

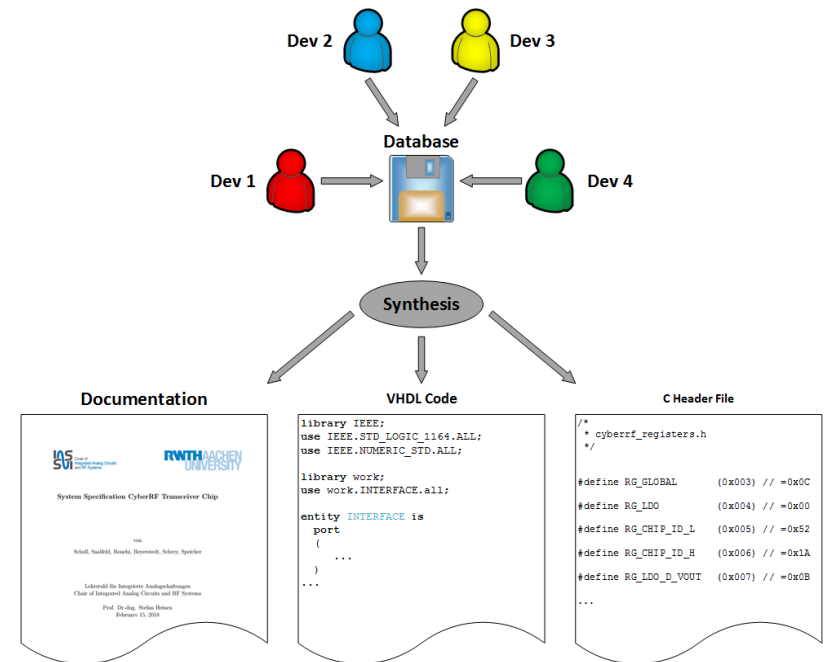
## Background

The different chips developed at the Chair of Integrated Analog Circuits comprise the possibility to configure the different functional blocks of the respective circuit individually. The required control signals are stored in registers, which are accessible for read and write by use of a digital interface like SPI. Due to the growing complexity of the circuits the effort as well as the error-proneness increases with regard to:

- the definition of the registers in VHDL
- the documentation of the registers in LaTeX
- the usage of the register definitions in different programming languages and environments (C, Matlab, etc.)
- the synchronization of all these data sets

## Task

Based on an existing database design, a suitable data structure will be developed. Special attention should be paid to the establishment of a well thought-out role model that reflects the responsibilities and access rights within the design team. Beside the data input and management the generation of the VHDL code as well as the generation of the register documentation (preferably in LaTeX) is main component of this application. An intuitive operation of the program, which hides the underlying complexity, is of decisive importance.



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