

EXXONMOBIL – DECANTING PROCESS



Decanting is a critical process in which water needs to be carefully separated and drained from a liquid propylene tank. Failure to do this properly can critically injure personnel, as well as leaking propylene into the sewage and filtration systems. View video: https://youtu.be/YBy3TV_liag

ABOUT THE TEAM

Decanting was a 11- step simulator in collaboration with [3D Media](#) for ExxonMobil. The team consisted of:

- Project Owner: Red Iron Labs
- Product Review: Daryl Roy, 3D Media
- Architecture: Lloyd Summers, Red Iron Labs
- VR Development: Darien Magnus, Red Iron Labs
- Graphic Design: Mark Janzen, Red Iron Labs

ABOUT THE PROJECT

Red Iron Labs created a clean training VR application, showcasing the procedure used to drain water from a well. Users were required to complete steps 1-11 of the drain well water process and utilized teleportation to move around the environment. This was a stand-alone manually installed VR experience on Windows catered to the HTC Vive, Oculus Rift, and Oculus Quest.

The progress is tracked (the user will see an error message when they make a mistake).

USER INTERFACE

The control schema utilized a VR component only, meaning the experience automatically began as soon as the user put on the headset. The controls are context-based, meaning their functionality was determined by the intent of the user. The experience included various interactions such as:

1. Teleportation for movement
2. A dynamic Virtual Clipboard
3. Navigating a small area
4. Turning valves
5. Keeping time on a stopwatch
6. Check tag on scaffolding
7. Verifying water levels

Users can select and grab a valve handle and turn it. A valve will always start in a closed state, and can be:

- Closed
- Partially Open
- Open

The scene layout is based outdoors, non-distracting and modeled based on realistic representation of the real site.

AUDIO

- Audio focused on the areas of importance at the moment of execution to maximize the value of the tutorial.
- Voice overs were included as a tutorial element to help walk the user through interactions.
- Sound effects were used to deliver information, increase the production value, and evoke emotional responses. Sound effects were associated to the valves, transfers, and physics objects.

OUTCOMES

Decanting was commissioned by Exxon Mobil in response to an increase in human performance errors resulting in losses on configuration control, and inadvertent loss of process inventory. Decanting will be used to train both newly hired and experienced process technicians. The desired, and expected outcome is that retention of training material, and recognition of work environments and practices will be increased by up to 87% when compared to traditional method baselines.

CONTACT INFORMATION

Rosalinda Hernandez

CEO & Co-founder

403-681-6833 | rhernandez@redironlabs.com

Lloyd Summers

CTO & Co-founder

403-690-0707 | lsummers@redironlabs.com