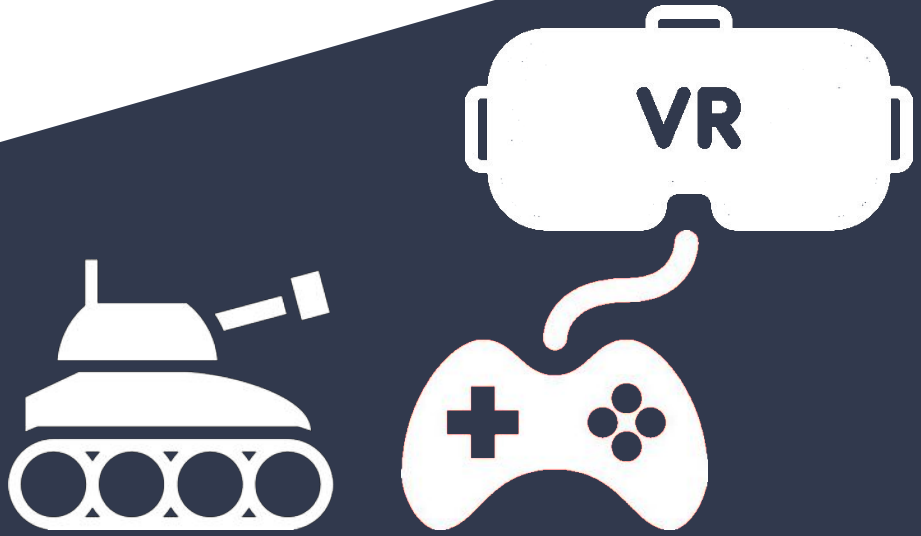
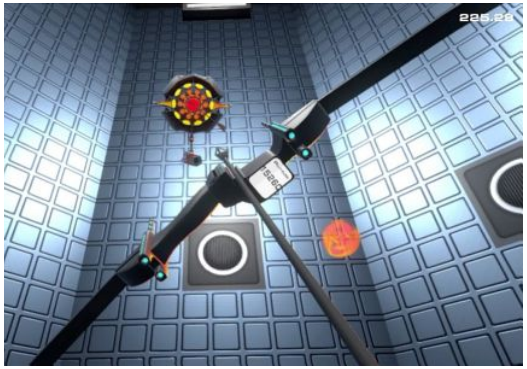
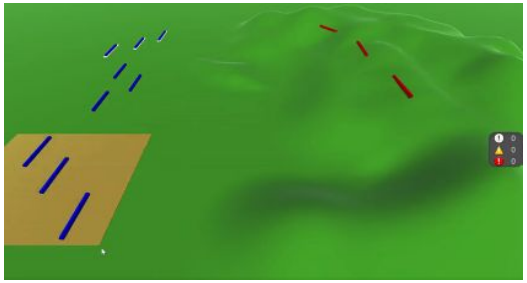
Carlos Matos

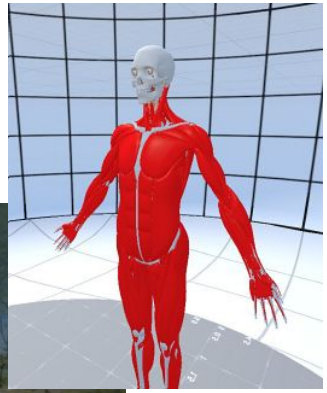
Software Project Manager and Developer

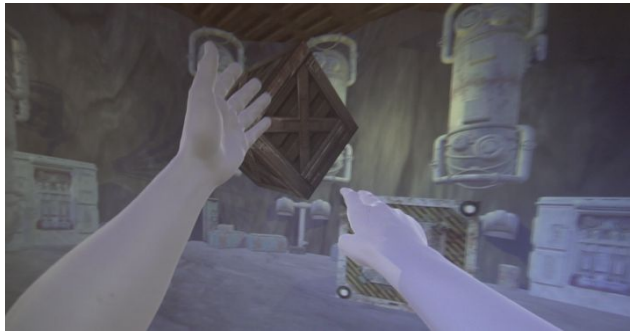


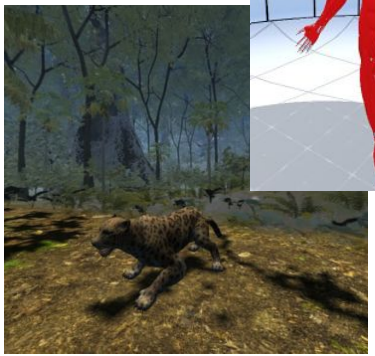
Simulations and Games











Portfolio overview

Made with Unity

Professional Experiences Summary

2024 - **Tech Dev Coordinator** (Amado Maker)

- **Game Developer** (Monhangá Jogos)

2023 - **Military Simulations Researcher** (EsAO)

2022 - **Software Project Manager** (CDS)

2020-21 - **CTO/Head of Military Simulators** (CDS)

2018-2019 - **CEO/Project Manager** (Virtopia)

2017 - **Lead Game Designer** (Virtopia)

2014-16 - **Live Simulations Instructor** (CIOpGLO)

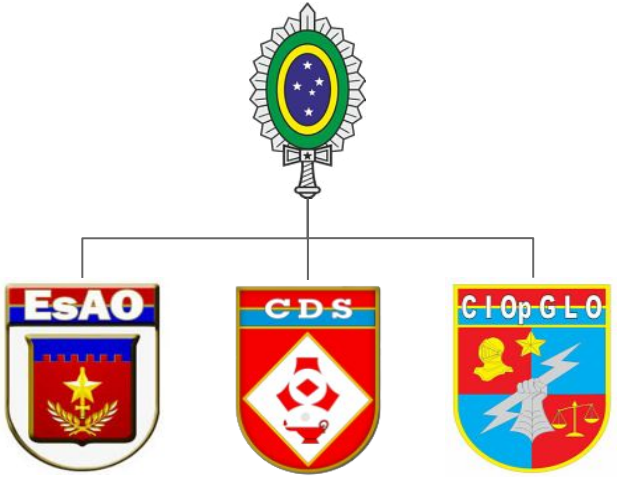
2012-13 - **Virtual Sims Acquisition** (CIOpGLO)

amadomaker editora

VIRTOPIA

Monhangá Jogos

Brazilian Army

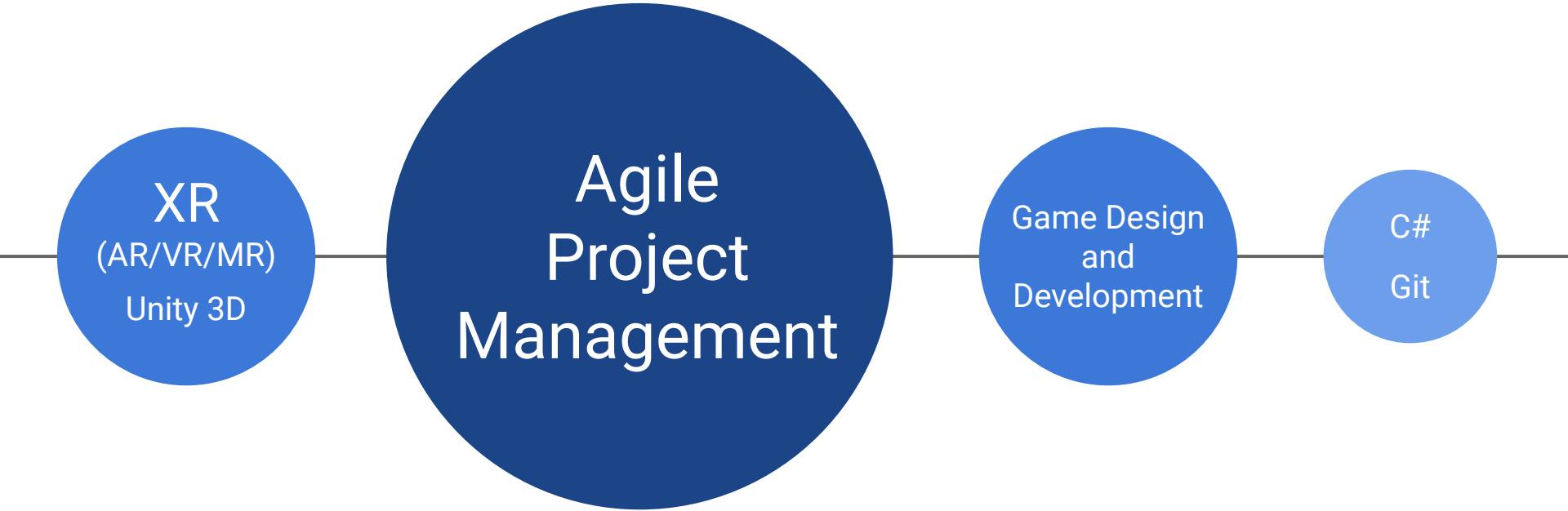


Officers Enhancement School

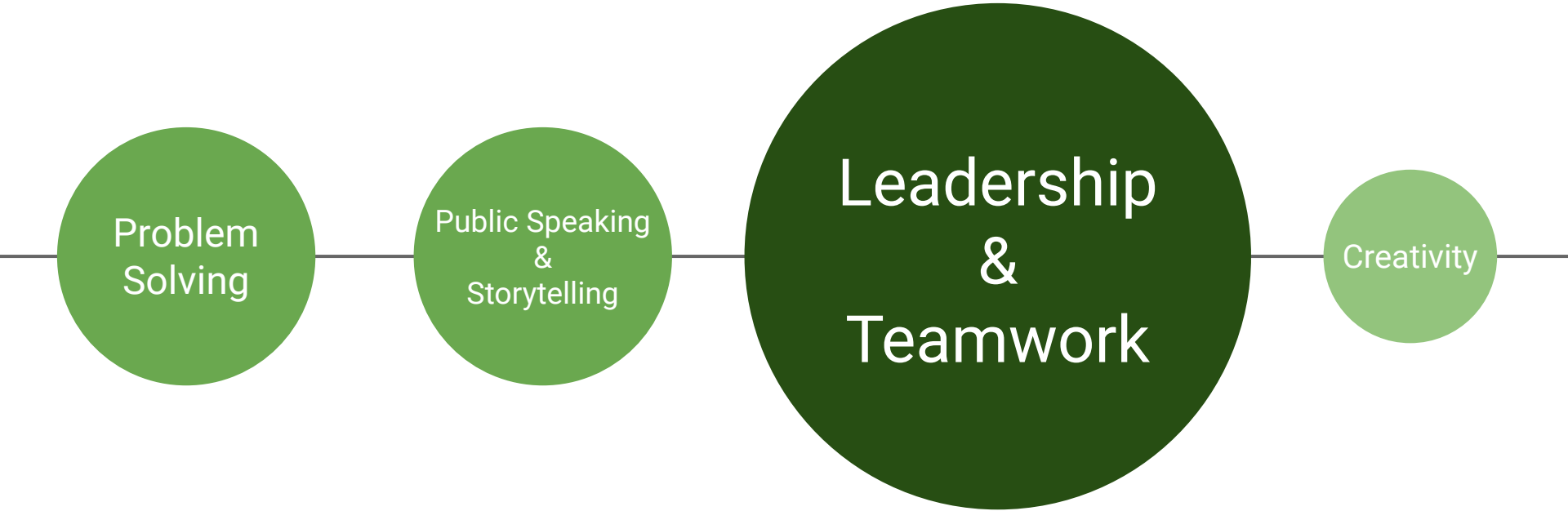
Systems Development Center

Law Enforcement Instruction Center

Main Tech Skills



Main Soft Skills



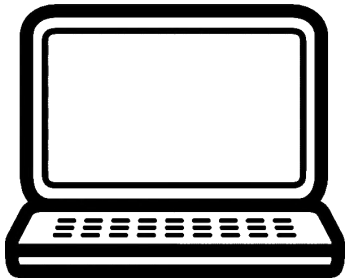
Academic development

Game Design and Development Specialization
(Michigan State University)

Military History Specialization (UNISUL)

Military Sciences Specialization, Infantry Officer (EsAO)

BSc in Military Sciences, Infantry Officer
(AMAN - Military Academy)



Courses

AI for Games (Game Institute)

Innovation Management
(IME - Engineering Military Institute)

Geoinformation for combat simulations
(2º CGeo)

Combat Simulations (UFRGS)

Applied AI (IBM)

AI applied to information fusion
(George Mason University)

Online games (Vanderbilt University)

TV and video producer (SENAC)

Combat cameraman (2ª Cia Com L)

SIMAF 2.0

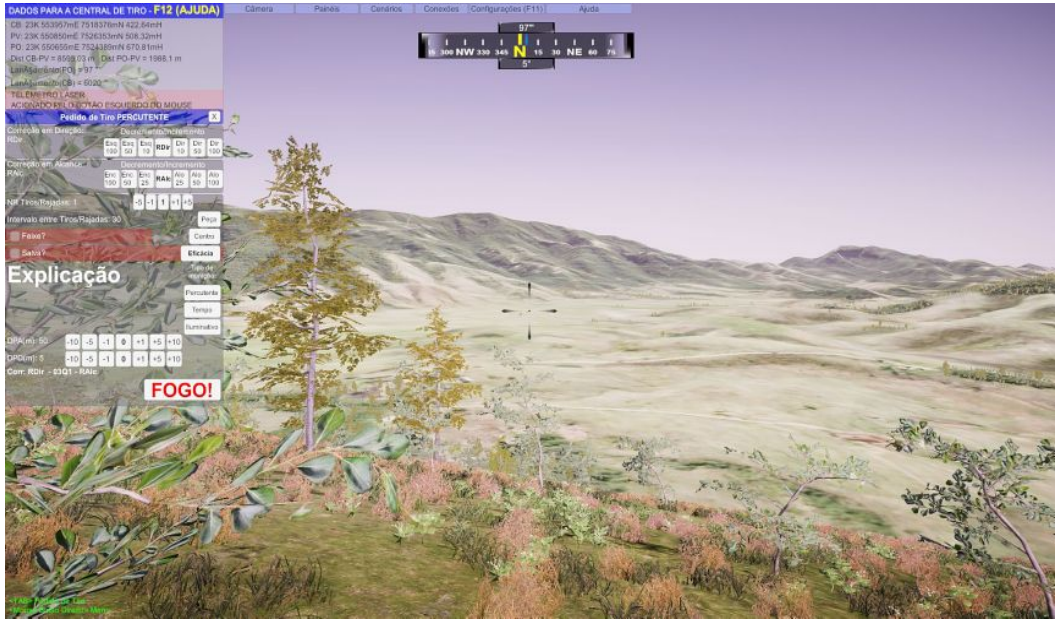
(Cross Platform Military Simulator)

This new version of the Fire Support Simulator had the challenge of a full software upgrade with minimum hardware update.

After a deep study on the possibilities of delivering a new version that could fulfill the minimum operational requirements and surpass the limitations of the old software, it was decided that we would take the existing Forward Observer CBT, aka Bombarda, and include new features into it.

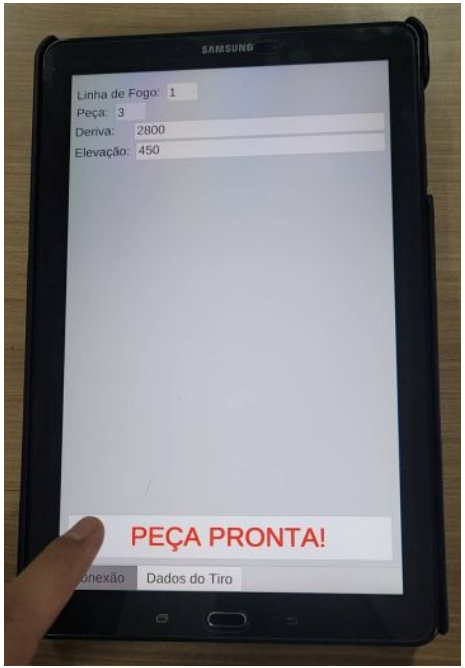
It was delivered, after 18 months, as a Unity based software with better graphics, user friendly UI, a reliable REST server, better physics, an Android app for the howitzers crews and more immersive simulated binoculars observation using VR VIVE HMD.

Role: Project Manager & Lead Game Designer



SIMAF 2.0

(Cross Platform Military Simulator)



[Gameplay video]

BowMaster

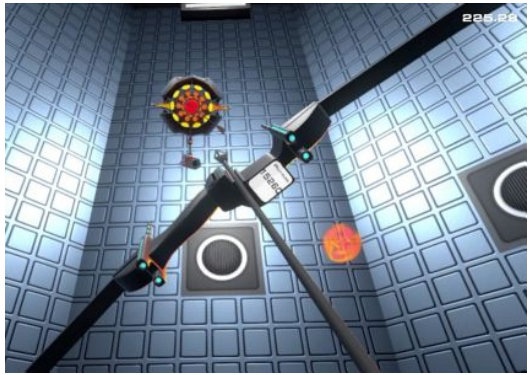
(PC VR Game)

Developed as a location based Wave-Shooter with bow and arrow, where robots are used to train the player. A Game Director Artificial Intelligence system managed the game mechanic that adapts to the player's performance, increasing or decreasing the level of difficulty, so that it is fun for everyone.

The score system considers accuracy and range of hits, generating a final Leaderboard that gives the experience a very competitive aspect.

It was launched at the Digi Festival on January 2018, with great success among the public - more than 250 people attended in 3 intense days. Later the game was licensed for two Brazilian VR arcades: Arkave and HyperBox. Built for both VIVE and Rift HMDs

Role: Project Manager & Programmer



[Gameplay video]

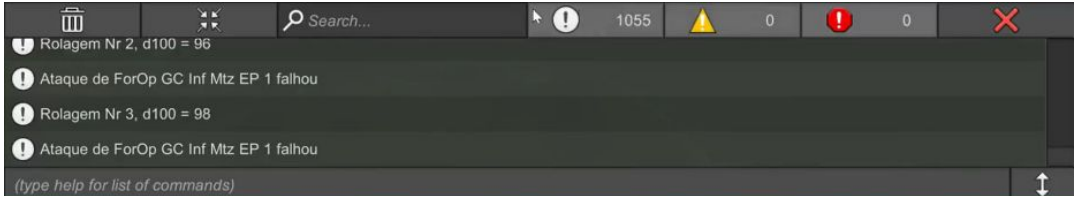
SVTát-BI

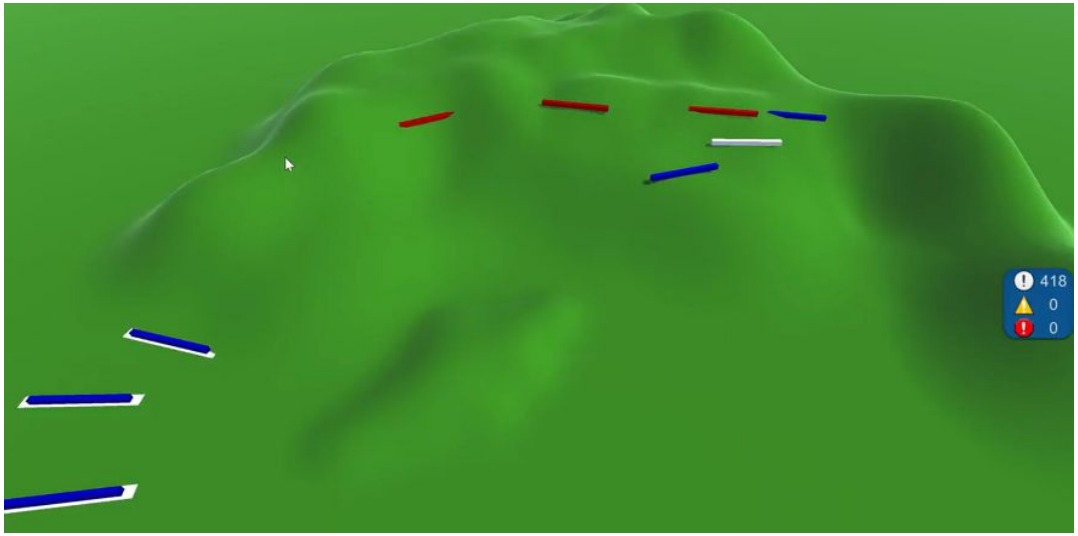
(PC Military Simulator)

Designed to be used by Operations Officers and Company Commanders, this Virtual Tactical Simulator for Infantry Battalions has a simple frontend, but a rich backend for calculating modern conflicts' casualties, as a computer based wargame for military operations training and planning.

The bars represent Combat Groups of each team (BluFor and OpFor); they turn white when they have been neutralized. All variables and functions are adaptable to simulate any army; all you need is some data on their shooting standards and protective gear.

Role: Game Designer & Programmer





[Gameplay video]

Jedi Apprentice
(VR Immersive Experience)

VR entertainment experience based on the Star Wars universe, developed for OSVR VR head-mounted display and the Leap Motion hand motion capture device.

It was developed by the Virtopia team especially for the 2017 JediCon event, in the city of Rio de Janeiro, LATAM's largest Star Wars event, under Disney's authorization.

Of the 3 Star Wars VR games, it was recognized as the most popular one during the 2 days event.

Role: Game Designer & Programmer

[Gameplay video]

VirtoAulas

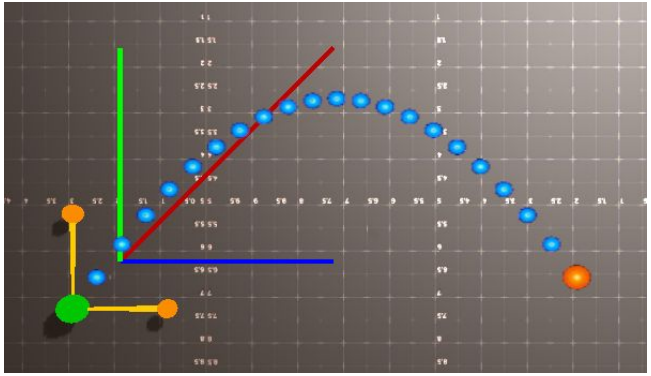
(Standalone VR Educational tool)

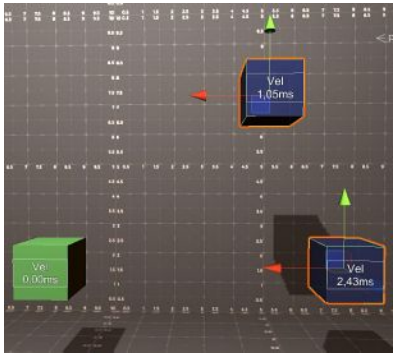
Family of immersive teaching software, based on active learning methodologies, that brings Virtual Reality (VR) to the classroom.

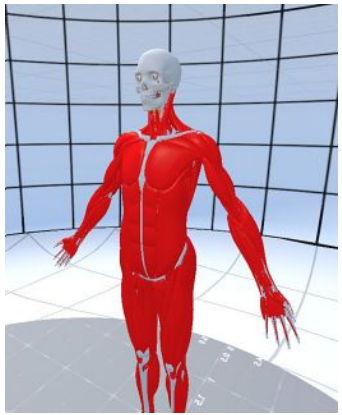
It allows innovative classes, mediated by the teacher, who can choose between having absolute control over the interactive resources used, or giving students the freedom to explore the content.

The 03 modules, called VirtoAulas: Biomes, Anatomy and Mechanics, were developed for Oculus Go and allowed the connection of up to 50 devices over WiFi.

Role: Project Manager & Lead Game Designer







[Gameplay video]

STReMu: Shooting Range

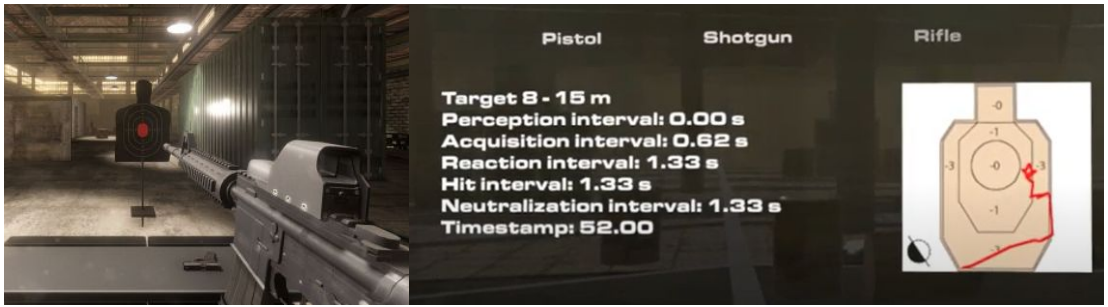
(PC VR Military Simulator)

Desktop VR system for shooting training with pistols, rifles and shotguns.

It enables a fully customizable 360º range, in an area as small as 2x1,5m, up to 2 user's training in 7x4m spaces.

With a complete technical analysis, gathering more essential data than any other shooting simulator in the market, it uses Vive HMD and Trackers, synchronized with custom electronic controlled mock weapons.

Role: Project Manager & Lead Game Designer



[Gameplay video]

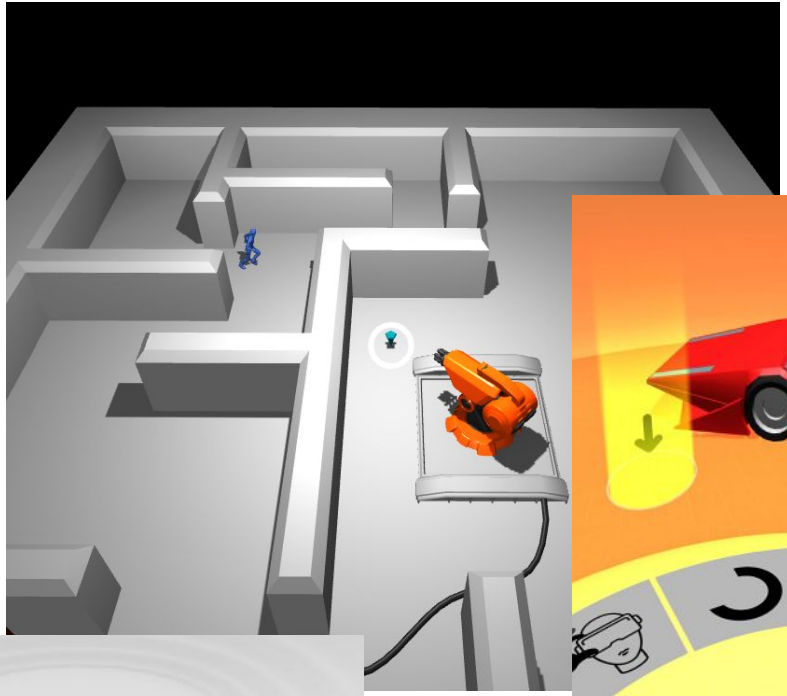
eXploRing
(Mobile VR Gamified Experience)

This demonstration was developed to be a XR exhibition: it explains concepts and explores the various possibilities of interaction and immersion of it.

Composed by many scenes, the user can experience the use cases of VR for Education, Entertainment, Industry, Military Training and Health.

Besides many interactive experiences, it had two games embedded to it: a Point ‘n Click maze and a timed score Shooter.

Role: Game Designer & Programmer



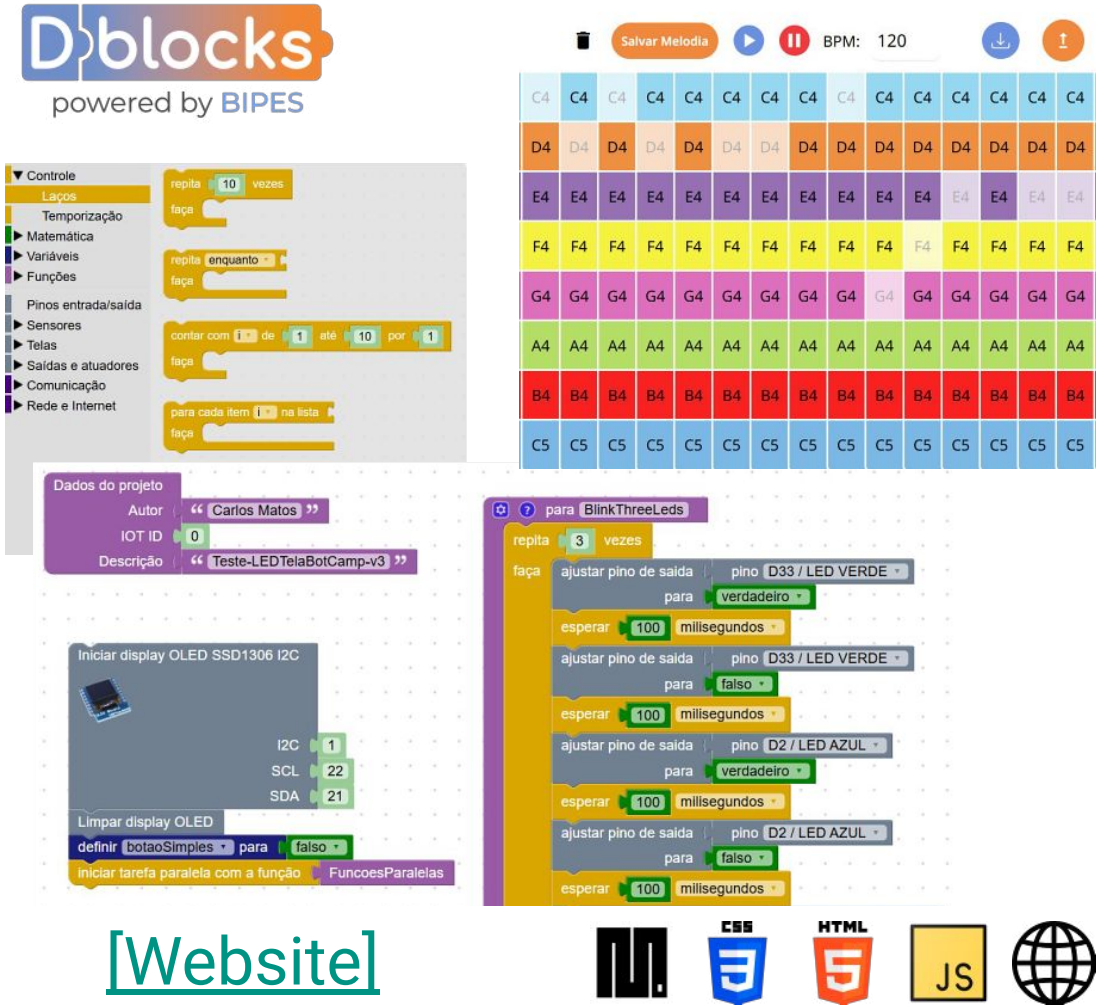
DBlocks

(Web Block Programming UI)

DBlocks is a fork of the BIPES project repository with a major toolbox UI update and many new features, such as the melody creation UI.

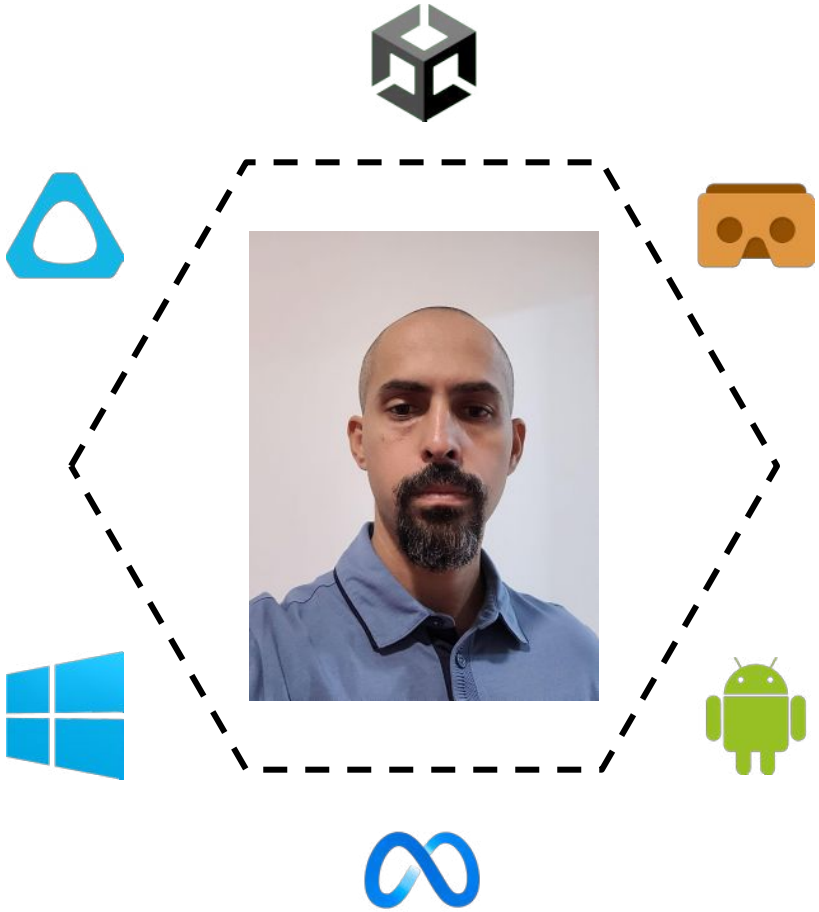
BIPES (Block based Integrated Platform for Embedded Systems) is an open-source block programming platform, based on Google Blockly, for embedded systems, robotics and IoT, with a pre-programmed library for 15 SoC. Created by Rafael Aroca, at UFSCar, it has more than 20k active users in more than 100 countries.

Role: Product Owner



[Website]

…and more!

[VR Showreel]

Contact