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

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

**ROBERT GORDON UNIVERSITY ABERDEEN**

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*)
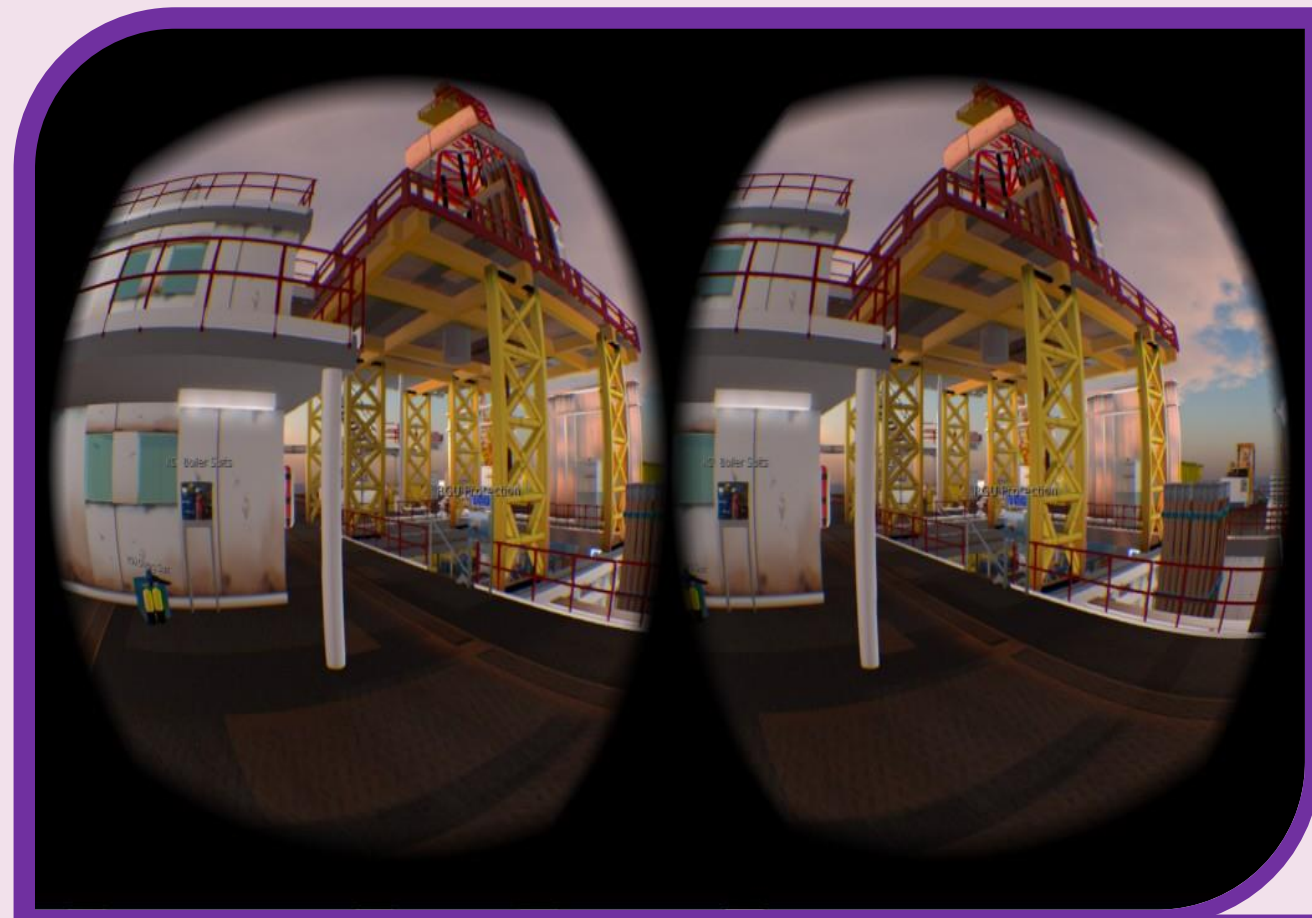
Collaboration – University of Edinburgh

- 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.
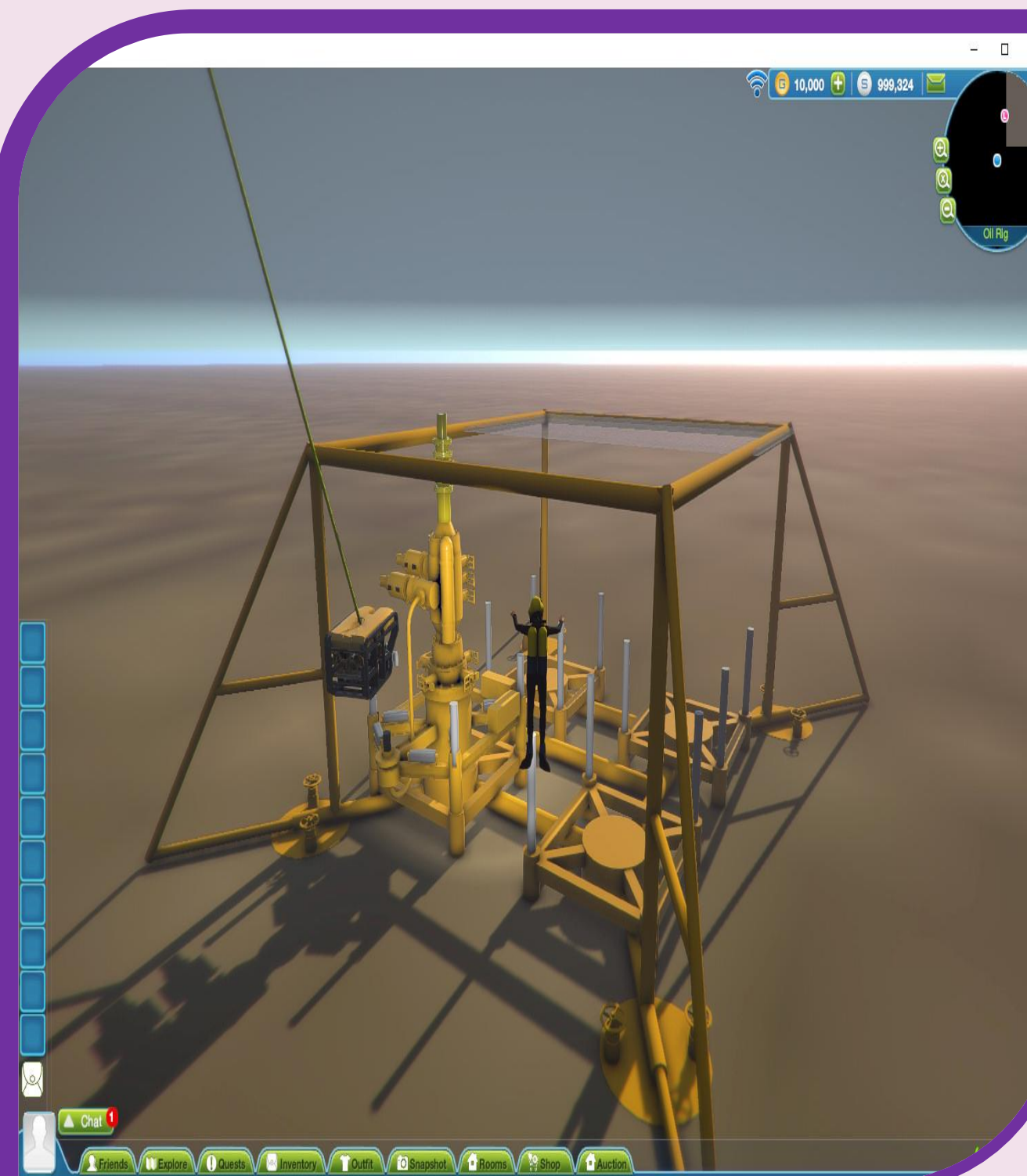
Next Steps

- 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/

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*Open Virtual Collaboration Environment Open Access Repository