**Project Name:** Nana Hero (A web-based game design)

**Group:** None none **Group member:** Nan Wu, YiBin Yang, Haohan Xie, Hao Zheng

The project aims at designing a web-based 2D parkour game named “Nana-Hero”. Players would take adventures in different levels, such as icelands, deserts, ocean, roads and even some mysterious places, hunting for the precious treasure. However, you are not the only guy there, thus to beat up all the monsters and guardians along the way is necessary. Our hero Nana would grow up in this travel, gain more strength and learn more skills, such as using different weapons. It would be a great fun to enjoy this journey.

Three main game scenes are realized in this game, including log-in(log-out) page, game page and ranking list page.

1 The log-in (log-out) page will connect with the database, and if you are a registered user, our database would store your game history, and retrieve the data the last time your process is saved. This page will import some SNS websites’ APIs. It is easy to play with the players’ friends.

2 For the game page, on a broad view, our hero is trying to take the adventures of sending gifts to the destination. To be specific,

1. “Hero” can increase his scores by collecting rewards during the adventure, and the ranking list page would rank the players by their scores.
2. During the adventure, “Hero” may come across enemy, and touching enemy would cause scores loss or even dead.
3. There would be another feature, say, when “Hero” “eat something” along the way, “Hero” body could be enlarged for a limited time, and this further make the “Hero” afraid of no enemy and obstacles.
4. Also, the game should be harder as players goes further. It mainly has two or three rounds where each round is harder than before. The scene we design may include “normal plant”, “under water” and “outer space”, where it mainly uses physics engine called Chipmunk) to implement.

3 The main game page contains 3 layers for convenient control, which are background layer, gameplay layer and status layer. As the name of background layer, this layer will define the background image and elements of coins, blockage and enemies. The player layer will define the animation of our Nana, which contains run forward function, jump function, knockout monsters’ functions. The status layer is an observer of the game. This layer includes some indicators to observe the status of the game, such as the coins has been collected by player, the distance from the player to the blocks. It’s also will connect the actions of player and its firing event. The main game page has 3 different screens at least. Each one we re-layout the coins, blocks and the speed of the player. The difficulty will be a progressive layer. After testing the playability and UI effects then set the specific plan of difficulty. For the better user interface experience in this game, we will import a physics engine called Chipmunk(http://chipmunk-physics.net/) which will simulate gravity and collision.

Cocos2d-JS API is a popular web game design engine. The game will be designed in html5, CSS and JavaScript based on Cocos2d-JS v3.0 IDE in Mac platform. Objects in the game are nodes, which contains scenes, layers and sprites.