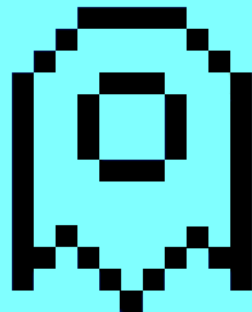


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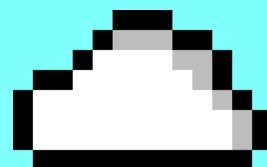
ALICES TANKS

Semag Ohcaco Games Team

Rodrigo Guzmán Escribá
Yaroslav Paslavskiy Danko
Eduardo David Gómez Saldías



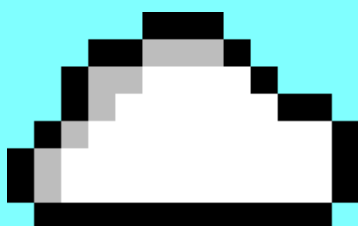
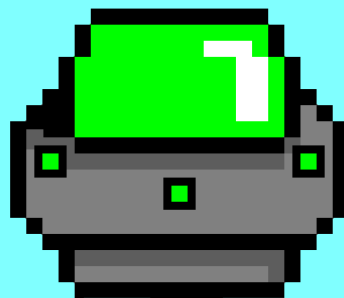
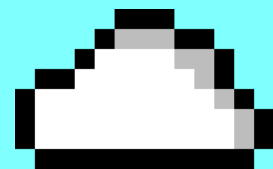
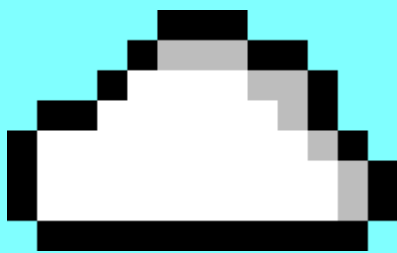
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Who are we?

We are Semag Ohcaco Games. We are a team of game developers created on September of 2021 at the University of Alicante for the game development contest CPCRetroDev 2021.

- [Rodrigo Guzmán Escribá](#) || ECS & Render & Gameplay
- [Yaroslav Paslavskiy Danko](#) || Art & Gameplay
- [Eduardo David Gómez Saldías](#) || AI & Level Designer

What is "Aliens'n Tanks"?

Aliens'n Tanks is an arcade game developed by Semag Ohcaco where you take control of Billy Boots and her tank to destroy all the spaceships that are trying to invade Unites States.

In the game you will have to drive your tank and shoot the aliens to defeat them and save your country from the aliens.

Aliens'n Tanks has been full developed in assembler code with the CPCTelera engine, to be played in Amstrad CPC 464. The Amstrad could be emulated or you can play Aliens'n Tanks in a real Amstrad machine.



Technologies

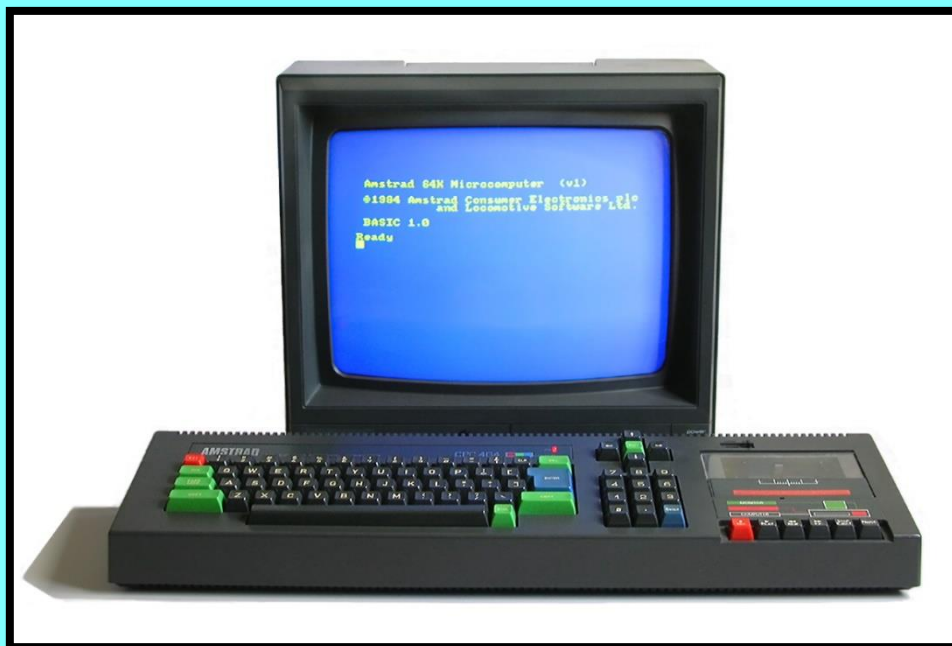
The technologies that were used for the development are:

- CPCTelera | Amstrad CPC game engine for C and assembly developments
- Arkos Tracker | Music and SFX composing tool
- Visual Studio Code | Code editor
- Tiled | 2D map editor
- Aesprite | Graphic editor
- GIMP | Digital image editor
- GitHub | Control version software
- Trello | Tasks manager software

1ST Week of development

In the first week of development of the game, we learned about how to program with assembler code on the Z80. We learned a lot about how a computer works and what is the work of a compiler does. Also we learned about the Entity System Component programming structure (ECS) and how to orientate the game structure.

We finished some tutorials about ECS and assembler that our teacher Fran Gallego uploaded on youtube from other years, and from there we started getting over it and understanding how everything works and how memory works inside the Z80 machine.



From here we started the real development of what today we meet as Aliens'n Tanks. We used trello to organize all the tasks to do and gestionate all the workflow about the pull request of Github.

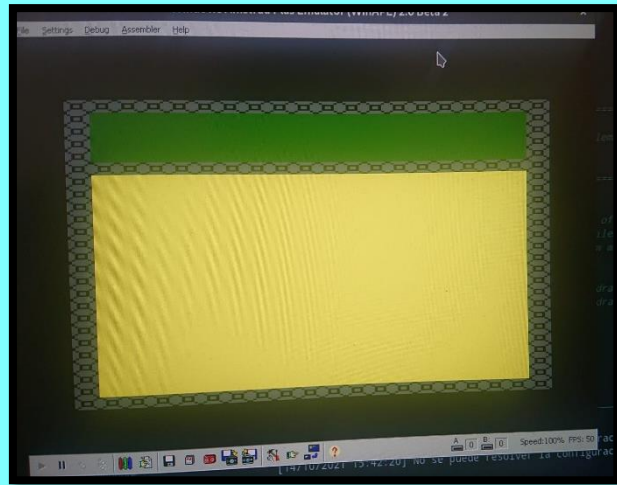
At the start we managed our responsibilities of the game development process and Rodrigo was assigned to do the render, Eduardo was the AI programmer and Yaroslav was assigned to de gameplay programmer. Also we thought about the entities of the game and how to work with the ECS basic structure that Rodrigo prepared for the start of the project.

From here at the end of the first week we had the structure of the ECS with a simple render of some squares that moves and shoots some other squares. At the end of the first week we didn't have anything of the AI and we made some game design too.

2nd Week of development

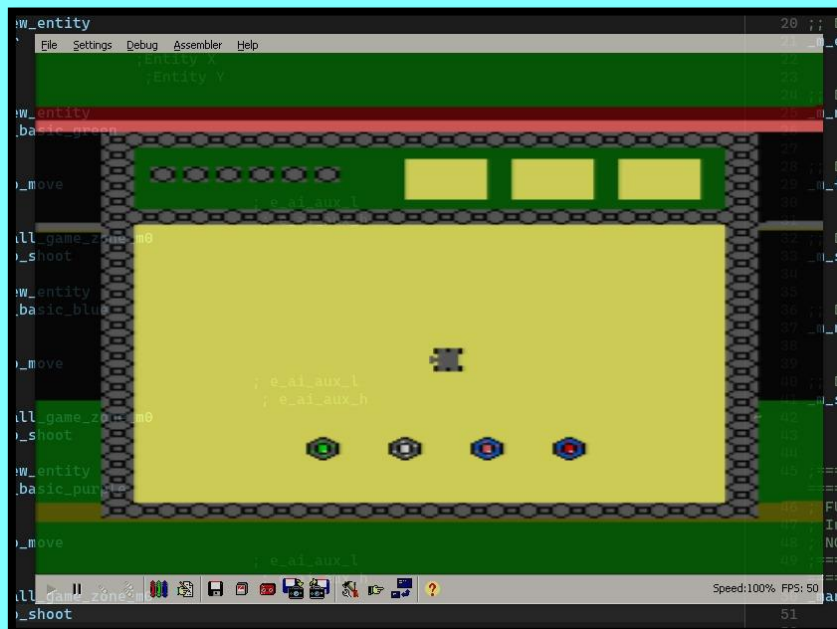
At the start of the second week we had a meeting and we talked about how we were at that point in our responsibilities and assigning new ones to all of us. We started the game loop and how all the things had to update. Also we started with the level structure and some sprites.

In addition, we started to develop the interruptions system that was a constant hotfix to do at long of all the project but finally at the start of the last week we fixed it once and for all. Plus, we did some bug fixing of the ECS structure we had.



In the middle of the second week we had a tank with orientation and a tilemap where the tank could shoot and drive. From here we started the collisions with the map and a more advanced game loop. Also we didn't get anything of the AI to merge with the other features, and we didn't know but this would be a problem at the next stages of the game development.

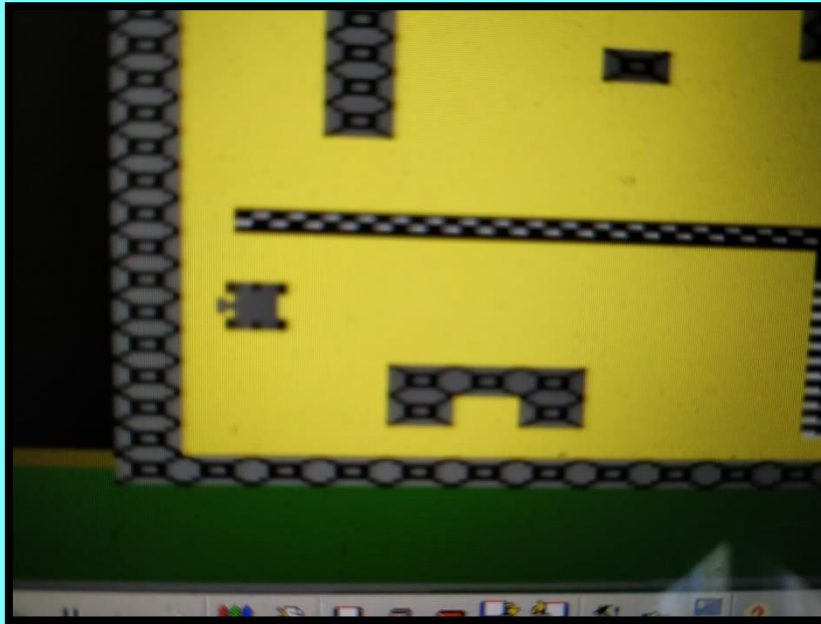
At the end of the second week we had a playable tank with a map, some sprites and animation for the tank and his bullets. For the structure we had a level charger and a game loop for charging different stages.



3rd Week of development

At the third week of the game development process we saw that we were having some troubles with the AI system and we decided to talk about this problem and how to face it. We decided to give some more time to the development of the system to Eduardo but we didn't see anything. The three of us have known each other since the first year of career and we know that Eduardo would develop the best AI system.

While Eduardo was developing the AI, Yaroslav started to develop the entity collision while Rodrigo was still fixing, updating and developing the game engine and doing the best render for the game.

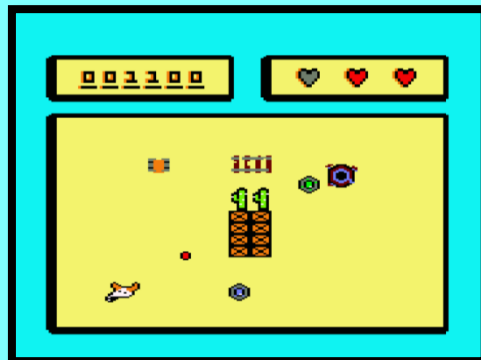


This week we were working very well and we were happy with the progress of the project and their mechanics. Finally at the end of the week we had already a playable game with the game loop perfectly developed to let the users play the game but we started the fourth and last week which we like to name: "The AI week".

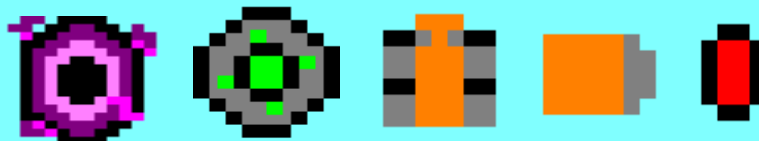
4th Week of development

We started the fourth and last week of development but we still had some problems with the AI system and all of those entities. From here we started to include all the entities with the behaviours that we had for the AI. At the moment we started talking together about how the engine works and what the AI had to do exactly, Eduardo almost finished the AI which helped us to make an incredible improvement of the game.

While Edu was finishing the AI, Yaroslav started with Aseprite to make a beautiful game and made some screens that upgraded the visual aspect of the game. Meanwhile Rodrigo was doing some music, preparing the game for screens with some compression, cleaning up and optimizing the code. In addition, we developed all the HUD systems with the player lives and the score.



At the start of the weekend we finally had a prototype of the game and we started working hard to prepare the CPCretrodev delivery. We were working on making the game visually and computationally perfect. By the end of the week Eduardo managed to make an incredible work with the Level design, using all the AI the coded he made a really fun game.



To finish the project Yaroslav started doing the gameplay and the trailer video, Rodrigo was polishing the game and bug fixing and Edu finished the game finally with a lots of levels.

Finally we prepared our itch.io page for the contest. We uploaded our trailer, finished the documentation and finally, the Semag Ohcaco team uploaded his game to the CPCretrodev contest.

STAGE CLEAR!



Retrospective

We worked a lot during this project and there are some lessons we learned that we would like to share with those who are reading this:

- Communication is the most important thing while you are working in a group. We don't want to know how much the final state of the game would have improved if we had good communication from the beginning of the project and we didn't have the AI disturb we got at the end of the third week.
- We learned a lot of how a computer works and that is thanks to this month where we investigated and developed a game without a tutorial that just shows how to do certain things.
- Had fun developing a game. We think it is super important because you are working in a game that would take a lot of time of your life and have fun on those moments, when you are working 7/8 hours per day, are important for you to not give up.

From the Semag Ochaco team we hope you enjoy our game at least a small part of what we enjoy in the development of this project.

