

Student Assistant - Improving a Website for the Project "Digitalization in Teaching"

Student Assistant Research

Supervisor: Prof. Dr. Alexander Pretschner

Advisor: Julia Düsing

Email: julia.duesing@tum.de

Phone: +49 (89) 289 - 17313

Starting date: immediately

Informatics 4 – Chair of Software and Systems Engineering
Prof. Dr. Alexander Pretschner

TUM School of Computation,
Information and Technology
Technical University of Munich

Boltzmannstr. 3 (5611)/I
85748 Garching b. München

<https://www.cs.cit.tum.de/en/sse/>

Context & Goal

The last few decades have shown that the topic of digitalization is becoming more and more important and is now being used in nearly every research area. Even if digitalization is used in different fields of application (e.g. for connection or communicating), in many working areas, the usage of digital technologies increased and in most cases the usage of analogue tools has switched to the utilization of digital methods [1]. Due to the importance of working with digital content and digital technologies, students of all ages should learn how to use basic digitalization tools and how to discuss digital contents in their working lives [2]. Especially the last few years have shown, that not only the usage of digital applications play a role in today's learning environment. It becomes even more important for students to understand, that digital content is deeply connected to nearly every subject area (e.g., when it comes to the usage of artificial intelligence in topics like medicine and law). At the university level, there are already corresponding courses on digitalization topics - but they are scattered throughout the university and are not visible to every student [3]. To make it easier for students to find courses related to digitalization, we want to bundle these distributed offerings and make them transparently available by spreading our created web application. On top of that, we want to find out how useful the website is and therefore evaluate the functionality and user experience of our application.

For our project, we have already created a website, for which we curated a database that contains all the module descriptions of TUM and four other bavarian universities. Overall, we want to make the search process for digital lectures for students as easy and accessible as possible. For this, we want your help in structuring and evaluating the data and also to make changes after new ideas have been brought up. Your task will be to work with us and improve a suitable web interface to recommend courses to interested students.

Required Skills

- Prior experience in web development on the front end as well as on the backend
- Strong knowledge of HTML, CSS, JavaScript, and at least one back-end programming language such as PHP, Python, or Ruby
- Experience with version control systems such as Git
- Excellent problem-solving skills and attention to detail
- Strong communication and collaboration skills

Working Plan

1. Familiarize with the project
2. Familiarize with the database and the tools that have been used for creating the website
3. Incorporate new ideas to the website
4. (Scraping of data to generate a broader database)
5. Assistance for the evaluation process

Our Offer

We can offer a HiWi contract of up to 10hrs per week. You are embedded into a project focused solely on this subject with the flexibility to work from home. Additionally, you have the freedom to implement the goals according to individual ideas.

References

- [1] A.-M. Cazan, "The digitization of working life: Challenges and opportunities," *Psihologia Resurselor Umane*, vol. 18, no. 1, pp. 3–6, May 19, 2020, ISSN: 2392-8077, 1583-7327. DOI: 10.24837/pru.v18i1.457. [Online]. Available: <https://www.hrp-journal.com/index.php/pru/article/view/457> (visited on 02/15/2023).

- [2] Y. Zhao, A. M. Pinto Llorente, and M. C. Sánchez Gómez, "Digital competence in higher education research: A systematic literature review," *Computers & Education*, vol. 168, p. 104212, Jul. 2021, ISSN: 03601315. DOI: 10.1016/j.compedu.2021.104212. [Online]. Available: <https://linkinghub.elsevier.com/retrieve/pii/S0360131521000890> (visited on 02/15/2023).
- [3] N. Seidel and C. M. Rieger, "Semantic Textual Similarity von textuellen Lernmaterialien," 2019, ISBN: 9783885796916 Publisher: Gesellschaft für Informatik e.V., ISSN: 1617-5468. DOI: 10.18420/DELFI2019_360. [Online]. Available: <http://dl.gi.de/handle/20.500.12116/24417> (visited on 02/01/2023).

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