

David Dobbelstein

Unobtrusive Interactions

for Wearable Computing

About

- ❖ Bachelor and Master (2014) in Systems Engineering - University of Duisburg-Essen
- ❖ Joined MHCI-group after bachelor in 2011 (in Essen)
 - ❖ moved with group to Ulm in 2012
- ❖ Started PhD beginning this year

Publications

Loupe: A Handheld Near-Eye Display

Kent Lyons, Seung W. Kim, Shigeyuki Seko, David H. Nguyen, Audrey Desjardins, Melodie Vidal, David Dobbelstein, Jeremy Rubin
Proc. of **UIST 2014** (ACM User Interface Software and Technology Symposium), ACM, 4 pages, October 2014 (to appear)

Pervasive Information through Constant Personal Projection: The Ambient Mobile Pervasive Display (AMP-D)

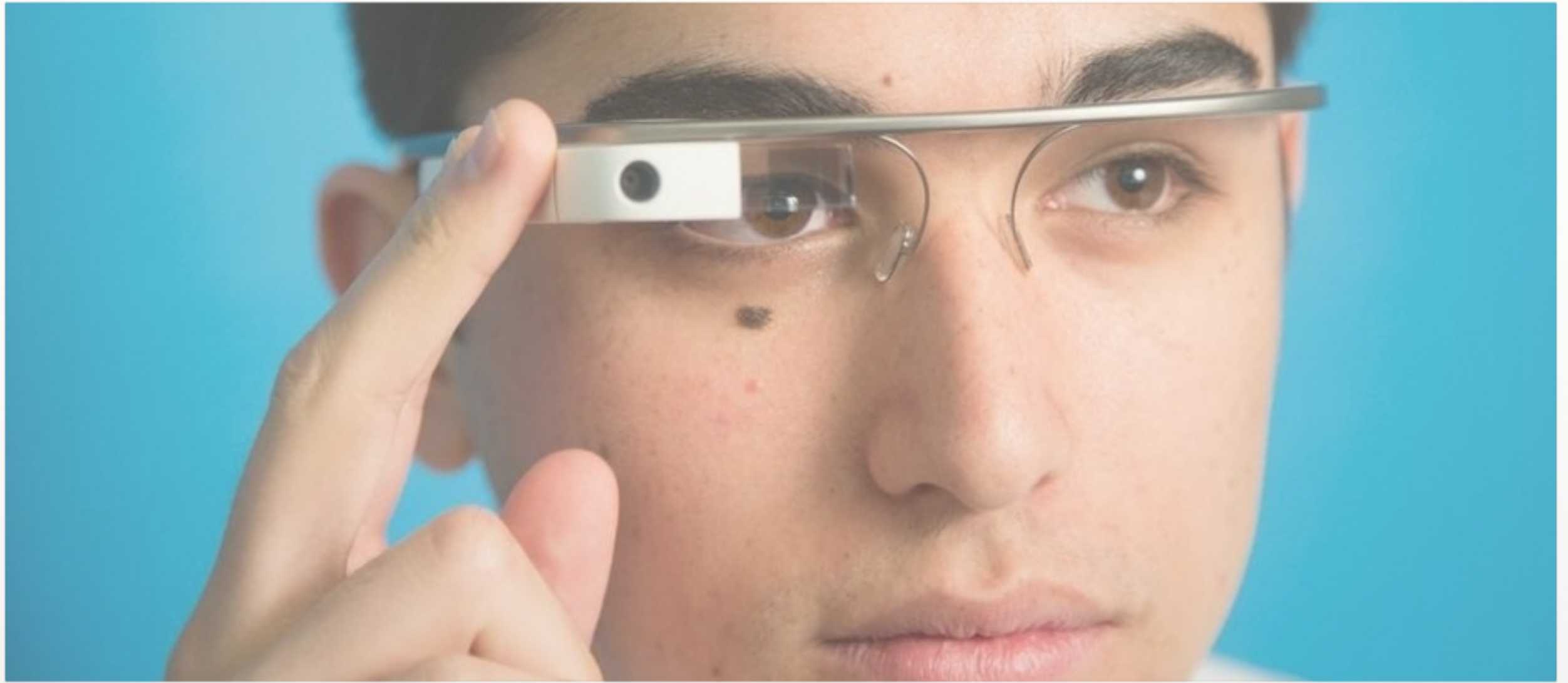
Christian Winkler, Julian Seifert, David Dobbelstein, Enrico Rukzio
Proc. of **CHI 2014** (SIGCHI Conference on Human Factors in Computing Systems), ACM, 10 pages, Honorable Mention Award, April 2014

SurfacePhone: A Mobile Projection Device for Single- and Multiuser Everywhere Tabletop Interaction

Christian Winkler, Markus Löchtefeld, David Dobbelstein, Antonie Krueger, Enrico Rukzio
Proc. of **CHI 2014** (SIGCHI Conference on Human Factors in Computing Systems), ACM, 10 pages, April 2014

From the Private Into the Public: Privacy-Respecting Mobile Interaction Techniques for Sharing Data on Surfaces

Julian Seifert, David Dobbelstein, Dominik Schmidt, Paul Holleis, Enrico Rukzio
Personal and Ubiquitous Computing, Springer, 14 pages, 2013



<http://newszou.com/wp-content/uploads/2014/04/Google-Glass.jpg>

Obtrusive Interaction

- ❖ voice input
- ❖ touch-panel at temple

Outlook

- ❖ unobtrusive form factor with ongoing miniaturization
- ❖ unobtrusive interaction?



<https://www.kickstarter.com/projects/551975293/meta-the-most-advanced-augmented-reality-interface>

Social Acceptance

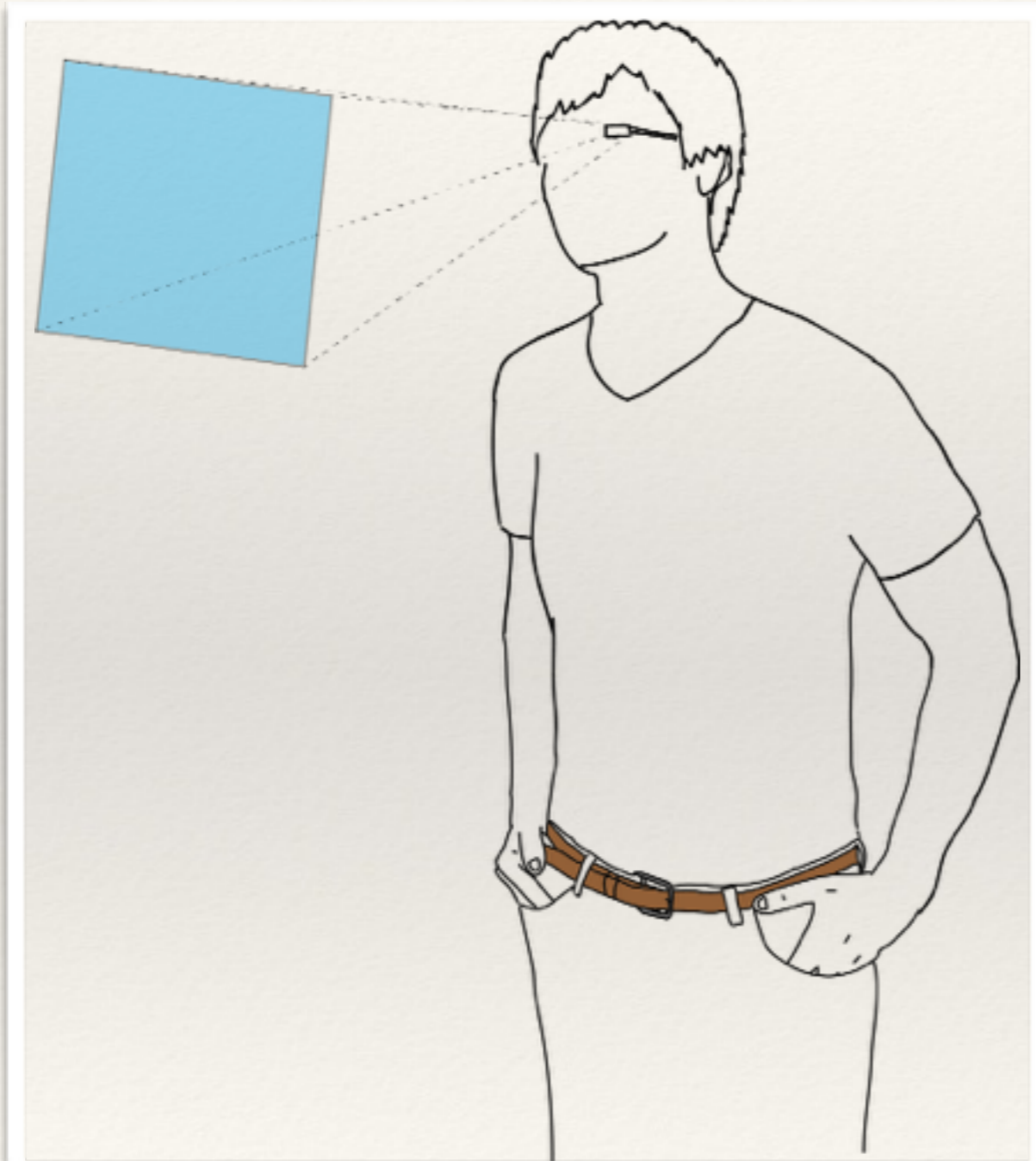
- ❖ Interaction has strong social implications
- ❖ Missing social conventions + obtrusive interaction
 - => can call unwanted attention upon user
 - => negatively affects the users willingness to interact

Unobtrusive Interaction

Interaction that...

- ❖ doesn't call a lot of attention
- ❖ looks and feels appropriate
- ❖ doesn't distract or disturb others
- ❖ doesn't evoke negative emotions

The Interactive Belt



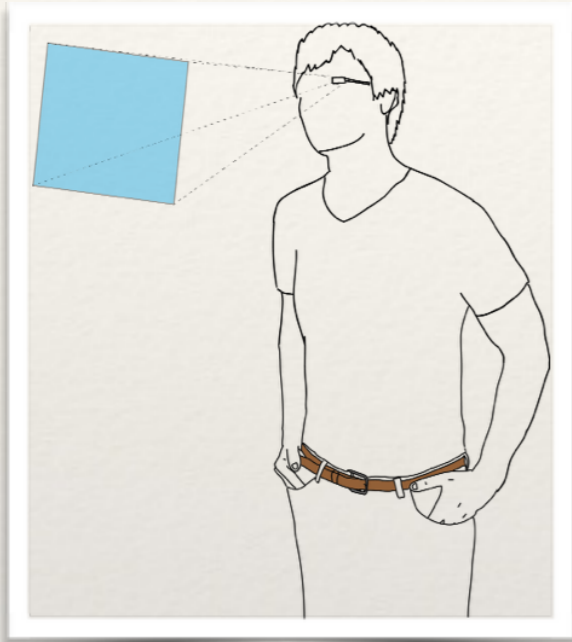
Future Work

Find and evaluate potentially unobtrusive interaction concepts, e.g. ...

- ❖ microinteractions with the hand (finger movements)
- ❖ e-textile interfaces / on-body-interaction / on-skin
- ❖ small / portable / clipable input devices

Further aspects of social acceptance...

Unobtrusive Interactions for Wearable Computing



Micro-interactions

vs

Rich Interactions

Wearable Interfaces

On-Body

Gaze Tracking

Mobile Devices

Social Acceptance

E-textile Interfaces

Smart Eyewear

Input / Output