

Course title: User Interfaces

Course code: 63721

ECTS: 6

Professor: Aleš Smrdel

Undergraduate program

Prerequisite knowledge:

- Familiarity with style sheet language (CSS) is recommended for specifying the presentation and styling of interfaces.
- Programming skills – Basic prior knowledge of programming is essential, and while no specific language is required, familiarity with Java is recommended. Throughout the semester, students will gain enough proficiency in languages (listed in brackets below) during the semester.
 - o Creating desktop applications using JavaFX (Java, Kotlin, Groovy)
 - o Creating mobile applications for Android (Java or Kotlin)
 - o Creating desktop applications using GTK+ (C or Python)

Short course description:

- Software architecture of user interfaces and an example of a windowing system
- Usability: learnability, efficiency, safety, satisfaction
- User centred design of user interfaces
- Human capabilities
- Interactions, models, metaphors
- Design principles
 - o Nielsen's principles
 - o Mandel's principles
 - o Tognazzini's principles, Schneiderman's principles, Principles of universal design
- Design guidelines
 - o Selection of interaction devices
 - o Designing windows and menus
 - o Selection of graphic elements (widgets) for interaction
 - o Arrangements of graphic elements for interaction
 - o Selection of text, colour, images and animation
 - o Feedback and interactions
- Design guidelines for mobile devices
- Implementation of user interfaces
 - o Paper prototypes
 - o Computer prototypes
- Evaluation
 - o Heuristic evaluation
 - o User testing

- Output models
 - o Component model
 - o Basic graphic elements model
 - o Pixel model
- Icon design
- Design guidelines for web pages