Utilising Virtual Reality event production software to interactively assess level 4 production students

n.b. This early stage research currently pertains to the two specific courses, *BSc (Hons) Lighting Design Technology* and *BSc (Hons) Sound and Live Event Production* offered at the University of South Wales.

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https://www.amazon.com/HTC-VIVE-Virtual-Reality-System

Background

1. Feedback from current students, alumni and industry contacts is used to update course content and methods of delivery.
2. Recent changes include a reduction in formal examinations, leaving way for practical assessment, with write-ups.
3. Students perform well in practical elements, but struggle with written work.
4. WYSIWYG (WYG) software was introduced to allow virtual exposure to multiples of industry leading kit.
5. Virtual Reality (VR) is being used in the production and entertainment industries [1] and is also becoming more prevalent in education [2].
6. As well as teaching the in-industry use of VR, students are assessed through their interaction and reaction to a VR scenario.

The software solution

- WYSIWYG (what you see is what you get) by CAST is a commonly known visualisation package used in industry.
- It produces pre-production paperwork that would previously have involved hand drawing plots.
- Plots are now less time consuming to draw and edit.
- A 3D visualiser was added; realism was the focus to assist in communicating design ideas.
- A VR feature was added; users can now walk around the 3D build, whilst changing the rendered model through a real-world lighting desk, which is now common practise [3].

wysiwyg

CAST software

https://cast-soft.com/wysiwyg-lighting-design/r42-wysiwyg-report-product-changes-introduced/


https://cast-soft.com/wysiwyg-lighting-design/r42-release/virtual-reality-in-wysiwyg/

Why VR?

- No exact figures are available for event production annual deaths [4] but HSE still assess the industry as higher risk [5].
- VR allows safe expose to potential faults and dangers.
- Students can be asked to identify and assess hazards that would not be safe to create in a controlled environment.
- Scenarios to be used in the assessment are based on real industry disasters or near misses, from Alumni and industry contacts.

A common industry use of WYSIWYG (left), to show touring Lighting Designers the design concept for a stage lighting rig, in this case:
Leftfield Stage, Glastonbury 2019 (right).

STEP 1, Preparation

- Students are taught content in traditional classroom environment, alongside self directed learning.
- Students are taught the WYG software to ensure familiarity for project use.
- Students experience an example world in VR, with time to learn navigation software controls.
- Open classrooms, tutor video tutorials, example WYG files and VR headsets are provided.

STEP 2, Assessment

- Students walk around the virtual world, and raise verbally the 10 industry faults, as they identify them.
- Faults are accompanied by a real world photograph, to allow students to see a potential fault that could not be accurately shown within the WYG software.
- Students score on their verbal responses to the faults.

STEP 3, Feedback

- Students receive verbal feedback straight away on their performance.
- The assessor can question students, to ensure an accurate grade in-line with the marking rubric.
- Students will not need to provide a write up to accompany the work; the individuals own performance is clear to the assessor.
- Assessors will find it easier to grade a student on their performance.

[1] J.-D. Caprace, R. Moreira Freire, L. F. Assiss, C. Martin Pires, and P. J. P. o. t. t. C. Rigo, *"Discrete event production simulation in shipyard workshops"*, 2011.
[2] D. H. Choi, A. Dailey-Hebert, and J. S. Estes, "*Emerging tools and applications of virtual reality in education*". Information Science Reference Hershey, PA, 2016.
[3] A. J. T. F. o. E. McLoughlin and Festivals, *"The future of event design and experience"* p.236, 2014.
[4] B.Cross, https://www.eventmanagerblog.com/dark-side-of-the-events-industry, 2019
[5] https://www.hse.gov.uk/event-safety/, n.d

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