



Click and Run

A canabalt-like game



3 people

Project Description

In this game, a player-controlled character is constantly running through a world, always in the same direction. The only control that the player has is to make the character jump to avoid various sorts of threats. The objective is to run for as long as possible. The world is generated procedurally and on the fly.

Skills

Gameplay



Real time



Graphics



(*)[The skill scale is from 0 (Fundamental Awareness) to 6 (Expert).]

Level 1

You may now pursue to the level 1 of the project.

- ** Procedural world generation
Generate an infinite world with a fair amount of variety. The world must consist (at least) of floors and steps and holes.
- *** World display and start screen
The game should be able to display (part of) the world. The start screen should be scrolling from left to right through a procedurally generated world.
- * Player
A character is running through an empty world, and it can jump and fall; it must not be able to go through walls and floors.
- * Complete game mechanics
Put the previous two items together and detect death conditions, at least collision but perhaps also falling out of the screen.
- * Animation
Animate the character, its jumps, and perhaps its death(s).
- * Background
Generate an infinite background for the world, and display it with a slower scroll, simulating a parallax effect.
- * Score
Compute a score during the game, increasing (only) when an obstacle is avoided.
- * Score UI
Display the score during the game, and have a leader board which prompts for a player name when a new high-score is reached.



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Level 2

Level 1 must be unlocked to read this section

Extension of the documentation

* Developer Documentation Required for lvl 2 validation
Document your project (not necessarily only in the source code) so that a newcomers developer could understand and contribute to the code.

* Release Required for lvl 2 validation
Produce a release as a source archive or git tag. The release files should have up-to-date README and INSTALL files and more generally allow anyone to deploy the application.

Extension of the tests

* Test procedural generation
Generate images of complete level generations, that can be bulked analyzed by a human to judge the effectiveness of the generation. Test that there is always a winning strategy.

Extension of the gameplay

** Two player mode
Add a two-player mode where players are on the same machine, each one controlling a character.

** Items
Add special items that one that instantly kills the player, one that gives an extra life (displayed on a life counter on screen), one that kills the player unless an antidote is picked within 20 seconds. Add items for temporarily slowing down or speeding up...can be picked (by running over them): that affects the player life, the gravity, the game speed, the visual rendering of the screen

* Visual effect
Add temporarily visual effects caused by some event.

* Adaptative difficulty
Introduce new difficulties, in the form of new items or landscape features, when the score reaches predefined levels.

*** Replay [optional]
Add the possibility to replay past games. For instance, high score runs could be displayed on the start screen.

Performances

** Performances
Evaluate the performances of the game, both in space and time, using profiling, and demonstrate the limits at high speed with many enemies.