Revolutionizing Stakeholder Experience in Insurance through Augmented and Virtual Reality

Abstract

Augmented reality (AR) and virtual reality (VR) attempt to merge the physical world with the virtual, and in the process, lead to a new era in digital visualization and interaction. They radically revolutionize the way we touch, see, hear, and feel the space around us, and elevate our interactions with the physical world to a new experiential level.

This paper explores how these technologies can create a differentiated experience for stakeholders in the insurance industry and how insurers can leverage them for sophisticated risk management, efficient damage assessment, top line growth, and meaningful end-customer experiences.
Seeing is Believing

Hollywood introduced AR and VR and captured our imagination with facial recognition and retina scanners, heads-up displays, multi-touch user interfaces, interactive gesture controls, e-papers, personalized advertisements, and holographic projections. Though both AR and VR technologies are closely related, the systems that go into building them and their respective user interaction mechanisms are vastly divergent.

In VR, the user is presented with a virtual world that closely mimics the real world, happening in a closed environment or a VR head-mounted display (HMD). The HMD contains sensors for tracking head motion to synchronize the virtual imagery on the display. When it is coupled with body motion tracking and response systems, it takes the user experience to the next level.

In AR, the user sees the real world augmented with additional content through various intermediary interface such as smart-phones, heads-up displays, optical-see-through and video-see-through HMDs, smart glasses, and spatial display projections. Image scanning and spatial mapping play a key role in overlaying content on the physical world. These are achieved by using cameras, global positioning systems, gyroscopes, and depth sensors.

As AR and VR intersect and interfuse, a mixed reality (MR) environment is created where virtual and real objects co-exist to create newer visualizations and interaction settings. MR heavily depends on image recognition and computer vision technologies to understand the environment. Optical projection techniques are used through the HMD to project virtual objects onto the real world. With advanced eye, head, and motion tracking, gesture control, tactile feedback, or voice commands, users can intuitively control these virtual elements.
Conjuring a New Reality

These technologies provide experience that current digital touch points do not offer. While VR offers a portable simulated presence through a virtually recreated environment, AR is perceived to provide realistic utilitarian value with augmented content. Both present plethora of real-world applications across different industries:

- **Immersive experience**: VR headsets and consoles provide holistic experience, particularly in gaming and entertainment, by providing near-realistic sense, feel, and touch. Interactive 3-D VR creates a system of enhanced visualization to provide an immersive virtual environment.

- **Design visualization**: Provide high utilitarian value in fields such as industrial design, floor planning, and new product development in the manufacturing industry.

- **Remote guidance**: Using AR, specialists provide remote guidance to non-experts who are in the spot to scrutinize and repair machinery. They can take notes through voice commands, or review checklists and manuals through gesture controls.

- **Content augmentation**: AR and VR provide new channels to enhance user engagement revolutionize customer experience and enrich content delivery. Usage is seen in retail shop floors, connected cars, and operation theatres.

**Mixed Reality: A Jumpstart into the Future**
Jumping the Curve in Insurance

Insurers can use AR and VR in different ways to drive innovation and add value with real-time decision-making, superior presentation of content, and sophisticated customer engagement. In the insurance industry, the adoption in enterprise business processes and stakeholder training is still nascent.

- **Sales and marketing:** AR and VR allow insurers to broach sensitive real-life situations and showcase value to customers in a non-intrusive manner. Instead of mass sales pitch, they can be used for personalized depiction.

- **Risk inspection:** AR can help risk assessors access right information from a remote location by guiding and indicating risk hotspots that may need closer physical inspection.

- **Damage assessment:** AR can help claim adjusters to remotely measure the dimensions of a damaged property, use images and footage captured to create 3D-image models, and perform a 360° assessment. Adjusters can understand the pre-loss condition by overlaying relevant templates on the damaged parts, measure dimensions, assess the extent of damage, and estimate repair costs using image processing.

- **Training and education:** AR and VR can be used to train agents, adjusters, or risk assessors to develop the right skill-sets at a lower cost through virtual simulated environments. AR-based applications and gamified themes can be used to train employees on internal processes and business functions.
Expanding Horizons of Reality

AR and VR will open up a world of non-obtrusive virtual interaction by bridging the physical-virtual chasm and eliminating the need for any intermediate gadgetry such as a desktop, tablet, or smart device.

The amalgamation of AR and VR will blur the boundaries between the physical and digital worlds, making MR, the future. For these technologies to become ubiquitous, existing challenges such as user-friendliness, efficient power consumption, seamless graphics rendering, visual fatigue, data and privacy protection have to be addressed. The technologies need to evolve to understand the environment and its attributes, and accordingly place projections in a 3D physical space.

Complementing headgears or gadgets with sensors, cameras, speakers, and projectors placed in the environment will further enhance user experience and open the field of vision. In addition to haptics that deals with the sense-of-touch to control and interact with computer applications, the growth in simulation of temperature, smell, and taste will further increase the real-world feel of the virtual world.

Conclusion

The future will move in a direction where these technologies no longer just work to excite and entertain the user, but intend to serve real-world utility and purpose. In due course, in-person meetings or video conferencing will evolve to virtual 3-D telepresence.

Virtual projections and holograms that form the base of MR will evolve in quality, making it difficult to differentiate between real and virtual objects. They will offer a seamless and more natural experience to the user, and translate into real-world human touch and interaction, providing enhanced control and higher usefulness quotient. For example, in the insurance context, agents can visit their clients using MR while sitting in their own offices. An adjuster will be able to perform virtual property visits, touch and feel any damage or material at the location of the policyholder, and estimate damages.

The potential use cases for AR and VR will evolve as the technologies mature. In the meantime, insurers can explore pilot proofs-of-concept for some of the use cases discussed above. By leveraging these new-age digital technologies, insurers can elevate the brand experience of products and services to spur growth and redefine their businesses.
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