

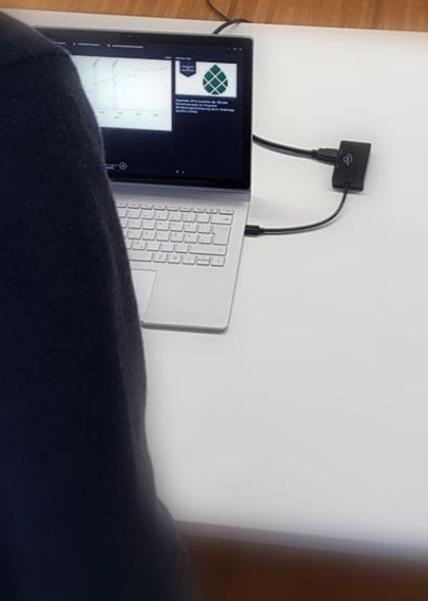
Augmented Reality Speakers View

University of Applied Sciences Augsburg Interaction Engineering WS19/20 Prof. Dr. Michael Kipp

Simon Geier

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Motivation



Related work

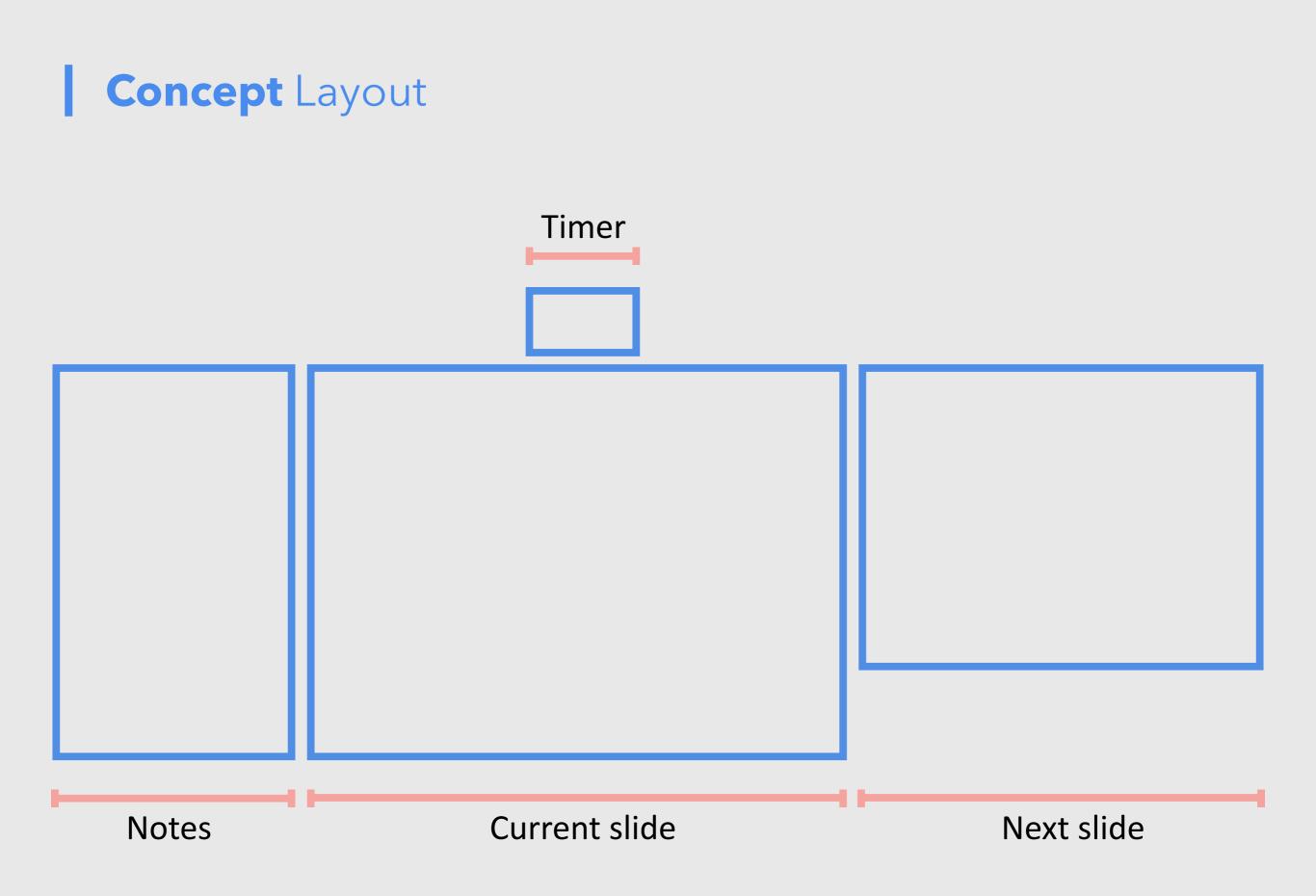
 Hyrskykari, Istance, Vickers: Gaze gestures or dwell-based interaction?

• Tönnis, Plavšić:

Survey and Classification of Head-Up Display Presentation Principles

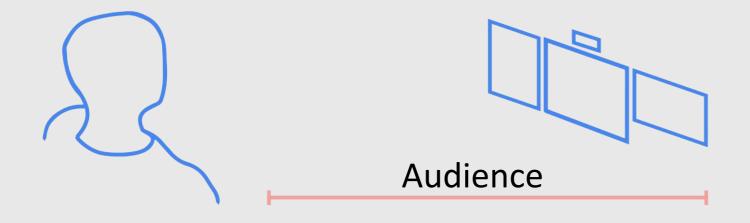
Concept

A novel way of presenting, allowing the speaker to present freely without looking at a screen or using a keyboard or clicker to change slides.



L **Concept** Layout Variation 1

Spatial

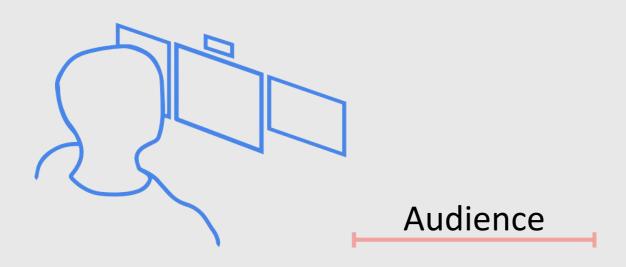




- Elements fixed in space
- Located in depth of the room
- Elements can be emphasized

Concept Layout Variation 2

Head-Up-Display (HUD)

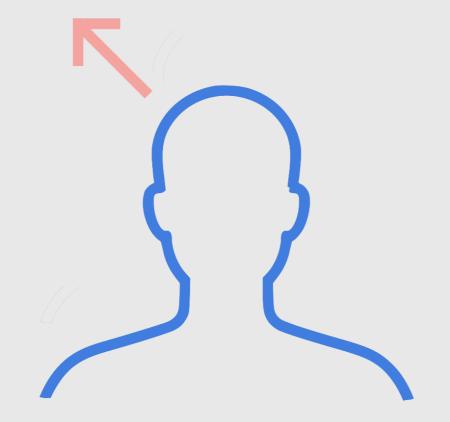




- Elements linked to user
- Moved alongside sight of user
- Elements can't be emphasized



Slide changing



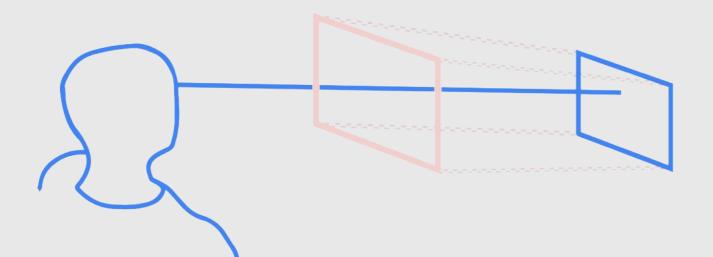


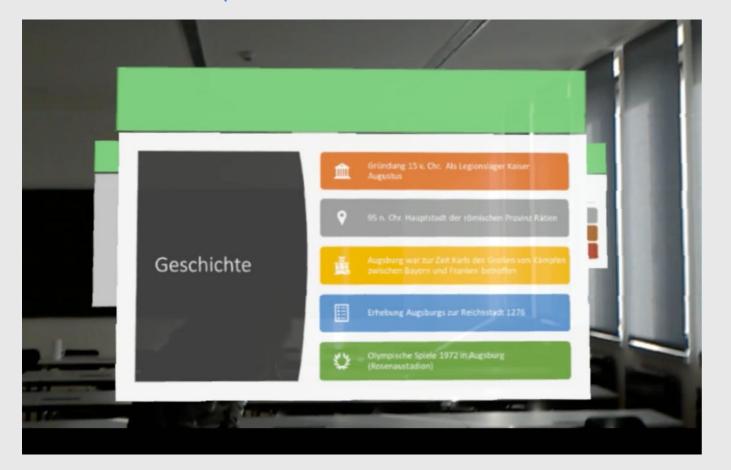
Previous Slide

Next Slide



Emphasizing (Spatial layout)





- Moves elements towards user
- Triggered by dwell-based focus onto green area
- Reset if focus outside element

Technical Realisation

Layer	HoloLens Application	Server Application		PowerPoint	
GUI	Transform Translate Relative Translate Gaze Handler		Main Window		External Application
Data processing & Intra-device communication	Select Layout Update Elements		Process Message	PowerPoint Interface	Microsoft Interop
Inter-device communication	Client MQTT Client UDP	MQTT (main data exchange) UDP (local device discover) IP-based communication	Broker MQTT Server UDP		

User Tests Setting

Participants (20 - 30 yo)

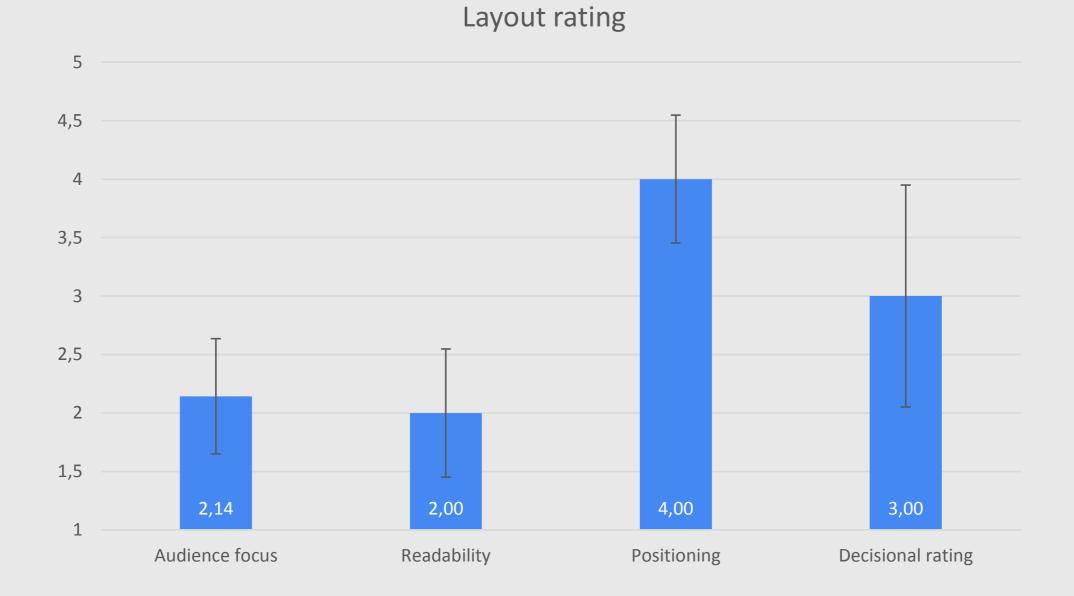
2 Presentations (Augsburg + University)

2 Layouts

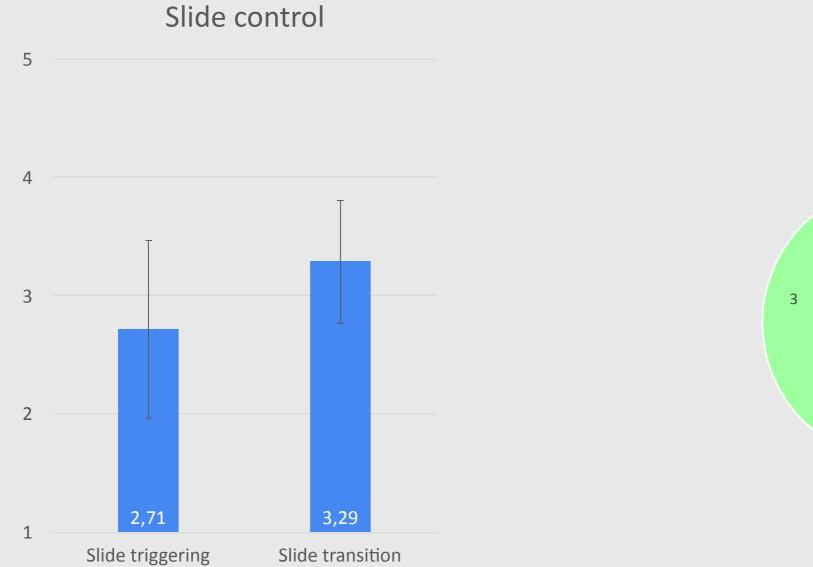


2 Questionnaires (Speaker + Audience)

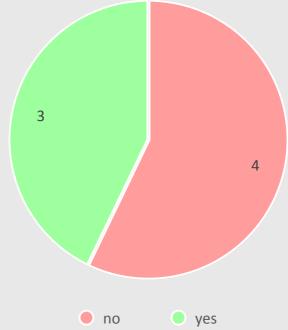
User Tests Results



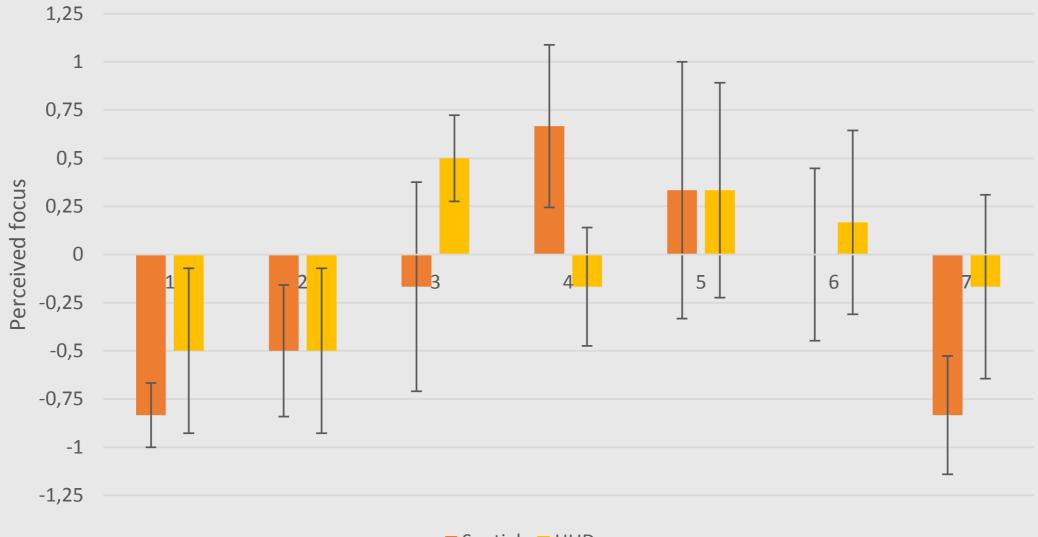
User Tests Results



Prefer ARSV



User Tests Results



Perceived focus onto audience per speaker

Spatial HUD



+ Positioning of elements

- Readability and focus on audience
- Slide control

Conclusion Future work

HoloLens 2

- Wider field of view
- Gaze Tracking

Merge of Layouts

- Avoiding overlay of the main focal point
- Combination of perceiving slide transitions while performing headdriven control gestures and emphasizing elements (Notes)

