Module title			Abbreviation
3D User Interfaces			10-HCI-3DUI-212-m01
Module coordinator		**Module offered by**	
holder of the Chair of Computer Science IX		Institute of Computer Science	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	graduate	--	

Contents

The module provides knowledge about the possibilities and specifics of 3D user interfaces in the areas of augmented, mixed and virtual reality, mobile devices, robotics and computer games. The lecture will introduce high-quality 3D interaction techniques and discuss their advantages and disadvantages in specific application areas. Design guidelines are taught as well as the theory needed to implement them. In the exercise, students work in groups of 2-3 participants to develop appropriate 3D interaction techniques for a virtual reality application. Presentations, exercises and discussions help the student groups to familiarize themselves with the required technologies and activities and to organize the project as a whole.

Intended learning outcomes

After participating in the module courses, students will be able to develop 3D user interfaces independently. They know high-quality 3D interaction techniques and can recall, explain and classify important design guidelines. Students know advantages and disadvantages of available tools for typically occurring tasks and are able to apply them. Students can independently familiarize themselves with complex technical systems as well as independently develop problem-solving proposals, communicate these in a team and implement and evaluate them in a joint prototype.

Courses (type, number of weekly contact hours, language — if other than German)

V (2) + Ü (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) presentation of project results (approx. 30 minutes) or
b) oral examination of one candidate each (approx. 30 minutes)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

Teaching cycle: every year, summer semester

Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module appears in

Master's degree (1 major) Human-Computer-Interaction (2021)
Master's degree (1 major) Artificial Intelligence & Extended Reality (2024)
Master's degree (1 major) Artificial Intelligence (2024)

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