Virtual Oil Rig – Immersive Training Experience

Enhanced simulation-based educational experience for awareness of technical and safety equipment and training operators.

Introduction
The School of Engineering at RGU has made significant investment in developing methods to ensure graduates are “industry-ready.” Two approaches are highlighted here. As visits to oil rigs are not often possible or practical for students, it was decided to develop a virtual space for students to familiarise themselves with aspects of the offshore environment. In addition to this, the DART was installed on campus for simulation of a number of critical processes.

These simulation tools give students experiences that can increase their desirability to employers.

The RGU Virtual Oil Rig and Surrounds
- Development of semi-submersible rig using OpenSim
- Set in ocean environment with sea-life
- Moving parts and sound
- Buildings: “onshore” to showcase processing/materials
- Lecture Hall for live-streaming events
- Visitors click on objects for information and linked videos
- Social areas for staff and students

(based on the OCV UHR)

Collaboration – University of Edinburgh
- Experimenting with porting the RGU Virtual Oil Rig using the OpenSim very converter to Unity 3D (available through http://sites.ogu.ac.uk)
- Developing VR experiences in out-world environments designed for use with VR headsets

DART – Dynamic, Advanced, Responsive, Training
- Full-scale reproduction of offshore platform or land rig
- Touch-screen console for driller and assistant
- 3D graphics of rig drill floor
- Equipment projected onto a 60-ft cinema screen
- Realistic, dynamic graphics and sounds simulating what the driller would see and hear on the rig

Next Steps
- Further integration into taught modules
- Use DART and Virtual Oil Rig for assessment of key skills
- VR simulations with DART
- Increasing student partnership

More Information and Image Sources
- Virtual Oil Rig http://www.space.world
- Blog Featuring Rig: http://blog.inf.ed.ac.uk/ate/2017/01/24/space-space-case-off-rig-region-pool/

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*Open Virtual Collaboration Environment Open Access Repository