



Virtual reality delivers antidote to isolation

Not-for-profit Patience Project live streams VR experiences to teenagers diagnosed with a long-term illness.

Azure Stack
by  CloudCreator



“You can’t have people missing their chosen environments because of latency or platform issues. Azure Stack by CloudCreator delivers the compute for a great live experience, every time.” – Ben Martel, project initiator, Patience Project

Fighting long-term illness is doubly tough for a young person, whose condition can also rule out formative social events, school, and other activities most teenagers take for granted.

But if there’s one thing society’s embrace of social media and web-enabled devices demonstrates, it is the almost limitless potential of digital networks to break down social barriers and help people stay connected.

Building on this idea using virtual reality and live streaming, not-for-profit entity Patience Project is changing the game for chronically sick young

people excluded through circumstance, giving them a virtual seat in their chosen environments to help them feel included.

Participants use virtual reality headsets to view live video of their chosen environments streamed from a 360° video camera on site. More than simply social engagements or hanging out, teenagers have used the service to live stream school classes, like chemistry, to gain NCEA credits.



Further down the track, project initiator Ben Martel hopes to expand the service to others living in isolation, such as senior citizens, and people in institutional care.

Proving the concept

The service was put through its paces by a handful of teenagers who live streamed school classes – and it came up trumps.



Live streaming is the toughest test for technology, because latency and jitter frustrate viewers. Enabling technology must perform brilliantly, every time.

To do the job, Martel sought out the grunt and scalability of the public cloud – though one that rose from data centres in New Zealand. He also required a cloud platform that met Ministry of Health standards for connectivity and security.

Working with Spark to source VR hardware and connectivity, he was introduced to Revera, and settled on Azure Stack by CloudCreator – the provider’s Microsoft-enabled hybrid cloud ecosystem.

In the cloud

Unlike traditional live streaming, which typically broadcasts single events to large audiences, Patience Project is a one-to-one service, connecting each participant to their chosen live-streamed environment. As such, video transcoding software at the core of the service requires incremental increases in processing power, as each additional environment is streamed to Azure Stack by CloudCreator and transcoded into a format for participant devices and their VR headsets.

Spinning up additional VMs to support new participants and their chosen live streamed environments is an extremely valuable feature

– especially when additional capacity could be required at a moment's notice. When extra VMs are no longer used they can be shut down or deleted, keeping costs down.

As participant numbers increase, Martel says plans are afoot to dynamically offload workloads to a GPU-accelerated processing platform to lower CPU overhead and smooth periods of high-demand processing.

And that may be just around the corner as University of Auckland researchers quantify project benefits and gauge potential in other sectors.

HIGHLIGHTS

With Azure Stack by CloudCreator, Patience Project gets the grunt and scale of Azure public cloud from an onshore cloud.



Local cloud proximity, public cloud performance

Patience Project keeps live data close to home without forgoing public cloud features and performance.



Apps – not infrastructure

Patience Project concentrates on programme participants, leaving servers and systems to Azure automation tools and runbooks.



DIA seal of approval

Revera's cloud platforms comply with security and performance standards specified and audited by the DIA. That's good enough for Patience Project.



Peace of mind

Patience Project can access a host of disaster recovery capabilities, including fail-over locations, recovery point objectives, hot and cold standby models, and rolling reboot capabilities.

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