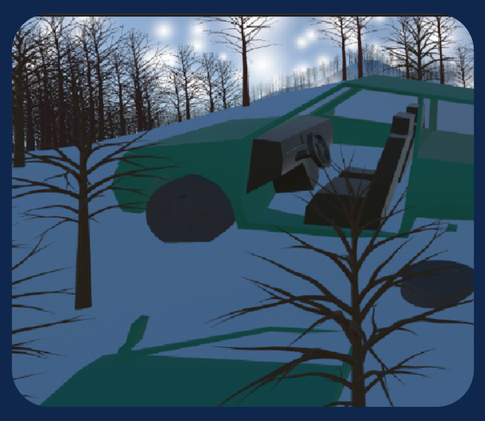
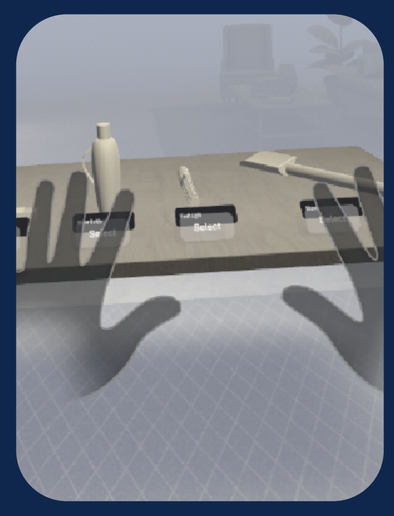
VR Blizzard Simulation

Imagine being stuck in a snowstorm where you have crashed your car and need to find shelter quickly before the sun goes down. What would you do? What objects would you have wished you brought with you? This a chance to experience that in a safe and risk free way to better understand how we should act in a crisis like this and maybe be better prepared if it ever happens to us in real life.



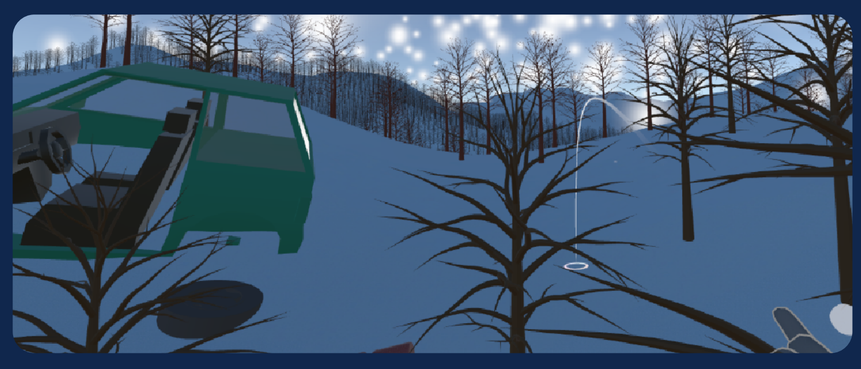
Concept

This crisis simulating VR-experience includes two scenes, one depicts a room with a table that displays items the user can pick to help them in the crisis, the other depicts a snowstorm where the user shall navigate to the nearest shelter. Ideally, the outcome of the experience should differ depending on which items the user picks. For example, a parachute will not be as useful as matches to keep you warm in a snowstorm. By allowing the user to re-experience the simulation and see first hand what items may be more (or less) useful in a crisis situation, our aim is that the user will have a better idea of what to bring if/when an actual crisis emerges. However, this degree of interactivity has not yet been implemented, meaning the experience will be the same regardless of which items are selected, at this time.
The experience will be able to be adjusted with various settings, but the purpose of it all is to make it feel safe and secure to experience this crisis. Therefore, we have chosen not to put time pressure on the user but instead encourage them to perform the tasks in a proper and safe manner.



The crisis

In the crisis situation the participant finds themselves in a broken down car in a forest when a snowstorm starts. The goal is to find shelter to protect themselves from the storm with help of the objects chosen in the room before. This will alter the outcome of the experience for everyone depending on what you choose, which will also make it intresting to experience more than once.



Focus Group

The name of the project is not really intended to be shown to the user, but rather for the entity managing it, a company or similar, which invites various users so they can experience crises in a safe and secure manner and be able to think, discuss, and prepare better in case a similar scenario were to unfold in real life.

Different modes

VISION

The vision in the simulation can be varied from clear to difficult. In Clear Mode there is almost no snow fall and the moonlight shines bright in the forest. In Difficult Mode there is heavy down fall and hard to see far away.

SOUND

The sound experience can also be varied. The Clear Mode will have a easy understandable voice over and signifiers that indicates where to go and what to do. The Difficult Mode will have strong winds and forrest sounds to simulate a strong storm.

MOVEMENT

Movement will also be customizable for different experiences. In Traction Mode the participants can move freely with easy and move up and down in all terrain. In Heavy Mode the participants struggles when going of a plowed path and cant as easily move up and down hills.

Early in the process, we made a mockup video where we filmed and edited to create the feeling we are aiming for in the experience. There, one can clearly get an idea of what the final product might look like.

Process and User Tests

Throughout our project, we've engaged with diverse individuals and consulted our supervisors to make the VR crisis simulation accessible to as many participants as possible. Early insights revealed the limitation of VR hand mirroring for individuals without or with non-functional hands, leading us to adopt hand controllers. These controllers are prosthetic-friendly and can be used with either hand, ensuring a uniform experience regardless of which hand is used.
A pivotal moment came during a user meeting with someone who struggled with right-hand use, underscoring the need for controller-based navigation to accommodate all users. We also recognized the importance of information management, learning to avoid information overload to prevent user fatigue. Experiences with Cambridge Simulation Glasses showed that high contrast and clear, well-sized text can significantly enhance accessibility for users with limited vision, without requiring further adjustments. This approach extends to ensuring all text is easily readable against its background.

UI Interface

UI (text and voice over)
Regarding the user interface, there are certain adaptations and features we would want to implement in order to increase the accessibility of this crisis simulation. However, none of these have yet been implemented in the VR-simulation. The reasoning behind these features, consisting of a voice-over and text banners, can be found below.

Voice Over

Introduce a voice-over feature for an inclusive experience, aiding visually and cognitively impaired users, like those with severe visual impairments or dyslexia. This feature would narrate event sequences, inspired by svt-play's "Tydligare tal" that enhances speech clarity by minimizing background noise. Aimed at enhancing accessibility, it benefits individuals with both visual and auditory challenges, ensuring participation in the experience.

Text Banners

Complement the voice-over with concise text banners at each scene's top, describing the scene and outlining user tasks. For instance, in a snowstorm scene, the banner could guide the user to find shelter, explaining item selection and movement. These banners aim to simplify instructions and align with voice-over content, supporting users without overwhelming them with excessive information, ensuring a seamless experience for all.

Are you here with someone that can't read? Help them scan this QR code for a audio description of the project and a video!

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