



CASE STUDY

Augmented Reality Phobia Treatment Application

Virtualium



The Story Behind

A lot of phobias can be defeated or significantly reduced when the patient goes through an augmented reality phobia treatment therapy. In this type of therapy, patients face their greatest fears by using Google Cardboard or a smartphone.

It allows people to work through their anxiety in a realistic environment without actually leaving the comfort and safety of their therapist's office.

Overview

Virtualium contracted AVRspot to develop an application for Augmented Reality Exposure Therapy allowing the phobic person to put themselves in the presence of their fear – small, enclosed spaces, spiders, cockroaches, – until, through habituation, they lose their fear of that situation.

The customer required technology consulting and support in the development of a mobile application that needed to be launched in short terms.



Scope of Service:

- App design;
- Architecture development;
- Quality Assurance.

Tools and Technologies:

- Vuforia;
- Unity Engine.

Platforms:

- Android;
- IOS;
- Google Cardboard.



Challenge

Besides building a comprehensive web application that allows mixing both the real and virtual worlds to get rid of arachnophobia, we had to incorporate other phobia treatment option into the app. The key challenge was to combine a few phobia treatment options in one app.

The first spider you encounter in the app is tiny and moves quietly — but as you progress, you can make spider bigger and more active. Eventually, you must face real-looking, fast, and large spiders, and through virtual augmentation even “hold” them in your hand to help you overcome that creepy feeling. Overall, the app allows users to choose the type of an insect, which they are scared of as well as size, quantity, and movement of bugs.

Solution & App Features

As a result of this cooperation, an innovative Augmented Reality Phobia Treatment app with arachnophobia and claustrophobia treatment options has been released. When opening the app users can choose which phobia they want to overcome.

Arachnophobia treatment option

The system recognizes the users' hand laying near the printed marker and shows both the real world as well as augmented spiders and cockroaches.





Claustrophobia treatment option

Besides the arachnophobia treatment option, the app can be used by psychologists to treat claustrophobia.

By using their phones or google cardboards, users can be exposed to small, enclosed spaces surrounded by brick walls that gradually narrow. A therapist can carefully control the situation, meaning if patients are afraid of closed space, they don't have to get in one. Augmented reality exposure therapy allows people to feel as if they are placed within a teeny tiny slot, but the therapist can stop the program if patients become really scared.

The therapist can choose the distance of walls, speed, and movement type.

Both options have a button to enter a cardboard mode or switch to a mobile version. A cardboard mode allows users to fully immerse into the phobia treatment and feel the danger more closely.

How We Did It

AVRspot's role was deciding in finding professionals who combined in-depth knowledge of the Vuforia and Unity Engine programming skills.

Our experts were able to quickly offer the conceptual vision of the app and implement its main functional elements. We performed a technical analysis of the project and suggested a solution to create an AR app with an object recognition option to put insects near the printed marker.

Upon defining the scope of the solution, our 3D artists and developers created a design and built an architecture of the application. Next, a completed application went through AVRspot quality assurance, ensuring that no issues arise during product installation and use.



Benefits

- ✓ The application allows patients to face their fears without as much anxiety;
- ✓ Users can experience the phobia triggers without taking the time to travel to an actual location;
- ✓ A phobic person can be confident that the therapist totally controls the situation;
- ✓ The therapy resembles real circumstances, and patients can experience things they wouldn't normally be able to. It is much safer than the real-life conditions.
- ✓ Augmented reality exposure therapy sessions are shorter than those that require you to visit a particular place for therapy;
- ✓ Sessions can be repeated several times until patients have overcome that portion of their phobia and are ready to move on to another phase.



Results

The delivered application allows our client to treat phobias by using a brand-new, effective strategy.

Avrspot's unique technology competence allowed us to implement an augmented reality phobia treatment application and bring the revolutionary idea to life.

A new app is now stepping forward to help tackle patients' anxiety, from the fear of cockroaches to the fear of enclosed spaces.



About AVRspot

AVRspot helps clients transform their businesses by providing virtual and augmented technology solutions.

We solve sophisticated issues with creative strategy and large-scale engineering. By applying design-driven prototyping approach in combination with proven project management techniques our highly qualified team delivers outstanding digital solutions and content to our clients.

Our team of experts provide AR/VR Consulting, Product Design & Implementation, and Usability Testing. Moreover, we have experience in cross-border collaboration and virtual teams.