Extending Reality

How AR, VR, and MR Drive Game Development

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AR and VR contributed $7.5 billion in revenue to the video game market in 2020, and future growth is set to far outpace that amount.[1]

Executive Summary

Extended reality (XR) is reshaping the way companies do business and fueling the demand for game development. Investments in game technology are on the rise as the rapid adoption of virtual reality (VR), augmented reality (AR), and mixed reality (MR) are driving more game-development efforts for both consumers and businesses. From commercial applications to expanded mainstream access to virtual reality and augmented reality tools among consumers, this fast-growing sector is creating new opportunities for service providers, in-house teams, and technology manufacturers to meet the growing demand.

Statista[1] reports that AR and VR contributed $7.5 billion in revenue to the video game market in 2020, and future growth is set to far outpace that amount. Let's take a closer look at how AR, VR, and MR are driving game development demand and what it means for businesses' technology strategies.

The Mixed Reality Landscape Today

VR, AR, MR, and XR. It can feel a bit like alphabet soup. Yet whether the terms refer to fully virtual worlds, overlaying information onto physical environments, or blending the two, these technologies have radically transformed both the gaming world and core work processes. According to research from IDC, these technologies are slated to continue to grow—and reach approximately $72.8 million in total revenue by 2024.

These technologies are prominent in consumer-facing context, such as games and applications that are sold directly to consumers. At the same time, there's a wide variety of use cases within the corporate world that are further scaling the technologies' impact. Companies are utilizing these technologies to:

• Recruit, train, and onboard talent in a variety of settings, from training highly technical positions to facilitating remote candidate assessments.

• Assist with task-based work, such as complex equipment repairs in factories and other industrial environments. These technologies can be used to provide detailed instructions, expert support, or sensor capabilities that can track minute changes, such as pressure shifts within equipment.

• Facilitate remote expert collaboration with field services professionals who may be responding to customer calls or tasked with completing advanced repairs, giving them SME access while reducing costs and the need for multiple visits to resolve issues.

• Develop immersive customer experiences, marketing campaigns, and sales presentations to amplify the connections between brands and prospects.

• Transform the way the business approaches product and process redesign, enabling complex visualization and modeling to take place in virtual spaces to both expedite the process and reduce costs.

Demand for Virtual Experiences Drives Game Development Demand

With all these diverse applications across industries, the explosive growth in both consumer gaming applications and business settings has created significant demand for gaming software development. Many companies wonder what a team capable of developing, implementing, and supporting these technologies looks like.

Whether they're working on the next multimillion-dollar franchise or creating specialized immersive training experiences to equip workers for difficult situations, a variety of players have entered the gaming field. Teams that can develop immersive experiences for a range of platforms are thriving. What talent do companies need in order to make the most of this opportunity?

Technical Talent

The core of any game software development initiative is its technical talent. Coders, developers, and the experts who service the hardware that powers these resource-intense initiatives form the cornerstone of game development teams.

Design Experts

Virtual, augmented, and mixed realities are all virtual technologies that rely primarily on sound and sight (with some haptic feedback in more sophisticated scenarios) to communicate with users. Graphics designers, visual artists, and sculptors all play a vital role in bringing a game to life and translating the code into a powerful visual experience.

Narrative Experts

Adding another layer of design that's critical to successful gaming-development initiatives, experts in user experience design, narrative and scripts, and learning best practices help develop both the virtual environment and the engagement pathways users rely on to make the most of these technologies.

Production and Project Management Staff

It's easy to see that game development efforts are complex. Bringing together these diverse streams of work and keeping them on schedule and on budget demands the skills of experienced production and project management staff. Executive leadership, project management, and technical and art direction round out these teams and help them deliver their best work.

Trends in Gaming Software Development

For independent studios, freelance developers and designers, or organizations building their IT department's capacity to develop and support mixed reality experiences, it's important to watch the upcoming trends and opportunities. Businesses interested in investing in mixed reality tools for selective pilot projects or scaling to meet the needs of a particular process must be prepared to make specific investments. Several trends are influencing the landscape.

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The AR space is set to grow at a compound annual growth rate (CAGR) of around 41.5% at $461.25 billion up to 2030.

Market Research Future, 2023, Augmented Reality Market Is driven by Digital Transformations and Industrial Automation

As machine learning and artificial intelligence become more available, designers are exploring ways to integrate them into the virtual experiences they create for greater impact.

One includes an explosion of technology options that are creating new avenues for engagement. Developers can access custom-built rigs or design their own powerful computers with the CPU processing power, graphics capacity, and storage needed to ensure their work thrives. With an increase in remote work, many of these technologies are now optimized to support workers coding, creating, and testing virtual experiences from anywhere.

New software development options, from the introduction of AI to emerging gaming engines, offer a wider selection of solutions than ever before. And new headsets, smart glasses, and other end-user devices are adapting the technologies to broader use cases.

Today's game software development landscape is bringing new challenges and opportunities to working within the space. As machine learning and artificial intelligence become more available, designers are exploring ways to integrate them into the virtual experiences they create for greater impact. Meanwhile, critical issues—privacy, accessibility, and incorporating greater diversity—are inviting designers to have important conversations about how to develop experiences that bring new solutions to the table. It's an exciting time to be active in mixed-reality game development.

Conclusion

As extended reality technologies become more ubiquitous, there's an increased opportunity for companies to incorporate them into their larger workflow. From outfitting a team to develop experiences for a company to rolling out the headsets and platforms needed for technologies such as assistive viewing, the right technology investments can make this a reality.

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