KEN PFEUFFER

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ABOUT ME

I graduated as Doctor of Philosophy in the research field of human-computer interaction and now work as Postdoc in Lancaster University, UK. I am interested in understanding and improving user interfaces of modern computing devices. I like the explorative design, prototyping, and play with new and forward-looking ways to interact with computers, in the areas of:

- Eye-tracking and gaze based interaction techniques
- Mobile touchscreen, 3D gesture, multimodal user interfaces
- Virtual reality, projection, computer-supported collaborative work,
- User interaction modelling, performance prediction, and machine learning

EDUCATION

2013 – 2017 **PhD in Human Computer Interaction**
Lancaster University, UK
- Topic: Extending Touch with Eye-gaze Input
- Advisor: Hans Gellersen, Jason Alexander

2011 - 2013 **Master in Applied Computer Science**
University Duisburg-Essen, Essen, Germany
- Master thesis: Gaze Calibration for Ubicomp Interfaces
- Advisor: Enrico Rukzio, Hans Gellersen

2006 - 2011 **Bachelor in Applied Computer Science**
University Duisburg-Essen, Essen, Germany
- Bachelor thesis: Mid-Air Gestures for Projector Phones

PROFESSIONAL, RESEARCH, AND TEACHING EXPERIENCE

2017 **Google Research Internship, Mountain View, CA**
Research SWE at Google Research & Machine Intelligence with Yang Li. Studied, analysed, and modelled user performance of grid UIs for touchscreen mobile devices.

2016 **Microsoft Research Internship, Redmond, WA**
Research intern in the Natural Interaction Group with Ken Hinckley, Michel Pahud and Bill Buxton.
Designed, implemented, and evaluated interaction concepts for pen-and-touch tablets.

2014 - 2017 **Reviewer of research articles in HCI conferences**
E.g. ACM UIST, CHI, UBICOMP, ITS, nordiCHI, TEI, DIS

2013 - 2017 **Research Assistant, Lancaster, UK**
Investigated interaction concepts for multimodal user interfaces based on multi-touch, mid-air gesture, and eye gaze inputs. Conducted formal user studies, built prototypes, and published research articles.

2013 - 2016 **Teaching Assistant, Lancaster, UK**
Supervision of undergrad lab sessions at Lancaster University
- Course Human-computer interaction 2013, 2015, 2016
- Course Programming 2013

2011 - 2012 **Research Assistant, Paluno, Essen, Germany**

Designed, implemented, and evaluated multi-touch and free hand gestural user interfaces for mobile phones and large projections.

AWARDS AND HONORS

2016: SIGGRAPH invited talk for UIST reprise session
2015: Best paper nomination ACM UIST 2017 (top 9%)
2014: Google Faculty Research Award for PhD project
2014: Dean's Award for Excellence in PhD Studies at Lancaster University, UK

PUBLICATIONS

Ken Pfeuffer, Benedikt Mayer, Diako Mardanbegi, and Hans Gellersen. 2017. Gaze + pinch interaction in virtual reality. In *Proceedings of the 5th Symposium on Spatial User Interaction (SUI '17)*. ACM, New York, NY, USA, 99-108.

Ken Pfeuffer, Ken Hinckley, Michel Pahud and Bill Buxton. 2017. Thumb + Pen Interaction on Tablets. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (CHI ' 17). ACM, New York, NY, USA, 3254-3266

Yanxia Zhang, **Ken Pfeuffer,** Ming Ki Chong, Jason Alexander, Andreas Bulling, Hans Gellersen. Look Together: Using Gaze for Assisting Co-located Collaborative Search. 2016. *Springer Personal and Ubiquitous Computing* (PuC' 17). 1-14.

Ken Pfeuffer, Jason Alexander, and Hans Gellersen. 2016. GazeArchers: Playing with Individual and Shared Attention in a Two-Player Look&Shoot Tabletop Game. In *Proceedings of the 15th International Conf. on Mobile and Ubiquitous Multimedia* (MUM '16). ACM, Rovaniemi, Finland.

Ken Pfeuffer and Hans Gellersen. 2016. Gaze and Touch Interaction on Tablets. In *Proceedings of the 29th Annual Symposium on User Interface Software and Technology* (UIST '16). ACM, New York, NY, USA, 301-311.

Ken Pfeuffer, Jason Alexander, and Hans Gellersen. 2016. Partially-indirect Bimanul Input with Gaze, Pen, and Touch for Pan, Zoom, and Ink Interaction. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (CHI ' 16). ACM, New York, NY, USA,

Ken Pfeuffer, Jason Alexander, Ming Ki Chong, Yanxia Zhang, and Hans Gellersen. 2015. Gaze-Shifting: Direct-Indirect Input with Pen and Touch Modulated by Gaze. In *Proceedings of the 28th Annual ACM Symposium on User Interface Software & Technology* (UIST '15). ACM, New York, NY, USA, 373-383. *Best paper honorable mention award

Ken Pfeuffer, Yanxia Zhang, and Hans Gellersen. 2015. A collaborative gaze aware information display. In *Adjunct Proceedings of the 2015 ACM International Conference on Pervasive and Ubiquitous Computing* (UbiComp'15 Adjunct). ACM, New York, NY, USA, 389-391.

Ken Pfeuffer, Jason Alexander, Hans Gellersen. 2015. Gaze+touch vs. Touch: What's the Trade-off When Using Gaze to Extend Touch to Remote Displays? *Human-Computer Interaction* (INTERACT'15), Bamberg, Germany. Springer, 349-367.

Ken Pfeuffer, Jason Alexander, Ming Ki Chong, and Hans Gellersen. 2014. Gaze-touch: combining gaze with multi-touch for interaction on the same surface. In *Proceedings of the 27th annual ACM symposium on User interface software and technology* (UIST '14). ACM, New York, NY, USA, 509-518.

Ken Pfeuffer, Melodie Vidal, Jayson Turner, Andreas Bulling, and Hans Gellersen. 2013. Pursuit calibration: making gaze calibration less tedious and more flexible. In *Proceedings of the 26th annual ACM symposium on User interface software and technology* (UIST '13). ACM, New York, NY, USA, 261-270.

Mélodie Vidal, **Ken Pfeuffer**, Andreas Bulling, and Hans W. Gellersen. 2013. Pursuits: eye-based interaction with moving targets. In *CHI '13 Extended Abstracts on Human Factors in Computing Systems* (CHI EA '13). ACM, New York, NY, USA, 3147-3150.

Christian Winkler, **Ken Pfeuffer**, and Enrico Rukzio. 2012. Investigating mid-air pointing interaction for projector phones. In *Proceedings of the 2012 ACM international conference on Interactive tabletops and surfaces* (**ITS '12**). ACM, New York, NY, USA, 85-94.

MISC

Languages:	*Fluent* in German and English, *basics* in Japanese
Tools:	SPSS, Latex, Adobe Premiere, Unity 3D, Tensorflow
Coding:	Java, Android, Processing, C#, Python
Activities & interests:	Soccer, Fitness, Film, Music, Travel