Augmented Reality Challenges in HTML, X3D and Tracking

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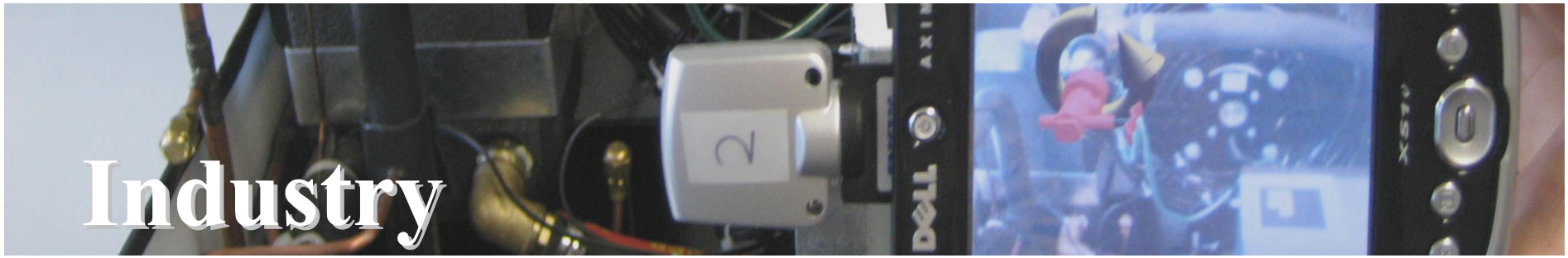
Fraunhofer IGD
Institute for Computer Graphics Research

- **Mission:** Technologies and Applications of Visualization, Interaction and Communication in the field of ICT
- **Director:** Prof. Dr. techn. Dieter W. Fellner
- **4 Locations:** Darmstadt, Rostock (Germany), Singapore and Graz (Austria)
- 180 Researchers (FTE)
- 14,7 Mio. € Turnover

-> Department Virtual and Augmented Reality

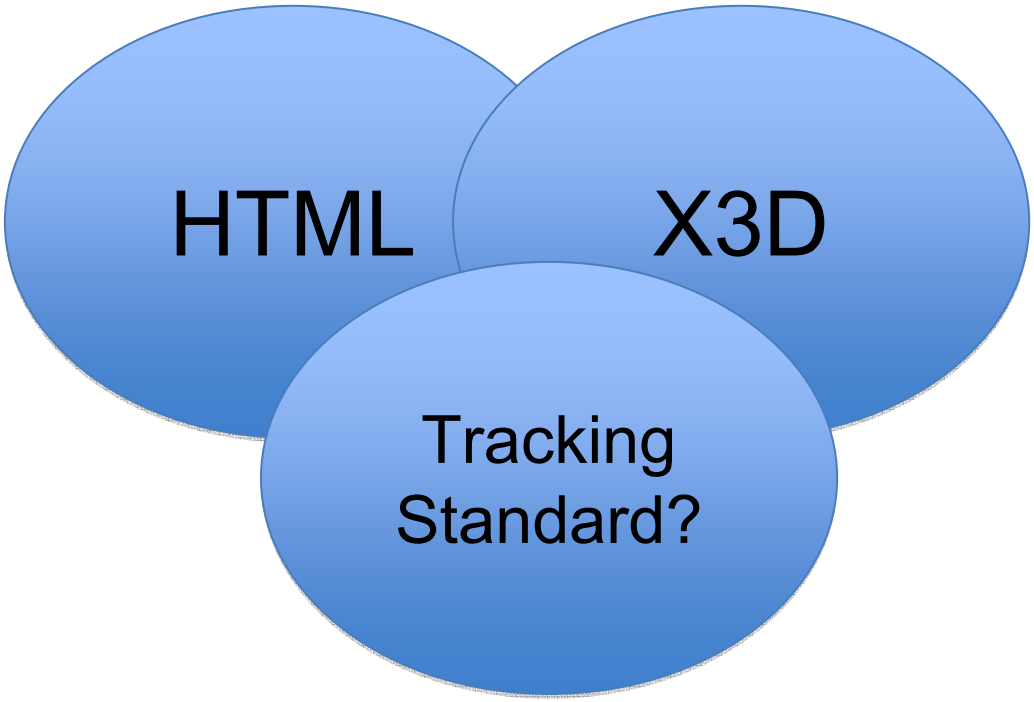
Dep. Virtual & Augmented Reality
Research Topics

Dep. Virtual & Augmented Reality
Application Areas



DOM as Base for AR-Webbrowsers

Declarative vs. Imperative Approach



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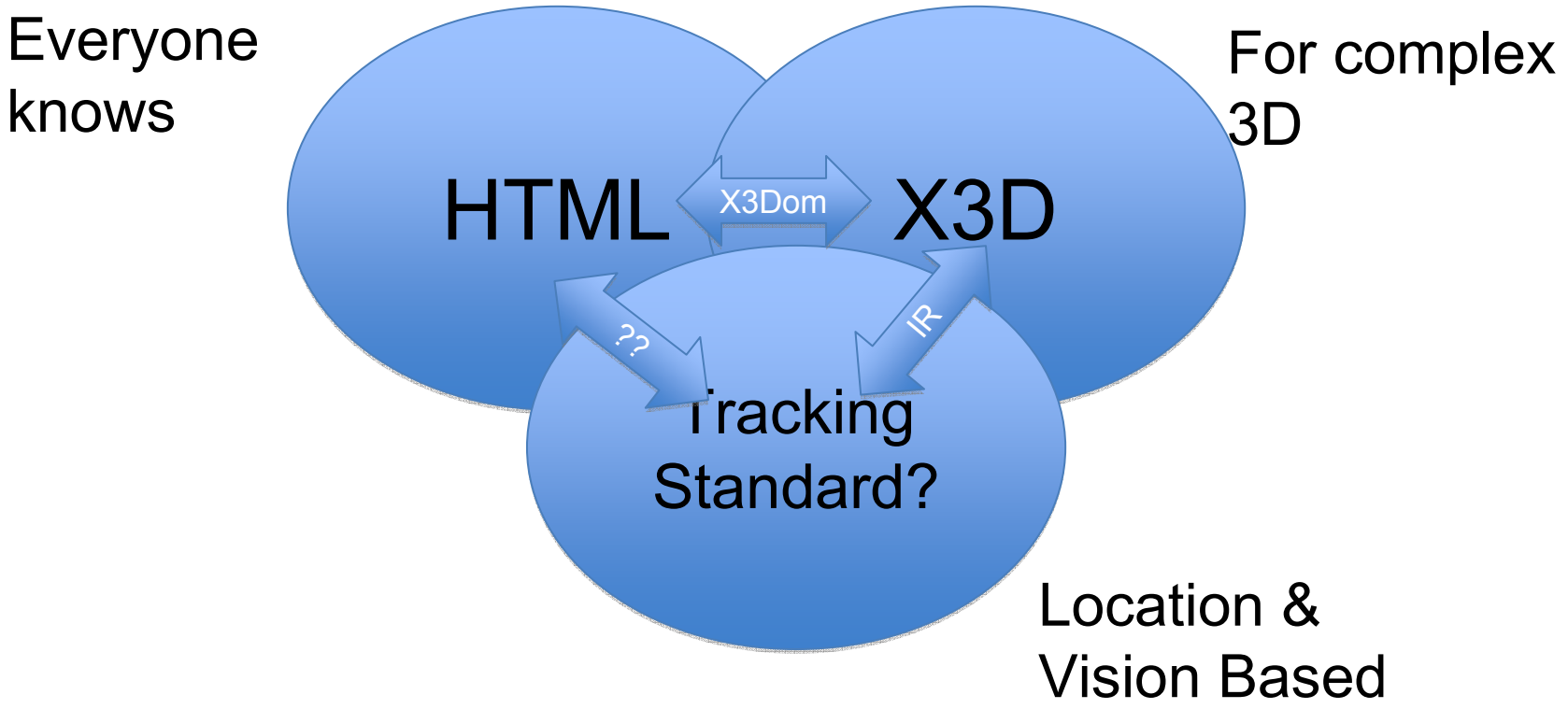

An first AR Webbrowser approach

Lessons learned from many Projects…

- Complex 3D visualization (3D-css is nice but…)
- Server-Based Approach and Device-Based
- Vision-Supported/Based Tracking

Tracking and events:

- 2D-Projected Positions
- Detection Events (out of image, coarse recognition,exact…)
- Dynamic Content
- Dynamic Tracking (Load Server Generated Trackers)
- Packagable Content for offline use
- Debuggable