TrustEYE

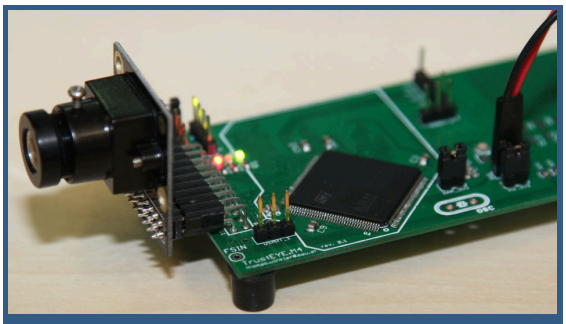
Trustworthy Sensing and Cooperation in Visual Sensor Networks

The Pervasive Computing Group is looking for a student from the field of Information Technology or Computer Science for a **research project** or a **Bachelor thesis** entitled:

Evaluation of Realtime Operating Systems for ARM-based Microcontrollers

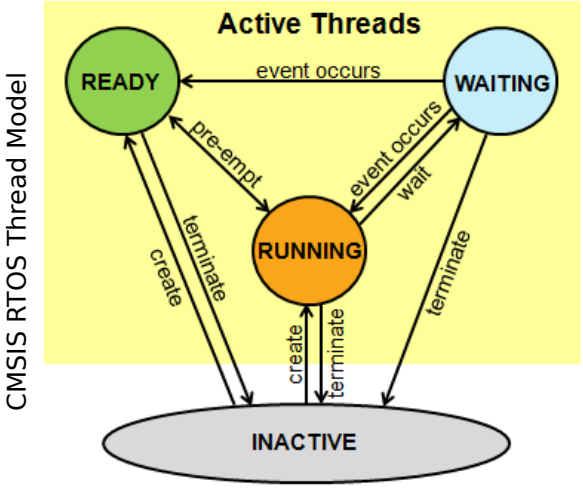
This work will be performed as part of the TrustEYE research project. Background information about the TrustEYE project and its goals can be found at http://trusteye.aau.at

Work Description



Prototype of an ARM-based visual sensor node.

Applications for embedded system and microcontrollers often reach a high level of **complexity**. To handle this complexity a large number of **realtime operating system** (RTOS) exists. Many of these systems are available as open source and can be freely used and evaluated. A core part of this work will be a review of RTOS systems for the ARM Cortex M4 ecosystem. The RTOS implementations should be compared and classified regarding their **features**, their **memory footprint** and their **CPU requirements**. Selected candidates should be evaluated on a Cortex M4 prototyping system to validate the advertised features. As part of the evaluation small **demo applications** should be developed on top of the individual RTOS implementations.



Required Skills:

- C/C++

Desired Skills:

- Basic experience with microcontrollers
- Basic understanding of operating systems
- Linux (host system)

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Partners & Sponsors:

NUS National University of Singapore

KWF Kärntner Wirtschaftsförderungs Fonds

FWF Der Wissenschaftsfonds.

Investition in Ihre Zukunft
EFRE Europäischer Fonds für regionale Entwicklung
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