# SKYWARN® Weather Spotter Training in Virtual Reality

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## Social Virtual Reality

While social virtual reality (VR) environments have existed in one way or another since the 1990s, advancements in internet connectivity and software have enhanced social interactivity, especially in the past 5 years. Social VR software platforms like AltspaceVR, from Microsoft, enable users to enter virtual environments not only in their head-mounted displays (HMDs), but also in 2D mode on-screen through the use of a virtual avatar. With the construction of this Skywarn® Weather Spotter training world example, the virtual avatar is placed in an environment containing a model supercell thunderstorm semi-frozen in time. A walkway allows the user to circumnavigate the model one and a half times with ten waypoints containing information about the supercell, how to report various associated hazards, and how to stay safe from those hazards.

## Software Workflow:

**1** blender

**2** Unity

**3** AltspaceVR

## SKYWARN® Virtual World
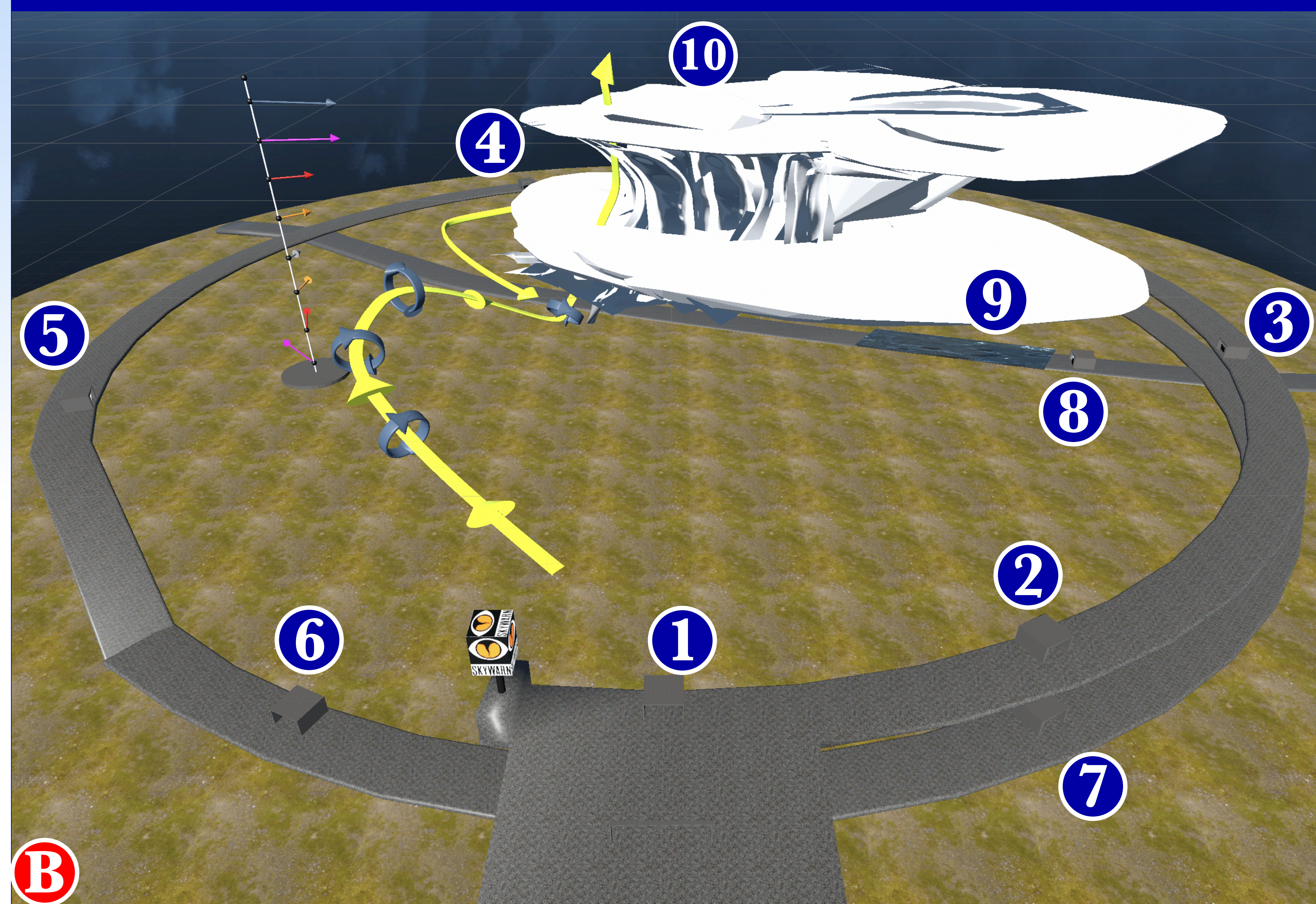
**1** Introduction
**2** Supercell Introduction
**3** Storm Motion/Winds
**4** Hail Hazards
**5** Tornado Hazards
**6** Tornado Safety/Reporting
**7** Lightning Safety
**8** Flash Flood Safety
**9** Hail Safety/Reporting
**10** Where to Report

Turn Around Don't Drown

## Conclusion

Initial results from the construction and testing phase of this Skywarn® Weather Spotter training world mostly highlight the strengths of active simulation and weaknesses of subject optimization in VR. Current VR HMDs, while much lighter than HMDs of the 1990s, are still mostly comfortable for an hour for most users, and that imposes a time limit for optimal world exploration. Reading text in VR is possible in HMDs of today, but it is time-consuming and less engaging than a role-playing simulation, like walking along a vector into the supercell updraft for example. Trade-offs, compartmentalizations and concessions in subject coverage will need to be made as a result.
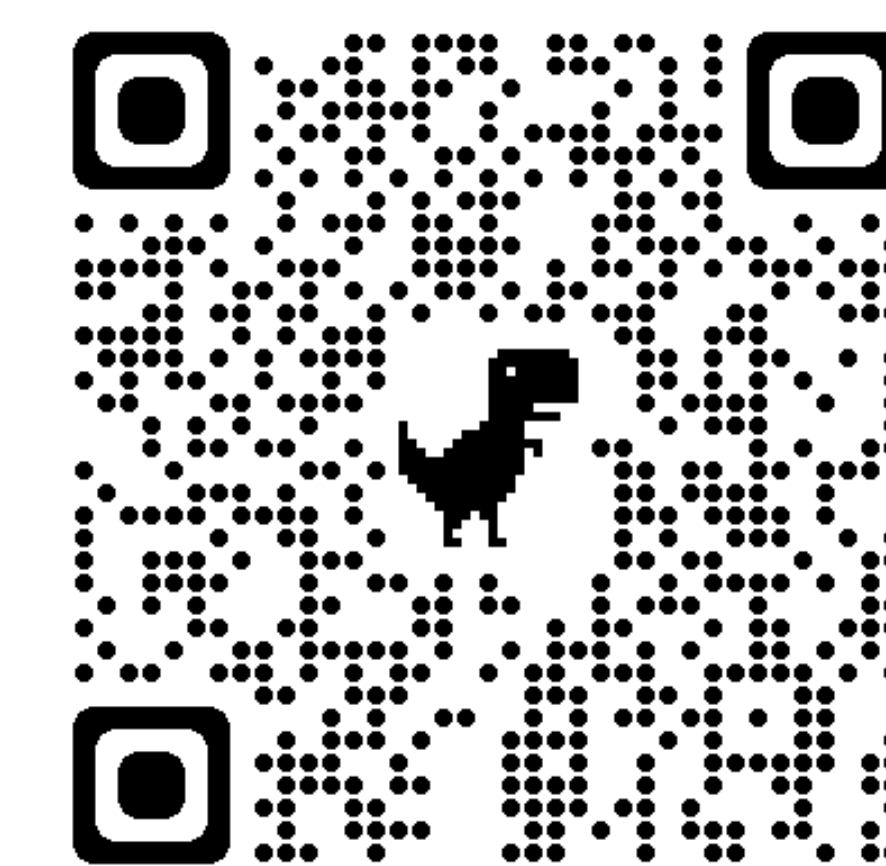
## Future Work

Testing and optimizing the Skywarn® virtual environment remains the near-term priority with QR code #1 containing access to this world and QR code #2 containing updated results as they become available. After the first round of results are completed, more of the Skywarn safety and reporting curriculum will be incorporated into a hub world with sub-sections. Once those worlds are tested, certification and publication processes will be explored. Outside of this experiment, test environments will also be made in augmented and mixed realities.

### Visit the World
**1**

### Follow the Blog
**2**