

# JavaCard 3.0 Reference Environment

## Motivation:

JavaCard is a widespread standard for portable smart cards software. By using JavaCard, smart card applications can easily be implemented in Java and ported between cards of different vendors. SUN Microsystems has recently released specification for a new JavaCard runtime environment. Future JavaCards will be designed to support this new environment, however, no reference implementation yet exists.

## Project description:

The goal of the project is to design and implement a JavaCard 3.0 reference environment for an embedded controller, based on open source software. The environment should allow developers to download and execute small Java applets and should support the latest JavaCard specification (see <http://java.sun.com/javacard/3.0/>)

## Tasks:

- Adaption and extension of an open source JVM with JavaCard specific classes
- Implementation of the reference environment on a ARM7 platform or Gumstix microcontroller
- Tools for downloading the applets into the controller

- Implementation of a proof-of-concept demonstrator applet



MCB 2130 controller board



Gumstick

## Master/Bakk Project

**Participants:** 1-2 Students

## Prerequisites:

- Experience with C & Java software development

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**Studies:**  INF  SEW  TEL  Master Thesis

The master project can be continued as master thesis.