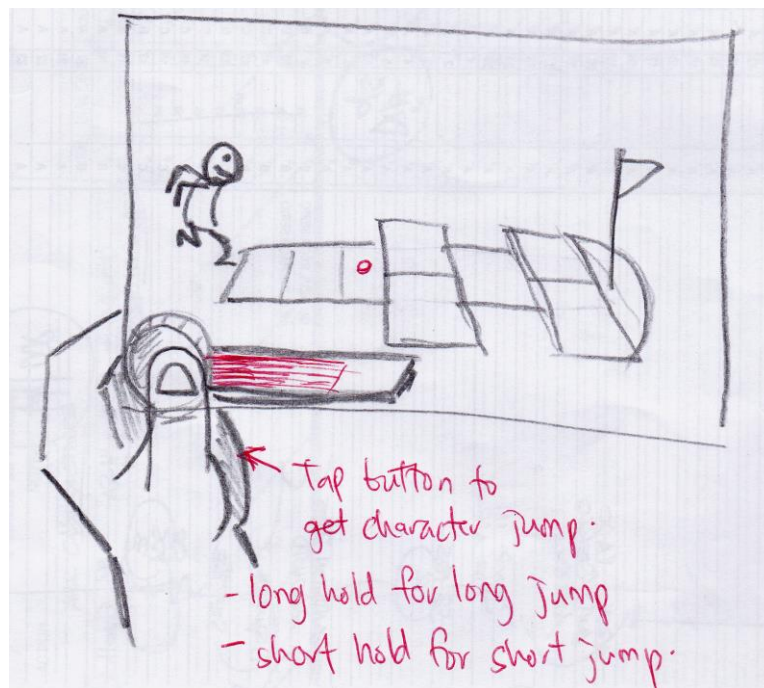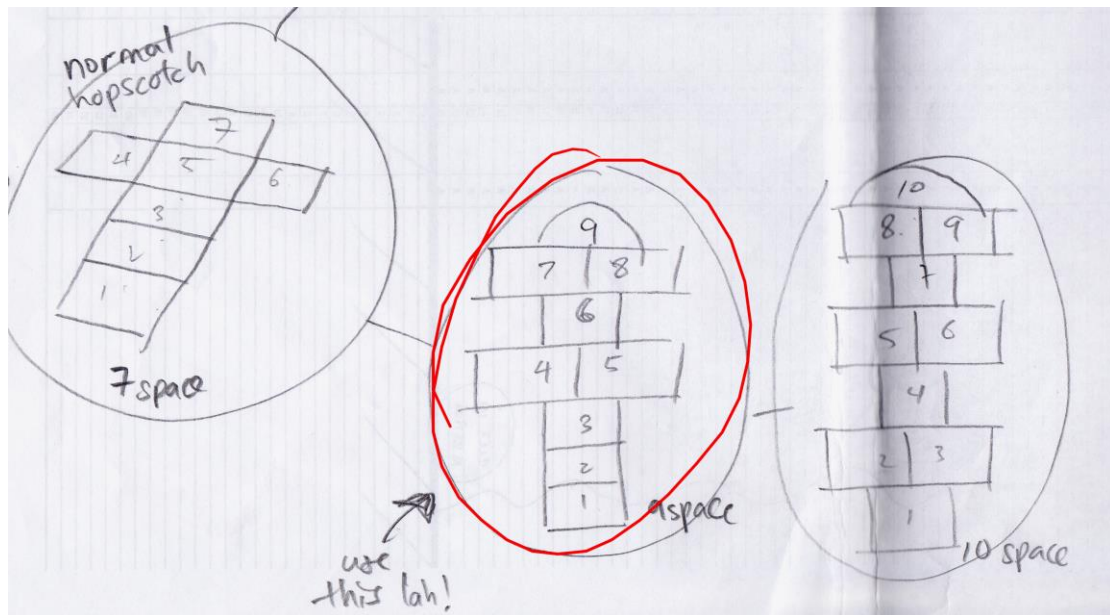

Sketch 02: Hold left button to control the jumping power, using Platform concept.
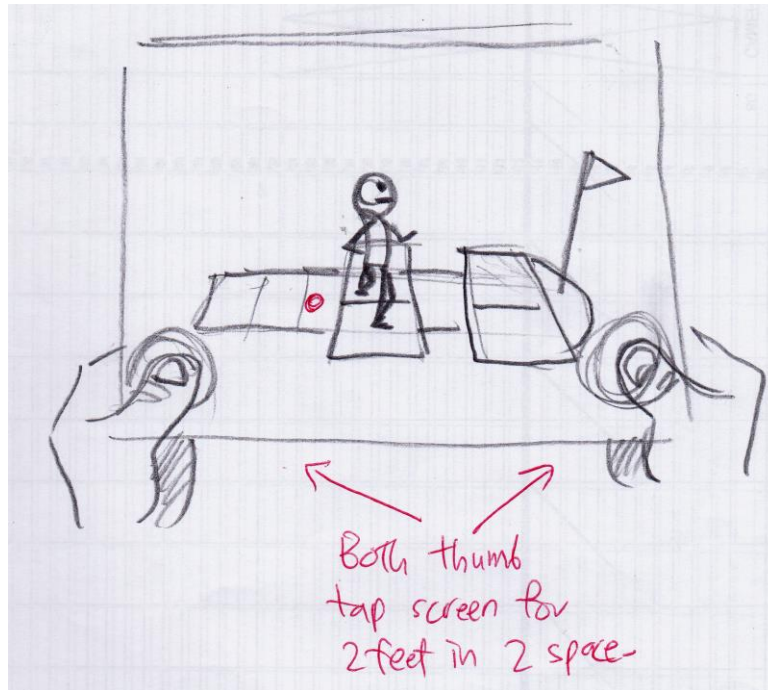
Sketch 03: Hit both button to control to make the character land on 2 spaces in the game.
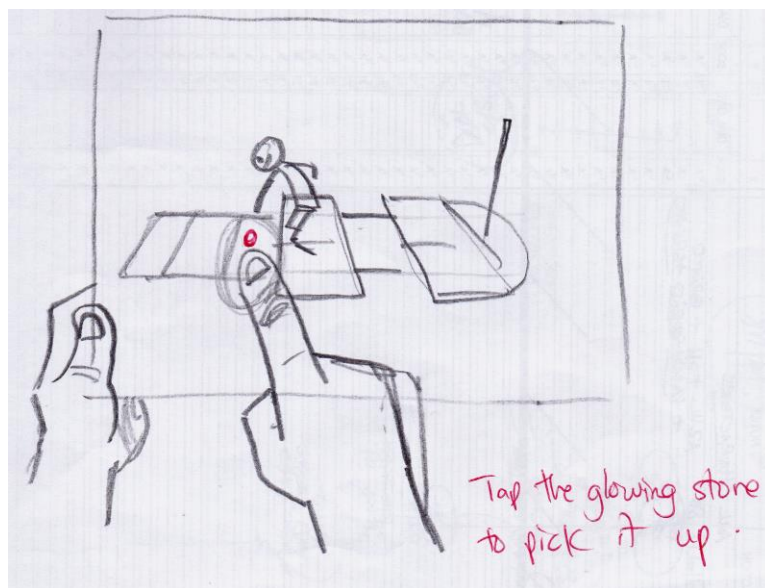

Sketch 04: Tap the screen on the glowing rock to pick it up.

Sketch 05: There are lot of variation of Hopscotch shape and spaces. For the first level, developer will use 9 spaces shape for the game.

2) Game Level Ideation

The first idea of the game's character is human as the avatar. User will control the human character throughout all levels, with different environment, background and challenges. Sketches below show the ideas of different environment in advance level.
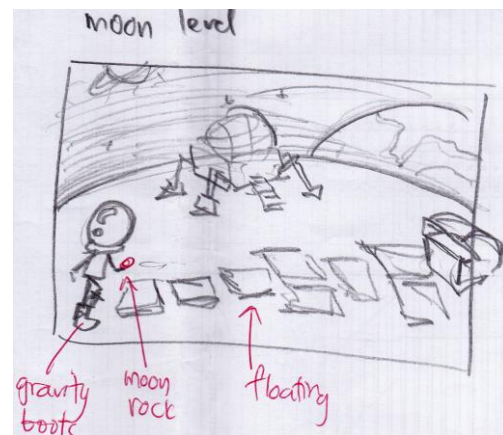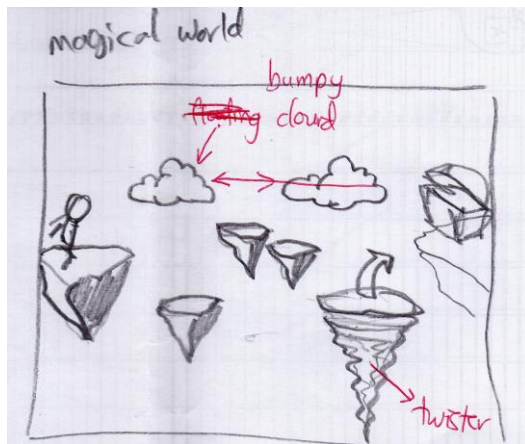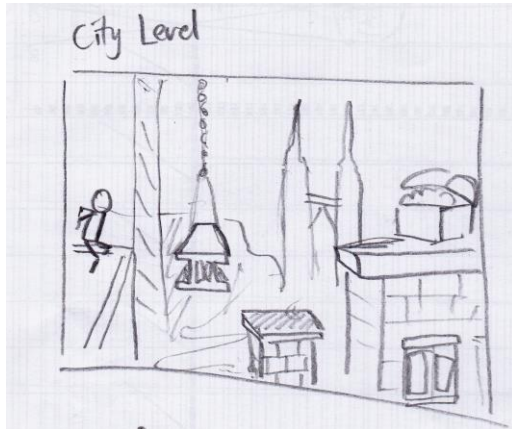
3) Character Development

The player/ character change from human to cartoony tiger cub during Cinematic preparation stage. Developer has an ideas that using animal playing Hopscotch could bring more attraction and fun. Below is some sketches during character development.

Sketch 06: The main character is a playful tiger cub.

Sketch 07: Close up sketches of the character, in the Cinematic storyboard.

Sketch 08: Digital sketches, from rough sketch on storyboard to final colours. The character finally has a name, Batek.
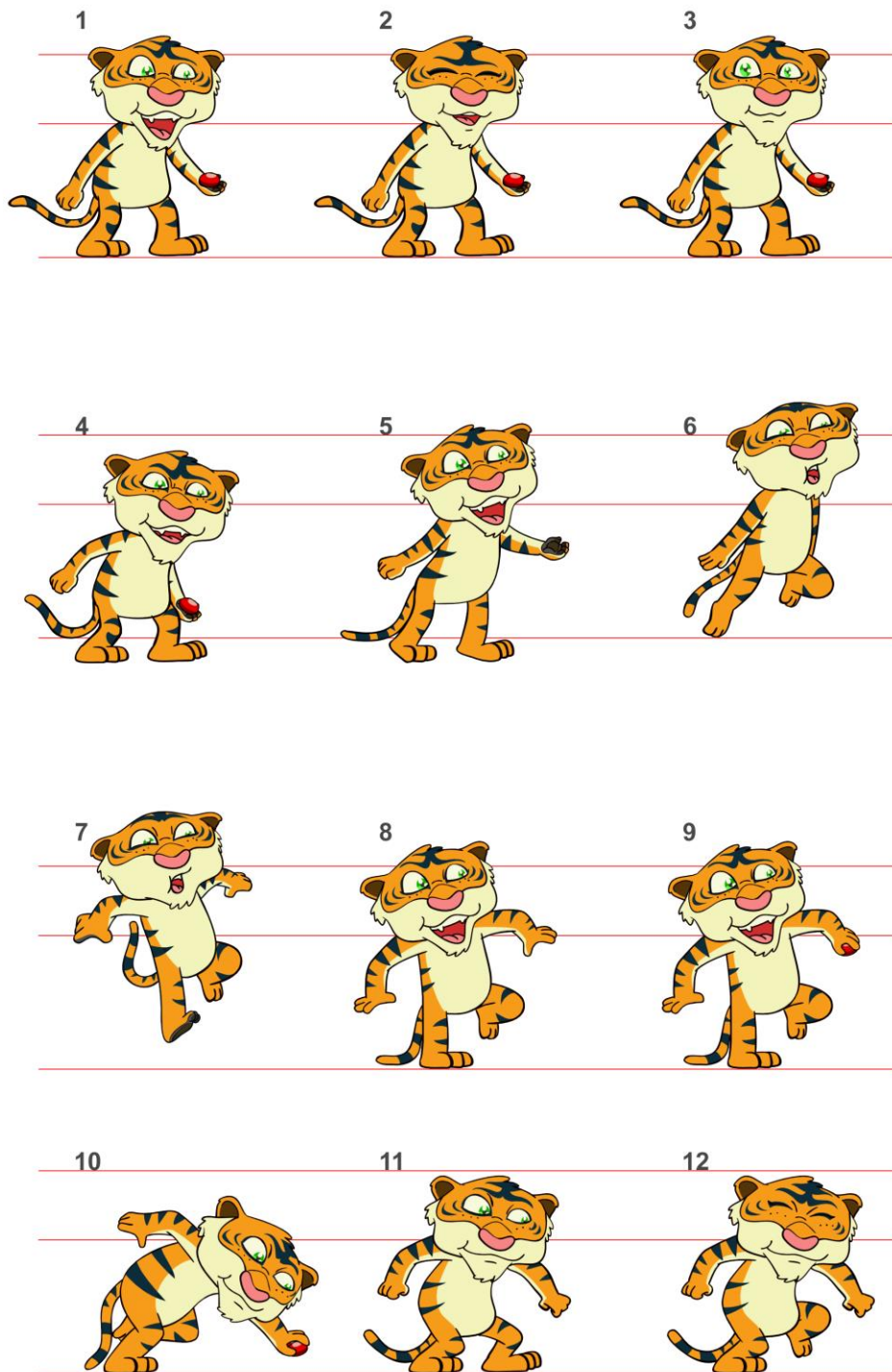
Character 01 - Batek

Chart 03: Character Batek Line Up.

Breakdown list of Batek poses, from Chart 03.

| Pose Num	Name	Frame	Action
1	P_BatekIdle	0	Initial pose when game start
2	P_BatekIdle	1	If user idle for 1 second, Batek will blink eyes
3	P_BatekIdle	2	After blink eye, Batek will look to the screen (user)
4	P_BatekThrow	0	On key Space is down, Batek bend to throw rock
5	P_BatekThrow	1	On key Space is release, Batek throw the rock
6	P_BatekJump	0	On Up arrow down, show Jump pose
7	P_BatekDown	Dropped	Pose when Batek about to land. Didn't use in the game
8	P_BatekStand	0	Pose when Batek step 1 leg, within spaces of Hopscotch
9	P_Batek_withRock	0	Pose when Batek step 1 leg, after pick up the rock
10	P_BatekPick	0	On Control key is down, Batek bend to pick up the rock
11	P_BatekAntic	Dropped	Pose when Batek about to Jump
12	P_BatekLand	Dropped	Pose when Batek land on ground before stand straight

Character 02: MJ
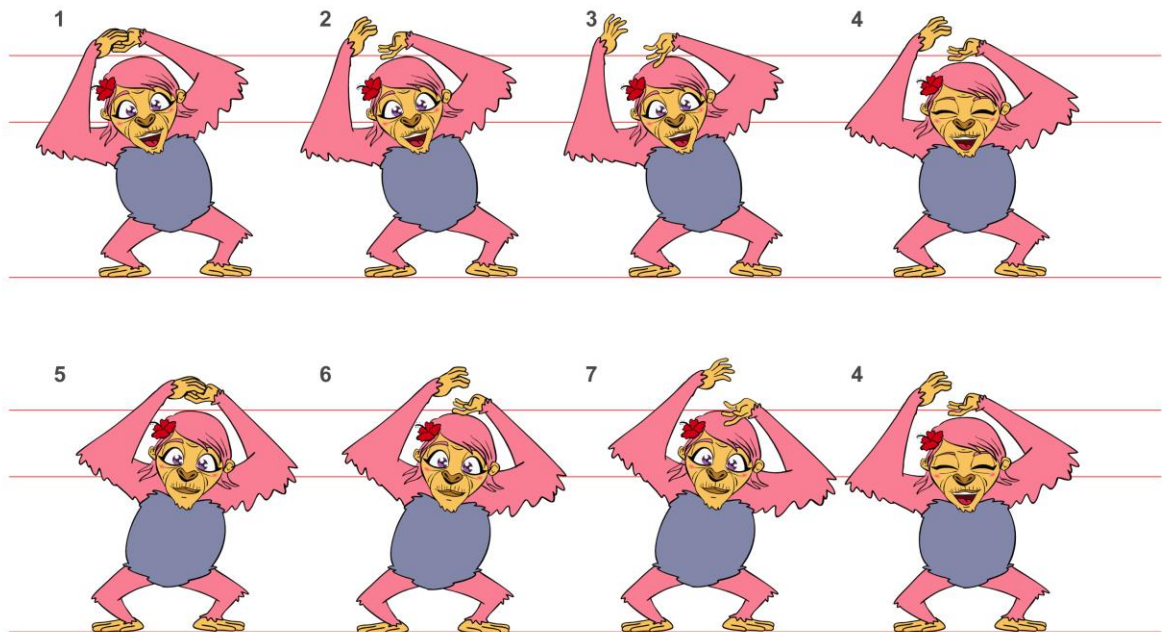
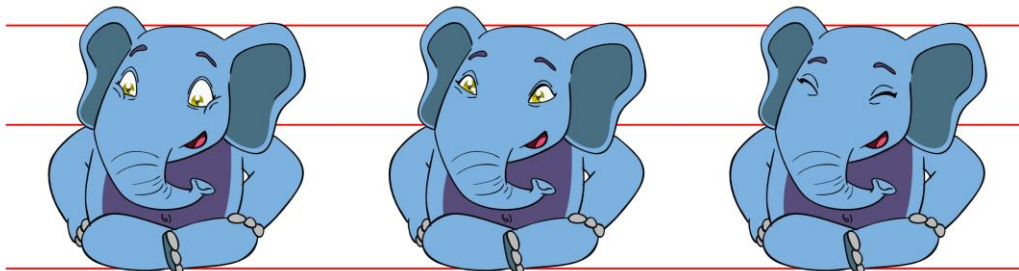*Chart 04: MJ Line Up with looping cycle.*

Character 03: Bob

Chart 05: Bob Line Up with looping cycle.

Character 04: Ye Olde Captain Blackbeard Jango

Captain Jango is an additional character, develop during game development stage. His existence is to add fun and adventure value to the game. He is 100 years old pirate ghost, appear when Batek and friends discover a hidden stash full of gold.

The characteristic of Captain Jango is unique. He is mean and scary yet funny. Somehow the scaring part doesn't work with those kids. He tries to protect his treasures, but in the same time he always accidentally tells where the treasures are, and how to get it using secret moves to unearth the treasures.

Sketch 09: Ye Olde Captain Black Beard Jango

Sketch 10: Props - Captain Jango Coins

Sketch 11: Captain Jango's stash, full of Golds and Treasures.

Some expression for Jango when he talks.

Audio

Background Music
Main source for the game music background is from http://freeplaymusic.com/. Freeplay offers free network synchronization to all BMI/ ACAP,& SESAC, international network content broadcast in exchange for music cue (Domestic and International). There we 2 audio used for the music theme.

Name : MainPage_Into.ogg
Played : Main Menu & Help
Original : Rise and Shine.wav
Artist : FreePlay Music
Album : World Mix Volume 4
Year : 2001

Name : Lowfrican.ogg
Played : Level01
Original : Lowfrican.wav
Artist : FreePlay Music
Album : World Mix Volume 3
Year : 2001

Sound Effect
To complete the mood and feel of the game, sound effect also added. Main source for sound effect is http://www.bfxr.net/. Bfxr is a free and simple program that created to provide sounds effect for computer games. It allow user to choose any sound, tweak it into desirable sound, and download it for free. There are few sound effect used, listed below.

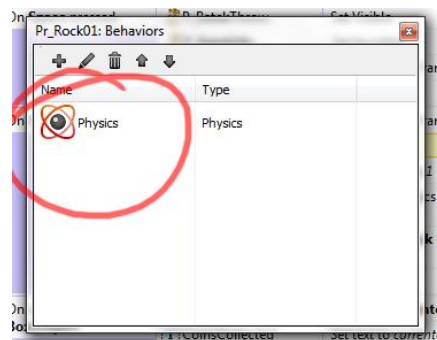| Name	Usage
GoldStash.ogg	When object GoldStash appear
Ground_1coin.ogg	Is a sound of point collected when Batek land on a space
Ground_2coin.ogg	Is a sound of point collected when Batek land on double spaces
Hit_Ground.ogg	Is a sound when Batek land on ground
Jump.ogg	Sound when Batek jump up
Notify.ogg	Sound when Jango pop up and tal something
Pickup_Coin	Sound when Batek on collision with coins
PopButton1.ogg	Sound of Button Play appear on Main Menu
PopButton2.ogg	Sound of Button About appear on Main Menu
PopButton3.ogg	Sound of Button Help appear on Main Menu
StashPopUp.ogg	Sound when the secret Gold Stash suddenly pop up
ThrowRock.ogg	Sound when Batek throw the rock in the air

Tutorial

To create game like Hopscotchers, developer need to understand the software well, Construct 2. There were a lot of functions that actually helps a lot on the game development.

1) **Throw the rock**

On this initial part, Batek need to throw the rock before he could start jumping. Physics Catapult concept was implemented on this part. Add Physics behaviour to make the Rock have a physics attribute
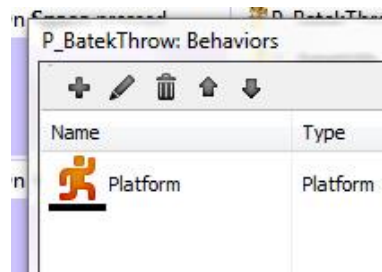

On Event Sheet window, Apply Physics impulse with certain values, angles and/or position.

2) Moving & Jumping

For jumping part, we use Platform genre on the character. On Behaviours menu, add Platform.

We can set some values to the attributes on Platform function such as speed, acceleration, jump strength and gravity.

When setting a sprite into Platform behaviour, we should have some ground. Otherwise, our character will just fall out to the bottom of the screen.

1. Create an object as ground (using sprite or tiled background), and add Solid behaviour to it. Rename it as Platform
2. Also add Physics behaviour.
3. On Physics attribute, change Immovable option from No to Yes. This is important to set, otherwise the Platform will fall off the screen.
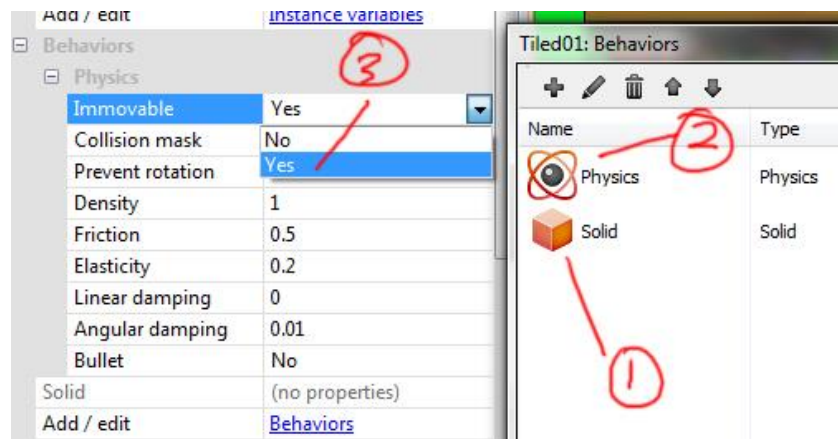

3) Collecting Points

Collecting points is 1 of activities that must have in most of the games. Therefore, user will have motivation to keep playing the game and achieve more on the scores. To make collect points functions, we need a character, props, and some functions on Events Sheet. Batek will be our character, Coin is the props.

Set variable name "currentcoin", and start the initial value to "0". The name is for reference when we need to call the function later, and the 0 value is for the total coins collected during the game.
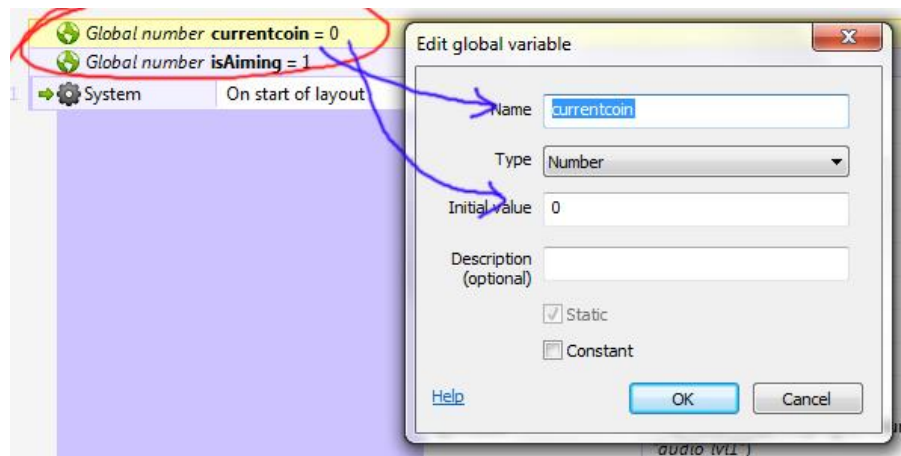

1. Set the character, P_BatekJump, when on collision with Pr_Coin_Rotate. We set the coin destroy after collision. It's an optional.
2. Select System, and add desirable value to "currentcoin", the variable we set earlier to collect all our points.
3. Create Text function, and rename it as "CoinsCollected". On Edit Action window, select Set text to "currentcoin". Therefore, our points will be shown here.

4) Creating Main Menu

A game should have main menu, as welcoming page to user, and some setting and choices that user can make. Right now we only have 1 page or layout, Level01. This following instruction is how to make additional page, and we could rename it as Main Menu.

1. On top right corner, right click on Layout menu, and click Add Layout
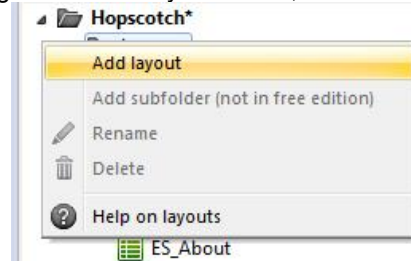
2. Add layout window will appear, click on Add event sheet. Therefore we will have new layout and new event sheet to work on.
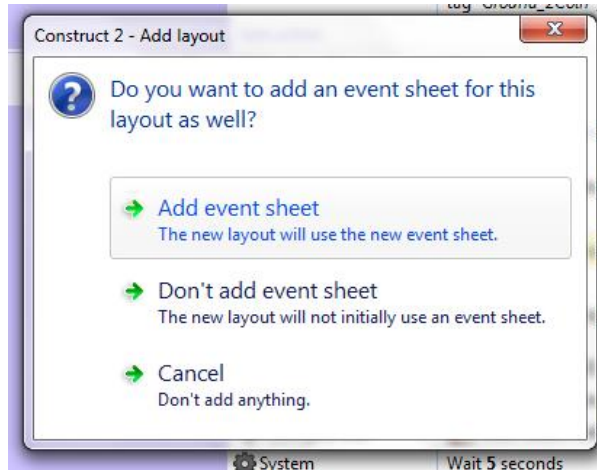
3. A blank new layout will be created, and we could work on our Main Menu page.

More tutorial could be found, explore and study on
https://www.scirra.com/tutorials/top

Social Media

Social Media used to update game development progress, while in the same time getting feedback from close friends and fans.

1. Facebook
   https://www.facebook.com/hopscotchers

2. Twitter

   https://twitter.com/hopscotchers