

The Mixed Reality Passthrough Window: Rethinking the Laptop Videoconferencing Experience

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1 Abstract

The growth in remote and hybrid work has resulted in an increased demand for collaborative, videoconferencing experiences that offer a more seamless and immersive transition between virtual and physical environments. The Mixed Reality Passthrough Window (MRPW) addresses this demand by introducing a new paradigm for the integration of augmented/mixed reality into laptop design. The design is characterized by two screens, situated back-to-back, with two mounted cameras, facing in opposite directions. This creates the effect of looking through a window, upon which virtual content can be augmented and overlaid. This configuration allows local users sitting around the laptop to more easily interact with remote users, who appear on both sides of the Mixed Reality Passthrough Window, giving the sense that all users are sharing the same space in the round. Additionally, these features create affordances for the outward facing screen to serve as a site for presentations (e.g. slide decks) and other sharable content.