ARTIN

THALES

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CASE STUDY

A LEADING GLOBAL DEFENSE CLIENT

KEY FACTS

For a global player in the defense industry, we built LiveSim in Unity 3D – a system that receives real-time data from sensors on soldiers and buildings and visualizes it as a faithful 3D replica of the training area, including the calculation of gunfire, explosions and damage.

CHALLENGE

Soldiers train in physical training areas, with sensors on their vests and on the buildings – but all the data was processed only by a 2D application that gave commanders no spatial overview of how an exercise was unfolding. The client needed a system that accurately reproduces the real terrain of the training sites, processes live hardware input and calculates damage to entities and buildings in real time. On top of that, the brief changed direction fundamentally mid-development – the original concept wasn't tailored closely enough to the needs of its military end users.

SOLUTION

- LiveSim 3D visualization app in Unity 3D, connected to the existing 2D system via REST API
- Terrain generated from real elevation data (Google Maps, Bing Maps) – digital replicas of the training areas
- Live processing of sensor data from soldiers (vests) and building infrastructure (door sensors)
- Real-time calculation and visualization of damage to entities and buildings, gunfire and explosions
- Switch from a free camera to a focused panel system based on feedback from military users
- Iterative development with regular live demos and acceptance documentation after each milestone

TEAM SIZE

2 developers (WPF/Unity), 1 project manager

TECHNOLOGIES

Unity 3D · C# · .NET · Azure Platform · REST API · Blender · Git

PROJECT DURATION

2019 – present

What the client valued:

The team proactively spotted technical shortcomings and proposed its own solutions – above all, the client valued the ability to change the project's direction mid-development without loss of quality or escalations.

EXTRA

The ARTIN team designed and implemented **root motion for entities** – soldiers' movement in 3D space is driven directly by animation, not by external physics calculations. The result: characters move naturally and convincingly, without sliding across the terrain. The client never asked for this – the idea came from the team.

DEVELOPING SPECIALIZED SOFTWARE AND NEED A TEAM THAT GETS COMPLEX DOMAINS? LET'S TALK.