Enhancing Student Employability with Simulation: The Virtual Oil Rig and DART

Citation for published version:

Link:
Link to publication record in Edinburgh Research Explorer

Document Version:
Peer reviewed version

Published In:
3rd International Enhancement in Higher Education Conference: Inspiring Excellence - Transforming the Student Experience

General rights
Copyright for the publications made accessible via the Edinburgh Research Explorer is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.

Take down policy
The University of Edinburgh has made every reasonable effort to ensure that Edinburgh Research Explorer content complies with UK legislation. If you believe that the public display of this file breaches copyright please contact openaccess@ed.ac.uk providing details, and we will remove access to the work immediately and investigate your claim.
Enhancing Student Employability with Simulation: The Virtual Oil Rig and DART

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 posters/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 OVC OAR*)

Collaboration – University of Edinburgh
• Experimenting with porting the RGU Virtual Oil Rig via the OpenSim OAR Converter to Unity3D (available through http://sine.space/world)
• Investigating use in virtual environments designed for use with VR headsets

DART - Dynamic, Advanced, Responsive, Training
• Full-scale reproduction of offshore platform or land rig
• Touch screen consoles for driller and assistant
• 3D graphics of rig drill floor
• Equipment projected onto a 60ft 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 the Virtual Oil Rig for assessment of key skills
• VR simulations with DART
• Increasing student partnership

More Information and Image Sources
• Virtual Oil Rig http://sine.space/world
• DART http://www.rgu.ac.uk/student-life/virtual-tours/riverside-east/dart-simulator-virtual-tour/
• Blog Featuring Rig: http://blog.inf.ed.ac.uk/atate/2017/01/24/sine-space-rgu-oil-rig-region-live/

*Open Virtual Collaboration Environment Open Access Repository

Contact
Jo-Anne Tait: j.e.tait@rgu.ac.uk
Colin Hetherington: c.hetherington@rgu.ac.uk
Austin Tate: a.tate@ed.ac.uk