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| Course title |

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| **User Interface Programming**  |

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| Semester | Winter semester |
| Faculty / Department | Faculty of Computer Science  |
| Professor |

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| Professor Goran Slavković, PhD  |

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| ECTS credits | 7 |
| Language of instruction | English |
| Level of study | Bachelor |
| Content | The modalities of interaction between human and machine interface, based on the natural speech (dialogue systems), basic components and architecture of dialogue systems, natural language understanding (syntax analysis and semantic interpretation), Dialogue management (modeling dialogue, dialogical strategies), generation of natural language interfaces based on computer vision, interfaces based on recording the electrical activity of the brain (EEG), haptic interfaces, interface design, Evaluation interfaces, multimodal interaction, Implementation and ethical aspects.Practising understanding of models and algorithms displayed in the theoretical part of the course. Critical analysis of selected interface between human and machine. The practical implementation of certain aspects of the interface. Examples of human-computer interaction. Arrangements for human interaction with the computer. Principles of user interface. Examples WIMP paradigm. The methodology of designing the user interface. The examples and tasks. Architecture of cognitive systems. Projecting help system. Examples of decomposition (HTA). Examples of analysis based on knowledge (TAKD). Examples of analysis based on the entity-relationship model (ATOM). Examples of the design dialogue. Examples of multimodal communication. Examples of natural user interfaces. Examples of virtual reality. Examples of design web applications with a focus on the user interface. |
| Learning outcomes | At the end of the course, it is expected that a successful student develop an understanding of current concepts and approaches in the field of interaction between human and machine, and demonstrate the ability to independently and critically analyze their strengths, limitations and appropriateness of their application in different spheres of interaction. |
| Length | One semester. |
| General information | The aim of the course is to familiarize students with the current concepts and approaches in the field of interaction between human and machine, and the role and importance of this interdisciplinary field in information and communication technologies. |
| Restrictions to mobile students and availability before the signature of the learning agreement | There is no any restrictions. |