



## MAKING-OF

CapAI, november 2021

## INTRODUCTION

Firstly our idea was to create a runner type game with a simple mechanic (jump), the possibility of multiplayer play, levels with an increasing difficulty (first easy levels and that were complicated as the game progressed).

## DESIGN PROBLEMS AND SOLUTIONS

It didn't take long time to make the jump, at first it was very simple and unrealistic, so we spent a lot of time polishing it, adding gravity, etc. Then, we added the option of a double jump, since this was the only mechanic of our game. With this option we had quite a few problems because at first we did not control the height and the character left the screen from above.

Another mechanic that we decided to implement because at first it seemed simple to us was to allow the character to bend down: we thought it would be enough for us to reduce its height by half. The problem came when we realized that the entities began to be painted in the upper left corner and, therefore, when reducing the height of the character, the half that was erased was the lower half, just the one we wanted to keep. So we also had to modify the position of the character so that, although the entity began to be painted in the upper left corner, it gave the impression that he was really bending down.

So finally, the mechanics that we thought we would have in a couple of hours really occupied us a few days because then we had to adjust the collisions (that did not leave the ground, etc.), so we had to discard some of the options we thought of at first (include the multiplayer option, for example) and focus on polishing the mechanics we had.

But during this month of development we have had several problems not only with the mechanics but also with the rendering and video memory, because a week after the delivery (when we started to make "larger" maps), we had to implement a double buffer and optimize our rendering system because we were generating a bottleneck that produced flickering and that the game slowed down

Finally we decided to add animations and music and with both we had problems: with the first one, our character seemed to have two heads when he went from crouching to getting up, it was as if he had two states in the same frame...:



When in fact the problem was that we did not update the counter when the state changed.

