

Remote Visual Tracking for the (Mobile) Web

a presentation by Jonas Kleinkauf

presentation content

- paper summary
- app idea – Googly Eyes Cam
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- implementation details
- live demo
- final thoughts

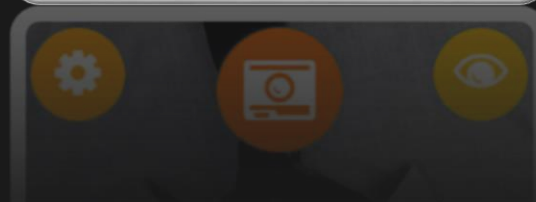
paper summary

- Research by Fraunhofer IGD and TU Darmstadt
- Idea: Using constant data streams to outsource computer vision for AR applications to a server instead of the mobile device
- Implemented with X3DOM, Fraunhofer InstantIO and Fraunhofer InstantVision (latter one is proprietary by now)
- Application: Bringing a photo of a city map to life with 3D buildings in the web

paper summary



app idea – Googly Eyes Cam



planned system architecture



OpenCV (Python)



autobahnWS



x3dom



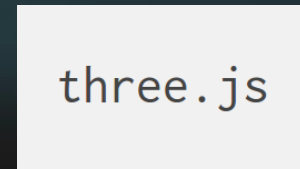
Apache Cordova

actual system architecture

local



tracking.js



three.js

MaterializeCSS



Apache Cordova

remote



OpenCV (Python)



autobahnWS



three.js

live demo

final thoughts

- Remote Server around 3-4 times faster than local tracking (Could be influenced by the quality of the CV libraries though)
- Live camera handling with cordova not as easy as thought (at least for Android)
- Rapid Prototyping with Cordova definitely given, easy UI implementation
- Cross-Platform Capabilities not tested, but very likely possible with little effort (used Cordova plugins available for iOS aswell)

thank you!

Questions?