

Retrospektiva projekta
/ Project Retrospective

SANDBOX GAME DEV WORKSHOPS KRIZEVCI

udruga
point
križevci

Križevci, 2023.

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PREDGOVOR

Foreword

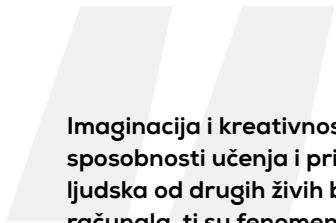
PRED

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Death is inevitable. Our fear of it makes us play safe, blocks out emotion. It's a losing game. Without passion, you are already dead.

- Max Payne

Max Payne 2: The Fall of Max Payne



Imaginacija i kreativnost, kao fenomeni ljudske svijesti te sposobnosti učenja i primjene znanja, ono su što izdvaja ljudska od drugih živih bića. Izumom i širom primjenom računala, ti su fenomeni dobili moćan alat za osmišljavanje naprednih ideja i ostvarivanje složenih koncepata izradom i korištenjem softvera. Prema riječima Terryja Winograda, pionira umjetne inteligencije i softverskog dizajna, softver stvara virtualni svijet – kontekst u kojem korisnici softvera opažaju, djeluju i reagiraju na događaje, čime usvajaju praksu koja u taj svijet uključuje njih same, kao i njihove brige koje taj svijet donosi sa sobom, kroz iskustvo koje se doima stvarnim.

Imagination and creativity, like the phenomena of human consciousness and the ability to learn and apply knowledge, are what distinguishes human from other living beings. With the invention and widespread application of computers, these phenomena have been given a powerful tool to design advanced ideas and realize complex concepts by creating and using software. According to Terry Winograd, a pioneer in artificial intelligence and software design, software creates a virtual world – a context in which software users perceive, act and respond to events, thereby adopting practices involving themselves in the world, as well as their concerns that the world brings with it, through experiences that seem real.

Računalne igre primjer su takvih virtualnih svjetova. Njihovi kreatori trebaju, s jedne strane, savladati formalne discipline kako bi ostvarili logiku, tehniku i mehaniku računalnih igara, a s druge strane trebaju moći primijeniti postavke dizajna i principe estetike te ostvariti umjetnički dojam kako bi te virtualne svjetove učinili privlačnim, uzbudljivim i učestalo posjećenim. Stoga je za izradu računalnih igara potrebna kombinacija specifičnih znanja, od fundamentalnih znanosti, poput fizike i matematike, do primjenjenih, poput računarstva i kognitivne znanosti, kao i primjenjene umjetnosti.

Ovim smo projektom sustavne edukacije izrade računalnih igara mladima Križevaca i regije uspjeli pružiti znanja i alate za kreiranje vlastitih virtualnih svjetova i osposobiti ih za jednu od najpropulzivnijih industrija na svijetu, koja je po prihodima i dosegu premašila filmsku i glazbenu industriju. Također smo im omogućili stjecanje dragocjenih iskustava u timskom radu, javnom nastupu i praktičnom funkcioniraju studija za izradu računalnih igara. No, isto tako se nadam da smo im uspjeli prenijeti vrijednosti o važnosti obrazovanja, volonterstva i solidarnosti, koje će nastaviti njegovati u stvarnom svijetu, ipak važnijem od onih virtualnih.

Computer games are an example of such virtual worlds. Their creators should, on the one hand, master formal disciplines in order to achieve the logic, technique and mechanics of computer games, and, on the other hand, they should be able to apply design settings and principles of aesthetics and make an artistic impression in order to make these virtual worlds attractive, exciting and frequently visited. Therefore, the creation of computer games requires a combination of specific knowledge, from fundamental sciences, such as physics and mathematics, to applied, such as computing and cognitive sciences, as well as applied art.

With this project, we have been able to provide the youth of Križevci and the region with knowledge and tools for creating their own virtual worlds and equip them for one of the most propulsive industries in the world, which exceeds the film and music industry by income and reach. We also enabled them to gain valuable experience in teamwork, public appearances and the practical functioning of game development studios. But I also hope that we have been able to convey to them values about the importance of education, volunteering and solidarity, which they will continue to nurture in the real world, still more important than virtual ones.

- **Hrvoje Belani**

P.O.I.N.T. association

- **Hrvoje Belani**

co-founder of P.O.I.N.T. Association,
Management Committee member

UVOD

Introduction

O Udruzi P.O.I.N.T.

About P.O.I.N.T. Association

P.O.I.N.T. je neprofitna nevladina udružba građana koja organizirano radi na promicanju izvaninstitucionalnog obrazovanja i nezavisne kulture, informiranja i novinarstva te suvremene umjetnosti, novih tehnologija i medija, sve kroz volontерство i neprofitno stvaranje novih vrijednosti na tim područjima djelovanja.

Udruga "Promicanje obrazovanja, informiranja, novinarstva i tehnologija" osnovana je 3. rujna 2004. godine na osnivačkoj skupštini održanoj u podrumskim prostorijama Pučkog otvorenog učilišta Križevci. Osnovana je kao rezultat želje mladih Križevčana i Križevčanki za organiziranim i neprofitnim djelovanjem na područjima novinarstva i informiranja te promicanjem obrazovanja i novih tehnologija. Jedan od glavnih ciljeva udruge bio je omogućiti svojim članovima kontinuirano i neposredno javno izražavanje i djelovanje na spomenutim područjima, kao i drugim područjima ljudskih djelatnosti (kulturna, sportska, itd.). Ništa manje važan cilj udruge bio je kontinuiran rad na promicanju informatičke pismenosti i tehničkog obrazovanja svojih sugrađana.

P.O.I.N.T. is a non-profit, non-governmental association of citizens that works in an organized manner to promote non-institutional education and independent culture, information and journalism, as well as contemporary art, new technologies and media, all through volunteerism and the non-profit creation of new values in these areas of activity.

The Association "Promotion of Education, Information, Journalism and Technology" was founded on September 3, 2004 at the founding assembly held in the basement of the Križevci People's Open University. It was founded as a result of the desire of young men and women from Križevci for organized and non-profit activities in the fields of journalism and information and the promotion of education and new technologies. One of the main goals of the association was to provide its members with continuous and immediate public expression and action in the aforementioned areas, as well as in other areas of human activities (culture, sports, etc.). No less important goal of the association was continuous work on promoting IT literacy and technical education of its fellow citizens.

P.O.I.N.T. djeluje na području čitave Hrvatske, iako je snažno povezan s lokalnom zajednicom križevačkog kraja, promičući zapostavljene tradicionalne te nove kulturno-znanstvene vrijednosti sredine iz koje dolazi jezgra članova udruge.

P.O.I.N.T. operates throughout Croatia, although it is strongly connected with the local community of the Križevci region, promoting the neglected traditional and new cultural and scientific values of the environment from which the core of the association's members come.



Zacrtane ciljeve članovi udruge nastoјi ispuniti sljedećim djelatnostima: informiranjem javnosti o aktualnim događajima na lokalnoj i globalnoj razini, medijskom promocijom Križevaca, organiziranjem tematskih i stručnih predavanja, tečajeva i radionica te raznim drugim projektima kojima će nastojati pobuditi želju za aktivizmom kod mladih Križevaca, kao i onih starijih.

Neki od važnijih projekata udruge su: Culture Shock Festival, PinklecFest, Pub Inkvizicija, Sajam studija, Večeri udaraljkaša, Future Hub Križevci, portal Krizevci.info, SPARK (Sinergija prirodoslovaca, astronomova i računaraca Križevaca) i brojni drugi, te Sandbox Game Dev Workshops kao najnoviji dodatak u portfoliju udruge.

The members of the association strive to fulfill the set goals with the following activities: informing the public about current events at the local and global level, media promotion of Križevci, organizing thematic and professional lectures, courses and workshops and various other projects with which they will try to arouse the desire for activism among young Križevci, as well as the older ones.

Some of the more important projects of the association are: Culture Shock Festival, PinklecFest, Pub Inquisition, Study Fair, Percussionists' Evenings, Future Hub Križevci, portal Krizevci.info, SPARK (Synergy of Naturalists, Astronomers and IT of Križevci) and many others, and Sandbox Game Dev Workshops as the newest addition to the association's portfolio.

O projektu "Sandbox Game Dev Workshops"

About "Sandbox Game Dev Workshops" Project

Projekt "Sandbox Game Dev Workshops" zamišljen je kao serija radionica izrade računalnih igara za srednjoškolce. Radionice su podijeljene u module koji simuliraju različite odjele u tvrtkama koje se bave izradom računalnih igara.

Rezultat ovog programa je integralan, u smislu da svi polaznici rade na jednom zajedničkom projektu i sudjeluju u različitim fazama njegove izrade, od konceptualne faze do izvedbe.

Projekt je prijavljen na poziv Veleposlanstva SAD-a u Hrvatskoj 2022. godine i odobren mu je "grant" u punom iznosu od 25.000,00 USD. Tim sredstvima kupljena je oprema (10 komada grafičkih tabletova "Wacom" sa stalcima, 10 licenci za softver potreban za provedbu radionica, "Esoteric Software Spine" i "Adobe Photoshop Elements"), plaćeni su honorari mentora i gostujućih predavača, organizirana su dva edukativna putovanja i završna svečanost dodjele diploma polaznicima.

U subotu, 17. rujna 2022. u Pučkom otvorenom učilištu u Križevcima održana je uvodna iz serije radionica koje mladima iz Križevaca i šire okoline

"Sandbox Game Dev Workshops" project was conceived as a series of computer game development workshops for high school students. The workshops are divided into modules that simulate different departments in companies involved in game dev.

The result of this program is integral, in the sense that all participants work on one joint project and participate in the various stages of its creation, from the conceptual stage to the implementation.

The project was submitted at the invitation of the US Embassy in Croatia in 2022 and was awarded a grant in the full amount of cca. \$25,000.00. With these funds, equipment was purchased (10 pieces of "Wacom" graphic tablets with stands, 10 licenses for the software required for conducting workshops, "Esoteric Software Spine" and "Adobe Photoshop Elements"), the fees for mentors and guest lecturers were paid, and two educational trips and the final graduation ceremony for participants.

nudi sustavnu edukaciju iz domene razvoja računalnih igara. Zbog iznimnog odaziva na radionice iz digitalnog crtanja (2D art) i animacije, 3D modeliranja (Blender) i programiranja (Unity/C#), na koje se prijavilo čak 26 srednjoškolaca i osnovnoškolaca iz Križevaca, Koprivnice, Vrbovca i Karlovca, organizatori su odlučili povećati kapacitet grupa kako bi svi zainteresirani bili uključeni u ovaj nesvakidašnji edukativni projekt.

Za polaznike je osigurana oprema (laptopi, grafički tableti, softver), a radionice su se održavale subotom u terminima od 10 h do 14 h, od rujna 2022. do kraja veljače 2023. Program se održavao u prostorijama novog Kozmološkog centra Križevci te učionici Pučkog otvorenog učilišta Križevci.

Sedmero polaznika odlučilo se za umjetnički, tzv. art modul kroz koji će učiti o digitalnom crtanju i 2D animaciji, a ostalih 19 opredijelilo se za tehnički, tzv. dev modul na kojem će učiti 3D modeliranje i programiranje. Uz praktična znanja, polaznici će slušati i predavanja iz teorije igara i game designa.

Mentori na edukacijama su P.O.I.N.T.-ovac Ivan Ivanović ("Heresy Design") za crtanje i animaciju, Mladen Bošnjak ("Misfit Village") za 3D modeliranje i Nikola Zeman ("Kiqqi Games") za Unity / C# programiranje.

Nakon uvodnog predavanja polaznici su također razgledali foto-izložbu o 18 godina djelovanja Udruge P.O.I.N.T., postavljenu u sjedištu udruge u Kozmološkom centru u sklopu 18. Culture Shock Festivala.

On Saturday, September 17, 2022, the first of a series of workshops was held at the Public University in Križevci, which offers youngsters from wider Križevci area a systematic education in the domain of game development. Due to the exceptional response for the digital drawing (2D art) and animation workshops, as well as 3D modeling (Blender) and programming (Unity/C#) workshops (for which as many as 26 high school and elementary school students from Križevci, Koprivnica, Vrbovec and Karlovac signed up), the association decided to increase the capacity of the groups so that all interested participants could attend this extraordinary educational project

Equipment (laptops, graphic tablets, software) was provided for the participants, and the workshops were held on Saturdays from 10 AM to 2 PM, from September 2022 to the end of February 2023. The program was held in the premises of the new Križevci Cosmological Center and the classrooms of Križevci Public University.

Seven participants decided on artistic, Art module through which they learned about digital drawing and 2D animation, and the other 19 opted for technical, Dev module where they learned 3D modeling and programming. In addition to practical knowledge, participants listened to lectures on game theory and game design.

Mentors at the workshops were P.O.I.N.T.'s Ivan Ivanović ("Heresy Design") for drawing and animation, Mladen Bošnjak ("Misfit Village") for 3D modeling and Nikola Zeman ("Kiqqi Games") for Unity / C# programming.

After the introductory lecture, the participants also viewed a photo exhibition about the 18 years of activity of the P.O.I.N.T. Association, set up at the association's headquarters in the Cosmological Center as part of the 18th Culture Shock Festival.

P

aći

PREDAVAČI

Mentors

Križevci

SANDBOX GAME DEV WORKSHOPS



Mladen Bošnjak

Osnivač i vlasnik studija "Misfit Village", trenutno radi na horror-igri "Go Home, Annie" koja je na natječaju Hrvatskog audio-vizualnog centra 2021. godine dobila finansijsku potporu za produkciju igre. Završio je magisterij na Grafičkom fakultetu u Zagrebu 2017. godine.

Do sada ima izdana 3 naslova: "Sick Brick" (platforma Steam), "Tainted Fate" (VR igra) i "Spirit Sprint" (mobilna igra). Osim igara bavi se i razvojem aplikacija za VR i MR, te mobilnih aplikacija. Radno iskustvo stekao je u studiju "Delta Reality", gdje je radio kao 3D modeler i lead 3D artist.

Godine 2021. osvojio je drugo mjesto na "STEPRI Summer Business Camp"-u u Rijeci s pitchem za svoj projekt "Go Home, Annie". Od ostalih nagrada valja istaknuti drugo mjesto na "Novska Global Game Jamu" 2020. godine, prvo mjesto na "FER Stem Game Jamu" 2015. godine, te nagradu "People's Choice Award" na "Nordeus Hackatonu" 2015. godine.



The founder and owner of the studio "Misfit Village", he is currently working on the horror game "Go Home, Annie", which received financial support for the production of the game in the competition of the Croatian Audio-Visual Center in 2021. He completed his master's degree at the Faculty of Graphics in Zagreb in 2017.

So far, it has released 3 titles: "Sick Brick" (Steam platform), "Tainted Fate" (VR game) and "Spirit Sprint" (mobile game). In addition to games, he also develops applications for VR and MR, as well as mobile applications. He gained work experience in the "Delta Reality" studio, where he worked as a 3D modeler and lead 3D artist.

In 2021, he won second place at the "STEPRI Summer Business Camp" in Rijeka with a pitch for his project "Go Home, Annie". Other awards include second place at the "Novska Global Game Jam" in 2020, first place at the "FER Stem Game Jam" in 2015, and the "People's Choice Award" at the "Nordeus Hackathon" in 2015.

Ivan Ivanović

Osnivač i vlasnik studija "Heresy Design". Bavi se izradom računalnih igara, 2D artom i animacijom, produkcijom video-spotova i animiranih filmova. Završio je magisterij na Arhitektonskom fakultetu u Zagrebu 2013. godine.

Od 2017. godine bavi se izradom računalnih igara. U suradnji s Knjižnicom i čitaonicom "Fran Galović" Koprivnica 2021. godine izradio je edukativnu aplikaciju "Mitska bića - digitalna priča", interaktivnu animiranu slikovnicu za predškolski i osnovnoškolski uzrast.

Do sada je kao artist, animator i dizajner radio na više projekata računalnih igara, od kojih valja istaknuti igre "Adventures of Eco" (Copyright Codes), "Kami Critters" (Crimson Night Ltd.), "Unwritten" (Milkshake Studios), "Trivia Legends" (Kiqqi Productions) i dr.



Founder and owner of the "Heresy Design" studio. He is engaged in the creation of computer games, 2D art and animation, production of videos and animated films. He completed his master's degree at the Faculty of Architecture in Zagreb in 2013.

Since 2017, he has been making computer games. In 2021, in cooperation with the "Fran Galović" Public Library Koprivnica, he created the educational application "Mythical Creatures - A Digital Story", an interactive animated picture book for preschool and elementary school audience.

Until now, as an artist, animator and designer, he worked on several computer game projects, of which the following games should be highlighted: "Adventures of Eco" (Copyright Codes), "Kami Critters" (Crimson Night Ltd.), "Unwritten" (Milkshake Studios), "Trivia Legends" (Kiqqi Productions) and others.



Nikola Zeman

Unity developer i programer. Završio je Stručni studij računarstva - programsko inženjerstvo na Međimurskom veleučilištu u Čakovcu.

Radi kao programer i developer računalnih igara u tvrtki "Kiqqi Games" iz Varaždina na in-house projektima i projektima za klijente.

Samostalno je izdao igre "Size Matters", "AtmaSphere" i "One Shift" na platformi Steam.

Unity developer and programmer. He completed professional studies in computing - software engineering at the Međimurje Polytechnic in Čakovec.

He works as a programmer and developer of computer games in the company "Kiqqi Games" from Varaždin on in-house projects and projects for clients.

He independently released the games "Size Matters", "AtmaSphere" and "One Shift" on the Steam platform.

Z



MODUL

/ Modules

MC

Dizajn računalnih igara

ART

DEV

Post-produkcija



Projekt "Sandbox Game Dev Workshops" podijeljen je na module kako bi se polaznici različitih interesa lakše mogli opredijeliti i koncentrirati na praćenje radionica, a paralelno kroz neformalnu razmjenu iskustava s ostalim polaznicima učiti i o drugim aspektima rada na računalnoj igri.

Projekt se sastoji od 4 modula: modul dizajna računalnih igara, art modul, dev modul i modul post-produkcije. Projekt započinje modulom dizajna računalnih igara koji ima trajanje od 6 sesija. Ovaj modul slušaju svi polaznici kako bi dobili teoretsku i informacijsku strukturu za rad na igri, te se upoznali s osnovnom terminologijom i procesom rada.

Nakon odslušanih uvodnih predavanja, polaznici odabiru art ili dev modul, ovisno o svojim preferencama i interesima. Tokom provedbe art i dev modula, povremeno se održavaju i radionice dizajna računala igara, kako bi se potaknula dinamika.

"Sandbox Game Dev Workshops" project is divided into modules so that participants with different interests can more easily decide and concentrate on following the workshops, and at the same time learn about other aspects of working on a computer game through an informal exchange of experiences with other participants.

The project consists of 4 modules: game design module, art module, dev module and post-production module. The project begins with a game design module that lasts for 6 sessions. All attendees participate in this module, in order to get a theoretical and informational structure for working on the game, and to familiarize themselves with the basic terminology and work process.

After listening to the introductory lectures, the participants choose the art or dev module, depending on their preferences and interests. During the implementation of the art and dev module, computer game design workshops are also held periodically, in order to encourage dynamics.

After the art and dev modules, all participants attend the post-production module, which is designed as the completion of the project, familiarization with audio-engineering and the so-called by "polishing" the product that is in the final stage of production.





Modul dizajna računalnih igara

Game Design module

Ovaj modul je amalgam više komponenti rada na računalnoj igri, ali je zbog količine sadržaja koji je prevalentan nazvan modulom dizajna računalnih igara.

Ovaj modul nudi uvod u razvoj računalnih igara na način da se polaznicima dočarava rad na računalnoj igri poznatim i usporedivim paralelama poput društvenih i stolnih igara, zadataka i školskih zadaća, literature i slično. Na uvodnim predavanjima predstavlja se sam projekt, kao i rad udruge P.O.I.N.T. koja je organizator projekta.

Modul se dominantno bavi temama iz domene dizajna računalnih igara, kao što su narativni dizajn i razrada priče, kreacija likova i svijeta u kojem se nalaze, svojstva i mehanike igre. Modul također nudi uvid u organizaciju rada u timu, strukturu projekta po fazama, kao i različite uloge stručnjaka koji sudjeluju u procesu rada.

Tijekom ovog dijela projekta polaznici definiraju teme svojih igara na temelju kojih će se kreirati materijal potreban za rad na igri.

This module is an amalgam of several components of work on a computer game, but due to the amount of content that is prevalent, it is called the computer game design module.

This module offers an introduction to the development of computer games in such a way that participants can imagine working on a computer game with known and comparable parallels such as board and board games, tasks and school assignments, literature and the like. At the introductory lectures, the project itself is presented, as well as the work of the association P.O.I.N.T. who is the organizer of the project.

The module mainly deals with topics from the domain of computer game design, such as narrative design and story development, creation of characters and the world they are in, game properties and mechanics. The module also offers an insight into the organization of work in a team, the structure of the project by stages, as well as the different roles of experts participating in the work process.

During this part of the project, the participants define the themes of their games, based on which the material needed to work on the game will be created.

Art modul

Art module

Art modul simulira rad u umjetničkom, tj. art odjelu u game dev tvrtki. Odjelom upravlja "lead artist", tj. u ovom slučaju mentor.

Art modul u početku upoznaje polaznike s radom na hardveru i softveru (tabletima Wacom i programi Adobe Photoshop Elements i Spine) koji se koristi u industriji računalnih igara. Digitalna umjetnost razlikuje se od klasične, tradicionalne umjetnosti koja se uči na likovnim akademijama i potreban je period prilagodbe onima koji nikada nisu radili u digitalnom okružju. Iz tog razloga je korisno mlade što ranije izlagati digitalnim medijima i radu na digitalnim alatima.



The Art module simulates work in an artistic, i.e. art department in a game dev company. The department is managed by a lead artist, i.e. in this case a mentor.

The Art module initially introduces participants to working on hardware and software (Wacom tablets and Adobe Photoshop Elements and Spine programs) used in the computer game industry. Digital art is different from the classic, traditional art taught in art academies and requires an adjustment period for those who have never worked in a digital environment. For this reason, it is useful to expose young people to digital media and working with digital tools as early as possible.



Art modul sastoji se od radionica 2D arta, na kojima se kreira statični sadržaj: likovi, pozadine, objekti i sl., te od radionica animacije na kojima se statični materijal pretvara u dinamični, animirani sadržaj.

Radionice 2D arta upoznaju polaznike s alatima za crtanje, bojanje, manipuliranje i obradu slike. Rezultat radionice je materijal koji je spremjan za daljnju implementaciju u animacijama ili direktno u Unity engineu. Pri produkciji materijala posebna se pažnja posvećuje odnosu boje, linije, osvjetljenja i sjene, te formatu i veličini materijala.

The art module consists of 2D art workshops, where static content is created: characters, backgrounds, objects, etc., and animation workshops, where static material is transformed into dynamic, animated content.

2D art workshops introduce participants to drawing, coloring, manipulating and image processing tools. The result of the workshop is material that is ready for further implementation in animations or directly in the Unity engine. During the production of the material, special attention is paid to the relationship between color, line, lighting and shadow, as well as the format and size of the material.

Radionice animacije su sličnije radu na 3D modelima jer se statični, 2D materijal transformira u dinamičan materijal. Statični materijal, tj. slika, dobiva anatomiju pomoću koje se slika pokreće. Softver *Spine* nudi jednostavan i intuitivan način rada pomoću sustava "kostiju" koje se dodaju slikama. Osim osnova, polaznici uče o kreiranju "mesheva", grafovima kretanja i kinematičkom pokretanju likova.

Animation workshops are more similar to working on 3D models because static, 2D material is transformed into dynamic material. The static material, i.e. the image, acquires an anatomy by which the image is moved. The Spine software offers a simple and intuitive way of working using a system of "bones" that are added to images. In addition to the basics, participants learn about creating meshes, motion graphs and kinematic movement of characters.



Dev modul

/ Dev module

Dev modul predviđen je za polaznike koji preferiraju tehnički pristup i vještine u izradi računalnih igara. Ovaj modul zahtijeva određenu razinu znanja o programiranju i programerskoj logici, kako bi polaznik lakše svladao gradivo.

Kao i art modul, i dev modul se sastoji od dva dijela. Prvi dio je 3D modeliranje koje upoznaje polaznike s vizualnim kreiranjem 3D modela i kompleksnih objekata. Iako se 3D modeliranje inače u timovima odvaja u zaseban odjel, ovdje je radi praktičnosti i povezanosti 3D modeliranja i programiranja objedinjeno u jedan jedinstveni modul.

Proces 3D modeliranja koristi osnovne geometrijske oblike kao bazu, ali i kompleksne alate koji se baziraju na kiparskim tradicionalnim alatima, kako bi se došlo do finalnog rezultata. Polaznici na ovim radionicama kreiraju trodimenzionalan materijal koji se direktno ugrađuje u Unity engine. Kao i kod art radionica, kod kreacije 3D modela mora se paziti na dimenzije i format.

Radionice programiranja u programskom jeziku C# i softveru Unity engine orientirane su isključivo na programerski aspekt rada na igrama. Polaznici uče o sintaksi, logici i najboljim praksama rada, kako bi njihov kod bio što korektniji i što upotrebljiviji u finalnom proizvodu. Ove su radionice jedan od najnaprednijih dijelova cijelog programa, što podrazumijeva da su i najzahtjevnije i nisu jednostavne za svladavanje.

The Dev module is intended for students who prefer a technical approach and skills in creating computer games. This module requires a certain level of knowledge about programming and programming logic, so that the students can master the material more easily.

Like the art module, the dev module consists of two parts. The first part is 3D modeling, which introduces participants to the visual creation of 3D models and complex objects. Although 3D modeling is normally separated into a separate department while working in game dev teams, here, for the sake of practicality and the connection of 3D modeling and programming, it is integrated into one unique module.

The 3D modeling process uses basic geometric shapes as a base, but also complex tools based on traditional sculpting tools, in order to reach the final result. Participants in these workshops create three-dimensional material that is directly integrated into the Unity engine. As with art workshops, when creating a 3D model, one must pay attention to the dimensions and format.

Programming workshops in the C# programming language and the Unity engine software are focused exclusively on the programming aspect of working on games. Participants learn about syntax, logic and best work practices, so that their code is as correct and usable as much as possible in the final product. These workshops are one of the most advanced parts of the entire program, which implies that they are also the most demanding and not easy to master.

Modul post-produkcije

*Post-production
module*

Modul post-produkcije je finalna, izvedbena faza projekta. Na početku ove faze sav materijal potreban za izradu igre je kreiran i spremam za implementaciju, sav kod je napisan i funkcionalan.

The post-production module is the final, implementational phase of the project. At the beginning of this phase, all the material needed to develop the game is created and ready for implementation, all the code is written and functional.

Ovaj modul služi za upoznavanje polaznika sa nekim drugim, ali ništa manje važnim aspektima rada na igrama, kao npr. audio-inženjering, odnosno dodavanje zvukova i glazbene podloge u igru.

U ovom momentu također se radi i fini "polishing" igre, odnosno manje izmjene koje su orijentirane na detalje. U ovom dijelu projekta više nema velikih izmjena ili zaokreta, već je sva pažnja posvećena na testiranje, tok, jasnoću i igrivost igre, kako bi finalni proizvod bio što bolje prihvaćen od strane korisnika.

Na ovom, zadnjem, modulu radionica svi polaznici rade zajedno. Polaznici art i dev modula objašnjavaju jedni drugima i komentiraju materijal zajedno. Ponovno se okupljaju tematski timovi definirani za vrijeme radionica dizajna računalnih igara i dovršavaju svoje razine igara.

This module serves to familiarize the participants with some other, but no less important, aspects of working on games, such as audio engineering, i.e. adding sounds and background music to the game.

At this moment, fine "polishing" of the game is also being done, i.e. minor changes that are oriented towards details. In this part of the project, there are no more major changes or pivots, but all attention is focused on testing, flow, clarity and playability of the game, so that the final product is accepted in a best possible way by users.

In this last workshop module, all participants work together. Art and dev module participants explain to each other and comment on the material together. The thematic teams defined during the computer game design workshops reconvene and complete their game levels.

PROVEDBA RADIONICA

Workshops Implementation



Ovaj dio retrospektive nudi sustavan pregled radionica u kontekstu hijerarhije, strukture, tema i trajanja radionica kroz tablice. Tablice su zbog jednostavnosti korištenja terminologije u izradi računalnih igara ispisane isključivo na engleskom jeziku.

This part of the retrospective offers a systematic overview of the workshops in the context of the hierarchy, structure, topics and duration of the workshops through tables. Tables are printed exclusively in English due to the simplicity of using terminology in the creation of computer games.

Radionice dizajna računalnih igara

*Game Design
Workshops*

Križevci

—

SANDBOX GAME DEV WORKSHOPS

Radionice dizajna računalnih igara su kombinacija dizajna, organizacije rada i kratkog pojašnjenja kurikuluma projekta, tj. programa. Za vrijeme ovih radionica polaznici se upoznaju s temama poput narativnog dizajna, dizajna likova i dizajna svijeta (*world building, lore, setting*), te o suptilnim razlikama između ovih pojmoveva.

Computer game design workshops are a combination of design, work organization and a brief explanation of the project's curriculum, i.e. the program. During these workshops, participants learn about topics such as narrative design, character design and world design (*world building, lore, setting*), and about the subtle differences between these concepts.

MODULE	SEGMENT	WORKSHOP TITLE	SESSION TOPICS	SESSIONS
GAME DESIGN MODULE	Game Design Workshops	Introduction to Sandbox Game Dev Workshops	<i>Opening Introduction</i>	1
			<i>About the Project</i>	
			<i>About P.O.I.N.T. Association</i>	
			<i>About the association's projects</i>	
			<i>About the association's membership</i>	
		Career in Game Dev Industry	<i>Difference between gaming and game dev</i>	1
			<i>Jobs and Career Opportunities</i>	
			<i>Croatian Game Dev Scene in 2022</i>	
			<i>Top-rated Croatian Games and Studios</i>	
		Narrative Design and Character Design	<i>Narrative Design and why do we need it</i>	1
			<i>Theme, Step by Step</i>	
			<i>Character Creation</i>	
			<i>Creating Character Moodboard</i>	
		Setting, World-building, Lore	<i>Defining a Setting</i>	1
			<i>World-building and World Rules</i>	
			<i>Lore and Character Description</i>	
		Storytelling and Storyline	<i>Storyline and its Properties</i>	1
			<i>Linear Storyline</i>	
			<i>Point-of-View (POV)</i>	
			<i>Branching Storyline</i>	
			<i>Choose Your Own Adventure (CYOA)</i>	
		Game Balance, Organization and Game Design Document	<i>Game Balance</i>	1
			<i>Files Organization</i>	
			<i>Game Design Document (GDD)</i>	
			<i>Using Figma and Google Sheets</i>	
SESSIONS TOTAL				6



Radionice 2D arta

2D Art Workshops

Art modul s početnim radionicama 2D arta uvodi studente u digitalnu umjetnost i "game art", kao i osnove dizajna korisničkog sučelja (*user interface, UI*). Polaznici su učili o procesima stvaranja "concept arta", "character arta" i "background arta". Ovaj modul pokriva osnove softvera "Adobe Photoshop Elements" potrebne za izradu jednostavnih platformerskih igara.

The Art module, with its 2D art workshops, introduces students to digital art and game art, as well as the basics of user interface design (UI). The participants learned about the processes of creating "concept art", "character art" and "background art". This module covers the basics of the Adobe Photoshop Elements software needed to create simple platformer games. The table is written in English for ease of use of terminology.

MODULE	SEGMENT	WORKSHOP TITLE	SESSION TOPICS	SESSIONS
ART MODULE	2D Art Workshops	Introduction to Artist's Digital Tools 1/2	<i>Format and Settings</i>	2
			<i>Brush Tool</i>	
			<i>Eraser Tool</i>	
			<i>Color Picker</i>	
			<i>Adobe Color Wheel (Online Tool)</i>	
		Introduction to Artist's Digital Tools 2/2	<i>Layers</i>	
			<i>Layer Masks</i>	
			<i>Groups</i>	
			<i>Exporting</i>	
			<i>PhotoshopToSpine Script</i>	
		Character Design 1/2	<i>Examples of Character Design</i>	2
			<i>Character Shape</i>	
			<i>En-face, Profile and 3/4</i>	
			<i>Sketching</i>	
			<i>Layers and Body Parts</i>	
			<i>Character Items (Weapon, Armor)</i>	
		Character Design 2/2	<i>Line art</i>	2
			<i>Basic blocking / Coloring</i>	
			<i>Details, Shading and Lighting</i>	
			<i>PtS Script: [merge], [ignore]</i>	
		Background Design 1/2	<i>Examples of Background Design</i>	1
			<i>Background Ambience</i>	
			<i>Format and Settings</i>	
			<i>Foreground, Midground, Background</i>	
			<i>Line art</i>	
			<i>Seamless Design</i>	

MODULE	SEGMENT	WORKSHOP TITLE	SESSION TOPICS	SESSIONS
ART MODULE	2D Art Workshops	Background Design 2/2	<i>Background Parallax (2,3 objects)</i>	1
			<i>Basic blocking / Coloring</i>	
			<i>Details, Shading and Lighting</i>	
		Enemy Design 1/3 (Melee Enemy)	<i>Melee Enemy Design</i>	3
			<i>Line art</i>	
			<i>Basic Blocking / Coloring</i>	
			<i>Details, Shading and Lighting</i>	
		Enemy Design 2/3 (Ranged Enemy)	<i>Ranged Enemy Design</i>	3
			<i>Line art</i>	
			<i>Basic Blocking / Coloring</i>	
			<i>Details, Shading and Lighting</i>	
		Enemy Design 3/3 (Boss Enemy)	<i>Boss Enemy Design</i>	1
			<i>Line art</i>	
			<i>Basic Blocking / Coloring</i>	
			<i>Details, Shading and Lighting</i>	
		Game UI	<i>What is UI/UX</i>	1
			<i>Examples of Game UI</i>	
			<i>Game Title and Logo</i>	
			<i>Menus and Tabs</i>	
			<i>Icons and Symbols</i>	
			<i>Multi-use Button and Slicing</i>	
			<i>Button Text</i>	
			<i>Health Bar</i>	
			<i>Ammo Bar</i>	
SESSIONS TOTAL				10

Radionice 2D animacije

*2D Animation
Workshops*

Radionice 2D animacije nude uvod u digitalnu animaciju putem sistema kostiju. Polaznici uče o osnovama softvera za animaciju Spine, standarda u današnjoj industriji računalnih igara. Spine je jednostavan za korištenje i veoma je kompatibilan s *Unity engineom*, što ga čini savršenim spojem za ove radionice.

2D Animation workshops offer introduction to digital animation via bone system. Students will learn the basics of Spine animation software, a standard in today's game dev industry. Spine is easy to use and is highly compatible with Unity engine, which makes it a perfect match for this workshop.

2D

MODULE	SEGMENT	WORKSHOP TITLE	SESSION TOPICS	SESSIONS
ART MODULE	2D Animation Workshops	Introduction to Animator's Digital Tools 1/2	<i>Frame by Frame Animation</i>	2
			<i>Bone Animation</i>	
			<i>Bone / Slot / Image System</i>	
		Introduction to Animator's Digital Tools 2/2	<i>Setup / Animation</i>	
			<i>Character Animation</i>	
			<i>Idle Animation (En-face and Profile)</i>	
		Character Animation	<i>Run Animation</i>	1
			<i>Attack Animation</i>	
			<i>Jump Animation</i>	
		Melee Enemy Animation	<i>Melee Enemy Setup</i>	1
			<i>Walk Animation</i>	
			<i>Attack Animation</i>	
		Ranged Enemy Animation	<i>Ranged Enemy Setup</i>	1
			<i>Walk Animation</i>	
			<i>Attack Animation</i>	
		Boss Enemy Animation	<i>Boss Enemy Setup</i>	1
			<i>Walk Animation</i>	
			<i>Attack Animation</i>	
		Animation Polish	<i>Image into Mesh</i>	1
			<i>Dopesheet and Graph</i>	
		Animation Export and Finalization	<i>Image Atlas, JSON, Power-of-Two (POT)</i>	1
			<i>Export Menu</i>	
			<i>Export Settings for Unity</i>	
SESSIONS TOTAL				8

Radionice 3D modeliranja

*3D Modelling
Workshops*

Radionice 3D modeliranja pokrivaju osnove 3D modeliranja. Od definiranja toga što 3D model jest, sve do toga kako se implementira u igru. Polaznici su koristili softver Blender, koji je standard u kreiranju 3D modela za hobimodelere i profesionalce. Blender modeli mogu se direktno učitati u Unity drag-and-drop metodom, što ga, kao i Spine, čini idealnim za korištenje na ovakvim radionicama.

The 3d Modeling Workshops cover the basics of 3d modeling. From defining what a 3d model is, all the way to implementing it into a video game. Students use Blender, the standard in creating 3d models for hobbyists and professionals. Blender models can be dragged and dropped directly into Unity engine, making Blender, like Spine, the perfect fit for this course.

JE
3

MODULE	SEGMENT	WORKSHOP TITLE	SESSION TOPICS	SESSIONS
DEV MODULE	3D Modelling Workshops	Introduction to 3D Modelling	<i>3D Model and how it works</i>	1
			<i>3D Graphic Overview</i>	
			<i>Video game Graphics History</i>	
		3D Modelling Basics	<i>3D Modelling Basics</i>	1
			<i>Blender UI</i>	
			<i>Creating your First Basic Model</i>	
		3D Modelling Tools	<i>Extrude Tool</i>	1
			<i>Inset Tool</i>	
			<i>Bevel Tool</i>	
			<i>Knife Tool</i>	
			<i>Subdivide Tool</i>	
		Creating Our First Model	<i>Using Tool to create a Model</i>	1
			<i>Setting Materials</i>	
			<i>Texturing</i>	
		Creating Individual Models 1/2	<i>Models Selection</i>	2
			<i>Creating a Model 1/4</i>	
			<i>Creating a Model 2/4</i>	
		Creating Individual Models 2/2	<i>Models Selection</i>	
			<i>Creating a Model 3/4</i>	
			<i>Creating a Model 4/4</i>	

MODULE	SEGMENT	WORKSHOP TITLE	SESSION TOPICS	SESSIONS
DEV MODULE	3D Modelling Workshops	Game Engine Import	<i>Importing Models into Unity</i>	1
			<i>Setting Up Unity Materials</i>	
			<i>Setting Up Scale</i>	
	Creating a Game Scene	Creating a Game Scene	<i>Creating Basic Unity Scene</i>	1
			<i>Adding Created Models into Scene</i>	
			<i>Setting Up Basic Lighting</i>	
SESSIONS TOTAL				8



RANGE



Radionice Unity / C# programiranja

*Unity / C# Coding
Workshops*

Križevci

Unity je *game engine* koji se koristi za više platformi. Posebno je popularan među developerima mobilnih igara za iOS i Android. Smatra se jednostavnim za korištenjem među developerima početnicima, a popularan je i među indie developerima računalnih igara. Unity korisniku daje mogućnosti izrade igara i iskustava u 2D i 3D okruženju, te koristi C# programski jezik za skriptiranje.

Unity is a cross-platform game engine. It is particularly popular for iOS and Android mobile game development, and is considered easy to use for beginner developers and is popular for indie game development. Unity gives users the ability to create games and experiences in both 3D and 2D, and uses C# programming language for scripting.

MODULE	SEGMENT	WORKSHOP TITLE	SESSION TOPICS	SESSIONS
DEV MODULE	Unity / C# Coding Workshops	Introduction to Game Dev & Unity 3D Interface	Navigating Unity 3D	1
			Tools and Shortcuts	
			Unity Components	
			Unity Prefabs	
			Package Manager	
		Setting Up a Player Controller	Basic Player Controller	1
			Importing Animations	
			Playing Animations	
		Creating a Level and Environment	Using Prefabs in Levels	1
			Finishing Up a Level	
			Creating an Environment	
		Creating UI	Player Health	1
			Pickup Counter	
			Creating Pause Menu	
		Coding Practices	Singletons	1
			Inheritance	
			Best Practices in Unity	
		Enemies and Pickups	Implementing Enemy Behaviour	1
			Unity PlayerPrefs	
			JSON Basics	
		Enemies and Pickups	DOTween Plugin	1
			Importing Post-processing Stack	
			Implementing Stack in the Scene	
		Final Polish	Bug Fixes	1
			Play-testing	
			Implementing miscellaneous features	
SESSIONS TOTAL				8



Provedba gejmifikacije

*Gamification
Implementation*

Evidencija pohadanja radionica i aktivnosti polaznika provodi se kroz Google Sheets tablicu koja sadrži elemente gejmifikacije. Polaznici za prisustvo, aktivnost, pomoć kolegama i sl. dobivaju bodove, a mogu osvojiti i posebne predmete za svoj inventar. Tablica također sadrži tablicu rezultata s brojem osvojenih bodova po polazniku.

The attendance record of workshops and the activities of participants are carried out through a Google Sheets table that contains elements of gamification. Attendees receive points for attendance, activity, helping colleagues, etc., and can also win special items for their inventory. The table also contains a table of results with the number of points earned per participant.

Polaznici Art modula izradili su specijalne "avatare" za sve polaznike. Gejmifikacija dodatno pojačava aktivnost i imerziju korisnika tijekom radionica i daje vrlo pozitivne rezultate.

Art module participants created special "avatars" for all participants. Gamification additionally enhances the activity and immersion of users during the workshops and gives very positive results.



Experience

ATTENDANCE	14
ACTIVITY	3
HELP	1
EXTRA	2
TOTAL	20

Luka Brlek



Inventory

Cookie	Blueberry	Yellow Gem
	Mushroom	
	Potato	

ART

GOSTUJUĆA DAVANJA PREI



Guest Lectures

Temeljni principi game designa

*Fundamental
Principles of
Game Design*

PREDAVAČICA

Matija Vigato

(dizajnerica igara,
Scylla Studio, RH)

SPEAKER

Matija Vigato

(game designer,
Scylla Studio, CRO)





Dana 8. listopada 2022. godine Matija Vigato održala je gostujuće predavanje pod naslovom "Temeljni principi game dizajna" u kojem je deset odabralih principa game dizajna objasnila na primjerima iz računalnih igara. Principi o kojima je govorila bili su sljedeći: 1. Cilj, 2. Prepreke, 3. Pravila, 4. Fizika, 5. Tempo (Pacing), 6. Dinamika, 7. Fokus, 8. Anticipacija, 9. Nagrada i 10. Konsonantnost.

Cilj i Pravila istaknula je kao ključne karakteristike igre (game) kojima se razlikuje od igranja (play) – slobodnije i jednostavnije forme prisutne u sandbox igrama kao što je Minecraft. Kao primjere dobre upotrebe tih principa navela je igru "Journey" u kojoj igrač čitavo vrijeme ispred sebe vidi planinu kao svoj krajnji cilj te igru "Baba is You" čija se mehanika temelji na stvaranju pravila. Prepreke je pak navela kao temelj igrifikacije, referirajući se na definiciju igre filozofa Bernarda Suitsa iz njegova djela Skakavac: Igre, život i utopija prema kojoj je igra "dobrovoljni pokušaj prevladavanja prepreka koje nisu nužne". Jednostavna radnja izlaska iz prostorije, istaknula je Vigato, može se učiniti igrom postavljanjem pravila da se pritom ne smije dotaknuti pod.

Jednako tako, u videoigri "Pac-Man" cilj je pojesti sve točkice unutar labirinta, ali pritom se kao prepreke tom cilju postavljaju Ghost Gang. Princip Fizika zahtjeva da se u računalnoj igri poštivaju fizikalni zakoni, koji ne ne moraju biti realistični, ali moraju biti konzistentni. To je, istaknula je Vigato, dobro izraženo u igri Portal u kojoj se putem portala mogu spojiti dvije točke u prostoru, što u stvarnosti nije moguće, ali pri čemu zakon sile teže i dalje vrijedi.

On October 8, 2022, Matija Vigato held a guest lecture entitled "Fundamental principles of game design" in which she explained ten selected principles of game design using examples from computer games. The principles she talked about were as follows: 1. Goal, 2. Obstacles, 3. Rules, 4. Physics, 5. Pacing, 6. Dynamics, 7. Focus, 8. Anticipation, 9. Reward and 10. Consonance.

She pointed out the goal and rules as the key characteristics of the game that differentiates it from play – the freer and simpler forms present in sandbox games such as Minecraft. As examples of good use of these principles, she mentioned the game "Journey", in which the player sees the mountain in front of him the whole time as his ultimate goal, and the game "Baba is You", whose mechanics are based on the creation of rules. She cited obstacles as the basis of gamification, referring to philosopher Bernard Suits' definition of play from his work The Grasshopper: Games, Life and Utopia, according to which a game is "a voluntary attempt to overcome obstacles that are not necessary". The simple act of leaving the room, Vigato pointed out, can be made into a game by setting a rule that one must not touch the floor.

Likewise, in the video game "Pac-Man" the goal is to eat all the dots inside the maze, but the Ghost Gang stands in the way of that goal. The principle of Physics requires that in a computer game the laws of physics are respected, which do not have to be realistic, but they must be consistent. This, Vigato pointed out, is well expressed in the game Portal, in which two points in space can be connected through a portal, which is not possible in reality, but where the law of gravity still applies.

Matija Vigato



Kao idući princip Vigato je navela Tempo – stopu izmjene perioda visokog i niskog intenziteta u računalnoj igri, pod čime se misli na zahtjevnost onog što se traži od igrača. Naime, ako stavimo previše trenutaka visokog intenziteta jednog za drugim tada igraču ne dajemo priliku za odmor, a ako zaredamo previše trenutaka niskog intenziteta riskiramo da igrač izgubi interes za igrom. Umjesto toga, treba se težiti balansiranim izmjenama, za što je Vigato dala primjer igre "The Last of Us" u kojoj u jednom dijelu igre imamo borbu s bossom, a u drugom mogućnost promatranja pejzaža tijekom zatišja od borbe.

As the next principle, Vigato stated Tempo - the rate of change of periods of high and low intensity in a computer game, by which is meant the demandingness of what is required of the player. Namely, if we put too many moments of high intensity one after the other, then we don't give the player a chance to rest, and if we put too many moments of low intensity in a row, we risk that the player loses interest in the game. Instead, one should strive for balanced changes, for which Vigato gave the example of the game "The Last of Us" in which in one part of the game we have a fight with a boss, and in the other the possibility of observing the landscape during a lull from the fight.

Princip Dinamike nalaže da se kod igrača potiče briga o više paralelnih radnji. U lokalnoj kooperativnoj igri "Lovers in a Dangerous Spacetime" igrači tako moraju istovremeno upravljati s više specijaliziranih stanica svemirskog broda kako bi brod vozili, štitili ga od oštećenja i napadali neprijatelje, a pored vlastita preživljavanja moraju misliti i na spšavanje životinja. Fokus je, navodi dalje Vigato, princip prema kojem igraru treba jasno pokazati što mu je činiti, a što se može učiniti osvjetljavanjem puta, davanjem hintova, preusmjeravanjem kamere i slično. Kao primjer Vigato je navela segment igre "Tomb Raider" u kojem se fokus igrača usmjerava vatrom koja, okružena mrakom, privlači pozornost igrača.

Anticipacija je princip proizašao iz dvanaest pravila animacije, a označava nagovještaj onoga što slijedi u igri kako bi se igrač upozorio i pripremio na reakciju. Najlakše ga je, ističe Vigato, postići korištenjem zvuka, na primjer krikom čudovišta prije nego ga se vidi ili zvukom zemljotresa prije nego se tlo počne pomocići. Kao primjer navela je "icy ground attack" iz igre "God of War" koji se kod lika Baldura nagovještava kada digne obje šake u zrak. Nadalje, Nagrada je motivacijski element koji u igraču potiče želju da mu se približi ostvarenjem kakvog cilja, za što je kao primjer Vigato navela "Heavenly Strike quest" u igri "Ghost of Tsushima" u kojem se za pobjedu u dvoboju s Yashhirom Kogom kao nagrada dobiva Heavenly Strike.

The principle of Dynamics dictates that players are encouraged to take care of multiple parallel actions. In the local cooperative game "Lovers in a Dangerous Spacetime", the players must simultaneously control several specialized stations of the spaceship in order to drive the ship, protect it from damage and attack enemies, and in addition to their own survival, they must also think about killing animals. Focus, Vigato further states, is a principle according to which the player should be clearly shown what he has to do, and what can be done by lighting the way, giving hints, redirecting the camera and the like. As an example, Vigato cited a segment of the game "Tomb Raider" in which the player's focus is directed by a fire that, surrounded by darkness, attracts the player's attention.

Anticipation is a principle derived from the twelve rules of animation, and means a hint of what is to come in the game in order to warn the player and prepare for a reaction. The easiest way to achieve it, Vigato points out, is to use sound, for example the cry of a monster before it is seen or the sound of an earthquake before the ground starts to move. As an example, she cited the "icy ground attack" from the game "God of War", which is hinted at by the character Baldr when he raises both fists in the air. Furthermore, the Reward is a motivational element that encourages the player to get closer to it by achieving some goal, for which Vigato cited as an example the "Heavenly Strike quest" in the game "Ghost of Tsushima", in which a victory in a duel with Yashiro Koga as a reward gets Heavenly Strike.

GOST

Kao posljednji princip Vigato je navela Konsonantnost, princip koji se temelji na usuglašavanju igre i umjetnosti unutar računalne igre i time izbjegavanju takozvane ludonarativne disonance – pojma kojim game dizajner Clint Hocking označava konflikt između igre i narativa. Za objašnjenje principa navela je Hockingov primjer igre "BioShock" koja ne poštiva princip konsonantnosti budući da u narativu promovira nesebičnost, a u gameplayu sebičnost. Svaki je princip Vigato nastojala dodatno razjasniti tako da je polaznike predavanja kroz interakciju potaknula da ga primijene igrifikacijom svakodnevne i jednostavne radnje odlaska u školu.

As the last principle, Vigato stated Consonance, a principle based on harmonizing game and art within a computer game and thereby avoiding the so-called ludonarrative dissonance – a term used by game designer Clint Hocking to denote the conflict between game and narrative. To explain the principle, she cited Hocking's example of the game "BioShock", which does not respect the principle of consonance, since it promotes selflessness in the narrative, and selfishness in the gameplay. Vigato tried to further clarify each principle by encouraging the participants of the lecture through interaction to apply it by gamifying the everyday and simple act of going to school.

ANJAJA



EDUKATIVNE EKSKURZIJE

Educational
Visits

Ekskurzije su organizirane s ciljem da polaznici uživo vide kako izgleda rad u tvrtkama i timovima koji proizvode računalne igre i da se familiariziraju s okruženjem u kojem se nalaze zaposlenici u industriji. Također su organizirane praktične prezentacije proizvoda na kojima rade programeri i artišti u industriji, kao što su aplikacije, softver i same igre.

Danas je industrija računalnih igara etablirana kao unosna i brzo rastuća branša na granici između IT-ja i zabavne industrije, kako globalno, tako i u našoj državi. Važno je da se potencijalni budući zaposlenici što ranije izlože i uključe u njen rad i budu svjesni svih prednosti i teškoća koje nosi rad na računalnim igrama.

Excursions are organized with the aim of allowing participants to see first-hand what it's like to work in companies and teams that produce computer games and to familiarize themselves with the environment in which employees in the industry find themselves. Also organized are hands-on presentations of products that developers and artists in the industry are working on, such as applications, software and games themselves.

Today, the computer game industry is established as a lucrative and rapidly growing branch on the border between IT and the entertainment industry, both globally and in our country. It is important that potential future employees are exposed to and involved in her work as early as possible and are aware of all the advantages and difficulties of working on computer games.



Posjet inkubatoru PISMO Novska

A Visit to
PISMO business
incubator Novska



U subotu, 29. listopada 2022. polaznici su u pratnji mentora i predstavnika udruge P.O.I.N.T. posjetili poslovni inkubator PISMO u Novskoj.

Polaznike je u Novskoj dočekao Vlado Vujica, predstavnik agencije SIMORA koji im je ukratko predstavio rad inkubatora i agencije, te buduće planove koji uključuju gradnju Kampus-a i E-sports arene, za koju su sredstva već osigurana iz EU fondova, a za koju se nadaju da će privući još više mladih i dodatno galvanizirati poduzetništvo grada Novske i Sisačko-moslavačke županije.

Nakon obilaska zgrade PISMO 1, polaznicima su rad svojih tvrtki i obrta predstavili Dominik Cvetkovski (Aniq d.o.o.) koji je ujedno i predsjednik udruge Hrvatskih izradivača računalnih igara (HU-IZ-VI), Tomislav Marković (obrt Dynamite Priest), Mateja Olujić (obrt Oona) i Mladen Bošnjak (obrt Misfit Village) koji je polaznicima ujedno bio i mentor na radionicama 3D modeliranja. Poduzetnici su mladim Križevčanima predstavili projekte na kojima rade i kratko s njima porazgovarali o mogućnostima rada u industriji računalnih igara.

On Saturday, October 29th 2022, attendees were accompanied by mentors and representatives of the P.O.I.N.T. association on a visit to the PISMO business incubator in Novska.

After arriving to Novska, the attendees were welcomed by Vlado Vujica, a representative of the SIMORA agency, who briefly presented the work of the incubator and the agency, as well as future plans that include the construction of the Campus and the E-sports arena, for which funds have already been procured through EU funds, and for which they hope to attract even more young people to Novska and further galvanize the entrepreneurship of the city of Novska and Sisak-Moslavina County.

After a tour of the PISMO 1 building attendees were acquainted with projects of startups headed by Dominik Cvetkovski (Aniq d.o.o.), who is also the president of the Association of Croatian Computer Game Makers (HU-IZ-VI), next Tomislav Marković (Dynamite Priest), Mateja Olujić (Oona) and Mladen Bošnjak (Misfit Village) who was also a mentor to the attendees at the 3D modeling workshops. The entrepreneurs presented the projects they are working on to the young people of Križevci and briefly talked with them about the possibilities of working in the computer game industry.





Obilazak nove zgrade inkubatora tzv. PISMO 2 započeo je razgledavanjem i isprobavanjem opreme za testiranje VR i AR softvera. Polaznicima su predavanje o izradi igara održali Josipa i Kristijan Bencek iz tvrtke Grow, također mladi poduzetnici iz inkubatora PISMO koji su već zabilježili neke značajne uspjehe, kako u industriji igara, tako i na području tehnologije i IT-a. Uz naprednu opremu, polaznici su također imali priliku vidjeti kako izgleda „mo-cap“ studio za snimanje pokreta i glazbeni studio.

Nakon kratke pauze i ručka, polaznici su posjetili i Park prirode „Lonjsko Polje – Krapje“, gdje su imali priliku uživo vidjeti kako funkcioniра jedna AR aplikacija (koju su za potrebe Parka prirode također izradili Josipa i Kristijan Bencek) i kako se tehnologija, učenje i boravak na svježem zraku mogu ukomponirati u zanimljivu avanturu.

Posjet Parku prirode završio je vožnjom čamcem po rijeci Lonji, uz vodstvo zaposlenika parka i kratak audio-zapis koji je u realnom vremenu objašnjavao kontekst i specifičnosti parka i eko-sustava u kojem se nalazi. Treba naglasiti kako je cijelokupna ekskurzija bila besplatna za polaznike, a sredstva su osigurana iz projekta.

Tour of the new incubator building, nicknamed PISMO 2 started with viewing and trying out equipment for testing VR and AR software. Josipa and Kristijan Bencek from the company Grow, also young entrepreneurs from the PISMO incubator, who have already attained some significant successes, both in the game industry and in the field of technology and IT, gave the participants a lecture on game making. Along with advanced equipment, attendees also had the opportunity to see what a "mo-cap" studio and a music studio look like.

After a short break and lunch, the participants visited the "Lonjsko Polje - Krapje" Nature Park, where they had the opportunity to see in person how an AR application works (which was also created for the needs of the Nature Park by Josipa and Kristijan Bencek) and how technology, learning and staying in the fresh air can be combined into an interesting adventure.

The visit to the Nature Park ended with a boat ride on the Lonja River, accompanied by park staff, and with a short audio recording that explained in real time the context and specifics of the park and the eco-system in which it is located. It should be emphasized that the entire excursion was free for the participants, and the funds were provided by the project.

Posjet studijima za razvoj računalnih igara u Zagrebu

A Visit to Game
Dev Studios in
Zagreb

Križevci

|
SANDBOX GAME DEV WORKSHOPS





U četvrtak, 5. siječnja 2023. polaznici su putovali u Zagreb u posjet eminentnim hrvatskim studijima za izradu računalnih igara. Polaznici i predstavnici udruge P.O.I.N.T. imali su priliku uživo vidjeti kako izgleda rad u velikim i manjim studijima, koje su prednosti rada u suvremenom okruženju i kakva je kultura tvrtki koje zapošljavaju mlade game developere i artiste.

Prvo odredište bilo je tvrtka "Nanobit", najveći i najpoznatiji hrvatski game dev studio čije igre odlično kotiraju na domaćem i međunarodnom tržištu. Tvrtku je 2020. godine akvizirala švedska grupacija Stillfront, međutim studio je zadržao maksimalnu autonomiju u kreativnom segmentu, kao i u upravljanju.

Ispred tvrtke polaznike je dočekala Anamarija Lonza, suradnica za ljudske resurse. Ona je okupljenima predstavila rad tvrtke, politiku i kulturu studija, prednosti i benefite koje nudi rad u Nanobitu, te kako izgleda sam proces zapošljavanja. Predstavljanje tvrtke nastavio je Ivor Strelar, lead artist koji je detaljnije govorio o samom procesu izrade svih elemenata koje sadrži jedna igra, o softveru i vještinama potrebnim za izradu 2D arta. Nakon predavanja polaznici su uz pratnju obišli Nanobitove uredske prostorije, gdje su imali priliku razgovarati sa zaposlenicima i pitati ih sve što ih je zanimalo.

On Thursday, January 5th 2023, attendees traveled to Zagreb to visit eminent Croatian game development studios. Attendees and representatives of the association P.O.I.N.T. had the opportunity to see in person what it looks like to work in large and small studios, what are the advantages of working in a modern environment and what is the culture of companies that employ young game developers and artists.

The first destination was the company "Nanobit", the largest and most famous Croatian game dev studio, whose games are highly rated on the domestic and international market. In 2020, the company was acquired by the Swedish Stillfront Group, however, the studio retained maximum autonomy in the creative segment, as well as in management.

In front of the company, the attendees were welcomed by Anamarija Lonza, human resources associate. She presented the work of the company, the policy and culture of the studio, the advantages and benefits of working at Nanobit, and what the recruitment process itself looks like. The presentation of the company was continued by Ivor Strelar, lead artist, who spoke in more detail about the process of creating all the elements that one game contains, about the software and skills needed to create 2D art. After the lecture, the participants toured Nanobit's offices, where they had the opportunity to talk to the employees and ask them everything they were interested in.





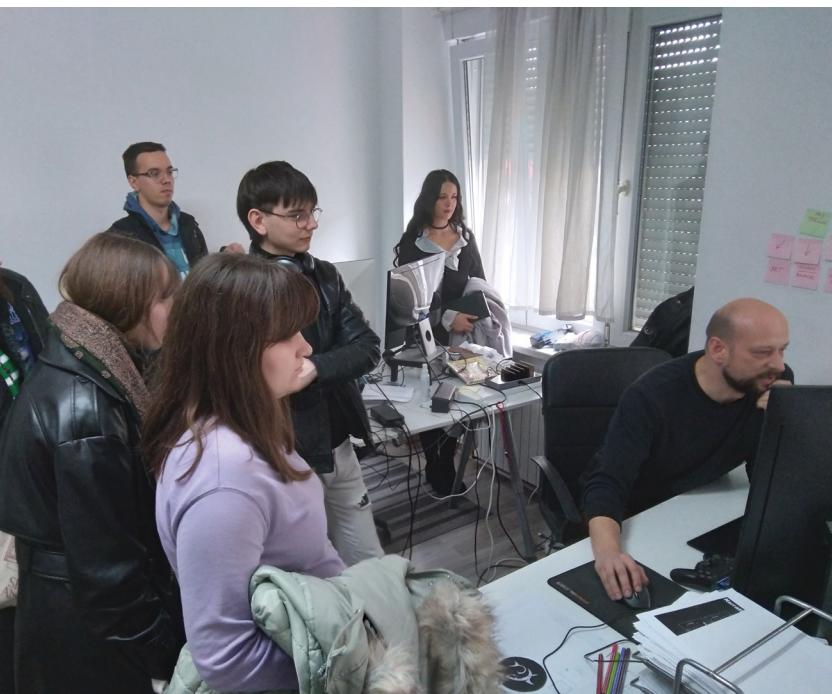
Nakon korporativno-orientiranog Nanobita, ekskurzija se nastavila posjetom manjem, ali ništa manje važnom indie studiju "Under the Stairs". Polaznike su ugostili vlasnik tvrtke i CEO Vladimir Bogdanić i dizajner računalnih igara Filip Neduk. Zaposlenici studija posjetiteljima su pričali o svom uspješnom prvijencu, inovativnoj rogue-like igri "Eyes in the Dark: The Curious Case of One Victoria Bloom", koju se u studiju moglo i zaigrati.

Posljednje odredište ekskurzije bio je zagrebački ZICER, inovacijski centar smješten na Zagrebačkom velesajmu u kojem je svoj dom pronašao indie studio "Gamechuck". Direktor studija, Aleksandar Gavrilović (koji je bio govornik na prvom izdanju Sandbox Game Dev Mini Con-a 2020. godine), proveo je polaznike kroz centar i upoznao ih s raznim tvrtkama koje тамо imaju sjedište. Na kraju je predstavio njihov studio, igre na kojima trenutno rade, podijelio prigodne informativne materijale i pokazao zanimljiv VR/AR projekt uređaja za osposobljavanje vozača viličara, za koji su osvojili i nekoliko nagrada.

After the corporate-oriented Nanobit, the excursion continued with a visit to the smaller but no less important indie studio "Under the Stairs". The attendees were hosted by the company's owner and CEO Vladimir Bogdanić and computer game designer Filip Neduk. Studio employees told visitors about their successful debut, the innovative rogue-like game "Eyes in the Dark: The Curious Case of One Victoria Bloom", which could be played in the studio.

The last destination of the excursion was Zagreb's ZICER, an innovation hub located at the Zagreb Fair, a home to the indie studio "Gamechuck". The director of the studio, Aleksandar Gavrilović (who was a speaker at the first edition of Sandbox Game Dev Mini Con in 2020), gave the participants a tour of the hub and introduced them to various companies based there. At the end, he presented their own studio, the games they are currently working on, shared informative materials and showed an interesting VR/AR project of a device for training forklift drivers, for which they won several awards.





GOTO

EPILOG PROJEKTA

Project
Conclusion

"Sandbox Game Dev Workshops" projekt je koji je, zajedno s još nekoliko drugih projekata udruge P.O.I.N.T. iz Križevaca, promijenio paradigmu edukacije u lokalnoj sredini i ponudio mladima alternativu i pronađak drugačijeg pristupa obrazovanju i karijeri.

Osim konkretnih i primjenjivih znanja kroz niz edukacija, projekt je mladima ponudio i širok uvid u mogućnosti zaposlenja i osobnog razvoja u kontekstu suvremenih tehnologija. Projekt ovakvog opsega i razine organizacije nije uobičajen i iz tog razloga moramo još jednom zahvaliti našim velikodušnim pokroviteljima, Veleposlanstvu SAD-a u Hrvatskoj što su prepoznali vrijednost i omogućili provedbu ovog projekta.

Projekt nije sadržavao samo edukacije. Tu su bila gostovanja, edukativni izleti, manifestacije, druženja i nova prijateljstva. Neki od polaznika također su postali i dio P.O.I.N.T.-ove male, ali vrijedne obitelji kao članovi udruge.

Ova sezona je završila veoma uspješno, sa izvanrednim rezultatima i na radost sviju uključenih. Udruga, mentori i svi ostali uključeni u organizaciju projekta i dalje će tražiti nove načine da svoja znanja i kapacitete nastave usmjeravati prema edukaciji mladih i njihovom profesionalnom usmjeravanju. Nadamo se da ćemo u tome i dalje imati potporu lokalnih vlasti i pokrovitelja.

"Sandbox Game Dev Workshops" is a project that, together with several other projects of the P.O.I.N.T. association from Križevci, changed the paradigm of education in the local community and offered youngsters an alternative and finding a different approach to education and career.

In addition to concrete and applicable skills through a series of educations, the project also offered young people a broad insight into the possibilities of employment and personal development in the context of modern technologies. A project of this scope and level of organization is not common, and for this reason we must once again thank our generous sponsors, the US Embassy in Croatia, for recognizing the value and enabling the implementation of this project.

The project did not only include education. There were guest appearances, educational trips, events, gatherings and new friendships. Some of the participants also became part of P.O.I.N.T.'s small but diligent family as members of the association.

This season ended very successfully, with outstanding results and to the joy of everyone involved. The association, mentors and everyone else involved in the organization of the project will continue to look for new ways to continue directing their knowledge and capacities towards the education of young people and their professional guidance. We hope that we will continue to have the support of local authorities and patrons in this.



PROMOCIJA | DODJELA DIPLOMA POLAZNICIMA



Student Promotion and Graduation Ceremony

U subotu, 18. veljače 2023. u dvorani Kina Križevci u Razvojnom centru i tehnološkom parku Križevci održana je završna svečanost s dodjelom diploma mlađim polaznicima koji su uspješno završili Sandbox Game Dev Workshops, sustavnu edukaciju iz područja dizajna i razvoja računalnih igara.

On Saturday, February 18th 2023, in the Križevci Movie Theatre Hall, which is a part of the Križevci Development Center and Technology Park, a graduation event was held for the young participants who successfully completed the workshops.

"We are a friendly city with Novsko on some historical grounds, but I am glad that this project has established another form of perspective cooperation. I congratulate you, our young people who are future professionals in this propulsive field, on the success you have achieved and the knowledge you have acquired."

*- Mario Rajn
Mayor of Križevci*

II

S Novskom smo grad prijatelj po nekim, sada već povijesnim osnovama, no drago mi je da je ovim projektom utemeljen još jedan vid perspektivne suradnje. Čestitam vama, našim mladima koji ste budući profesionalci u ovom propulzivnom području, na uspjehu koji ste postigli i znanjima koja ste stekli.

- **Mario Rajn**

gradonačelnik Grada Križevaca



Među uzvanicima na svečanosti bili su i Mislav Sučec iz Ureda za odnose s javnošću Veleposlanstva SAD-a u Hrvatskoj, Vlado Vujica iz Razvojne agencije SIMORA iz Siska u čijem sastavu djeluje poslovni inkubator PISMO u Novskoj, Sandro Novosel, pročelnik Upravnog odjela za odgoj, obrazovanje, kulturu, sport, socijalnu skrb, nacionalne manjine i turizam Grada Križevaca, Jelena Velić, direktorica Križevačkog poduzetničkog centra te predavačica Matija Vigato i predavači Mladen Bošnjak i Nikola Zeman.

Among the guests at the ceremony were Mislav Sučec from the Public Relations Office of the US Embassy in Croatia, Vlado Vujica from the SIMORA Development Agency from Sisak, which manages the business incubator PISMO in Novska, Sandro Novosel, head of the Administrative Department for Education , culture, sport, social welfare, national minorities and tourism of the City of Križevci, Jelena Velić, director of the Križevci Entrepreneurship Center, guest speaker Matija Vigato and lecturers Mladen Bošnjak and Nikola Zeman.





"Even though we have been in business for almost 20 years, every new idea and young volunteer motivates us, so I invite you, Sandbox graduates, to join the work of our four newly founded sections - IT, festival, communication and creative, so that we can keep in touch and set new exciting ideas in motion."

*- Hrvoje Belani
P.O.I.N.T. association*

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Iako djelujemo već gotovo 20 godina, svaka nova ideja i mladi volonteri nas motiviraju, stoga vas, Sandbox diplomce, pozivam da se priključite radu naših četiriju novoosnovanih sekcija – informatičke, festivalske, komunikacijske i kreativne, i time se nastavimo družiti i nove uzbudljive ideje provoditi u djela.

*- Hrvoje Belani
udruga P.O.I.N.T.*

ART modul uspješno su završili: Luka Brlek, Sofija Krnjak, Eva Ratković, Dora Seleš, Gabriel Žagar i Jelena Kirin.

DEV modul uspješno su završili: Jakov Hanžeković, Frane Marinković, Matej Vlahek, Dario Konjačić, Leon Podhraški, Pavle Prodan, Mateo Lugomer, Filip Mikinac, Vidya Marjanović, Luka Pevec, Aron Karre, Toni Rasonja, Sebastijan Šatvar i Tihomir Mikinac.

Kipiće „Zlatni Sandbox“ za postignute rezultate dobili su Luka Brlek, Sofija Krnjak, Jakov Hanžeković i Frane Marinković, a posebnu nagradu i „Zlatni Sandbox“ primio je Matija Kovačević.

The ART module was successfully completed by: Luka Brlek, Sofija Krnjak, Eva Ratković, Dora Seleš, Gabriel Žagar and Jelena Kirin.

The DEV module was successfully completed by: Jakov Hanžeković, Frane Marinković, Matej Vlahek, Dario Konjačić, Leon Podhraški, Pavle Prodan, Mateo Lugomer, Filip Mikinac, Vidya Marjanović, Luka Pevec, Aron Karre, Toni Rasonja, Sebastijan Šatvar and Tihomir Mikinac.

Luka Brlek, Sofija Krnjak, Jakov Hanžeković and Frane Marinković received “Golden Sandbox” statuettes for the results achieved, and Matija Kovačević received a special “Golden Sandbox” award.

“We had high expectations, but the results really surprised us. The attendance of our participants, the will to create and finally the results of our workshops are proof of how much such projects are needed by the local community and how talented the young people who attend such programs are.”

- Ivan Ivanović
project manager



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Imali smo velika očekivanja, ali su nas rezultati uistinu iznenadili. Redovitost naših polaznika, volja za stvaranjem i na kraju rezultati naših radionica, dokaz su koliko su ovakvi projekti potrebni lokalnoj zajednici i koliko su talentirani mladi ljudi koji takve programe pohadaju.

- Ivan Ivanović

voditelj projekta



"I want to congratulate all the participants on their success in this project, I watched some of their games before the ceremony, and I really liked them."

- Erica King

*Deputy Head of the Public Relations Office
of the US Embassy in the Republic of
Croatia*

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Želim čestitati svim polaznicima na njihovom uspjehu u ovom projektu, pogledala sam prije svečanosti neke od njihovih igara, i jako su mi se svidjele.

- Erica King

zamjenica pročelnika Ureda za odnose s javnošću Veleposlanstva SAD-a u Republici Hrvatskoj

PROMOCIJA I DODJELA DIPLOMA POLAZNICIMA





Križevci

SANDBOX GAME DEV WORKSHOPS







IZVORI

Sources

Križevci

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SANDBOX GAME DEV WORKSHOPS

Križevci postaju središte gaminga

Križevci become a center of gaming

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<https://www.krizevci.info/2022/09/05/krizevci-postaju-srediste-gaminga/>

Krenuo projekt "Sandbox" udruge P.O.I.N.T., čak 26 polaznika uči o razvoju računalnih igara

P.O.I.N.T.'s "Sandbox" project is underway, up to 26 attendees learn about game development

Autor / author: **Hrvoje Belani**

Foto / photo: **Hrvoje Belani**

Datum / date: **24. 9. 2022.**

<https://www.krizevci.info/2022/09/24/krenuo-projekt-sandbox-udruge-p-o-i-n-t-cak-26-polaznika-uci-o-razvoju-racunalnih-igara/>

Odličan odaziv na P.O.I.N.T.-ov "Sandbox", sustavnu edukaciju mladih o razvoju računalnih igara

Outstanding response to P.O.I.N.T.'s "Sandbox", a systematic game dev education for young people

Autor / author: redakcija portala Križevci.info / Krizevci.info editorial staff

Foto / photo: Hrvoje Belani

Datum / date: 14. 10. 2022.

<https://www.krizevci.info/2022/10/14/foto-odlican-odaziv-na-p-o-i-n-t-ov-sandbox-sustavnu-edukaciju-mladih-o-razvoju-racunalnih-igara/>

U Novskoj posjetili poslovni inkubator za razvoj računalnih igara, obišli Lonjsko Polje

Novska business and game dev hub and Lonjsko polje visited

Autor / author: Ivan Uvanović

Foto / photo: Andrej Dundović

Datum / date: 24. 9. 2022.

<https://www.krizevci.info/2022/11/20/u-novskoj-posjetili-poslovni-inkubator-za-razvoj-racunalnih-igara-obiigli-lonjsko-polje/>

U Zagrebu posjetili velike i male studije za razvoj računalnih igara

Big and small game dev studios in Zagreb visited

Autor / author: Ivan Uvanović

Foto / photo: Hrvoje Belani, Ivan Ivanović

Datum / date: 29. 1. 2023.

<https://www.krizevci.info/2023/01/29/u-zagrebu-posjetili-velike-i-male-studije-za-razvoj-racunalnih-igara/>

Svečano dodijeljene Sandbox diplome mladim kreatorima računalnih igara

Sandbox diplomas awarded to young game creators

Autor / author: redakcija portala Križevci.info / Krizevci.info editorial staff

Foto / photo: Silvija Novosel

Datum / date: 20. 2. 2023.

<https://www.krizevci.info/2023/02/20/foto-svecano-dodijeljene-sandbox-diplome-mladim-kreatorima-racunalnih-igara/>

SANDBOX

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/ Project Retrospective

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Ivan Ivanović

ENGLESKI PRIJEVOD / ENGLISH TRANSLATION
Ivan Ivanović

LEKTURA I KOREKTURA / EDITING AND PROOFREADING
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Udruga P.O.I.N.T., Križevci

✉ kontakt@udruga-point.hr

⊕ udruga-point.hr

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