

Call for Project Work

Preliminary title: Develop an Augmented Reality (AR) AR tool for capturing tacit knowledge

Scientific background: Organizations often rely on the tacit knowledge of their employees, particularly in non-conforming operations such as (dis)assembly tasks, manual machining, troubleshooting, and tailored adjustments. While the traditional master-apprentice approach is an effective method for transferring this knowledge, it is not always feasible in today's industrial environments. In this project, we aim to leverage AR to capture and disseminate tacit knowledge, ensuring that vital skills and insights are effectively shared among team members.



Fig. 1. Technician working with the HoloLens 2

Project overview: We are seeking innovative and motivated students to undertake a project aimed at developing an AR tool aimed at capturing and sharing tacit knowledge within organizations. The tool will be developed in AR using the Microsoft HoloLens 2. The project will combine literature research on tacit knowledge, capturing knowledge, and programming in Unity to create an engaging and educational tool.

Tasks: Research and analyse methods for capturing tacit knowledge. Collaborate on designing and developing the AR tool in the HoloLens 2. Test and evaluate the effectiveness of the AR application in real-world scenarios. Contribute innovative ideas to enhance user experience and knowledge sharing.

Deliverable | Learning Outcomes:

- A detailed 10-page report summarizing the findings from the literature and best practices
- A functional prototype of the AR tool for capturing tacit knowledge, including a design document

Contact:

Univ.-Prof. Dr.-Ing. Fazel Ansari
Email: fazel.ansari@tuwien.ac.at

Topic supervisor:

Dr. ir. Sara Scheffer
Email: sara.scheffer@tuwien.ac.at