

UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet:	Vloga oblikovanja uporabniške izkušnje v videoigrah in okoljih razširjene resničnosti
Course title:	The Role of UX Design in video games and Extended Reality

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Razvoj videoiger in razširjenih resničnosti, visokošolski strokovni študijski program prve stopnje	-	Drugi	Četrty
Game and Extended Reality Development, first cycle Professional Study Programme	-	Second	Fourth

Vrsta predmeta / Course type

Izbirni / Elective

Univerzitetna koda predmeta / University course code:

4-RVRR-VS-IP-VOUIVORR-2025-09-19

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Klinične vaje work	Druge oblike študija	Samost. delo Individ. work	ECTS
30	-	45	-	-	105	6

Nosilec predmeta / Lecturer:

izr. prof. dr. Blaž Rodič

Jeziki / Languages:**Predavanja / Lectures:** Slovenski / Slovenian, Angleški / English**Vaje / Tutorial:** Slovenski / Slovenian, Angleški / English**Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:**

Študenti predhodno osvojijo vsebine predmeta Razvoj uporabniških vmesnikov.

Študijske obveznosti vključujejo pozitivno ocenjene vaje, individualne/skupinske interdisciplinarne analize in predstavitve ter končni projekt.

Prerequisites:

Students first study the content of the courses User Interface Development.

The requirements of the course include tutorials that are positively assessed, individual/team-based interdisciplinary analyses and presentations, and a final project.

Vsebina:

V prvem delu predmeta študenti spoznajo ozadje razvoja in področja oblikovanja uporabniške izkušnje, njegovo vlogo v sodobnem IT oblikovanju, temeljne cilje ter razlike in podobnosti z drugimi sorodnimi

Content (Syllabus outline):

In the first part of the course, students learn about the background of the development and fields of user experience design, its role in contemporary IT design, its fundamental

področji. Z uporabo različnih metodologij študenti spoznajo in oblikujejo osnovne dokumente uporabniške izkušnje (UX) na podlagi načel oblikovanja, osredotočenega na uporabnika (UCD), pri čemer razumejo motivacijo, potrebe, vedenje in miselnost uporabnikov ter svoje ugotovitve vključijo v iterativne postopke oblikovanja. Predmet raziskuje kompleksno vprašanje oblikovanja interakcij za končnega uporabnika z različnih vidikov in ravni ter spodbuja miselne preskoke pri oblikovanju uporabniške izkušnje, ki jih študenti prikažejo z vrsto prototipnih testov. Drugi del predmeta se osredotoča na posebno vlogo oblikovanja uporabniške izkušnje (UXD) in raziskovanja uporabniške izkušnje (UXR) v kontekstih videoiger in razširjenih resničnosti. Hitro rastoči trg videoiger, ki ga poganja napredek na področju umetne inteligence in razširjene resničnosti, omogoča vse bolj zapletene interakcije v videoigrah, vse več igralnih studiev pa v razvojni proces vključuje strokovnjake UX. Zato se ta učni načrt osredotoča na temeljne koncepte in obravnava vlogo UX v procesu razvoja videoiger in razširjenih resničnosti ter poudarja, kako in kdaj se temeljne metode raziskovanja UX uporabljajo v videoigrah in razširjeni resničnosti. Študenti bodo vadili analizo videoiger, heuristično vrednotenje videoiger in uporabnosti, vrednotenje izzivov in testiranje z uporabo standardnih orodij za raziskovanje uporabnikov ter spoznali ključne trende v industrijah videoiger in razširjenih resničnosti, ponazorjene z aktualnimi primeri uspešno oblikovanih uporabniških izkušenj.

Teme:

1.DEL

- Zgodovina, terminologija in kategorije uporabniške izkušnje (v nadaljevanju - UX);
- Opredelitev UX v primerjavi s drugimi sorodnimi področji; UX vs uporabniški vmesniki (v nadaljevanju - GUI);
- Pregled, namen in značilnosti najpomembnejših dokumentov UX: intervju, scenarij, mentalni model,

objectives, and its differences and similarities with other related fields.

Using a variety of methodologies, students learn and design core user experience documents based on the principles of user-centred design (UCD), understanding users' motivations, needs, behaviours and mindsets and integrating their findings into iterative design processes. The course explores the complex issue of designing interactions for the end-user from different perspectives and levels and encourages mental leaps in user experience design, which students demonstrate through a series of prototype tests.

The second part of the course focuses on the specific role of User Experience Design (UXD) and User Experience Research (UXR) in the contexts of video games and extended reality. The rapidly growing video game market, driven by advances in artificial intelligence and augmented reality, is enabling increasingly complex interactions in video games, and more and more game studios are involving UX experts in the development process. As a result, this curriculum focuses on the fundamental concepts and discusses the role of UX in the video games and extended reality development process, and highlights how and when basic UX research methods are applied to video games and extended reality. Students will practice video game analysis, heuristic evaluation of video games and usability, challenge evaluation and testing using standard user research tools, and learn about key trends in the video game and extended reality industries, illustrated with current examples of successfully designed user experiences.

Topics:

1.PART

- History, terminology and categories of UX;
- Defining UX compared to other related fields; UX vs. GUI;
- An overview of the most important UX documents: Interview, Scenario, Mental Model, Persona, Empathy Map, User Journey Map;

persona, zemljevid empatije, zemljevid poti uporabnika;

- Žični modeli; pomen in značilnosti nizko natančnega in visoko natančnega žičnega modela;
- Protokol in faze oblikovanja UX; raziskovanje in načrtovanje, konceptualizacija in idejna zasnova, oblikovanje in realizacija, testiranje in iteracija;
- tržni zagon – promocija, posodabljanje, izboljševanje na podlagi uporabniških izkušenj, podpora in vzdrževanje.

2. DEL

- UX in teorija iger: opredelitev UX v povezavi z dokumentom o zasnovi igre (GDD);
- Načela UX in načela oblikovanja iger 1; enostavnost, zanimivost, ergonomija, funkcionalnost, atraktivnost;
- Načela UX in načela oblikovanja iger 2; zainteresiranost, motiviranost, čustvena odzivnost uporabnika;
- UX in psihologija: razumevanje štirih osnovnih arhetipov igralcev videoiger ("uspešni", "raziskovalci", "družabni", "ubijalci");
- UX in mehanika: mehanika igre, oblikovanje ravni; dostopnost in vključevanje uporabnikov; diagram poteka UX;
- UX in oblikovanje uporabniškega vmesnika: oblikovanje uporabniške izkušnje pri oblikovanju navigacijskega sistema z intuitivnim upravljanjem in jasnimi povratnimi informacijami; pomen povratnih signalov in sporočil;
- UX in uvajanje uporabnikov v različnih sistemih videoiger: mehanizmi za učenje in usposabljanje igralcev, prilagoditev uporabnika različnim težavnostnim stopnjam videoiger, interaktivna navodila in sistemske rešitve;
- UX in sistemi: oblikovanje doslednih in privlačnih sistemov nagrajevanja v videoigrah; opredelitev uporabniških ciljev, napredovanja, izzivov in dosežkov na podlagi psihološke analize igralcev in temeljnih

- Wireframes; meaning and characteristics of low and high-fidelity wireframes;
- UX design protocol and phases; researching and planning, conceptualising and ideation, designing and implementing, testing and iterating;
- Commercial launch - promoting, updating, improving based on user experience, supporting and maintaining.

2. PART

- UX and game theory: defining UX in relation to the Game Design Document (GDD);
- UX principles and game design principles 1: simplicity, interest, ergonomics, functionality, attractiveness;
- UX principles and game design principles 2: user interest, motivation, emotional responsiveness;
- UX and psychology: Understanding the four basic archetypes of video game players ('achievers', 'explorers', 'social', 'killers');
- UX and mechanics, game mechanics, level design; accessibility and user engagement; UX flow diagram;
- UX and user interface design: user experience design in navigation system design with intuitive controls and clear feedback; importance of feedback signals and messages;
- UX and UI design: user experience design and the design of navigation systems with intuitive controls and clear feedback; the importance of feedback signals and messages;
- UX and user introduction in different video game systems: mechanisms for learning and training of players, an adaptation of the user to different levels of difficulty of video games, interactive instructions and system solutions;
- UX and systems: design of consistent and user-engaging reward systems in video games; definition of user goals, progression, challenges and achievements based on psychological

dokumentov UX;

- Analiza UX in motivacije uporabnikov pri oblikovanju poteka nakupa rekvizitov v igri;
- Iteriranje in testiranje: signali in povratne informacije kot odziv na dejanja in izbire igralcev; področja za izboljšave in iterativne spremembe;
- UX in protokoli razvoja aplikacij v razširjeni resničnosti.

analysis of the player and core UX documents;

- UX and user motivation analysis in the design of the in-game prop purchase flow;
- Iterating and testing: signals and feedback in response to player actions and choices; areas for improvement and iterative change;
 - UX and Extended Reality app development protocols.

Temeljni literatura in viri / Readings:

- Gena, Alex (2023). A Guide to Games UX: User Experience Career Pathways: Guidance on Education, Building Portfolios, and Landing a Job in the Video Game Industry (Mastering Games User Experience: A Comprehensive Guide). Independently published
- Isbister, Katherine. Hodent, Celia, editor (2022). Game Usability: Advice from the Experts for Advancing UX Strategy and Practice in Videogames. CRC Press
- Hodent, Celia (2017). The Gamer's Brain: How Neuroscience and UX Can Impact Video Game Design. CRC Press
- Drachen, Anders (Editor), Mirza-Babaei, Pejman (Editor), Nacke, Lennart (Editor), (2018). Games User Research. Oxford University Press
- Broomley, Steave (2021). How To Be A Games User Researcher: Run better playtests, reveal usability and UX issues, and make videogames better. Independently published

Cilji in kompetence:

Učna enota prispeva k razvoju naslednjih splošnih in predmetno-specifičnih kompetenc:

Splošne kompetence:

- Usposobljenost za izvajanje vseh faz razvoja programskih rešitev: načrtovanje, razvoj, testiranje, implementacija in vzdrževanje.
- Prepoznavanje in ocenitev aktualnih in nastajajočih tehnologij in sodobnih metod, veščin in tehnik s področij videoiger in razširjenih resničnosti ter ocenitev njihove uporabnosti za reševanje potreb uporabnikov.
- Sposobnost interdisciplinarnega povezovanja in nadgradnje znanj iz drugih sorodnih kreativnih področij.
- Sposobnost učinkovitega ustvarjanja projektne dokumentacije, shem, diagramov poteka in oblikovnih rešitev, primernih za razvoj in produkcijo videoiger in razširjenih resničnosti.

Objectives and competences:

The instructional unit contributes to the development of the following general and subject-specific competences:

General competences:

- Ability to perform all phases of software development: design, development, testing, implementation and maintenance.
- Identification and evaluation of current and emerging technologies and contemporary methods, skills and techniques in the fields of video games and extended reality and assessment of their applicability to address user needs.
- Ability to interdisciplinarily integrate and build on knowledge from other related creative fields.
- Ability to effectively produce project documentation, flowcharts, diagrams and design solutions suitable for the development and production of video games and extended reality.

- Usposobljenost za skupinsko delo v vseh fazah razvoja in oblikovanja programske opreme.

Predmetno-specifične kompetence:

- poznavanje načel oblikovanja, osredotočenega na uporabnika (UCD), in oblikovanje dokumentacije UX na podlagi raziskav o potrebah, željah in vedenju uporabnikov;
- ustvarjanje interaktivnih prototipov in analiziranje sistemskih rešitev;
- uporaba metod oblikovanja iger v okviru informacijskega oblikovanja in uporabniške izkušnje;
- vrednotenje videoiger in razširjene resničnosti z ustreznimi metodami vrednotenja uporabniške izkušnje;
- oblikovanje uporabniške izkušnje igralca z usklajevanjem in povezovanjem vseh elementov videoigre in razširjene resničnosti;
- razvoj konceptov oblikovanja uporabniške izkušnje za aplikacije v razširjeni resničnosti;
- upoštevanje časovnih omejitev, rokov in prednostnih nalog.

- Ability to work as part of a team in all phases of software development and design.

Subject-specific competences:

- knowledge of user-centred design principles (UCD) and the creation of UX documentation based on research into users' needs, preferences and behaviour;
- creating interactive prototypes and analysing system solutions;
- applying game design methods in the context of information design and user experience;
- evaluation of video games and extended reality using appropriate user-experience evaluation methods;
- designing the player's user experience by coordinating and integrating all elements of a video game and extended reality;
- developing user experience design concepts for applications in extended reality;
- consideration of time constraints, deadlines and priorities.

Predvideni študijski rezultati:

Znanje in razumevanje:

Študent/študentka:

- pozna vse ključne dokumente UX (intervju, mentalni model, scenarij, persona, zemljevid empatije, zemljevid uporabniške poti) in jih zna iterativno prilagajati potrebam različnih segmentov razvoja videoiger;
- razume sposobnosti in omejitve igralcev igre ter zna predvideti, kako bo igra sprejeta, kakšna čustva bo sprožila, kako bodo igralci z njo sodelovali in kako zanimiva bo izkušnja;
- razume pomen ponavljajočega se testiranja ter ve, kako pridobiti in uporabiti povratne informacije uporabnikov za izboljšanje uporabniške izkušnje videoigre;
- ve, kateri so kazalniki uspešnosti in učinkovitosti za uporabniško izkušnjo v različnih segmentih videoiger;

Intended learning outcomes:

Knowledge and understanding:

The student:

- knows all the key UX documents (interview, mental model, script, persona, empathy map, user journey map) and is able to iteratively adapt them to the needs of different segments of video game development;
- understands the abilities and limitations of the game's players and can predict how the game will be received, what emotions it will evoke, how players will engage with it and how engaging the experience will be;
- understands the importance of iterative testing and knows how to obtain and use user feedback to improve the user experience of a video game;
- knows what the performance and effectiveness indicators are for user experience in different video game segments;

- ve, kako uporabniško izkušnjo prilagoditi času, trendom in zgodbi videoigre ter različnim ciljnim skupinam;
- analizira strategije in pozna metodologije za izboljšanje uporabnosti in stopnje vključenosti igralca v videoigri;
- zna prepoznati psihološke arhetipe igralcev in strateško prilagoditi uporabniško izkušnjo pričakovanjem vsake arhetipske skupine posebej (Persona);
- razume pomen odzivnosti, jasnosti in povratnih informacij pri oblikovanju uporabniške izkušnje navigacijskih sistemov videoiger;
- razume uporabniške tokove in informacijsko arhitekturo ter jih zna iterativno oblikovati z uporabo diagramov tokov;
- zna podatke iz raziskav pretvoriti v uporabniške cilje za videoigre;
- zna ustvariti interaktivne prototipe in komentirati njihove uporabniške rešitve;
- zna analizirati igralne mehanike in funkcije v zvezi z igralnimi dejavnostmi ter njihov vpliv na uporabniško izkušnjo v videoigri;
- zna pripraviti uvodno sistemsko učno gradivo za različne ravni igre, ki igralce učinkovito seznanijo z mehaniko igre in upravljanjem, na podlagi načel oblikovanja, osredotočenega na uporabnika;
- se zaveda, da je uporabniška izkušnja ključni dejavnik pri oblikovanju videoigre, saj lahko pomembno vpliva na zadovoljstvo in zvestobo igralcev ter s tem na komercialni uspeh videoigre.
- Zna oblikovati konceptualne predloge in rešitve za aplikacije v razširjeni resničnosti.

- knows how to adapt the user experience to the time, trends and story of the video game and to different target groups;
- analyse strategies and know methodologies to improve the usability and level of player engagement in a video game;
- can identify the psychological archetypes of players and strategically adapt the user experience to the expectations of each archetype group separately (Persona);
- understands the importance of responsiveness, clarity and feedback in designing the user experience of video game navigation systems;
- understands user flows and information architecture and can design them using flow diagrams iteratively;
- can translate research data into user goals for video games;
- can create interactive prototypes and comment on their user solutions;
- can analyze game mechanics and their functions concerning gameplay activities and their impact on the user experience in a video game;
- can create introductory systemic learning materials for different game levels that effectively introduce players to game mechanics and management, based on user-centered design principles;
- is aware that the user experience is a key factor in video game design, as it can have a significant impact on player satisfaction and loyalty, and thus on the commercial success of a video game;
- can develop conceptual proposals and solutions for Extended Reality applications.

Metode poučevanja in učenja:

Learning and teaching methods:

- Predmet vključuje predavanja, vaje, študije primerov, naloge, predstavitve iterativnega oblikovanja in individualne / skupinske projekte.

- The course includes lectures, exercises, case studies, assignments, iterative design presentations, and individual / group projects.

Načini ocenjevanja:	Delež (v %) / Weight (in %)	Assessment:
<p>Način (pisni izpit, ustno izpraševanje, naloge, projekt):</p> <p>Študentska dela bodo ocenjena na podlagi predstavitve in izdelave, jasnosti namere, inventivnosti, organiziranosti, individualnega navora in sodelovanja pri pouku.</p> <ul style="list-style-type: none"> • vaje (hitri prototipi, žični modeli, razvoj UX dokumentacije) • zaključni projekt (interaktivni prototip) 	<p>40</p> <p>60</p>	<p>Type (examination, oral, coursework, project):</p> <p>Student work will be evaluated on presentation and craftsmanship, clarity of intention, inventiveness, organization (deadlines), individual effort, and class participation.</p> <ul style="list-style-type: none"> • exercises (rapid prototypes, wireframes, UX documentation development) • Final project (interactive prototype)

Reference nosilca / Lecturer's references:

- RODIČ, Blaž. Issues of e-collaboration and knowledge management in media industries. V: LUGMAYR, Artur (ur.), et al. Information systems and management in media and entertainment industries, (International series on computer entertainment and media technology (Online), ISSN 2364-9488). Cham: Springer. cop. 2016.
- BARTOL, Tomaž, DOLNIČAR, Danica, BOH PODGORNIK, Bojana, RODIČ, Blaž,
- ZORANOVIĆ, Tihomir. A comparative study of information literacy skill performance of students in agricultural sciences. Journal of academic librarianship, ISSN 0099-1333. [Print ed.], 2018, iss. 3, vol. 44, str. 374-382, doi: 10.1016/j.acalib.2018.03.004.
- BOH PODGORNIK, Bojana, DOLNIČAR, Danica, ŠORGO, Andrej, BARTOL, Tomaž, GLAŽAR,
- Saša A. (sodelavec pri raziskavi), FERK SAVEC, Vesna (sodelavec pri raziskavi), JURIŠEVIČ, Mojca (sodelavec pri raziskavi), SAJOVIC, Irena (sodelavec pri raziskavi), VRTAČNIK, Margareta (sodelavec pri raziskavi), BAGGIA, Alenka (sodelavec pri raziskavi), KLJAJIĆ BORŠTNAR, Mirjana (sodelavec pri raziskavi), PUCIHAR, Andreja (sodelavec pri raziskavi), RODIČ, Blaž (sodelavec pri raziskavi). Evaluation of information literacy of Slovenian university students. V: KURBANOGLU, Serap (ur.). Information literacy : moving toward sustainability : third European conference, ECIL 2015, Tallinn, Estonia, october 19-22, 2015 : revised selected papers, (Communications in Computer and Information Science, ISSN 1865-0929, Vol. 552). Cham [etc.]: Springer. 2015, str. 499-508, doi: 10.1007/978-3-319-28197-1_50.
- RODIČ, Blaž, VUKOVIČ, Goran, ZAVRŠNIK, Bruno, MIGLIČ, Gozdana. Issues in introducing training needs analysis in Slovenia's public administration. Transylvanian review of administrative sciences, ISSN 1842-2845, 2012, no.37 E, str.155-171, <http://rtsa.ro/en/files/TRAS-37E-2012-10RODIC,%20VUKOVIC,%20ZAVRSNIK,%20MIGLIC.pdf>. [COBISS.SI-ID 2048002835
- RODIČ, Blaž. Izzivi sodelovanja v virtualnem okolju = Collaboration challenges in virtual environment. V: OREL, Mojca (ur.), JURJEVIČIČ, Stanislav (ur.). Nova vizija tehnologij prihodnosti = The new vision of future technologies, Mednarodna konferenca

InfoKomTeh 2012, Ljubljana, 25. oktober 2012 = International Conference InfoKomTeh 2012, 25th October 2012.

- RODIČ, Blaž. Issues of collaboration in a virtual environment. V: LEVNAJIĆ, Zoran (ur.).
- Facing ICT challenges in the era of social media. Frankfurt am Main: PL Academic Research. 2014, str. 11-22.