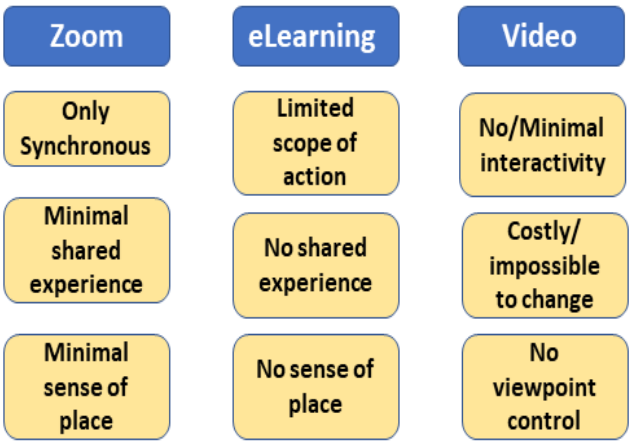
daden
Delivering immersive learning, training and chatbot solutions

Newsletter
October 2020

Delivering Immersive Learning and Training in the time of COVID

The COVID epidemic is bringing a whole host of challenges to tutors and trainers in trying to deliver engaging teaching to students and staff – and in particular learning experiences which give the student a sense of context, place and shared experience.

With on-site and classroom learning facing the greatest problems, many are naturally turning to remote teaching by Zoom (and similar), eLearning systems, or video. The diagram below briefly highlights key challenges with each of these.



Whilst the uptake of headset-based virtual reality (HMD-VR) for both entertainment and training/education has been increasing in the last year or so (and Oculus sold out of the Quest headset early in the pandemic, and its new Quest2 might go the same way), the HMD-VR approach has its own challenges during COVID:

- Sharing headsets at a central location (even if available) need rigorous cleaning between use
- Posting/couriering headsets around remote students is costly and risky (and they still need cleaning)
- The cost of equipping every student with their own VR HMD is too expensive for most organisations/institutions.
- Most students still don't own their own headset

And this is quite apart from the challenges of the space to use them (although we've found the garden is good – at least in summer!) and the discomfort that some users feel.

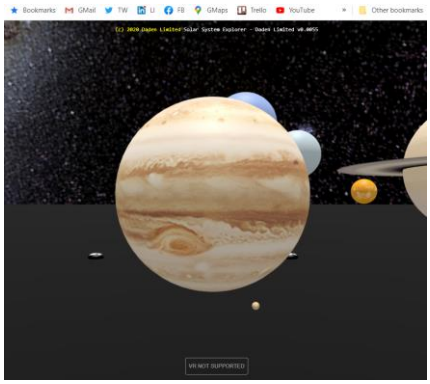
So given the current situation we feel that tutors and trainers really should re-consider the 2D/3D approach to immersive learning – the Sims/Computer Game style where you operate in a 3D environment but the experience is delivered on an ordinary 2D screen – be that on a PC/Mac, tablet or even smartphone.

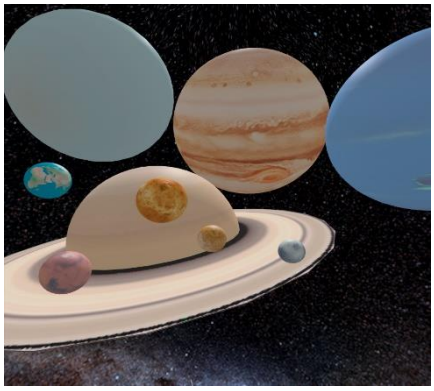
With Trainingscapes we can help you deliver that 2D/3D immersive learning and training experience. Students and staff can be placed in the environment relevant to their learning, with a high degree of freedom of action, and can then undertake structured, semi-structured or even exploratory or task/problem-based learning, either individually or in groups or collaboratively. The same environment can even support assessment activities. Trainingscapes lets you author your own exercises to extend and customise content, and develop and refine it as your (and your students') experiences of using this new medium mature.

A Trainingscapes exercise can be delivered remotely to PC/Mac, tablet and even smartphone users – all centrally managed, and with analytics collected and available for import into a VLE/LMS. You can even use it on HMD VR headsets in the future, so your investment is safe.

So if you'd like to see how 2D/3D immersive learning can help better teach and train your students remotely, please get in touch, or check out our video at https://www.youtube.com/watch?v=Cq40evhICV4.

WebXR – an easier way to deliver VR experiences?





We've been playing with WebGL for many years now – we used it to deliver a web-based version of our 3D immersive visual analytics application Datascape. WebGL is still going strong, and is effectively a Javascript framework/API that lets us create web pages that generate 3D scenes. In the last couple of years WebGL has been joined by WebXR, and that technology has now matured to the point where it's actually usable and useful.

WebXR doesn't do any 3D rendering or authoring – that's still done by WebGL – but what it does do is manage the interface to the viewing device and controllers. What this means in practice is that if you use the 2D browser built into a VR headset (like the new Oculus Quest 2) to browse onto a WebGL/WebXR web page it give you the option to switch from 2D to VR mode. In VR mode all sense of the 2D web page is gone, you are stood inside a 3D virtual environment, and can move around and interact with it as with any other VR experience. The images above show the 2D and VR views of the same scene.

The crucial thing is that with WebGL/WebXR *you don't need to download any additional software to your VR headset!*

You just use the headset's browser to go to the relevant web page, click on the Enter VR button, and you're there. Of course there might be some loading time, but once loaded the VR experience is indistinguishable from any other. There are some nice web demos showing LIDAR scanned sculptures in WebXR, and we've done some 360 photosphere tours – and the solar system explorer shown above.

Having proved the tech, the next step for us is to think about how we can use it as part of our offerings. A simple use case is for bespoke developments – relatively quick and simple VR experiences delivered direct to someone's VR headset without the need to publish through an app store or to sideload. A more developed idea would be to see if we can generate WebXR versions of Trainingscapes exercises – so that Trainingscapes becomes more of an authoring tool, with users accessing exercises via a WebXR web page rather than having to download the player application. And seeing as this is all based on WebGL we can make that same exercise available in 2D/3D mode for non-VR headset users.

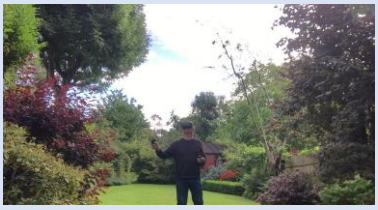
Of course there are memory, size and processing limitations to WebXR, but we're sure that for some VR and 3D applications it will provide a very elegant way to deliver an easy-to-access and easy-to-use client experience.

If you have a VR headset you can try our Solar System demo out at https://www.daden.co.uk/webxr.

This Quarter we've also …

- Started work on a virtual hospital ward for a new project for a client in medical/pharmacy skills training.

- Supported a team of students from Immer-lab, one of teams in the "2020 Global Youth Action Plan" funded by the Ministry of Education of Taiwan looking at how immersive environments can support the role of curators.
- Provided a guest blog post on Virtual Personas to Aura, a tech for good social enterprise. They are using technology to assist people towards the end of their life – to help them engage with loved ones, to leave a legacy and to prepare properly.
- Discovered that the garden makes a great place to experience VR (at least in the summer!)



Get in Touch!

If there is anything in this newsletter that has caught your interest and you'd like to discuss more just email info@daden.co.uk or call us on +44(0) 121 250 5678, or visit our website at www.daden.co.uk. We look forward to talking to you.

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