A Mirror World is a representation of our physical world in digital form. Originally formulated in the 1990’s, there is a current resurgence of interest in the topic as it becomes conflated with the currently popular “Metaverse” meme. They are similar in that both are immersive models, but the difference is that mirror worlds and digital twins are a high-resolution 3D model of a space (city or building), object (jet engine), environment (ocean channel) that is driven by data from sensor networks and is constantly evolving and changing in near-real time. This class will investigate state of the art research in this new field and compile a database of examples of how it is being developed and deployed. It will also focus on a team project to develop a prototype digital twin of Cinema’s SCI building or some part of it. This research could result in a variety of outcomes such as a new form of building management system, an immersive social platform for our community to use (such as a virtual gallery), or an interactive D&D space. We also have a huge archive of images, video, and 360 nodes shot over the course of SCI construction, that we will embed into a digital twin of SCI with XR technologies. These materials could be viewed either in an immersive VR mode, or in an AR mode enabling a kind of Xray vision into the various stages of the building infrastructure.

As a member of this sponsored project class, you will become part of an interdisciplinary team of students, faculty, and industry professionals that will conduct research, ideate story, develop and playtest prototypes, and ultimately build a proof-of-concept demonstration. The project seeks a wide range of skillsets including AR/VR programming, 3D modelling, web design, narrative design, UI/UX design, database development, and a strong interest in XR technologies and environmental media.

Course taught by:
- **Scott Fisher**, Director of USC’s Mobile & Environmental Media Lab which explores mixed reality, location-specific mobile experiences, and ambient storytelling.