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| **UČNI NAČRT PREDMETA / COURSE SYLLABUS** | | | | | | | | | | | | | | | | | |
| **Predmet:** | | | Interaktivnost in uporabniška izkušnja v multimedijskih sistemih | | | | | | | | | | | | | | |
| **Course title:** | | | Interactivity and user experience in multimedia systems | | | | | | | | | | | | | | |
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| **Študijski program in stopnja**  **Study programme and level** | | | | | **Študijska smer**  **Study field** | | | | | | | | **Letnik**  **Academic year** | | **Semester**  **Semester** | | |
| doktorski študijski program tretje stopnje Elektrotehnika | | | | | Ni smeri | | | | | | | | 1 | |  | | |
| 3rd cycle: doctoral study programme Electrical Engineering | | | | |  | | | | | | | | **1** | |  | | |
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| **Vrsta predmeta / Course type** | | | | | | | | | | | | Izbirni /elective | | | | | |
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| **Univerzitetna koda predmeta / University course code:** | | | | | | | | | | | | 64874 | | | | | |
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| **Predavanja**  **Lectures** | **Seminar**  **Seminar** | | | **Vaje**  **Tutorial** | | | **Klinične vaje**  **work** | | | | **Druge oblike študija** | | | **Samost. delo**  **Individ. work** | |  | **ECTS** |
| **30** | **30** | | | **15** | | | **0** | | | | **0** | | | **50** | |  | **5** |
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| **Nosilec predmeta / Lecturer:** | | | | | doc. dr.Matevž Pogačnik in vabljeni predavatelji / and invited lecturers. | | | | | | | | | | | | |
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| **Jeziki /**  **Languages:** | | **Predavanja / Lectures:** | | | | Slovenščina ali angleščina / slovene or english. | | | | | | | | | | | |
| **Vaje / Tutorial:** | | | | Slovenščina ali angleščina / slovene or english. | | | | | | | | | | | |
| **Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:** | | | | | | | | |  | **Prerequisits:** | | | | | | | |
| Vpis v doktorski študij | | | | | | | | |  | Enrolment in the program | | | | | | | |
| **Vsebina:** | | | | | | | |  | | **Content (Syllabus outline):** | | | | | | | |
| Uvod: Gradniki, arhitekture in storitve interaktivnih multimedijskih sistemov.  Interaktivnost: Principi interaktivnosti in modalnosti upravljanja naprav (glas, geste, različne naprave in upravljalniki, drugi zaslon).  Uporabniška terminalna oprema in senzorji (naprede vhodno-izhodne naprave za interakcijo).Tehnološki aspekti povezovanja interaktivnih naprav z multimedijskimi storitvami.  Uporabniška izkušnja: pomembnost dobre uporabniške izkušnje, postopki načrtovanja in evalvacije uporabniških vmesnikov in uporabniške izkušnje (uporabniško usmerjeno načrtovanje). Specifike različnih skupin uporabnikov. Prilagajanje storitev in vmesnikov uporabnikom in kontekstu uporabe (personalizacija). | | | | | | | |  | | Introduction: Building blocks, architectures and services in interactive multimedia systems  Interactivity: Principles of interactivity and interaction modalities (voice, gestures, different devices and controls, second screen and companion screen).  User devices and sensors (advanced input/output interaction devices). Technology aspects of integrating the interactive control devices with multimedia services.  The user experience: the importance of good user experience, design and evaluation of user interfaces and user experience (user-centered design). Specifics of different user groups. Adapting services and interfaces to users and context of use (personalization). | | | | | | | |

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| **Temeljni literatura in viri / Readings:** | | | | | |
| 1. Vaughan T.; Multimedia: Making it work, McGraw -Hill Osborne media; 2010 2. Bassi A., Bauer M., Fiedler M., Kramp T., Kranenburg R.; Enabling Things to Talk: Designing IoT solutions with the IoT Architectural Reference Model;Springer Open, 2013 3. Albert W., Tullis T.; Measuring the user experience: collecting, analyzing, and presenting usability metrics; Elsevier, 2013. 4. Krug, S.; Don't Make Me Think, Revisited: A Common Sense Approach to Web Usability (3rd Edition); New Riders; 2014. 5. Rogers, Y., Sharp, H., Preece, J.; Interaction Design: Beyond Human - Computer Interaction (3rd edition); Wiley, 2011. | | | | | |
| **Cilji in kompetence:** | |  | | **Objectives and competences:** | |
| Razume osnove delovanje multimedijskih sistemov. Pozna principe interaktivnosti in je sposoben oceniti primernost različnih modalnosti interakcije za izbrano napravo in storitev. Razume tehnološke aspekte delovanja, interaktivnih sistemov, vključno z razumevanjem tipov in delovanja terminalne in senzorske opreme.  Pozna principe načrtovanja in evalvacije uporabniških vmesnikov s poznavanjem specifik različnih skupin uporabnikov. | |  | | Understand the basic of multimedia systems. Knows the principles of interactivity and is able to assess the suitability of different modalities of interaction for the selected device and service. Understand the technological aspects of the interactive systems, including the devices and sensors.  Knows the principles of design and evaluation of user interfaces with knowledge of the specifics of different user groups. | |
| **Predvideni študijski rezultati:** | | |  | **Intended learning outcomes:** | |
| Poznavanje osnovnih gradnikov, arhitektur in storitev v multimedijskih sistemih.  Razumevanje principov interaktivnosti s poznavanjem različnih modalnosti interakcije in primernostjo njihove uporabe v različnih storitvah in napravah. Poznavanje tehnoloških aspektov integracije upravljalnih naprav in storitev.  Razumevanje pomembnosti uporabniške izkušnje v multimedijskih storitvah, poznavanje postopkov uporabniško usmerjenega načrtovanja in evalvacije uporabniških vmesnikov. Razumevanje razlik in potreb različnih uporabniških skupin v smislu preprostosti interakcije in uporabe storitev. | | |  | Knowledge of basic building blocks, architectures and services in multimedia systems.  Understanding of the principles of interactivity with the knowledge of different modalities of interaction and suitability of their use in various services and devices. Understanding the technological aspects of communication between interactive controllers and services.  Understanding the importance of user experience in multimedia services, knowledge of user-centered design and evaluation of user interfaces. Understanding the differences and needs of different user groups in terms of ease of interaction and use of services. | |
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| **Metode poučevanja in učenja:** | | |  | **Learning and teaching methods:** | |
| Predavanja ali mentorsko delo  Vaje  Seminar | | |  | Lectures or mentoring  Tutorial  Seminar | |
| **Načini ocenjevanja:** | Delež (v %) /  Weight (in %) | | | | **Assessment:** |
| Oral exam  Seminar  Vaje | 60%  30%  10% | | | | Oral exam  Seminar  Tutorial |
| **Reference nosilca / Lecturer's references:** | | | | | |
| Journal article   1. Pogačnik M, Tasič J, Meža M, Košir A (2005) Personal content recommender based on a hierarchical user model for the selection of TV programmes. User modeling and user-adapted interaction, The Journal of personalisation research 15: 425-457   Journal article   1. Guna J, Jakus G, Pogačnik M, Tomažič S, Sodnik J (2014) An analysis of the precision and reliability of the leap motion sensor and its suitability for static and dynamic tracking. Sensors 14: 3702-3720   Journal article   1. Guna J, Stojmenova E, Lugmayr A , Humar I, Pogačnik M (2013) User identification approach based on simple gestures. Multimedia tools and applications 1:1-15   Journal article   1. Stojmenova E, Guna J, Dinevski D, Pogačnik M (2012) A case study from Iskratel : improving the user experience in a telecommunications company. E-society journal 2:77-84   Journal article   1. Požrl T, Kunaver M, Pogačnik M, Košir A, Tasič J (2012) Improving human-computer interaction in personalized TV recommender. Electrical & computer engineering E1:19-36 | | | | | |