

ASSIST Software | Simulations

Complex 3D Applications, Interactive simulations and Game Development

ASSIST's passion for bringing a positive impact by tackling real-world problems in various industries and using an **engineer-first mindset** expanded across all our departments, so we have a dedicated team that is designing and building Serious games and interactive simulations.

Our portfolio includes applications and games that make use of **3D characters, special effects, real-time gaming environments, machine learning, VR & AR** to educate, teach or facilitate certain operations for the user but also products that entertain.

We are always looking for the next revolutionary product that we can craft by taking advantage of our wide range of development skills. **Partner with us** and we can take a project **from start to publication and marketing**, using our unique blend of expertise!

assist-software.net

ASSIST Software S.R.L copyright and confidential



Developing high-performance simulation tools and realistic assets for military-specific training solutions used worldwide



Expertise

Software Development for real-time simulations, Unity Development, Consultancy, Combat AI



Platforms

Unity, Desktop



Deliverables

High fidelity assets, Simulation (graphical & physical) engine



Project Type

Team Augmentation

CLIENT

Various clients Military Global

Specialties

Interactive simulation, tactical/ procedural and computer-based training

Description

Our clients are specialized supplier of integrated training solutions for international armed forces, security agencies and industrial clients.

Engagement duration 3 years+ Projects with ASSIST 4 ASSIST team size up to 15

FEATURES WE DEVELOPED

3D Simulations

High-fidelity assets

High level of detail

Custom integrations

Training platform

Hardware integration

Weather effects

Custom Graphics Engine

Communication System

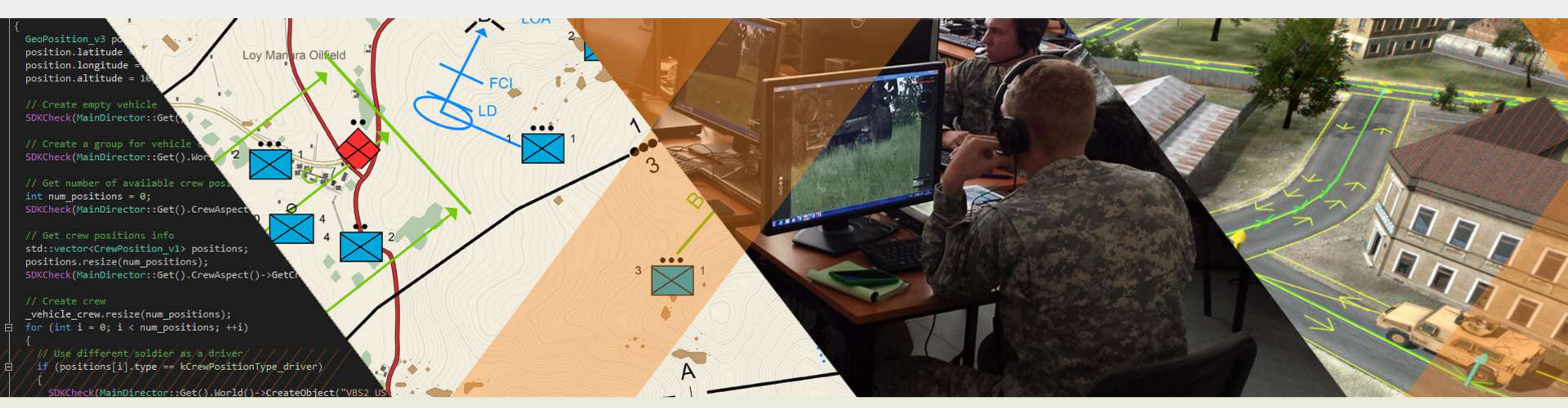
Real-time data transfer

TECHNOLOGIES WE USED



BUSINESS NEED

Our clients usually have some simulation applications built using **custom, proprietary engines**, which makes it very difficult and time consuming to add new features to existing products. We helped create a new graphical and physics engine to allow them to create content at a **lower cost**, while also **upgrading the visual quality**. ASSIST has been approached to use the latest gaming industry tech, Unity 3D, to update the graphical rendering of parachute simulators or tactical battle training platforms.



COLLABORATION DETAILS

HIGH PROFILE CLIENTS, VERY TIGHT MARGINS

The military projects come with the first major challenge: most of the system are custom so we have to work with a new 3D engine, without much documentation, ramping up on existing technologies in **short time**. Not only that but we have to learn along the way as prototypes need to be shown to clients within months. Moreover, most have some **very complex functionality**.

CREATING MULTI-FUNCTIONAL PRODUCTS

ASSIST was then entrusted to create various products, like external maps integrated with battle simulators. For this intended client we created a **dynamic architecture** and implemented it to allow additional functionality to be built, so it ended up being not only a core tool of the main app but distributed to multiple clients.

ADDING BUSINESS VALUE THROUGH AUTONOMY

We also show our ability to complete projects with almost no client internal resources. We meet our clients needs in this area through **team augmentation, internal management** and **product ownership**. These combined with close communication with the client's designer and their stakeholders enable us to carry out very Agile projects, with requirements constantly changing and within tight deadlines.

APPLICATION EXAMPLES

Our main tasks usually involve implementing new military equipment (vehicles, weapons) in the simulation engine, from the visual components to the actual functionality and simulation properties of the specific gear; developing battle training platforms, machine learning modules for combat AI, or communication systems.



A **tactical planning tool** which facilitates the training of military personnel both in strategic planning and tactical execution. It has a complex scenario configurator where the architect of the programme can select a series of predefined training situations or create new ones.



A cost-effective, multi-stage and comprehensive **parachute simulator** that includes HALO jumps and weather effects acting as a supplement to traditional training devices.



VR application used in **3D simulations** of operations with maps directly accessible from the engine which transpose all information from the 2D map into the 3D environment in real time.



High fidelity assets and models created to replicate real life counterparts to the highest standard not only visually but also including the physics interactions and characteristics.



SUCCESS HIGHLIGHTS



Applications used in more than **60 countries** for tactical training, experimentation and mission rehearsal.



Platforms have been constantly selected for **"Games for Training"** army programmes







Numerous AR/VR/MR **application awards**

DISCLAIMER






The information contained in this case study is mostly of public nature but might also suggest certain strategies or methodologies - these are intended solely for describing our own ways of working in a generic manner. You may download and view this presentation for your personal, temporary, non-commercial viewing only. No part of these materials may otherwise be copied, reproduced, stored, republished, uploaded, posted, transmitted, or distributed in any form or by any means, electronic or mechanical, now known or hereafter invented, without the prior written permission from ASSIST Software S.R.L.



Envisioning a disruptive approach to learning through a flexible framework aiming at a wide range of educational levels and disciplines

- **Expertise**
Unity Development, 3D Simulations, XR, VR
- **Platforms**
Unity, VR devices, Desktop
- **Deliverables**
VR Application Prototype
- **Project Type**
R&D

R&D SUMMARY

-  VR Study Platform
-  Digital Transformation
-  e-Learning
-  Interactive education, digital equality extensive customization
-  Interactive Education Platform

Potential uses

Engineering, Simulations Data, HealthCare, Sports

Context

Develop innovative ideas using emerging and disruptive technologies, with applicable functional aspects meant to provide a positive impact on everyday problems that the company, community or world are facing.

Time to prototype **3 months** ASSIST team size **4**

FEATURES WE DEVELOPED

Multi-platform support

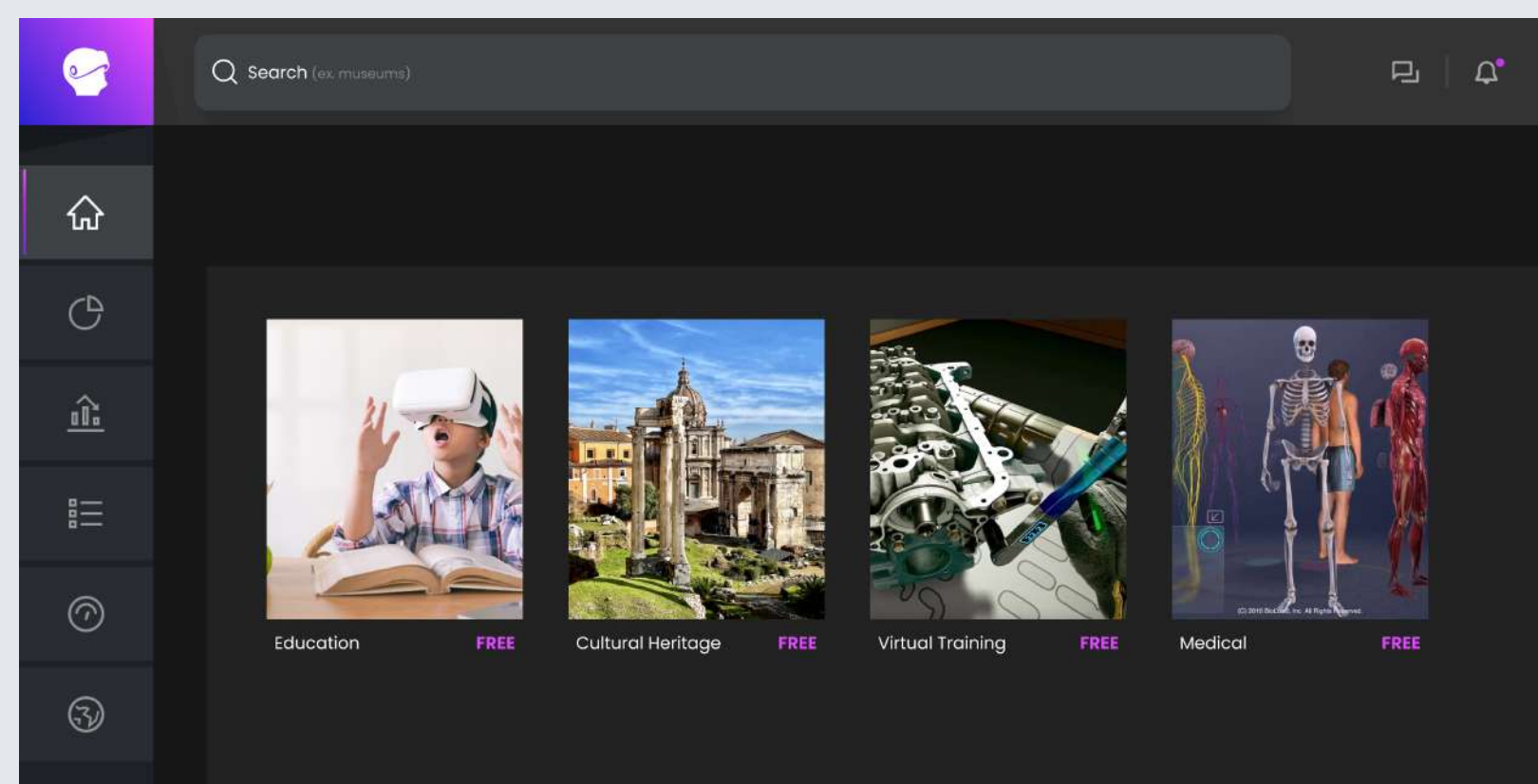
VR Ready

Single & Multiplayer Mode

3D scenes library

Cloud hosting

TECHNOLOGIES WE USED



PROJECT SCOPE

Education is currently traversing a dynamic reconstruction with integration of **new technologies in the learning process**. E-learning platforms represent an alternative to classic methods, but they lack the interaction between users and in many cases, only copy classic learning content in a digital form.

The final product is envisioned as an easy-to-use educational platform for presenting, analyzing, and studying a wide range of disciplines, powered by **VR** technology with a strong focus on **multiplayer** and **high-fidelity** content.

HIGHLIGHT FEATURES

The aim of this application is to provide an improved e-learning platform that would offer the users a real-life experience. The core components of the application work together to create a high-quality and **flexible learning ecosystem**, with the following features:



Multiplatform support; Single & Multiplayer Support



Cloud Hosting for multiplayer sessions and 3D scenes library



VR Ready



Support for FBX, OBJ & Alembic data for easy content management



TECHNICAL APPROACH

To achieve the goals, the technology stack for this product consists of an **industry-proven set of software solutions** that offers both the **speed and stability** needed to develop and extend the e-learning solution:

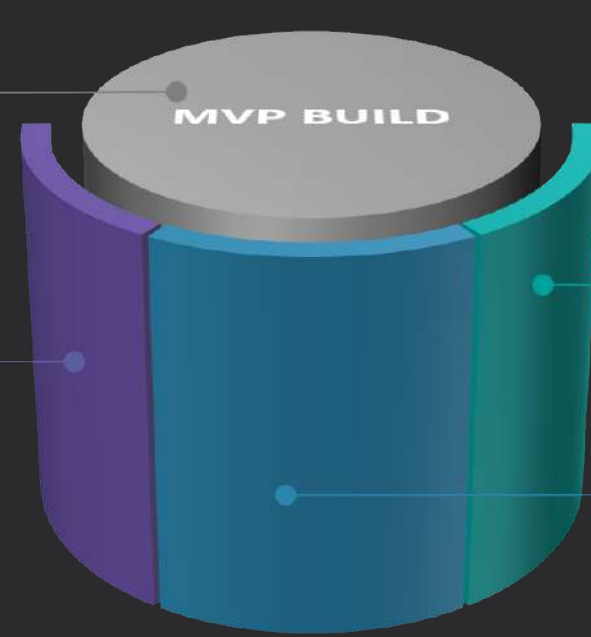
build a windows x64
VR ready application



integrate Photon
network engine
creating the multiplayer
and communication

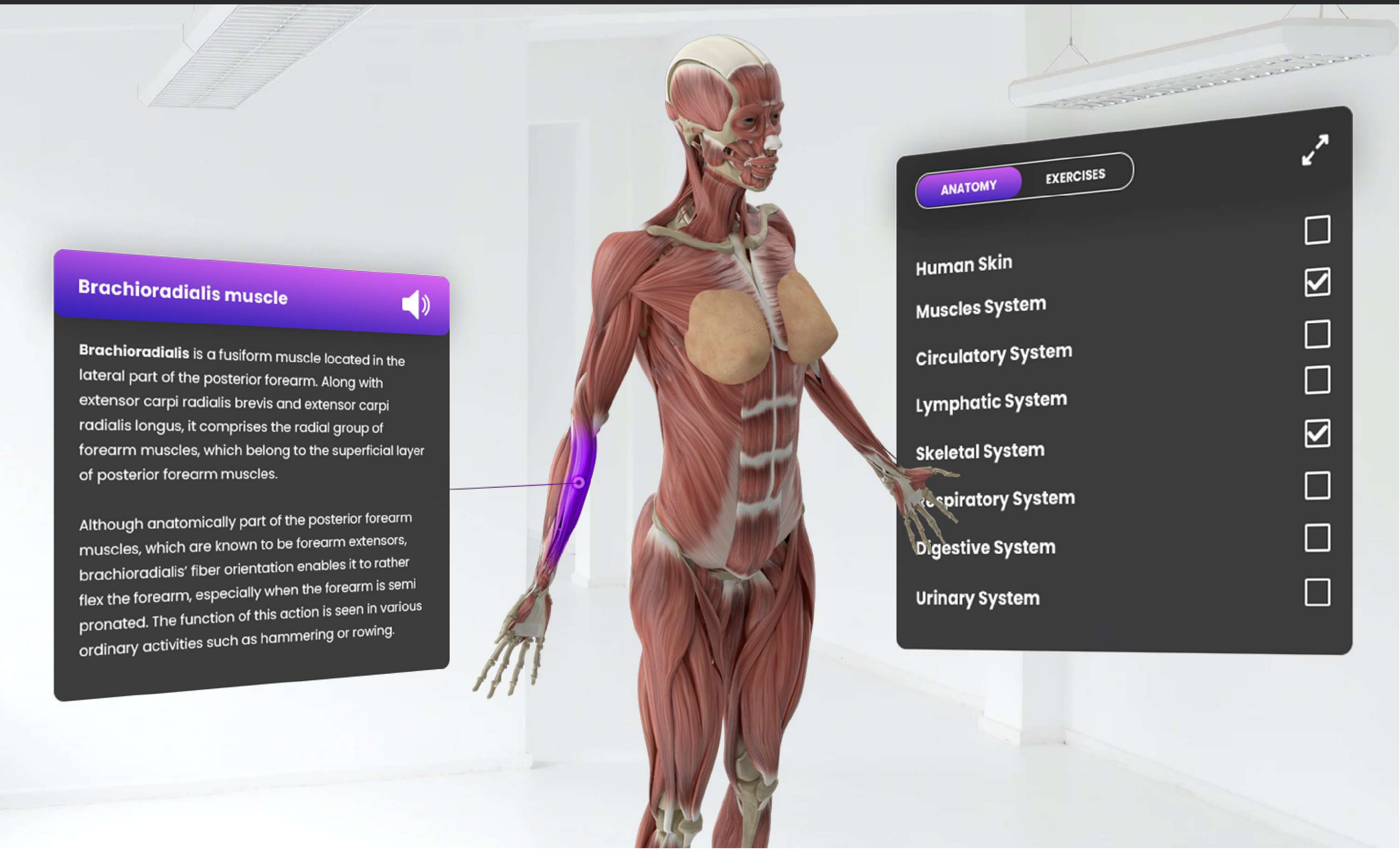
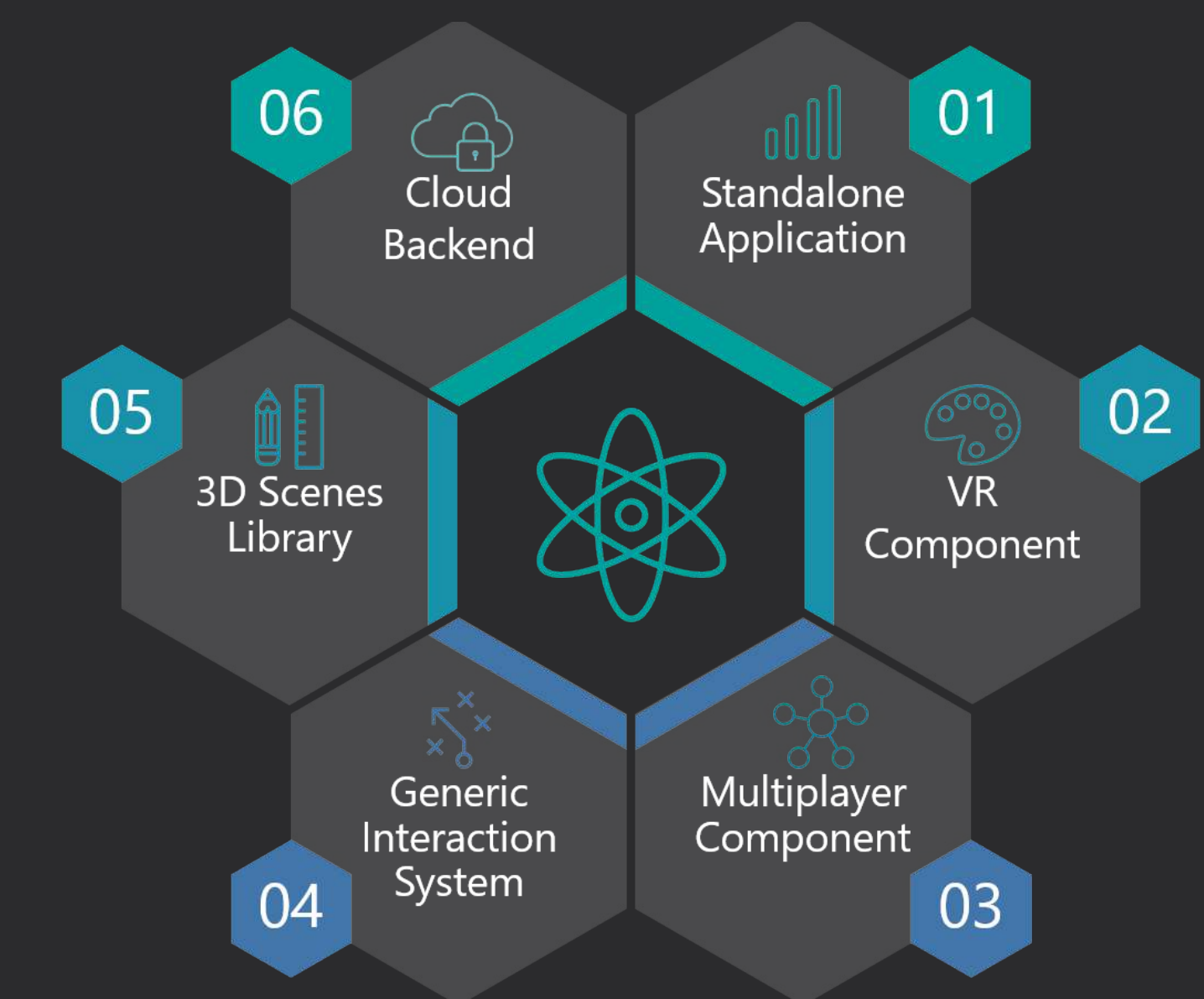


integrate XR Toolkit for
adding the capability to
interact in a natural way
with the scenes



encourage then production
of high-quality 3D assets by
using Blender

integrate XR Toolkit for
adding the capability to
interact in a natural way
with the scenes



PRODUCT SCENARIOS

Digital equality (easy access to high-quality learning resources) and a fully **customized experience** tailored to a wide range of audiences are the main pillars of the application, and to achieve these goals, a set of scene profiles have been developed.





These profiles represent the building blocks of the platform and provide a clear depiction of the **broad spectrum** of educational fields that can be accessed with the help of the application and **developed even further**.

DISCLAIMER







The information contained in this case study is mostly of public nature but might also suggest certain strategies or methodologies - these are intended solely for describing our own ways of working in a generic manner. You may download and view this presentation for your personal, temporary, non-commercial viewing only. No part of these materials may otherwise be copied, reproduced, stored, republished, uploaded, posted, transmitted, or distributed in any form or by any means, electronic or mechanical, now known or hereafter invented, without the prior written permission from ASSIST Software S.R.L.

SOGEM

How we utilized Unity and Augmented Reality to build a unique 3D stair configurator application for multi-platform use

- **Expertise**
Web App Development, Unity Development
Mobile Application Development
- **Platforms**
Web, Mobile, Unity 3D
- **Deliverables**
Web app, Android App, iOS App, Windows Phone App
- **Project Type**
Fixed Price

CLIENT

-  SOGEM SA
-  sogem-sa.com
-  stair-configurator.sogem-sa.com
-  Belgium
-  Manufacturing
-  51 - 200 employees

Specialties
e-commerce, Manufacturing, Staircases kit, B2B

Description
SOGEM is a Belgian company founded in 1987, which is now one of Europe's top manufacturers of staircases in kit.

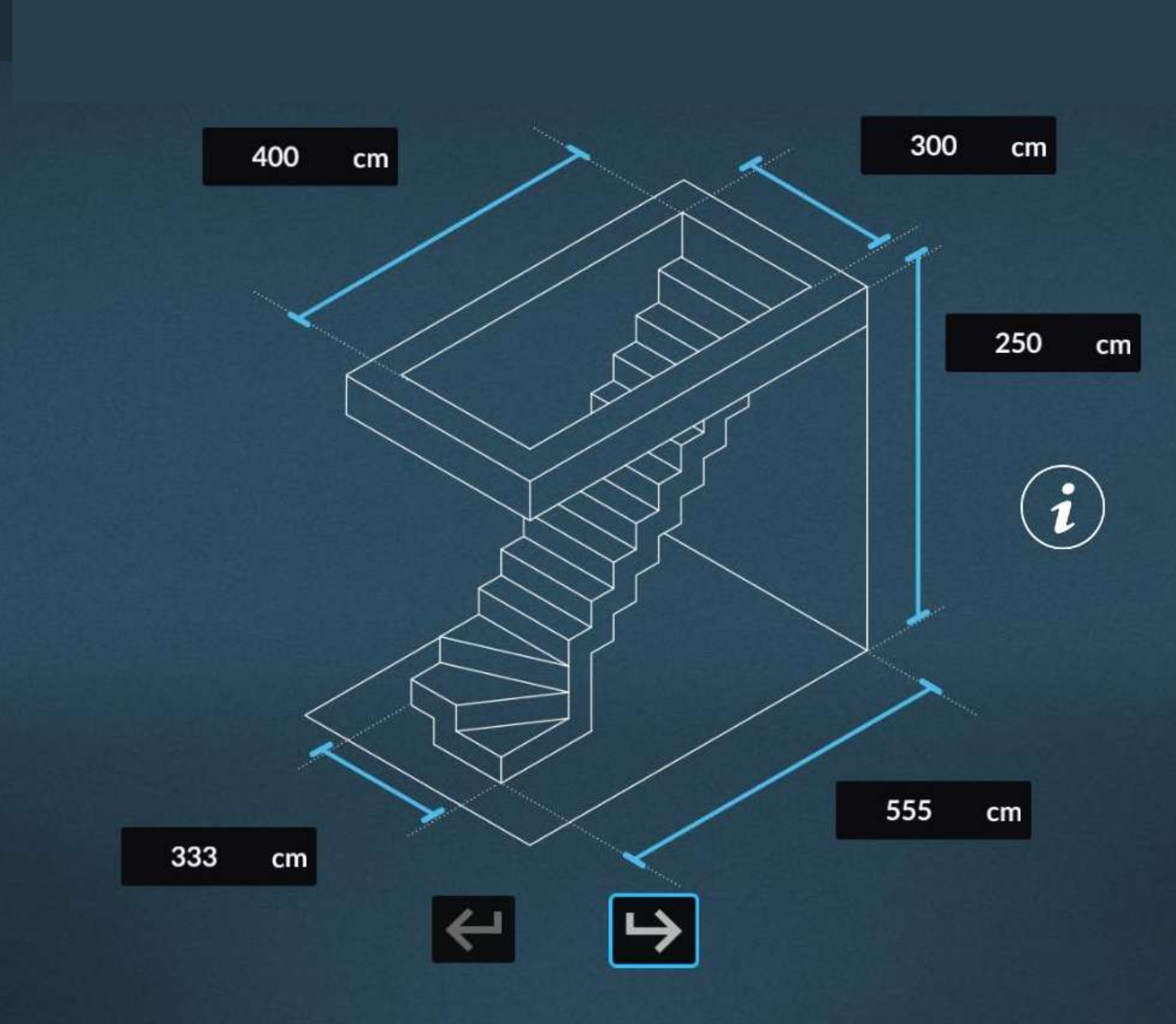
Engagement duration: 1 years+
Projects with ASSIST: 1
ASSIST team size: up to 5

FEATURES WE DEVELOPED

- Stair Configurator App
- eStore features
- Shipping Calculation
- Country Selector with custom prices
- Order processing

TECHNOLOGIES WE USED

-  unity
-  android
-  WebGL
-  Windows Phone
-  node
-  OpenGL
-  AR (Augmented Reality)
-  iOS



PROJECT OVERVIEW

SOGEM is a **multi-platform** application developed by ASSIST Software for Android, iOS, Windows Phone, and compatible web browsers using WebGL technology. The app is a **3D stair configurator** where the customer can configure and filter the perfect staircase for their home, depending on preferences and physical requirements.

With 5 stair families and over 70 configurable stairs, the application is the perfect guide for any potential buyer. The **interactive** solution is **unique** in the world of stairs and can also be used to compare staircase kit prices directly through the app, which shows custom prices depending on the selected country.

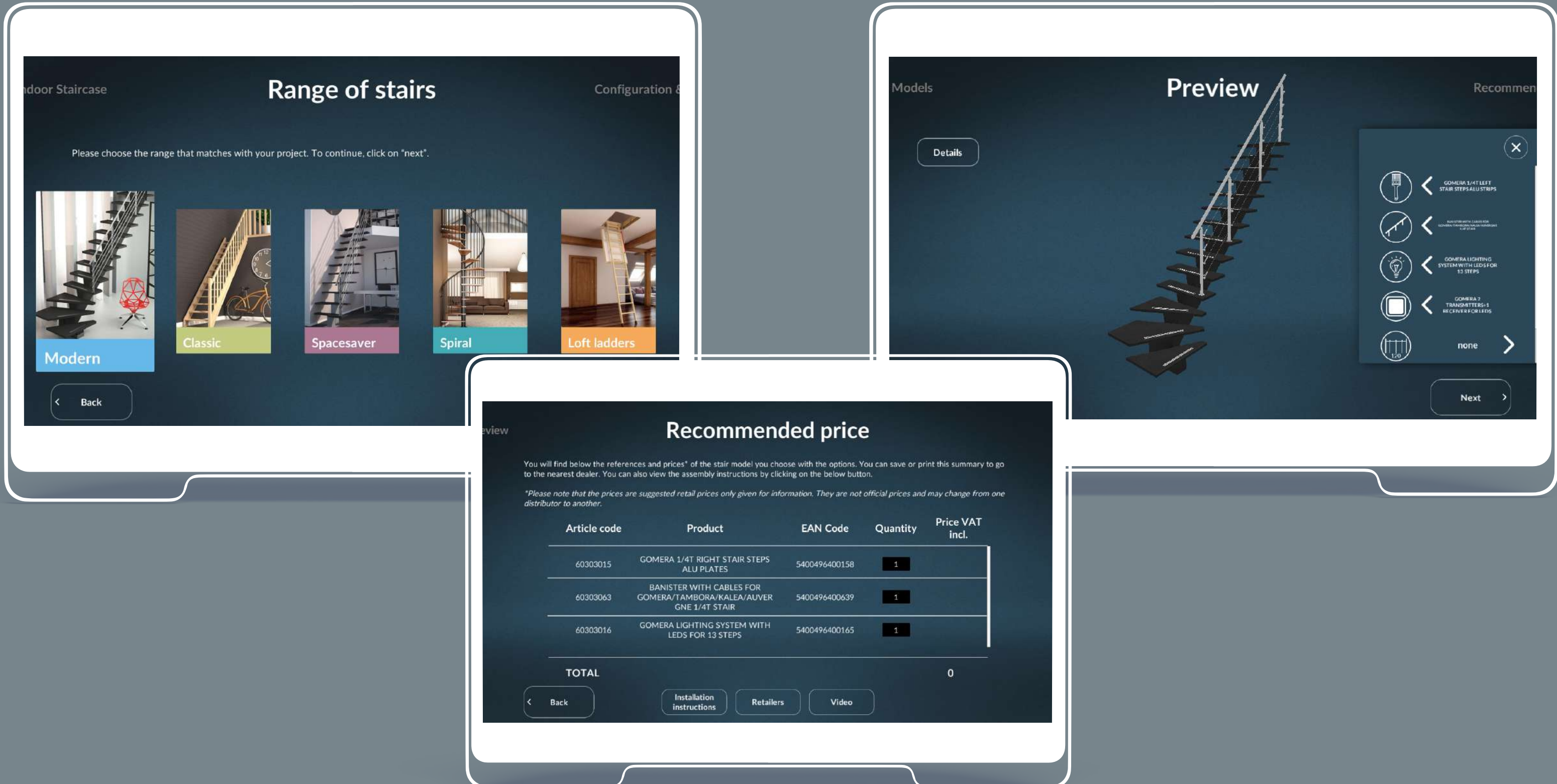
FEATURES






- Easy to use **digital staircase catalogue** and **configurator**.
- Room **dimension calculator** for filtering the perfect stairs for user's needs.
- Photorealistic 3D stair models** that depict the real products with the highest fidelity.
- Augmented Reality module** for viewing the staircase in real life environments.
- WebGL** application that can be easily accessed from any Internet browser with **no download or installation requirements** on the user's machine.

TECHNICAL DETAILS

- The entire application has been developed in **Unity 3D Engine**, with a focus on achieving the highest fidelity for each staircase kit, with the help of high detail 3D models and **physical-based rendering** that simulates the actual materials of the real-life counterparts.
- A unique feature of the mobile versions is the integration of **Augmented Reality (AR)**, where the user can insert the 3D staircase model in their room with the help of the device's camera and take a picture of the environment with the 3D model in it, for a **closer to reality** perspective.
- The desktop app works with any **WebGL** compatible browser - a technology that conforms with **OpenGL 2.0** and works with **HTML5**. All apps have a built-in recommended price calculator, where users can save the custom details and visit the nearest retail shop for purchase.



SUCCESSFUL BUSINESS OBJECTIVES

-  Target users from different age segments
-  Offer a unique user experience
-  Cost-saving through integrated solutions