Dr. Karl Engelbert Wenzel

Background

- 1999 - 2004: Study of computer science at HS Albstadt Sigmaringen
- 2004: Diploma Thesis on "Selflocalisation with low cost infrared sensors" (RC3000 Kaercher)
- 2005 - 2007: Head of (J2ME) client development, participator at eWave Interactive
- Since 2007: Research assistant at the Department of Computer Architecture, University of Tübingen

Research Interests

- Robot self-localization and mapping
- Low cost solutions for mobile robotics
- Autonomous embedded robots

Current Projects

- Autonomous flying robots (Quadrocopter of Asctec)
- Low Cost 6DOF Input Device (Patents pending)

Publications

[1] Andreas Masselli, Shaowu Yang, Karl Engelbert Wenzel, and Andreas Zell. A cross-platform comparison of visual marker based approaches for autonomous flight of quadrocopters. *Journal of Intelligent & Robotic Systems*, 73(1-4):349--359, 2014. [DOI]

[2] Andreas Masselli, Shaowu Yang, Karl Engelbert Wenzel, and Andreas Zell. A cross-platform comparison of visual marker based approaches for autonomous flight of quadrocopters. In *Proceedings of International Conference on Unmanned Aircraft Systems*, pages 1--9, Atlanta, Georgia, USA, May 2013.

[3] Karl Engelbert Wenzel, Andreas Masselli, and Andreas Zell. Visual tracking and following of a quadrocopter by another quadrocopter. In *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2012)*, pages 1--6, Vilamoura, Algarve, Portugal, October 7-12 2012. IEEE.

[4] Andreas Masselli, Karl Engelbert Wenzel, and Andreas Zell. Verfahren zur Bestimmung der relativen Lage eines Objektes im Raum sowie optisches Eingabesystem, 2012. Patent, PCT/EP2012/057446, Submitted 2012.04.24.

[5] Andreas Masselli, Karl Engelbert Wenzel, and Andreas Zell. Verfahren zur Bestimmung der relativen Lage eines Objektes im Raum sowie optisches Eingabesystem, 2011. Patent, DE 10 2011 075 253.6, Submitted 2011.05.04.

[6] Karl Engelbert Wenzel, Andreas Masselli, and Andreas Zell. Automatic Take Off, Tracking and Landing of a Miniature UAV on a Moving Carrier Vehicle. *Journal of Intelligent & Robotic Systems*, 61:221--238, 2010. [DOI]

[7] Karl Engelbert Wenzel, Andreas Masselli, and Andreas Zell. Automatic Take Off, Tracking and Landing of a Miniature UAV on a Moving Carrier Vehicle. In *Proceedings of UAV'10 3rd International Symposium on Unmanned Aerial Vehicles*, pages 1--18, Dubai, UAE, 2010. Kimon P. Valavanis.

[8] Karl Engelbert Wenzel, Andreas Masselli, and Andreas Zell. A Quadrocopter Hovering above a Person Wearing a Modified Cap. In *Proceedings of International Micro Air Vehicle Conference and Flight Competition*, pages 1--7, Braunschweig, Germany, 2010. DGON.

[9] Karl Engelbert Wenzel and Andreas Zell. Automatic Take Off, Hovering and Landing Control for Miniature Helicopters with Low-Cost Onboard Hardware. In *Autonome Mobile Systeme 2009*, pages 73--80, Karlsruhe, Germany, December 3-4 2009. KIT.

[10] Sara Erhard, Karl Engelbert Wenzel, and Andreas Zell. Flyphone: Visual Self-Localisation Using a Mobile Phone as Onboard Image Processor on a Quadrocopter. In *Proceedings of UAV'09 2nd International Symposium on Unmanned Aerial Vehicles*, pages 451--465, Reno, Nevada, USA, 2009.

[11] Sara Erhard, Karl Engelbert Wenzel, and Andreas Zell. Flyphone: Visual Self-Localisation Using a Mobile Phone as Onboard Image Processor on a Quadrocopter. *Journal of Intelligent & Robotic Systems*, 57:451--465, 2009.

[12] Karl Engelbert Wenzel, Paul Rosset, and Andreas Zell. Low-Cost Visual Tracking of a Landing Place and Hovering Flight Control with a Microcontroller. *Journal of Intelligent & Robotic Systems*, 57:297--311, 2009.

[13] Karl Engelbert Wenzel, Paul Rosset, and Andreas Zell. Low-Cost Visual Tracking of a Landing Place and Hovering Flight Control with a Microcontroller. In *Proceedings of UAV'09 2nd International Symposium on Unmanned Aerial Vehicles*, pages 1--15, Reno, USA, 2009. Kimon P. Valavanis.

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