**Module title**

3D User Interfaces

**Abbreviation**

10-HCI-3DUI-152-m01

**Module coordinator**

holder of the Chair of Computer Science IX

**Module offered by**

Institute of Computer Science

<table>
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<tr>
<th>ECTS</th>
<th>Method of grading</th>
<th>Only after succ. compl. of module(s)</th>
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<tbody>
<tr>
<td>5</td>
<td>numerical grade</td>
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**Duration**

1 semester

**Module level**

graduate

**Other prerequisites**

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**Contents**

This module will introduce students to the particularities of 3D user interface (3DUI) development using virtual, augmented or mixed reality technologies. The module will mainly focus on equipping students with the skills essential to the design and implementation of high-quality 3D interaction techniques and providing them with an opportunity to practise these skills. Students will become familiar with design guidelines as well as with classic and innovative 3D interaction techniques. In addition, the course will address novel research areas such as 3D interaction for large displays and games as well as the integration of 3DUIs into mobile devices, robotics and the environment. Assessment will take the form of a practical team project which will consist of a program, a presentation, a technical report (2 pages) and a video. In previous years, the IEEE 3DUI Contest 2011 was replicated with teams of students competing to find the best solution (results see video1 (https://www.youtube.com/watch?v=gYs-pBW7Agc) and video 2(https://www.youtube.com/watch?v=gYs-pBW7Agc)).

**Intended learning outcomes**

At the end of the course, the students will have a solid background knowledge on the theory and methods for the creation of their own 3D spatial interfaces. They will have a broad understanding of the particular difficulties associated with the design, development and evaluation of spatial interfaces. In addition, students will have learned about traditional and novel 3D input/output devices (e.g. motion tracking systems and head-mounted display).

**Courses**

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

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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)

presentation of project results (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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**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 (2015)

Master’s degree (1 major) Human-Computer-Interaction (2018)