ONEBONSAI

CASE STUDY

VR Drunk Driving Simulator for Young Drivers

A mobile VR drunk driving simulator built with Responsible Young Drivers: young people feel how alcohol and laughing gas slow their reactions.

Partner: Responsible Young Drivers / Hardware: Steering wheel and pedals / Used at: Schools, universities, road-safety events



Project overview

A mobile VR drunk driving simulator built with Responsible Young Drivers: young people feel how alcohol and laughing gas slow their reactions.

About the project

OneBonsai built a mobile VR drunk driving simulator with Responsible Young Drivers (RYD). Young drivers sit behind a real steering wheel and pedals and drive through traffic with pedestrians and road hazards while the simulation shows how alcohol or substances such as laughing gas affect their reaction time, judgement and coordination. The simulator is event-ready and handles large groups in a single day.

Challenge

Raising Awareness of Impaired Driving Risks

Road accidents caused by alcohol and substance use remain one of the biggest threats to young drivers. Traditional road safety education such as flyers, classroom talks, or even staged videos, often struggled to hold the attention of teenagers and young adults. While the message was important, it rarely created a lasting impact, as young drivers frequently underestimated just how severely alcohol or recreational substances impair reaction times, judgment, and coordination.

The team at Responsible Young Drivers (RYD) needed a way to make these risks tangible, memorable, and personal, so that young participants would internalize the dangers of drunk or drugged driving before they experienced them in the real world.

> *"Young drivers don't always realize how substances impair their reactions, and traditional road safety lessons weren't getting through."*

Solution

A Realistic Impairment Simulation with a Mobile Driving Simulator

To tackle this challenge, we developed a fully immersive driving simulator that combines a real steering wheel, high-end visuals, and a detailed virtual environment filled with pedestrians, traffic, and all the typical road elements.

This simulator is designed to be mobile so it can be transported to various locations. In it, participants can experience first-hand how drinking even a small amount or using substances like laughing gas affects their driving. This makes the risks incredibly tangible and memorable, giving young drivers a powerful lesson in a controlled, safe setting.

Approach

Bringing Realism to Mobile Simulation

The simulator was designed to be portable and event-ready, enabling deployment in schools, universities, road safety events, and community campaigns.

The physical steering wheel and pedals provided tactile realism, while the VR visuals immersed participants in highly dynamic traffic scenarios. Each session was short but impactful, designed to grab attention and leave a lasting impression. The simulator was built to be scalable and flexible, so it could be used repeatedly by large groups of participants in a single day.

By combining engaging gameplay elements with serious safety lessons, the approach made road safety education both memorable and effective.

> *"It felt so real, I never realized how much alcohol could slow down my reactions until I tried this."*

Outcome

Enhanced Awareness and Behavioral Change

The VR simulator quickly became one of RYD's most effective awareness tools. Young drivers reported that the experience made them rethink their assumptions about "just a few drinks" or "minor" substance use before driving. The immersive crash sequences in particular left a strong emotional impact, reinforcing the dangers of impaired driving. Teachers and campaign organizers praised the simulator for engaging participants in ways traditional lectures could not. By creating a tool that was safe, repeatable, and highly engaging, OneBonsai and RYD helped shift perceptions among young drivers and contributed to promoting safer roads and communities.

> *"This simulator is one of the most effective ways we've found to raise awareness among young drivers."*

Discuss a similar project

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