

# An Evolved Learning World

Changing the way we learn through Virtual and Augmented Reality



Content & Curriculum



Learning Administration



Learning Delivery



Strategic Sourcing



Learning Technology



Immersive technologies are rapidly changing the way we work and play. With the advent of the iPhone X, augmented reality will soon be available to millions of users in the palm of their hands. As this technology becomes ubiquitous, people will begin to expect the same experiences in their daily lives. The world of learning and development therefore is waking up to the infinite possibilities of incorporating this technology into the learner experience through VRLearn or virtual reality learning.

Research has found that virtual reality scenarios offer learners what they may be missing with ordinary audio/video material at lower costs than face-to-face training. Virtual reality can also drive actual behavioural changes far more effectively than existing classroom and other digital training. Perhaps the best use of the technology is to allow learners to have fully immersive experiences without potential safety hazards or suboptimal consequences.

Unlike virtual reality, which creates an immersive, computer-generated environment, augmented reality technology superimposes computer-generated images and overlays information on a user's real-world view. AR solutions offer contextual and pertinent information at the point of action in a hands-free manner. This offers endless possibilities for enterprises – arming workers walking the warehouse or maintaining equipment with essential information that can improve productivity, streamline customer interactions, and deliver optimized maintenance in the field.



Jeremy Bailenson, professor of communication at Stanford University and founding director of the Virtual Human Interaction Lab, has discovered that users retain

**33%**

more from VR than standard video.

## How are companies adopting VR?

Immersive technologies are increasingly demonstrating the benefits of higher efficiency, reduced errors, and optimal use of labor in the business world.

### How is the Immersive Experience Delivered?

**Tethered Headset VR** – Uses a computer with a tethered VR headset like Facebook’s Oculus Rift, PlayStation VR, or the HTC Vive.

**Non-Tethered Headset VR/AR** – Headsets and computers built into one system, free of any cables that limit movement, such as Microsoft’s HoloLens.

**Mobile Device Inserted into a Headgear** – Insert mobile device into a Google Cardboard, or any other type of mobile device headgear.

**Mobile VR** – Access VR and AR without any type of headgear simply by using a mobile device such as iPhone X.

**Desktop VR** – Access 360° photos and videos, or other VR and AR experiences, through a Desktop computer.

**New VR** – Non-mobile and non-headset platforms like Leap Motion use depth sensors to create a VR image of one’s hands on a desktop computer and emulate hand gestures in real time.

Source: Masie 2017 Report

GE Aviation are using Glass which shows employees instructions with videos, animations, and images right in their line of sight, so they don't have to stop work to check their binders or computer to know what to do next.

Wall Street Journal

Almost 88% of companies with \$1 million to \$1 billion of revenue see huge potential in VR for training, employee development, and customer and brand engagement.

Masie Report 2017

The immersive experience of VR means that it is capable of effecting a greater behavioural change on participants than other media.

Deloitte 2017

We firmly believe that VR is not about the headgear. It's about the experience that the learner has and how it engages them, draws them in, and stimulates their senses.

Masie Report 2017

Increased digitization means the information demands of workers in the field are rising and starting to match those of deskbound workers.

PWC April 2016

While it is still questionable to provide a firm forecast, if this speed of transition accelerates as companies quickly recognize the benefits and return on investment, we believe the market can reach just under \$800m by 2020.

Beecham Research 2016



## NIIT's Unique Approach

### Immersive Technology backed by Sound Pedagogy

With a team of professionally trained and highly experienced Triple A gaming professionals, NIIT has designed and developed a wide range of virtual reality, augmented reality and simulation experiences for a diverse learner audience. By integrating our core, real-time 3D capability technologies through the Unity game engine, we are able to develop and deploy content across all platforms with optimized costs and predictable timelines. From quick service restaurants to safety platforms within predictable timelines at optimized costs.

We believe that just creating immersive experiences is not enough. These experiences must also be backed by sound pedagogy and our award-winning Critical Mistake Analysis® methodology. It is this unique learn by doing approach that makes our award-winning content solutions more effective and efficient - resulting in measurable and tangible business impact.

## Award Winning Solutions



2018 Brandon Hall Gold in the Best Use of Games and Simulations for Learning category jointly with GE for GE Generator 2nd-Person Simulation for iPad

2018 Brandon Hall Bronze in the Best Use of Games and Simulations for Learning category jointly with Shell for Shell SLR/IDF Game

2017 Brandon Hall Gold in the Best Use of Games and Simulations for Learning jointly with Shell for GTL Virtual Tour and Wells Control Simulator

2017 Brandon Hall Bronze in the Best Use of Games and Simulations for Learning jointly with Equinor for Travel the World

2015 Brandon Hall Silver in the Best Use of Games and Simulations for Learning jointly with Shell for Shell Selling Pennzoil Driveline





## Mining Safety Virtual Reality Simulation Game

The mining safety simulation game is a first person simulation deployed through the HTC Vive virtual reality set. The game allows learners to navigate their way through a complex mine, flagging and remediating safety issues as they progress. If they are not able to spot and remediate issues within a short time frame after seeing them, learners experience the dramatic consequences of their inaction.

These consequences include deadly falls, mine cave-ins, mass suffocation, and other realistic catastrophes. In addition to making the game more engaging, these dramatic consequences play an important pedagogical role: they create emotional reactions. As neuroscience is showing, emotion serves as a kind of marker for memory, causing memories associated with highly emotional playouts to be preserved more accurately and served up more readily to a wider range of possible contextual triggers. Put simply, emotional responses to training guarantee better transfer of learning to the actual job context.

The solution is designed to be deployed through existing labs inside client mines. These labs will be augmented with computers and HTC Vive headsets to accommodate the intervention.



## Home Inspection Virtual Reality Simulation Game

The home inspection virtual reality game is a first person simulation deployed through the HTC Vive virtual reality set. The game allows learners in the real estate industry to inspect a realistic house, identify potentially price-impacting flaws, determine the cost impact of each flaw, and watch the long-term impact of their decisions, on both negotiation as well as their client's long-term experience with the house.

In initial design, it became clear that learners had a difficult time understanding the consequences of home inspections, as they are often temporally removed. The solution is designed to condense in game time to show consequences juxtaposed against decisions, making feedback immediate and impactful.

It was also a logistical challenge to secure homes for inspection for an audience that spans large portions of rural Ontario. To overcome this challenge, we designed and built a custom mini-computer capable of powering the simulation. This allows the solution to be deployed to local schools teaching the curriculum with minimal set up.



# NIIT Portfolio



## GRADE LEVEL MATH GAMES

A set of 72 augmented reality games for a large textbook publisher. These games depend on visual recognition of textbook covers and key textbook pages to trigger augmented reality games, tailored to the interest of each age group and matched to the mathematical concepts covered in each lesson.



## WELL CONTROL IPAD SIMULATION

NIIT's award-winning simulation for well control engineers at a leading Oil and Gas company is an iPad-based drilling simulation for well control engineers. The product helps optimize time on physical well simulators. Engineers can now take their iPads to the rig for their first shift. The app reports certification and training completion directly to the LMS.



## JACK-UP SIMULATION

NIIT's Jack-Up Simulation allows learners to engage with the most challenging potential complication of a Jack Up procedure in an oil rig – getting "hung up." Jack up rigs are anchored in the ocean by giant legs that are pushed into the sea bed from the floating rig. Sometimes, the rig is at severe risk for capsizing because of "hang up" events where hard substances push their weight on one or more legs. The simulation asks learners to handle a jack up procedure from start to finish, while correctly addressing "hang up" events.



## SENIOR LEADER ETHICS SIMULATION

In our Senior Leader Ethics Simulation, CEOs at an Oil and Gas company join a fictional oil company that finds itself in dire need of revenue and leadership. The price for crude has bottomed out, and much of the senior leadership has departed after the company was wracked by price fixing allegations. Learners start as a sales manager tasked with expanding the business to make up for lost ground. They have to thread the needle, increasing business while remaining ethical, mingling in minefield of collusion, bribery, money laundering, and other ethical quandaries.



## CRIME SCENE INVESTIGATION SIMULATION

The Crime Scene Investigation simulation is used to teach investigation techniques and procedures to criminal justice majors at a large university. It is used as one component of a twelve-week simulation that follows an investigation from the moment the crime is reported to the moment a verdict is reached in court. The simulation unfolds through a blend of live classroom activities and electronic interventions.



### **WORKING AT HEIGHTS SIMULATION**

The Working at Height simulation for a mining company gives learners hands on practice spotting working at heights issues across a wide range of mining work environments. In the simulation, learners walk a job site looking for safety concerns. They are tasked with researching, identifying, and flagging all safety issues in the environment. When learners think they've flagged all issues, they return to the fictional site manager, and watch as all issues they've correctly flagged are addressed, while those they have missed play out in dramatic health and equipment consequences.

### **SHIFT SUPERVISOR SIMULATION**

The Shift Supervisor simulation is a simulation-based assessment used in a 60-hour learn-by-doing simulation-based curriculum for a quick service international restaurant chain. We worked with the chain to create simulations that teach learners everything they need to be able to do at the restaurant from the moment they hire in as Team Members through the moment they're promoted to a Multi-Unit Manager sitting over 10-15 million dollars a year in revenue.

### **CLAIMS ADJUSTMENT SIMULATION**

The claims adjustment simulation gives claims adjusters realistic practice with all the key activities of claims adjustment, from fielding the initial call, to inspecting a damaged vehicle, to negotiating the price of repairs with an auto mechanic. This simulation was designed to replace a weeklong classroom based training session. In the simulation, we're able to perform previously time-consuming manual procedures instantaneously, showing learners wireframe, exploded, and color coded views of the inner workings of the damaged vehicle.

### **RETAIL PETROL CLAIM**

The retail petrol game lets gas station employees master the nuances of customer service through a series of 120 rapid-fire customer service situations.

### **RETAIL MANAGEMENT SIMULATION**

The retail management simulation focuses on running the operations of a fast food restaurant. In the simulation, learners handle guests by stationing employees at the right places, triaging customer and equipment needs, and intervening when things go wrong. Feedback is given through dramatic playouts (customers storm off, people get ill, etc.), and an experienced manager debriefs performance.



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