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MIReR: Media Integration Reflection Resource

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Abstract: Designers of experiential media systems rely on intuition and experience to create systems. This trial and error process takes time to learn, and it is possible to exceed a user's cognitive load in multimodal environments. This offers an opportunity to explore perception and cognition. Behavioral experiments, the standard for psychological inquiry, are time consuming and focus on one variable to achieve accurate results. Instead, MIReR provides a dynamic, holistic way of exploring data collected from user experiences. A unified representational framework makes this possible – designers provide a concept map that describes the intended meaning behind the sounds and visuals, and their relationship. This map is analyzed by MIReR's cognitive architecture and compared to user experience data to produce an estimate of the user's cognitive load. As the designer explores different possibilities, MIReR tracks changes and effects on users, creating an environment that produces new insights into perception and cognition.