SUPER NINJA

Documentation

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Overview

Introduction

In this basic 2D platform game, player controlls a character called Super Ninja. The game is designed to run in web browsers on smartphones, tablets or even on a computer, regardless to screen size.

Description

In the beginning of the game, there is a Super Ninja. His goal is to finish a game and collect as much coins as possible. Super Ninja runs on the floor blocks. In order to stop him in his goal, on each level there are many obstacles like water, lava and spikes. To help him to reach the end of the level, on his journey, Super Ninja can collect potions that will give him lives and double coins. Also there is a potion that gives him higher jump in places where needed. The level is over when Super Ninja passes by the flag.
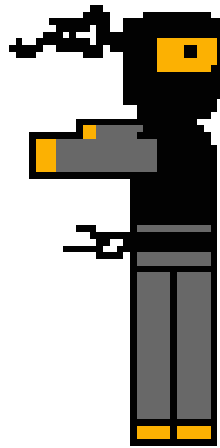

Figure 1 Super Ninja

Game structure

Controlls

Super Ninja runs automatically until he colide with the left side of the floor block or obstacle block. He will jump if a player clicks left click on the mouse on computer or taps the screen on mobile/tablet. Because of the simplicity of the game, no other controlls are included.

Super Ninja can perform double jump by with double tap or double click. The first jump will jump from the floor and second click can be clicked anytime while flying. With double jump without using higher jump potion, Super Ninja can jump as far as 3 blocks with the width 1.
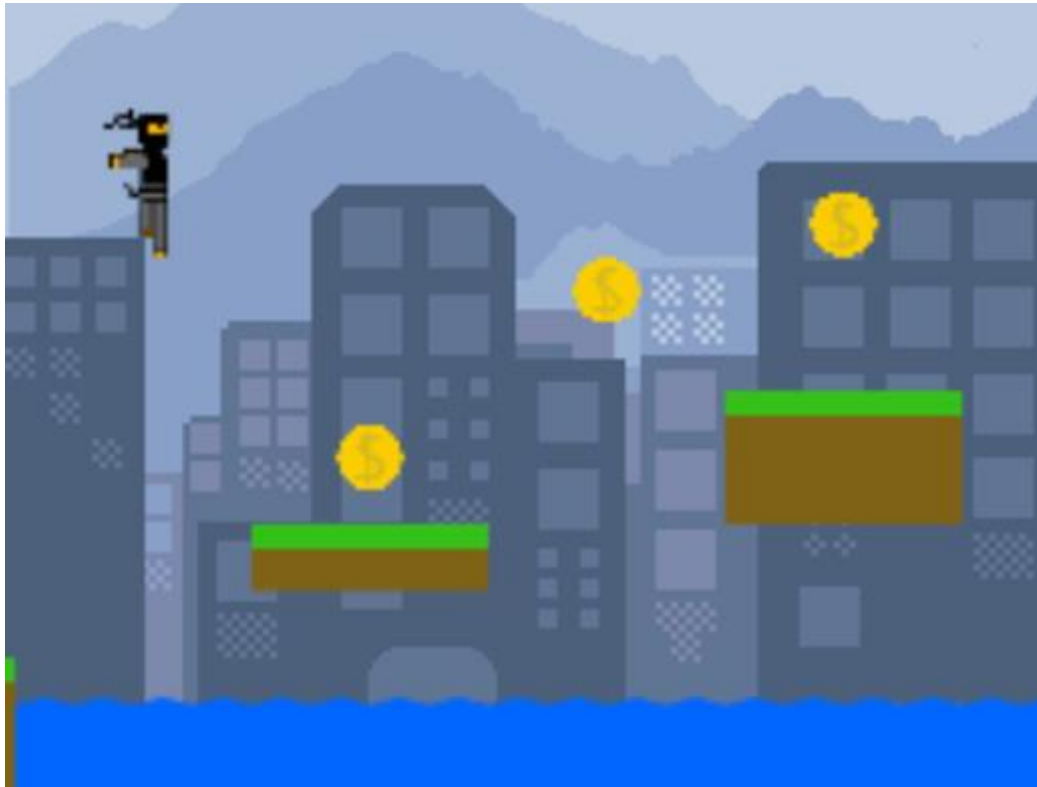

Figure 2 Super Ninja in jump

Playing instructions

Moving

At the beginning, Super Ninja falls on the floor. That floor is the only block he can move on. If Super Ninja touches floor block on left side, his movements stops until you make him jump over it. Moving below the floor block is not possible in this game.

Lives

By the default, you have three lives. You can lose them by touching water, lava or spikes. You can avoid them by jumping over them.

Coins

To make the game more competitive, on each level there are many coins. The goal is to collect them as many as you can. Some of them are placed on impossible to reach places so player must think if it is good to collect them or not.

Potions

There are three types of potion in the game: regeneration, higher jump and double coins. Regeneration gives a player one more life, but three lives are maximum. So if a player has three lives and collects regeneration potion, nothing happens. Higher jump potion gives you 10 seconds to jump higher than usual. This is the only potion that doesn't dissapear when collected because it might be needed if a player lose a life. Double coins potion makes every coin worth double for 10 seconds.

Levels

There are many levels included in the game. The level is over when Super Ninja passes by the flag. If it is the last level, your score will be recorded for the high scores. If there are more levels, you will get a message „Are you ready?" after which new level will start.

User interface

Menu

When you load the game, the first thing you will see is a menu like Figure 3 below. In order to play the game, you need to click on „PLAY GAME" button. To view highest scores, you need to click on „HIGHSCORES" button. If you don't know how to play the game, you should see a tutorial that will appear when „HOW TO PLAY" button clicked.

Figure 3 Menu screen

High scores

Here are shown names and scores of the best three scores in the game. For the design look at the Figure 4.
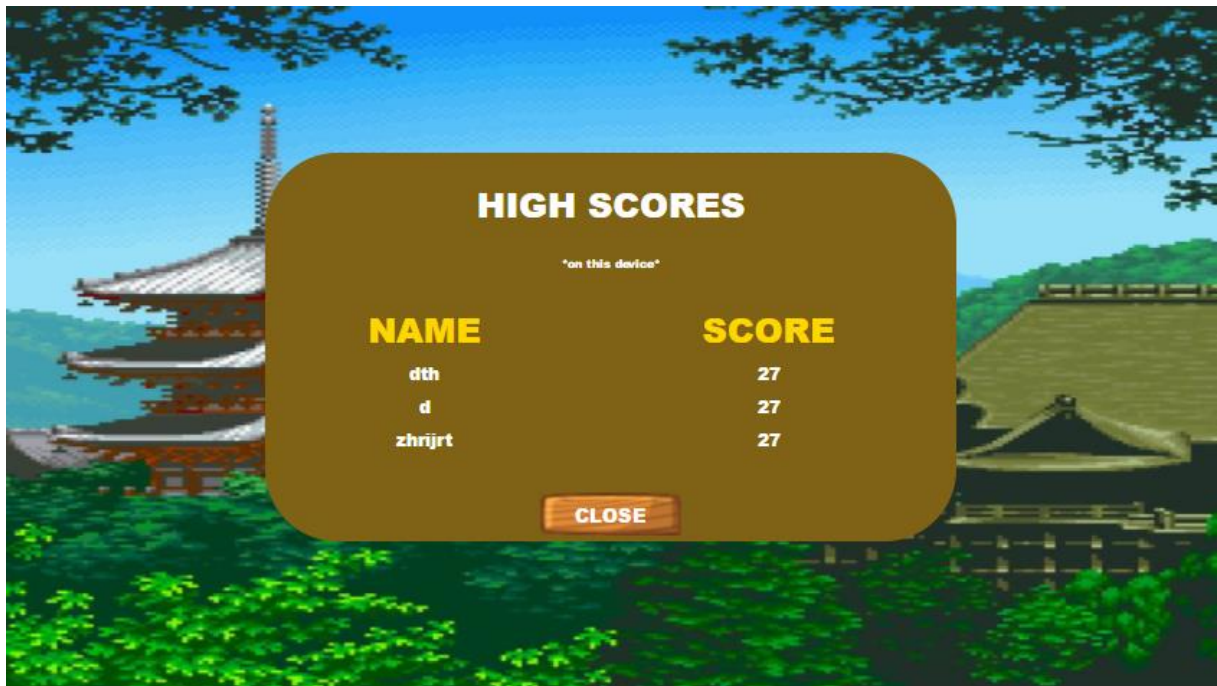
Figure 4 High scores

Tutorial

For complete beginners, there is a tutorial which will tell a player how to play a game in few short steps.
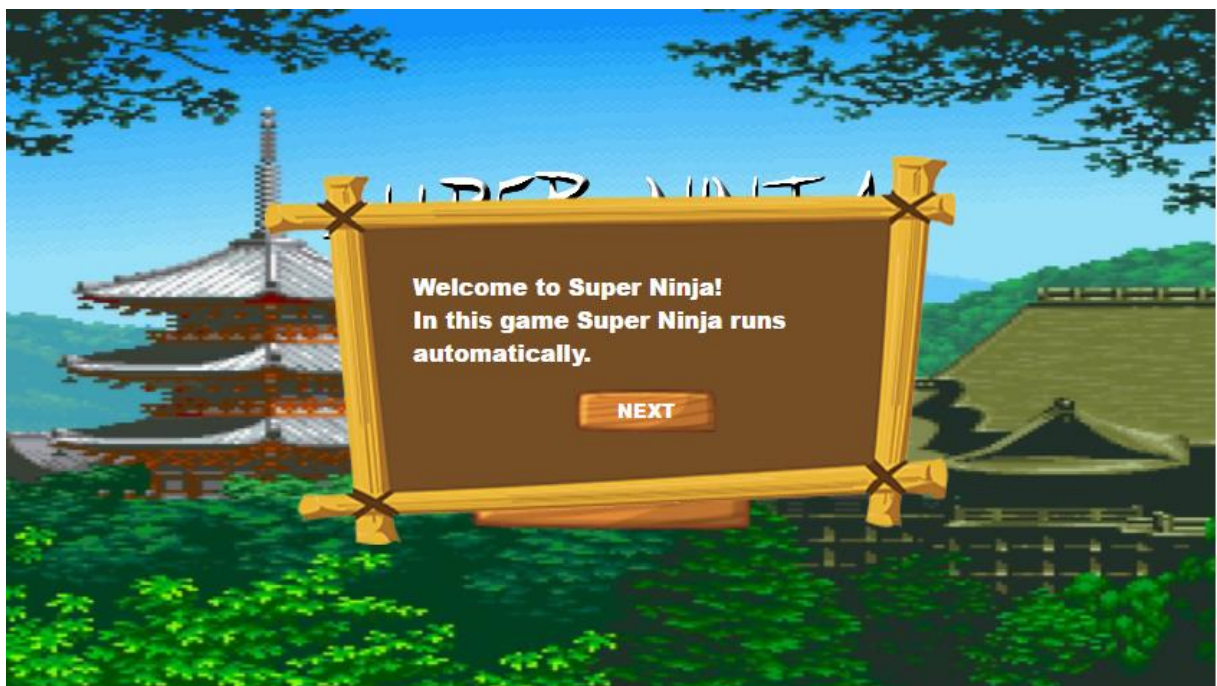

Figure 5 Example of the tutorial

Game

When the game is started, the first thing you must do is to enter your name. That name will later be shown on high scores table.
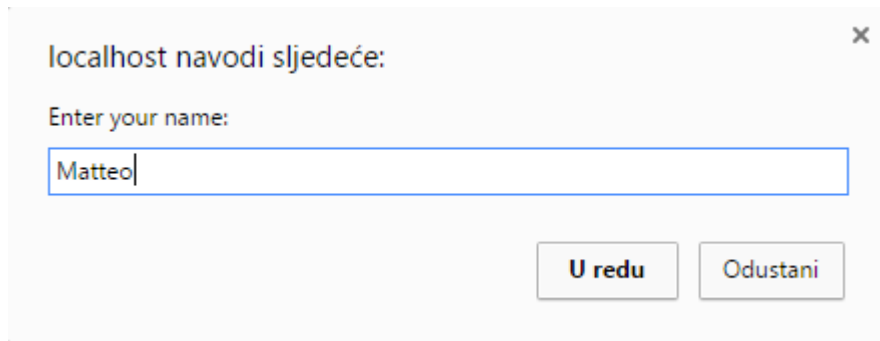

Figure 6 Entering the name

After that, you can start the game. On Figure 7 you can see how it looks like. On the top left side you can see how many point you have scored and how many lives you still have. On the top right side you have a pause button. When pause button is clicked, you will get a popup where you can continue or quit the game.

Figure 7 Game screen

Popups

Player will get all messages in the game through popups. For example, player will be asked „Are you ready?" at the beginning of each level.
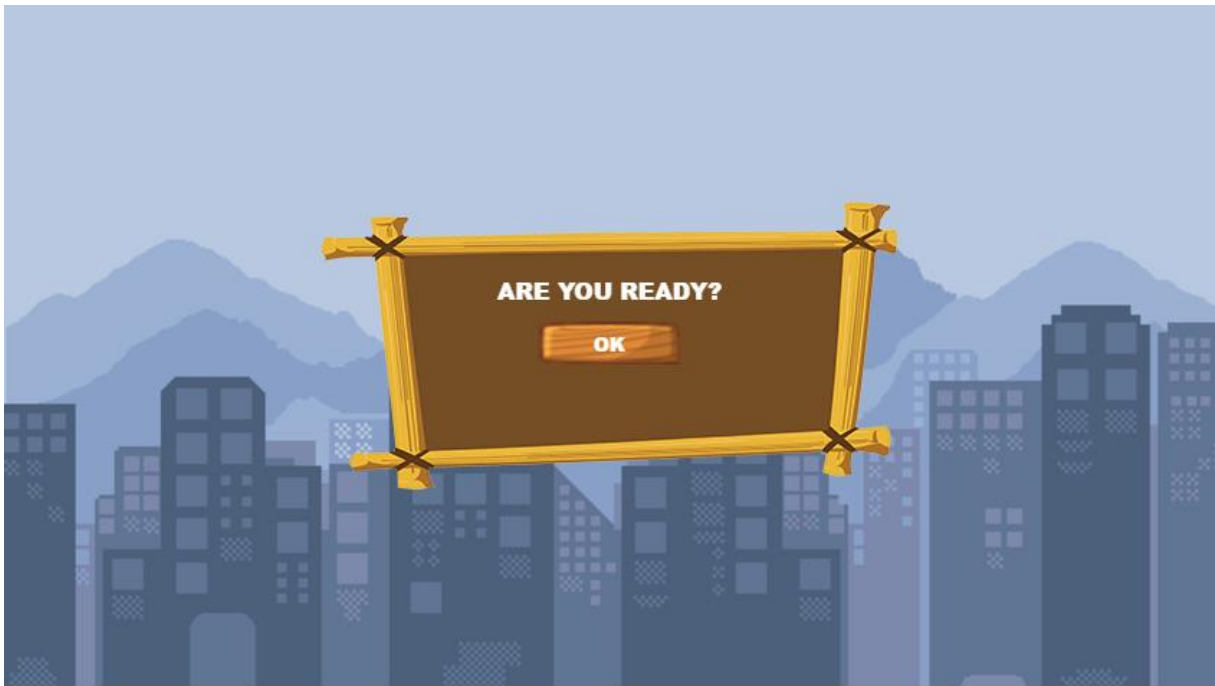

Figure 8 Popup example

Features and limitations

List of features

- High scores
- Double jump
- Gravity
- Collision detection
- Potions
- Animated character
- Scale to fit screen size
- Ability to write new levels

Screen

There are some limitations about screen size. Minimum width of window's content area must be at least 480px and minimum height of window's content area must be at least 270px. By the default, game's resolution is 480x270 and if we have smaller screen than that, the game can't be displayed properly. Also, when playing, screen must be in landspace mode to show level in a best possible way.

The game's screen will scale to fit the screen with the optimal ratio. Sometimes, it won't cover 100% of the width and height but it will be centered. If the window's content area change its size, the game will refresh. It is done to make the game play at its best all the time.

Levels

In this game, you can add as many new levels as you want. In a file levels.js there is a detailed explanation on how to do it. Below it will be explained how it works.

Whenever a new level is loaded it is made by a function that reads it from levels.js. In this function are made instances and arrays of instances of objects. When you look at the code for every object, you can see that every object needs some parameters. Those parameters are described in comments before function. From levels.js, the code loads those parameters in instances.

High score

In high scores, there is a list of the best three results. The results you can see are only the results that are made on this device. Because of the special function for storing results, the game must be placed on local host or server. If URL starts with „file:///" high scores option might not work.

Browser Support

On Windows

The game runs smoothly on Google Chrome, Opera, Mozilla Firefox, Internet Explorer and Microsoft Edge. As Apple doesn't release new versions of Safari for years, the game hasn't been tested on it. However, on Internet Explorer (version 11) centering doesn't work good, and on Mozilla Firefox there is a problem if space is pressed.

On iOS

As far as Apple products are concerned, the game runs smoothly on all browsers in all iPhones after iPhone 5. Also, the game is tested on iPhone 4S even though it has small browser's content area and the game runs perfectly but not all objects can be seen. The game also works perfectly on newer iPad devices.

On Android

The game is tested on many Samsung, LG, Sony devices, and works perfectly on all devices.