the Naledi3d Factory
Water chlorine testing and pump start-up procedure (2006)

Purpose:
As part of a programme to improve artisan training, The Rand Water Board (RWB) have started to use focused, VR-based simulations as an integral part of their training activities. The use of VR, coupled with appropriate pedagogy leads to a rich and engaging learning experience, improved comprehension and longer learning retention.

Partner:
Rand Water Board

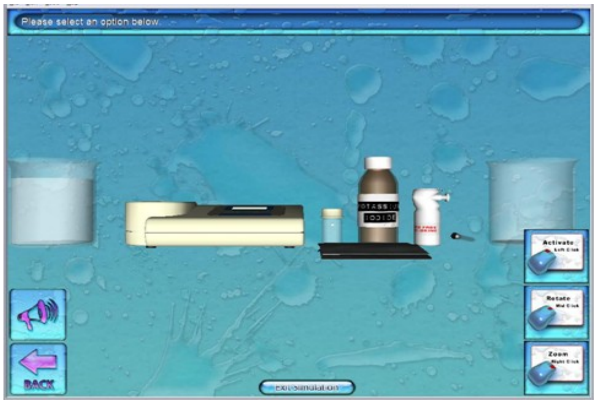
RAND WATER

In a Nutshell:
In this pilot project, VR (as i*nteractive3d learning objects*) were developed to demonstrate two processes:

- The correct start-up process for a water pump
- How to test for chlorine using the *Hach Colorimeter* and the *Lovibond PCcheckit*

Correct pump-start-up procedure:
Starting a pump of this size costs R50 000 and upwards in energy alone. It is therefore crucial that mistakes are not made. In this simulation, the operator find themselves in a pump station room housing a single pump set, with the SCADA control system located on a first floor platform. The (trainee) operator is then guided through each of the 23 steps required to successfully start the pump, including the actions required on the SCADA, Multilin relay and Magelis systems.

Chlorine testing:
A large water authority can spend upwards of R300m per year on water quality testing and it is important that tests are undertaken correctly. Two simulations take the learner thought the 16 steps needed to test water for chlorine content using either the Hach or Lovibond chlorine testing machines, as well as the 5 steps needed to measure Monochloramine concentrations.



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