

## Master Project FieldFusion

Digital Media Lab / HCI Group

Team sports such as soccer, handball, or field hockey have a common requirement: game understanding. In addition to high physical, technical, and mental preparations, they demand players to have a good understanding of space. This includes understanding their position on the field, their teammates, their opponents, and their movements. Moreover, environmental factors such as weather and lighting might impact players' decision-making and the course of the game. Professional teams regularly practice specific game situations to prepare for an actual condition in games. Nevertheless, certain real events are often difficult to simulate in training (e.g., simulating environmental factors).

Mixed reality (XR) could enhance these practices by allowing players to view the playing field from different angles and analyze recorded moves for improvement. The Master project "FieldFusion" will explore how XR and sensing technologies can create simulations that closely resemble actual game situations to prepare players for such events. To participate in this project, students should have successfully completed the "Applied Computer Science in Sports" and "Entertainment Computing" course. This full-time Master's project (40 hours per week) will last one semester with 30CP. Students are advised not to take any other courses while participating in this project. This project is available for the Master's programs "Digital Media" and "Computer Science (Informatics)."

Rainer Malaka <malaka@tzi.de>

Bastian Dänikas <daenekba@uni-bremen.de>