

Student Assistant: Instant Webform Generation for the Web of Things

The Chair of Technical Information Systems conducts research around the Semantic Web and Knowledge Graphs in close collaboration with the Fraunhofer department of Data Spaces and Internet of Things Solutions. One topic is the Web of Things (WoT) Thing Description – an official W3C Recommendation for describing the metadata and interfaces of entities that interact with the WoT, e.g. a smart light. The Thing Description can be considered as entry point of an entity to advertise its capabilities and is a valid JSON file.

Therefore, we are looking for a JavaScript-loving student who wants to develop a tool which auto-generates valid webforms from WoT Thing Description files. The tool shall be used to facilitate testing and working with WoT interfaces.

Position Type:	Student Assistant
Earliest starting date:	15.03.2021
Hours per week:	7 – 12
Salary:	9,50 € /h (Bachelor: 10,60 € /h)

- Tasks:**
- Develop a tool which converts WoT Thing Description files to web forms (1)
 - After (1), implement this tool as chrome browser extension (2)
 - Regularly refactor source code and update documentation
 - Create user manuals and use cases, (preferably in form of video tutorials)
 - Optionally after (2), implement this tool as cross-platform mobile app

- Required Skills:**
- Interested in the semantic web and knowledge graph technologies
 - Basic knowledge of Web Services, HTML documents and JSON Schema
 - Advanced programming skills in JavaScript or TypeScript
 - First experience with web application frameworks like Angular or React
 - First experience with Git and Github

- Beneficial Skills:**
- First experience with a task board tool like Github Project Boards or Atlassian's Trello
 - First experience with a documentation generator like Sphinx
 - First experience with the Ionic framework is a plus, but is not required

- Miscellaneous:**
- Due to the current situation, the student may conduct the work at home.
 - Students who plan to commit at least 5 months for this project, are favored.
 - This position is also open to students who are not studying at FAU.
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- Have a look at a comparable project to get a first impression: <https://github.com/rjsf-team/react-jsonschema-form>.
 - We want to highlight that this project will be published as open-source and will act as a good reference for future job opportunities

Contact: Please, send your application documents (motivation, curriculum vitae, student confirmation of enrollment, etc.) to Christian Fleiner (christian.fleiner@fau.de) until 20.02.2021, if you are interested in this position.