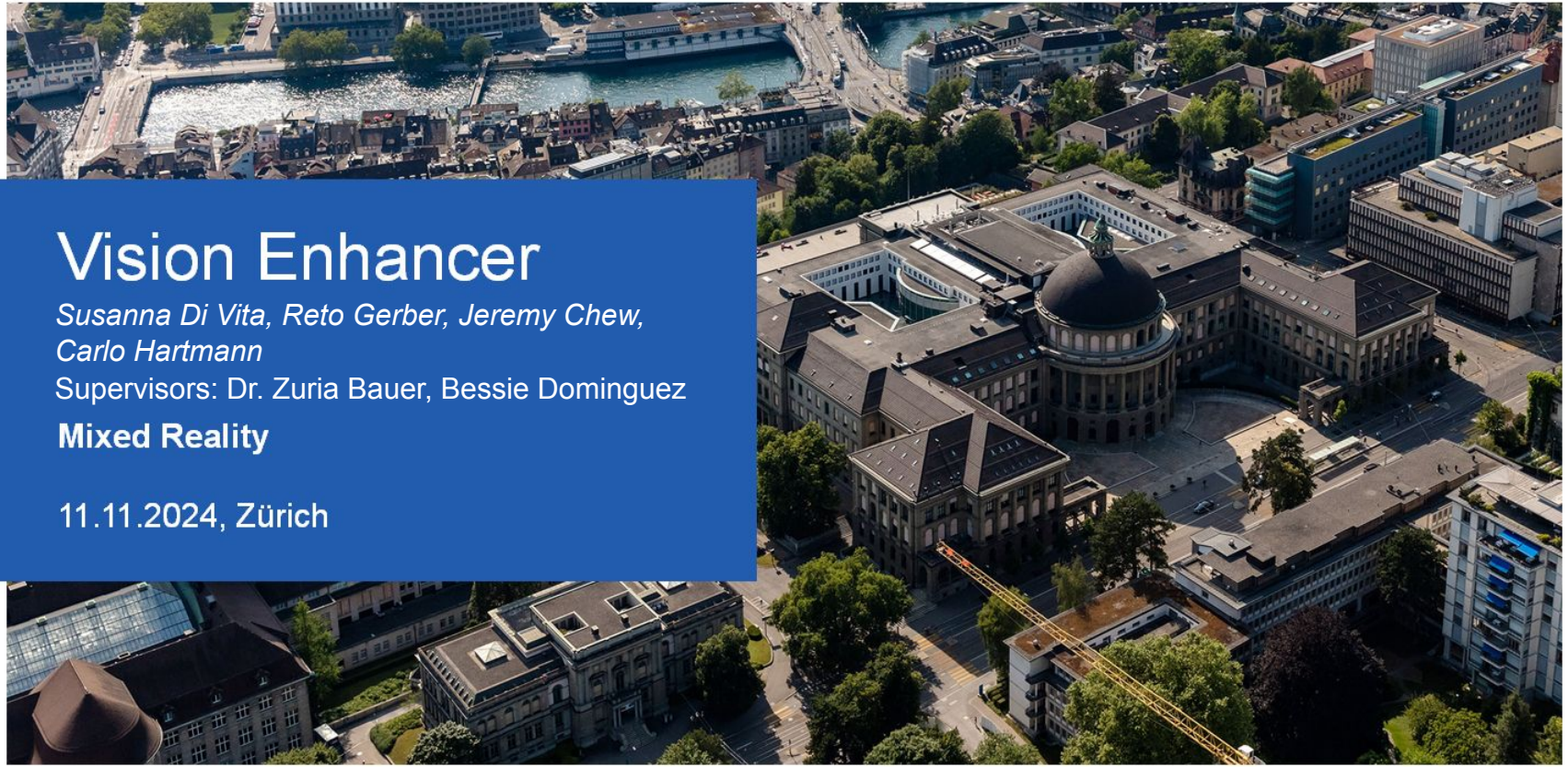
ETH zürich



Vision Enhancer

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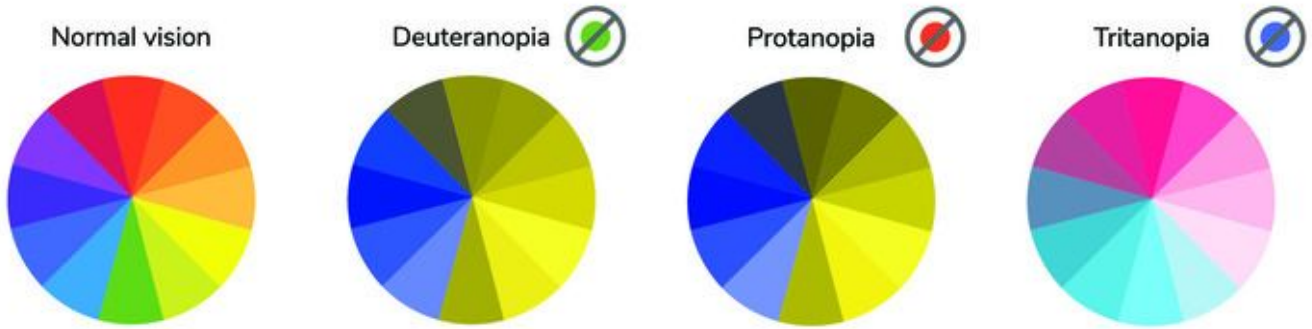
Supervisors: Dr. Zuria Bauer, Bessie Dominguez

Mixed Reality

11.11.2024, Zürich

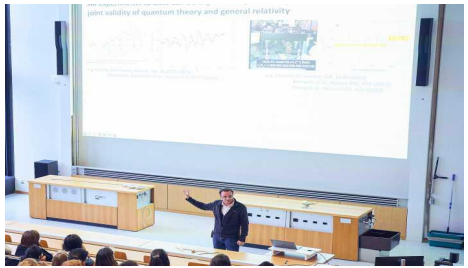
Empowering vision for **everyone**

Over 1.4 billion people live with color blindness or low vision, facing daily challenges.



Our **solution**

+

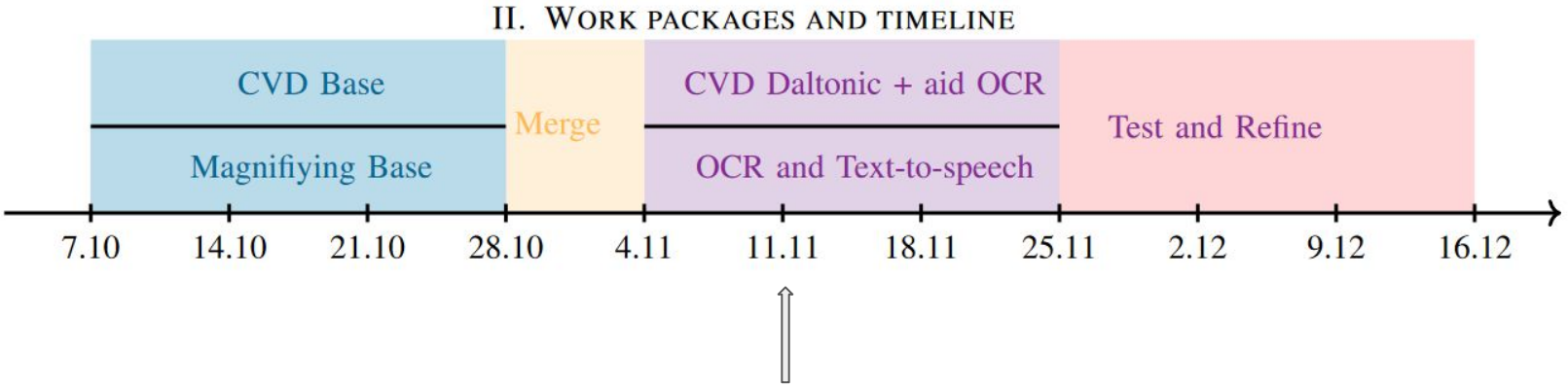


MR Hololens application

- Dynamic color correction
- Adaptive zooming

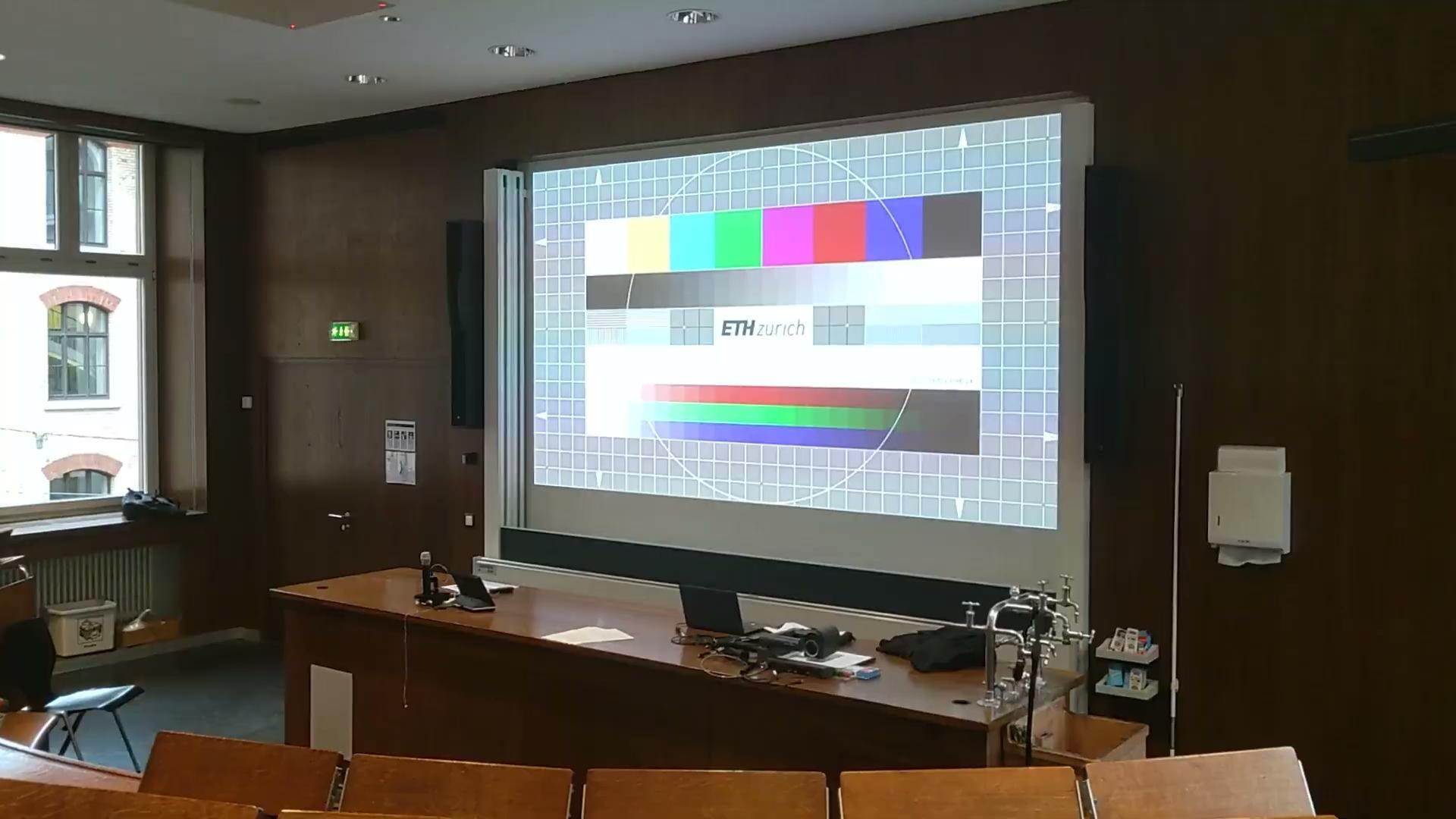
Reimagining vision, enhancing lives—making the world **accessible** again!

Where we are



HoloLens app that enhances vision for the color blind, offering personalized color correction filters and seamless magnification

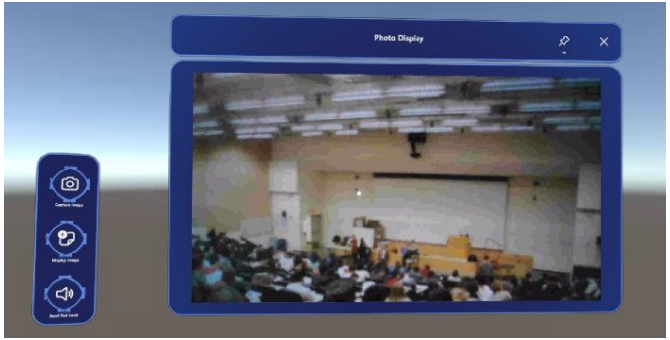
Demo video


ETH zurich

Current issues

- UI
  - Hand menu appears too close to the user, making button presses challenging.
- Translucency
  - While wearing the headset, the projected webcam image can appear too translucent, making it difficult to distinguish between the “enhanced view” and the default view.
- Blurred zoom
  - Unsure how to solve this, as issue likely stems from webcam resolution limitations.
- Color correction might be too minor
  - Currently works on a per-pixel basis, other algorithms might work on a more global scale.

Outlook



- Implement OCR + Read out functionality
  - Potential Obstacles: Connection dependent and On-Device processing
- Improve UX
  - Voice commands
- Improved zoom/color correction
- Integrate current base Flask backend for optimized API calls
- Allow direct note taking