

North Forge Technology Exchange and Bit Space Development VR Safety Orientation Experience

Final Report - March 30, 2021

The project officially kicked off on April 1, 2020. Accomplished to-date are:

- Project Planning
- Formed the Advisory Committee along with scheduled monthly meetings with terms of reference. We have completed ten Advisory Committee Meetings and only have two more.
- Comprehensive Knowledge Transfer Plan.
- Content Creation Planning
- Interim Financial Reporting and Progress Reporting. This is the final report. Content Creation
- 360-degree Content Shoot and editing
- Hotspot Content Creation
- Review Build 1 and 2
- The app has been developed
- Training on the app has been completed
- Pilot Testing started and officially ended the end of January.
- The app was reiterated and improved based on feedback.
- The Knowledge transfer plan began and will continue past the official close of the project.
- The VR Heads are being installed in the lobby of the Fabrication Lab.

Refer to the attached project timeline for details. We spent 11 days planning the project by created a project timeline, a project in ASANA (Project Management Software Tool), a project team, google drive for shared access to the project team, ASANA for tracking activities, review of critical job inventory of equipment by risk levels and created a content builder form. The Content Builder Form includes: Key Indicators for success, the Advisory Committee and each representatives' responsibilities. It also includes all scenes being developed in VR along with the important information to include and the associated 360-degree photos.

The project has completed all monthly Advisory Committee meetings since the start of the project. Advisory Committee representative feedback has all been addressed and actioned. Example: the last meeting feedback was on our cleaning procedures for the headsets and that has been implemented with the purchase of a clean box. Cleaning procedures are being developed.

Knowledge Transfer

Dan Blair, Bit Space Development shared the experience to about 100 participants during the Made Safe Manufacturer's Forum on March 3, 2021. A North Forge Lunch and Learn with Bit Space Development took place on March 25, 2021 to 50 business industry leaders.

We have designed and produced numerous new marketing materials promoting the VRSafety Training Experience with Safe Work Manitoba, Made Safe and Bit Space Development. Some of these materials include VR cardboard google headset giveaways, a new pull up banner, testimonials, postcards and web site development all promoting the technology. A story will also be featured in the North Forge Newsletter in April 2021.

North Forge Lunch and Learn



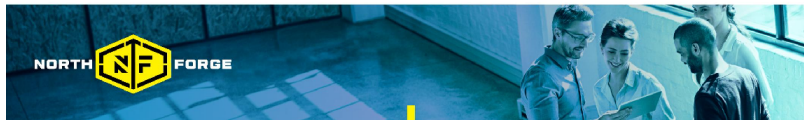
Pull-up Banner



Post Card



VR Safety Orientation Experience



Milestones

Content creation planning and creation took place from April to June 2020. The scenes were selected based on North Forge's critical job analysis and the risk factors by equipment. The planning involved receiving Advisory Committee feedback and approval on our scenes to shoot. We determined the date to shoot in the Fabrication Lab and that was completed at the end of June. After the video shoot, the project team spent a considerable amount of time, reviewing and choosing the video and images that best represented the scenes.

The editing and hotspot creation of the content has been completed and the project team continues to review and make minor edits to the first build of the application. The app has been developed with slight improvements continually being made. Pilot testing is beginning early December and additional editing (Development 2) will be completed on the app in January 2021. Due to COVID-19 code red restrictions, the Pilot Testing began a little later than originally planned however was completed within a reasonable time frame.

A considerable amount of time was spent pilot testing and gathering feedback. Testing, feedback and improving the app was often simultaneously.

In February – March 2021, Bit Space Development took the feedback from the pilot testing and made final adjustments to the app. We had a total of 15 people who completed pilot testing. One person had difficulty navigating. The team made adjustments to improve on the navigation with a hotspot option that changes the direction you are facing when you enter.

The VR headsets are being installed in the Fabrication Lab on April 1, 2021. Existing members of the Fabrication Lab will begin completing the modules and we will be tracking completion.

North Forge purchased a [Cleanbox](#) (outside of this project funding) to keep the VR Headsets clean and sanitized. Cleanbox technology is a premium, eco-friendly smart tech hygiene company, specializing in UVC surface decontamination for frequently used products.

Technical Team Report

During the project we worked towards the development of VR focused training resources specifically designed to enhance the safe work practices for manufacturing and fabrication lab spaces. During this project we developed and streamlined a process for creating this content, adapted our web-based SaaS tooling to deliver the content, and created a scalable and shareable set of course content which will be used in the North Forge Space. A summary of technical activities:

- Content planning – the initial course planning using the XR content builder process
- Content shooting – onsite content capture
- Hotspot creation – initial work produced by the XR team to translate the starter content provided by the working group
- Content support – Working with the working group to insert hotspot and embedded content into the XR learning environments
- Development of review builds 1 & 2
- Pilot and deployment of course content delivered by our VRSafety tool
- The procurement and set up of Pico VR hardware at North Forge
- The deployment and optimization of the VRSafety Pico application for deployment to the lobby.

In addition to these items the technical team advised North Forge on sanitization and safe operation practices for the XR equipment via the UV cleaning systems deployed to the space. This will allow for the sanitization of the head mounted display between users in the physical space.

Alongside the VR based training we have also deployed a web VR based training experience which uses the same content and is considered an accessible alternative for users who cannot use the VRSafety VR headsets. This can be used via the iPads already present in the space.

Moving Forward a VR Safety team member, Doug Campbell, will continue on the project as we move forward. He will be responsible for editing the content to keep current on high-risk equipment hazards, safety updates and addressing user feedback. North Forge employees will continue to manage the administration to measure success. Bit Space Development will continue with North Forge for ongoing support and maintenance.