

## Design and implementation of a program for the automatic creation of medical device specification files in XML schema

Type	Bachelor thesis
Workingtitle	Design and implementation of a program for the automatic creation of medical device specification files in XML schema

Digitalization continues to advance in the medical sector. The introduction of the new, open communication standard IEEE 11073 SDC standard family allows the next generation of medical devices to be networked with each other regardless of manufacturer. The first value-added systems are currently being developed on the basis of this technology. The SDC-VAS development project is one of these projects. The aim is to develop a distributed alarm system for use in intensive care units based on SDC and additional IoT components.

In order for an SDC-capable device to offer its information and services in the network, it requires a so-called Medical Data Information Base (MDIB), which de facto represents a description of the device with its available measured values, services and alarms in XML format. Writing an MDIB.xml for an individual device by hand has proven to be time-consuming. However, numerous different MDIBs are required for the SDC-VAS research project. An automated solution therefore makes sense.

As part of the SDC-VAS research project, a program is to be designed and implemented that is capable of automatically creating MDIB.xml files as required by the user:

- planning and design of a program with graphical user interface
- implementation of configuration options for MDIBs
- create the MDIB from various XML set pieces
- testing the MDIB for errors
- short documentation of the program

Addresses subjects: Computer science, media informatics or related courses of study

### Requirements

- experience in programming (Java or C# recommended)
- basic knowledge of user interfaces an advantage
- basic knowledge of XML an advantage
- basic knowledge of system design an advantage

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