Secure Multi-User Content Sharing for Augmented Reality Applications
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**User actions**  **UI**  **App-specific code**  **API**  **Library functions**

User-to-user security & privacy risks occur here  Code mediating these risks must be present here  Code easing developer burden should go here

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**Problem Formulation**
- Functionality goals
- Security goals
- Flexibility needs

**Design**
- Integrating virtual content into physical world
- Private content in shared world
- Ownership of physical-world spaces

**Implementation: ShareAR**
- Functionality: key app capabilities supported
- Compatibility: integrates with prior design recommendations
- Security: undesirable outcomes prevented
- Performance: scales with users and objects
- Code for HoloLens available publicly

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Thanks to: