

ncurses - google dinosaur

day dino

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Game logic

Game data is stored in a 3D array, where all three dimensions represent data from the game world. The array contains:

- ' ' - empty position
- '#' - obstacle (cactus)
- '~' - obstacle (bird)

At each iteration of the game loop uses `napms` (time). He is responsible for delaying the movement of obstacles. Over time, it becomes less and less, that is, the speed of movement of obstacles becomes more and more.

The cycle of working with this array is looped to infinity. At each iteration of the loop, the array is shifted one character to the left, with the new last character being a randomly generated ' ', '#' or '~' character.

At this time, the player stands still. He must jump or crouch to avoid obstacles in the side view, and dodge obstacles left or right in the top view.

The end of the cycle occurs at the moment when the player loses.

The first two dimensions represent obstacles (cactuses) standing on the ground, when viewed from the side or from above. And the third dimension represents flying birds that only threaten you from the side view.

It's an endless game. The goal of which is to set the highest possible record.

Game play

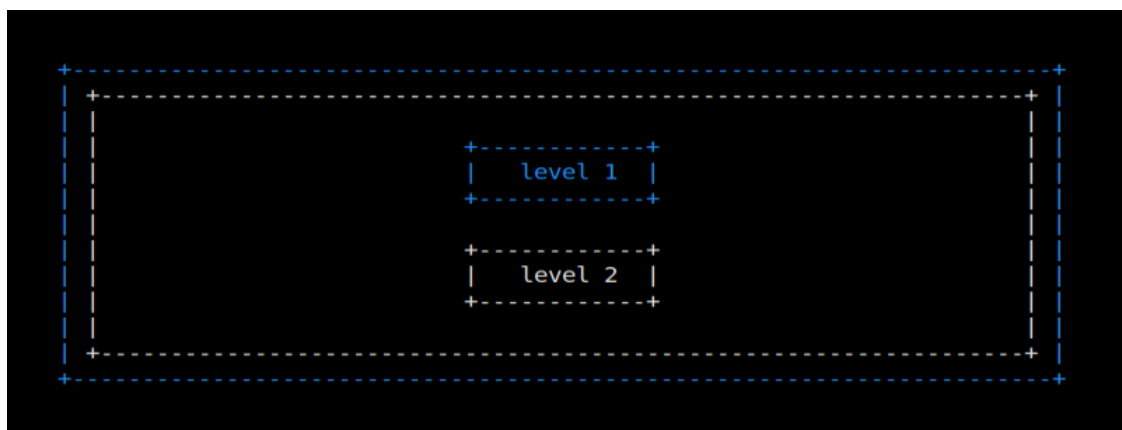
The game is written entirely in main.c. It follows the rules of the famous Google Dinosaur game, where you control a dinosaur that runs forward, jumping over obstacles (cactuses) and crouches, dodging birds so as not to die.

The game ends when you hit an obstacle.

When you start the game, the start menu appears, in which you can either start the game or exit it. Use the Up Arrow or Down Arrow to switch between buttons.



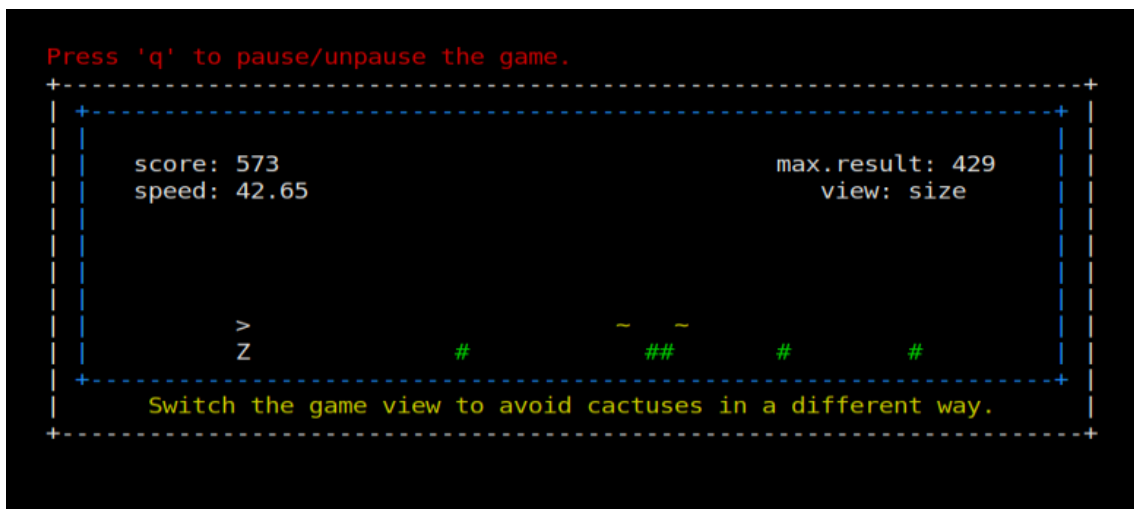
After pressing the button "start game" a new menu appears, in which you are asked to select a level.



Differences between levels:

- In the first level, you are a dinosaur-child who is designated by the ">" symbol and who can only jump and crouch.
- In the second level you are already an adult dinosaur, which is designated by the symbols "Z" and ">" and which can not only jump and crouch, but also walk left and right with the help of changing view.

After choosing a level, the game begins.



Now you are a dinosaur that you control with the arrow keys on your keyboard (Up Arrow and Down Arrow).

Obstacles (cactuses) are represented by green “#” symbols and birds are represented by yellow “~” symbols.

Your current score, maximum score set at this level, your current view and speed of the dinosaur (maximum value 100.00) are displayed at the top of the game space.

In order not to die, you need to jump over cactuses and crouch from birds. But sometimes the obstacle can be too long or too high. In this case, you can change the view to another, thereby getting the opportunity to simply bypass this obstacle on the left or right side.

But even in the top view, there is a possibility that the obstacle will be too wide and you will not be able to get around it, and you will have to switch the view again and avoid the obstacle in another way. This is the whole point of Level 2.

Press “Space” to change the view.



You are now looking at the dinosaur from above.

From this point of view, the dinosaur looks like "@".

You are on the same obstacle line that you changed view from, but now you can get around obstacles (cactuses) that you could only jump over before.

Below you can see birds flying above you exactly on your line. They are marked with a yellow "~" sign. This is done so that you can think about your actions in advance. Because it can happen that you change your view from top to side and immediately bump into the bird that was above you, eventually losing.

You can also pause the game by pressing the ‘q’. The game has paused and now you can either press the ‘q’ again to resume the game, or press the ‘e’ to exit to the main menu. When you go to the main menu, your current score, if it is more than your max. result, will become it.



As soon as you hit an obstacle (cactus or bird), you will lose.



Conclusion

The main disadvantage of the game is that it can happen that, for example, in the side view, the obstacles will be located so that it will be impossible to pass them and it will be necessary to switch the view to another, but even there the obstacles will be located so that it will be impossible to pass them at all. But it can happen very, very rarely and it can be fixed in the future.

The maximum score of the first and second levels is saved in the file, which makes it possible to expand the game in the future due to the table, for example, the three best results, with the nicknames of the players.

Coins can be added to the game, which the player will have to collect during the game. And a store can also be added, for example to buy dinosaur skins, where you can spend the coins you earn.