



Projekt 3

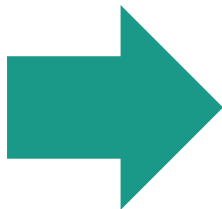
AR im Smart Home

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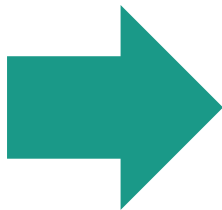
Recap: Project idea





Idea 1

Picture frame with QR code



Idea 1

Picture frame with 2 QR codes (for spatial scaling)



Features



Voice Recognition



Scalable UI



Interaction Rays



Eyetracking

Implementation





QR-Code Mechanics - Data Structure

```
{
  "header": "SHQR",
  "id": "photo1",
  "type": "Photo"
}

{
  "header": "SHQR",
  "id": "photo1a",
  "type": "Photo",
  "parameters": ["link_id:photo1b"]
}

{
  "header": "SHQR",
  "id": "photo1b",
  "type": "Photo",
  "parameters": [
    "link_id:photo1a",
    "opposite_origin:true"
  ]
}
```



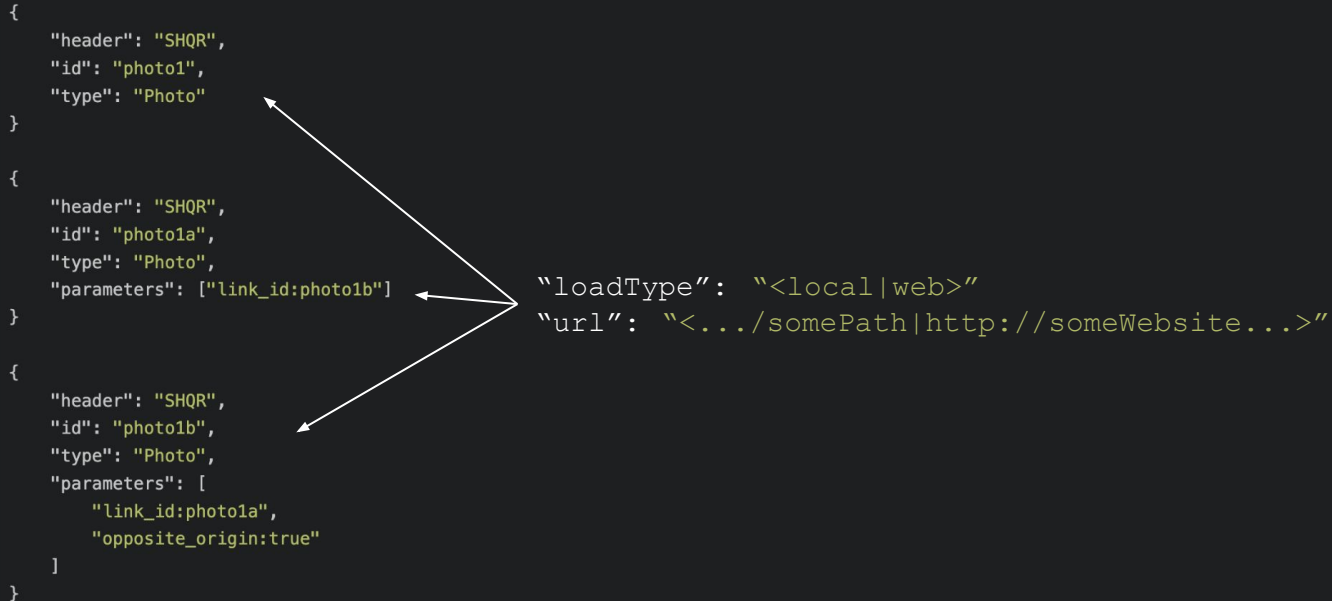
QR-Code Mechanics - Planned Data Structure

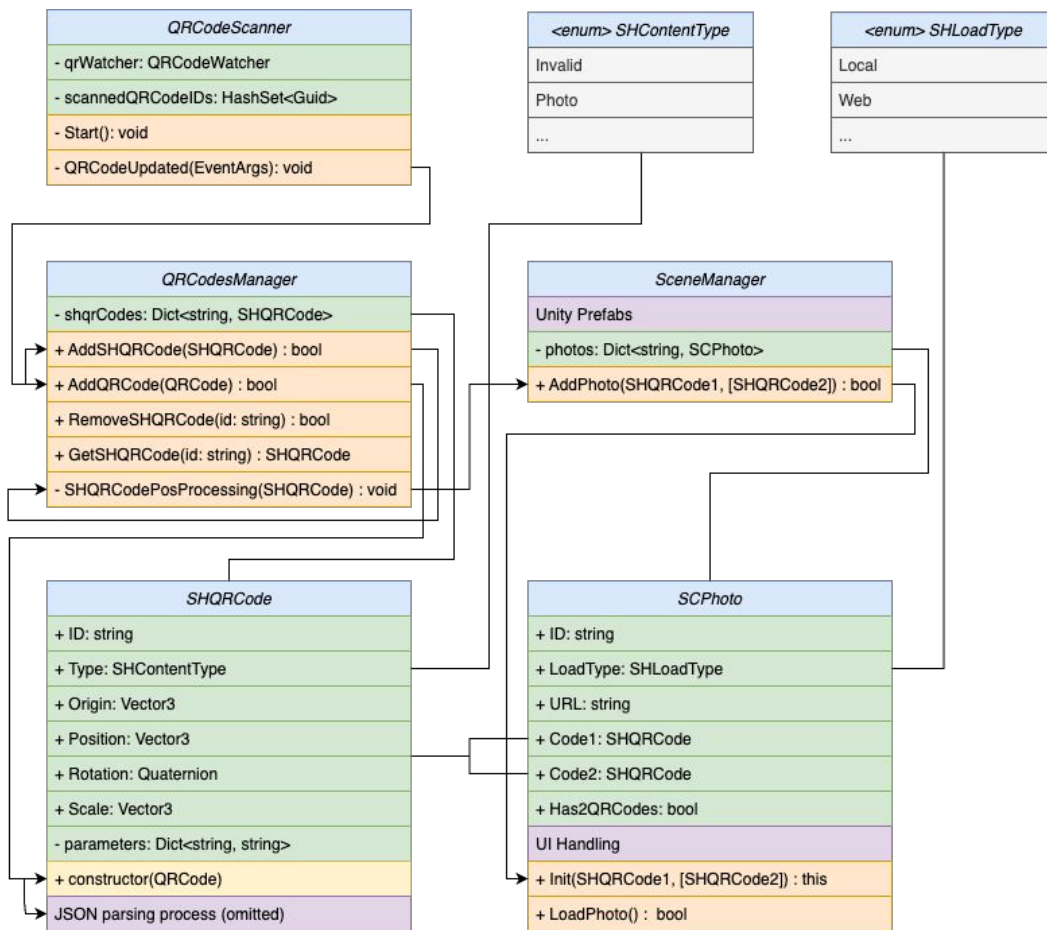
```
{
  "header": "SHQR",
  "id": "photo1",
  "type": "Photo"
}

{
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  "id": "photo1a",
  "type": "Photo",
  "parameters": ["link_id:photo1b"]
}

{
  "header": "SHQR",
  "id": "photo1b",
  "type": "Photo",
  "parameters": [
    "link_id:photo1a",
    "opposite_origin:true"
  ]
}
```

`"loadType": "<local|web>"`
`"url": "<.../somePath|http://someWebsite...>"`

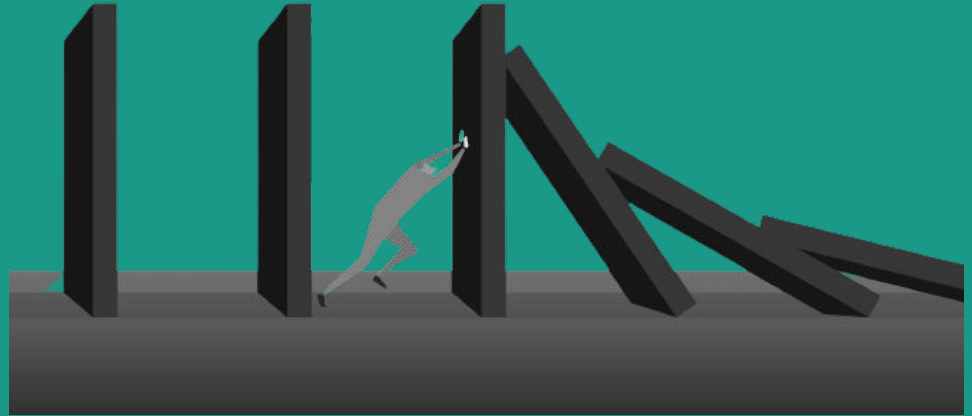




DEMO



Challenges

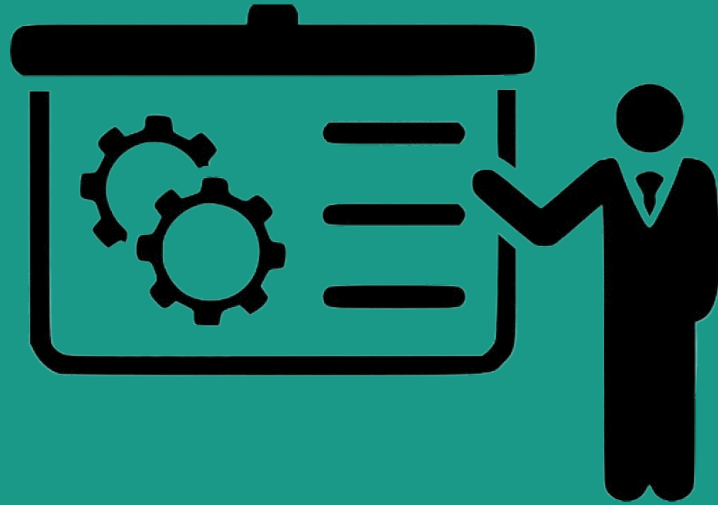




Challenges








- Setup: complicated, Windows packages and configuration required
- Direct debugging in the Unity Editor is not possible
 - Coding in the "dark" and testing only after builds
 - A build takes about 5 minutes
 - Debug.Logs() are not possible
- From time to time, unpredictable errors occur inconsistently and disappear again after the glasses have been restarted
- HoloLens development only possible on Windows machines - I (Paul) have a Mac
 - As already said → Coding in the "dark"
- We should have used the "Sprechstunden" more often
 - UI image selection feature was not required, apparently
 - But, loading directly via QR code info

Project plan





Goals - Update

MUST HAVE	NICE TO HAVE
Idea 1 - Picture frame with QR code  (Bonus: 2 QR Codes for spatial scaling)	Idea 2 - Voice messages with QR code 
Voice Recognition 	Idea 3 - Technical assistance in AR using QR codes 
Scalable UI 	Interaction Rays 
	Eyetracking 

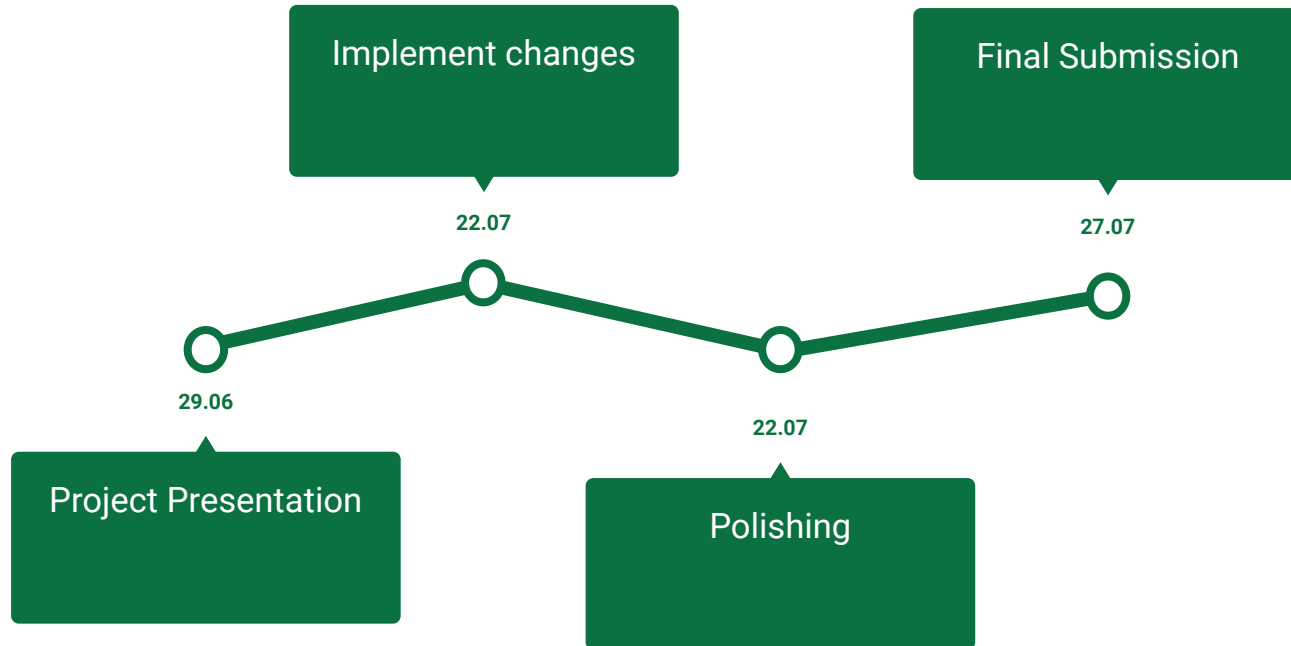


Changes we want to make

- The scroll bar should only become an optional feature
- At the beginning of the app, the user should be able to decide whether he or she wants to control the app via hand gestures or via head/eye control. The necessary UI elements are already provided
- The image information is loaded, processed and displayed directly from the internet. The URL is provided via the unique QR code
- Videos should also be able to be loaded and displayed in this way
- Polishing



Timetable



Thanks for your attention!