

## Case Study: Houston Museum of Natural Science – Extreme Drilling

Dorset Creative have been working with Drilling Systems for over 5 years developing immersive public touchscreen experiences, VR and AR projects and large-scale touchscreen simulation experiences for oil well drilling and crane driving. This is an ongoing collaboration.

Although we have worked on many projects with Drilling Systems, we will focus this example of the **Houston Museum of Natural Science 5-year fixed exhibit** where we developed a public facing oil drilling exhibition piece.

Video overview of the project showing 3D models, animation and high quality delivery:  
<https://vimeo.com/346414561>

Using our experience of creating full scale oil drilling simulators, Dorset Creative developed an oil drilling simulator for all ages that is a fixed exhibit in the Weiss Energy Hall in the Houston (Texas) Museum of Natural Science.



The 5-year fixed exhibit was designed to be used by people of all ages to learn about 12 different oil drilling operations from 3 different oil drilling rigs.

To see the full details about the Weiss Energy Hall, please follow the link below:

<https://www.hmns.org/exhibits/permanent-exhibitions/energy-hall/>



*Students interacting with training simulator.*

As can be seen in the images above, the project was developed to be used on a 32" touchscreen and a video wall comprising of 3 x 4K large format displays. We also installed directional audio and a joystick for controlling the simulation.

A demonstration of this attraction can be given on request.

**Graphics Design:**

Dorset Creative developed the full and comprehensive user experience and user flow with many rounds of user testing to ensure engagement across multiple age groups and demographics.

**Modelling:**

A number of the 3D assets had been previously developed by Dorset Creative. All other assets were created and others previously modelled were refined for this mode of delivery.

**Animation:**

Being a highly interactive and visual experience, a lot of animation was needed within this project as can be seen in the video above. The animation includes cutaways of engineering assets as we will apply in this project.

**Graphics Programming:**

Graphics programmers were required to turn the user interface into a touchscreen project that would display on the matrix of 12 screens and individually on a touchscreen and 3 large format displays. The graphics programmers used Unity3D to develop the project with multiple rounds of testing.

**Delivery:**

Dorset Creative performed user acceptance testing on-site in Houston, Texas and have remote monitoring tools installed if support is required.

Although this project was developed for a touchscreen, it was developed in Unity 3D.

**Project Key Points:**

- We created, modified and animated many 3D models
- We developed an experience for longevity that would appeal to all kinds of people and ages
- This project had 12 key areas of interest where the user could interact and learn about oil drilling operations, along with immersive directional audio
- The project immersed the user with high quality graphics, audio design and user experience
- This is a huge public engagement project