



8th
International
Academic
Conference on
Places and
Technologies

PROCEEDINGS

EDITORS

**Aleksandra Djukić
Aleksandra Krstić-Furundžić
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Milena Vukmirović**



Keeping up with technologies to imagine and build together sustainable, inclusive, and beautiful cities

PLACES AND TECHNOLOGIES
2023

DIGITAL
PUBLICATION

**8th International Academic
Conference on Places and Technologies**
Belgrade, 19-21 October 2023

Proceedings
DOI: https://doi.org/10.18485/arh_pt.2024.8

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PUBLISHER

**University of Belgrade
Faculty of Architecture**

FOR PUBLISHER

Vladimir Lojanica

DESIGN

Vladimir Kovač

TECHNICAL SUPPORT

**Jelena Marić
Nikola Mitrović
Ana Šabanović**

CIRCULATION

50 copies

PLACE AND DATE

Belgrade, April 2024

ISBN 978-86-7924-343-0

**PLACES AND
+TECHNOLOGIES** ²³



PLACES
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LOGIES
2023

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WORD OF THE CONFERENCE DIRECTOR

_ Aleksandra Djukic

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Belgrade - Faculty of Architecture;
Director of the Conference

This Proceedings from the 8th International Conference Places and Technologies: Keeping up with Technology to act Responsively with Urban Environment, which was held in Belgrade in October 2023, contributes to the discussion about the future of society and places and the role of technology in it and discussions with respect to strategy for responsive quality environment. More than 85 papers from 20 countries were presented during the conference. The organizers of the conference were: University of Belgrade (Faculty of Architecture) and Professional Association Urban Laboratory (UrbanLab). This time we have a joint event with CIRRE conference which contributed with 18 conference papers.

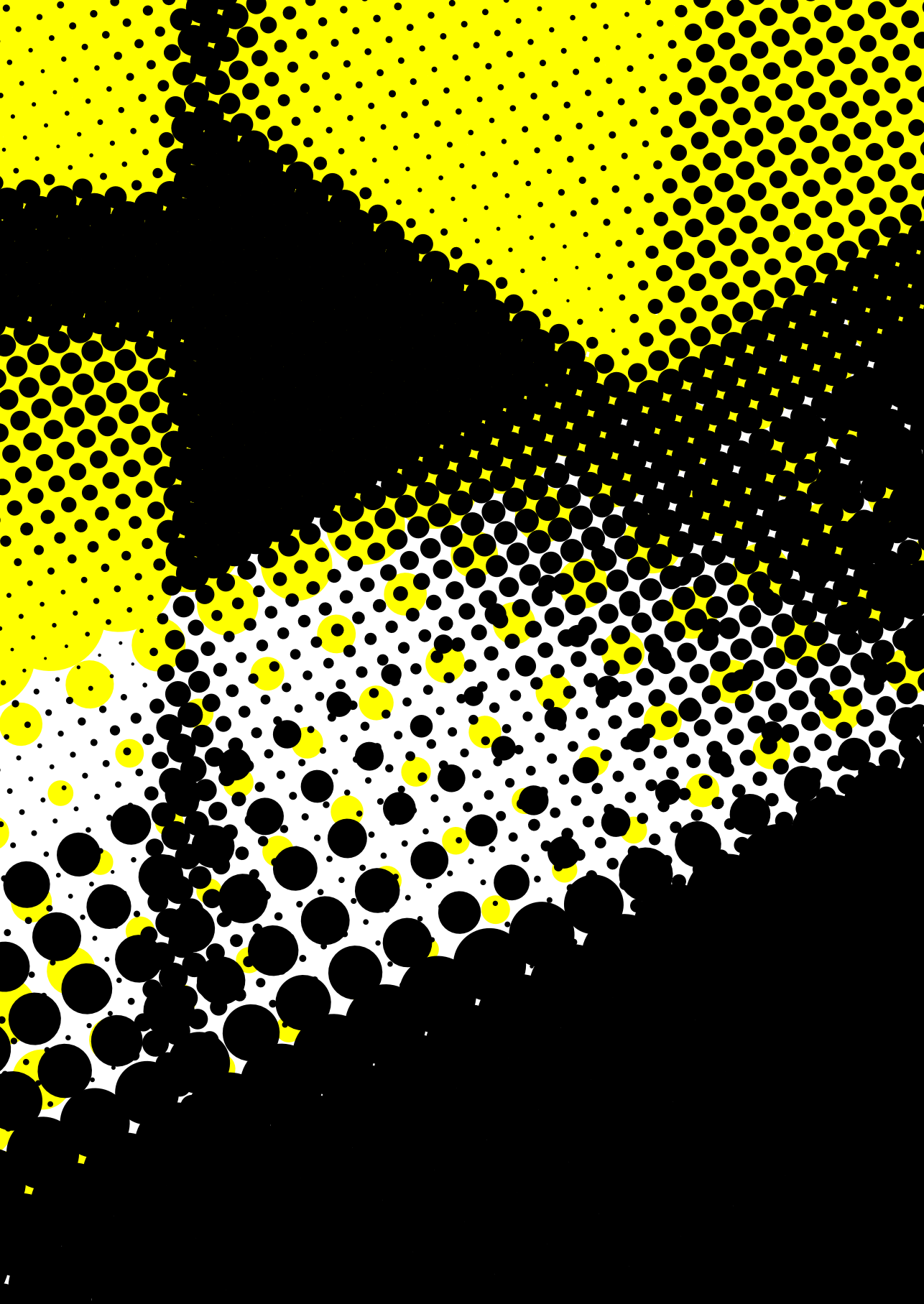
The conference aimed to raise questions about the future of cities and the environment, emphasizing the critical role of technology in designing innovative solutions to enhance urban spaces. It underscored the importance of a multidisciplinary approach, bridging engineering, humanities, and social sciences to address urban challenges effectively. New urban and building concepts predominantly rely on Information and Communication Technologies (ICT) to drive progress and responsiveness to various urban development aspects.

The conference proceedings is divided into seven main parts in correlation with the scale of planning and construction - spatial planning, urban planning, urban design, architectural design, architectural technologies, architectural education and close domains of the place and technologies, focusing on responsive spatial and urban planning, design, architecture, heritage protection, education and technological advancements in architecture. Each section delves into specific topics such as morphology, sustainable construction, cultural heritage, digital technologies, identity, teaching architecture and urban planning and climate resilience.

The event's significance lies in promoting the integration of smart technologies and modern urban concepts for sustainable city development, addressing diverse urban issues through academic research and collaboration. Different problems in the domains of urban design and planning, architectural design, building technologies, urban sociology, ICT, transport and traffic studies, resilience of place, climate change, adaptive reuse, cities and health, landscape architecture, identity, heritage etc. are presented and discussed in more than 80 conference papers made by professors, researchers, and PhD students from all over Europe and the world.

The conference serves as a platform for global researchers to enhance their academic standing, foster research networks, and initiate new scientific endeavors, contributing to the scientific advancement of Serbia and the region.

Places and Technologies conference become traditional international event gathering researchers all around the world and has provided an opportunity for them to advance their positions in the academic hierarchy, to build their research networks and to develop new scientific projects. Presentation and the quality of the papers that are results of new studies, debates and research strengthen our ambition to keep the importance of our conference among many European ones.



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TOWARD THE IDEAS OF THE NEW EUROPEAN BAUHAUS: THE APPLICATION OF THE DIGITAL TOOLS IN THE UNIVERSITY CURRICULA

DOI: https://doi.org/10.18485/arh_pt.2024.8.ch55

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ABSTRACT

The education process in architecture and its allied disciplines represents the foundation for the future design of the built environment. However, in spite of the continuous upgrading of knowledge and experiences, it is often visible that there is a certain lack of awareness regarding the shifting focus of design pedagogy, especially in the university environment. Consequently, the new insights have become a necessity, promoting critical thinking and inquiry, creativity and innovation, research, and investigation. Simultaneously, collaboration, civic engagement and technical competences have become highly valued and promoted as the preferable qualities of contemporary design-related pedagogy.

The project-oriented approach, applied during the master course Sustainable City conducted at the University of Belgrade - Faculty of Architecture, represents one of the examples of the preferred improvements, adjusted to the recently promoted concept of the New European Bauhaus Paper. The curriculum supports students` work, while the final outcome represents the so-called Civil Initiative Project Proposal, targeting different, up-to-date competitions and publicly announced calls. Due to the technological upgrading which allows the use of the online teaching tools, the end results are uploaded into the Teams platform, creating the Civil Initiative Project Proposal Catalog. This specific database provides the possibility for the active involvement in the planning practice, gathering the ideas, knowledge and experiences which might be used in different situations, solving the problems of urban communities.

KEYWORDS _ *Urban Sustainability, University Curricula, Digital Database Catalogue*

INTRODUCTION: THE CREATIVE CIVIC ENGAGEMENT AND THE DESIGN PEDAGOGY IN ARCHITECTURE

Due to the numerous challenges and growing instabilities of the contemporary world, the cities of the 21st century have to be developed, transformed and designed upon the upgraded knowledge and experiences. However, the education process in architecture and its allied disciplines often does not follow the dynamic of social processes and new environmental concepts, even though it should represent one of the key drivers for our future urban sustainability. Therefore, the changes of design pedagogy are necessary in architectural education in order to enable new creative insights and stimuli for critical thinking, research and innovation (Salama, 2016). Consequently, the appearance of a New design pedagogy (mid 1960s - late 1990s), as well as the context of more sustainable urban communities, provided another approach to design tools, techniques, models, and characteristics. The design process generated new methodologies: the case study model, community-based design learning model, participative curriculum model. Additionally, the Critical inquiry and Process-oriented design pedagogy (late 1990s - mid 2010s) were also linked to creative thinking in architecture and design (Salama, 2016). Finally, the problems in urban communities opened new directions in 2020s - Interchangeable design pedagogies, Community based design pedagogy and live project studios, as a recently promoted concept of the New European Bauhaus Paper (NEB, 2021).

The new directions for the pedagogy in architecture forced educators and schools of architecture to adjust to new educational trends, while embracing re-emerging learning philosophies and including new digital technology. Consequently, the current digital tools can facilitate assessment of performative criteria - including daylight, shading, noise, air and water qualities, biodiversity health, comfort, user appreciation, energy, water and waste, as well as the related services (e.g. shared mobility). Maximising opportunities for passive design techniques, their importance has increased. However, the digital tools are still not used coherently, systemically and on a large scale, incorporating and targeting all aspects required by the New European Bauhaus agenda and the Green Deal goals(NEB, 2021).

The project oriented approach, applied during the master course Sustainable City conducted at the University of Belgrade - Faculty of Architecture, represents one of the examples of the preferred improvements, adjusted to the recently promoted concept of the New European Bauhaus Paper. The curriculum supports students` work, while the final outcome represents the so-called Civil Initiative Project Proposal, targeting different, up-to-date competitions and publicly announced calls.

THE CIVIL INITIATIVE PROJECT PROPOSAL: THE DATABASE SUPPORT

Within the sustainable and environmentally conscious educational agenda conducted at the University of Belgrade - Faculty of Architecture, the course Sustainable City addresses the adaptation to a sustainable urban future while enabling students to solve a certain small-scale problem in urban environment. Following the concept of Thomas S. Kuhn on a general "paradigm shift", the students should consider the possibilities for a sustainable growth which would become attractive for a society (Polak, 1973), influencing decisions and successful implementation. In order to achieve this, the project database is used, demonstrating a possible application of the Community-based design pedagogy, adjusted to the recently promoted concept of the New European Bauhaus. This method has been used in many educational institutions, including universities, which continuously respond to leadership requirements by launching different environmental research programs. Consequently, McNamara (2010) conducted a detailed research project at 86 universities in the United States which are implementing databases on sustainability project initiatives. This research ended with a list of recommended strategies and suggested methods for their implementation. Two of them are particularly relevant to this survey: building strong student involvement and engaging more people.

In line with the results of this study, a database support for the project proposals of civil initiatives was established at the course Sustainable City, providing an insight into different, up-to-date competitions and publicly announced calls from different organisations (e.g. A Guide to Potential Funding Sources in Serbia, Belgrade Open School Competition).

THE APPLICATION OF MICROSOFT TEAMS PLATFORM DATABASE IN LAUNCHING CIVIC PROJECT PROPOSALS

Due to the technological upgrading which enabled use of online teaching tools at the course Sustainable City, the students' contributions are uploaded on the Teams platform. They create the Civil Initiative Project Proposal Catalogue. This specific data base provides the possibility for the active involvement in the planning practice, gathering ideas, knowledge and experiences which could be used in different situations, solving the problems of urban communities (Figure 1 and 2)

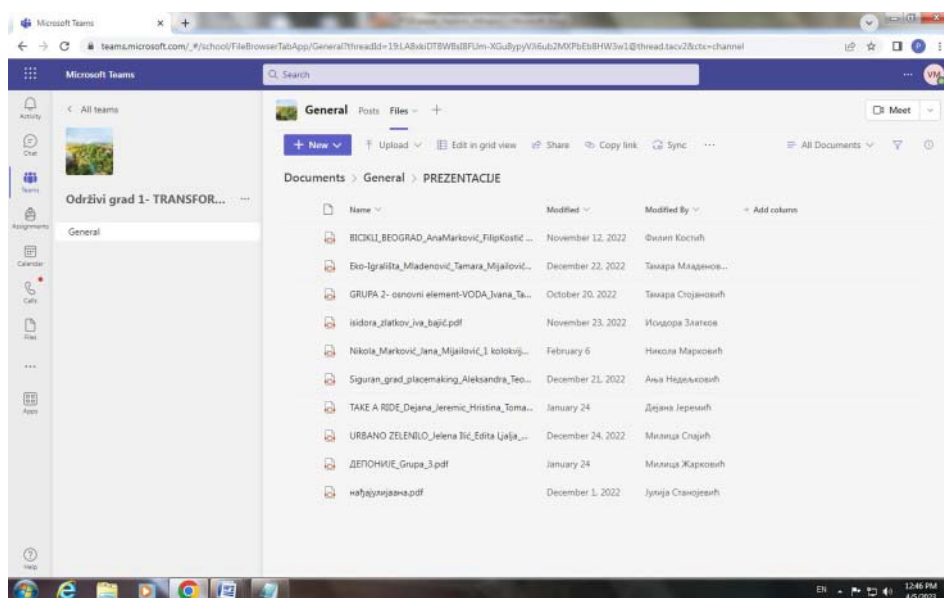


Figure 1: Case Study Database: Students are requested to focus on sustainable urban transformation processes. Through the case studies which they select, a number of specific urban problems related to different aspects of sustainability is identified and described, representing a practical contribution.

After collecting and uploading representative case studies, the final outcome/exam of the course represents a draft of Civic Project Proposal, targeting the themes of public innovations, tactical urbanism, urban revitalisation, adaptation to climate change, business-driven sustainable solutions, etc. Through this phase, students verify their ability for preparing the proposals for various research grants, aiming at the desirable urban transformations. Simultaneously, their solutions should be affordable and achieve a precise ecological purpose (e.g. tree planting, useful resource recycling, waste discount and reuse, urban green infrastructure preservation, defensive green infrastructure, experiencing vegetarianism, business start up programs, etc.) (Figure 3 and 4)



OPŠTE INFORMACIJE O VANUKVERU

Nalazi se u pokrajini Britnska Kolumbija i najveći je grad u zapadnom delu zemlje. Sam grad ima oko 650 000 stanovnika, dok šira regija tzv. Metro Vancouver ima ukupno oko 2.5 miliona stanovnika.

- osnovan 1886. godine kada je transkontinentalna pruga stigla do grada
- iste godine je uništen u velikom požaru
- umerena okeanska klima
- Drugi svetski rat je doprineo obnovi regije (aktiviran pogon proizvodnje korveta i minolovaca)
- Greenpeace je osnovan u Vanukuveru 1972. godine
- Treći u svetu po kriterijumima za najbolji život u gradu
- Deseti u svetu po čistoti
- 35% populacije nije kanadskog porekla
- Slatki park je 10% veći od Central parka u Njujorku (površina parka je 1001a)




6 | PRISTUP PRIRODI

KLJUČNE STRATEGIJE ZA 2020

Napraviti nove i poboljšavati postojeće zelene površine.

Saditi drveće

Fokusirati se na pojedinačne delove grada

Šta treba učiniti kako bi se cilj ostvario

Kreativnost je ključ u dostizanju ovog cilja. Nalaziti prostor za nove parkove je teško i treba se inovativno sprovesti u vidu mera parkova kako bi se osiguralo da svaki stanovnik Vanukuvera ima pristup zelenoj površini.

Plan sadnje stabala se ne može sprovesti isključivo na teritorij grada Vanukuvera već grad mora saradivati sa različitim organizacijama kako bi se sadnje sprovelo na više različitih javnih i privatnih prostora.

Access to green space in Vancouver



Planting an urban forest: a breakdown of where 150,000 new trees will be planted

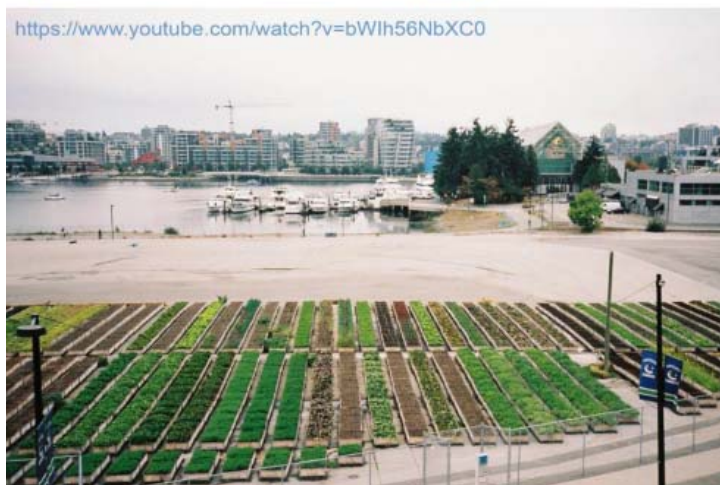
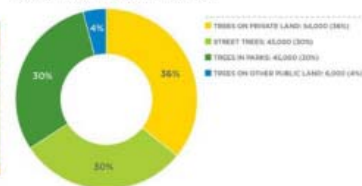


Figure 2: The example of the Vancouver Case study, analysed by students Dunja Putic, Milan Miljkovic and Irena Pavlovic, focusing on accessibility to urban green infrastructure (urban gardening expansion).

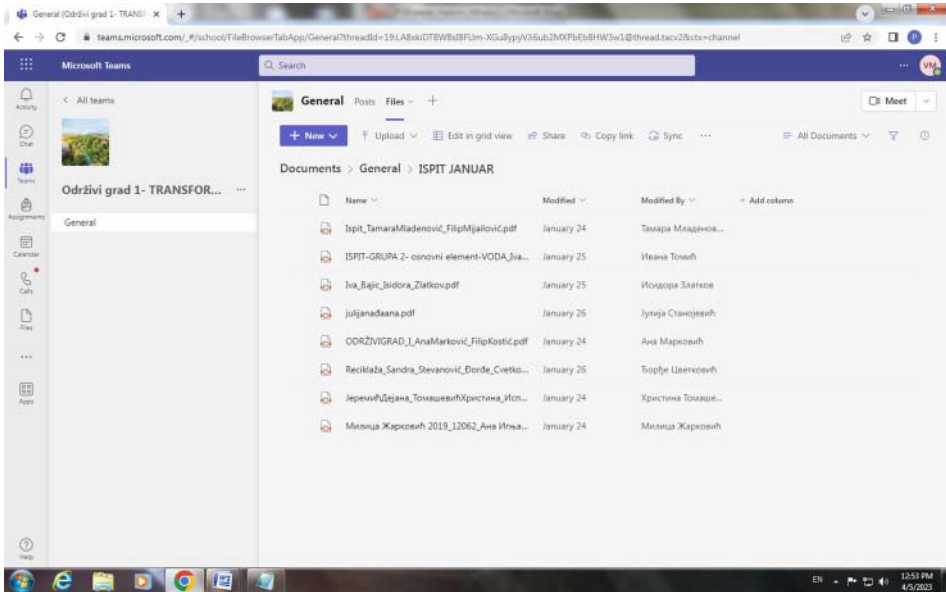


Figure 3: Students’ Project Proposals Database: recommendations for improving the urban environment, tested through a development of small pilot projects.



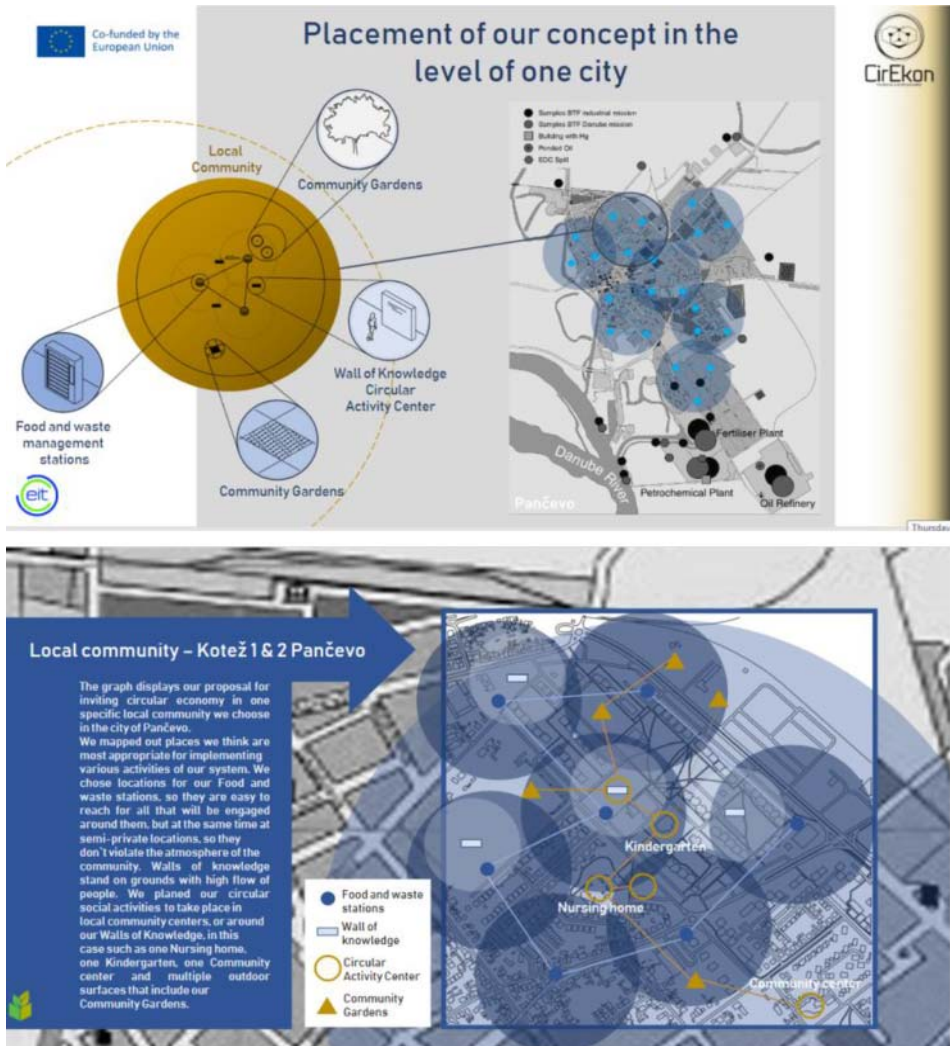


Figure 4: The Project Proposal for improving the sustainability of the urban environment in Pancevo, tested by developing a small pilot project: students Emilija Drndarski and Sara Brkic (The 1st award at the CirEkon and EIT Food Competition for Engaging Citizens in Circular Economy).

RESULTS: THE CHANGE OF ENVIRONMENTAL ATTITUDES AND EXPERIENCE

The specific database described in this paper provides a possibility for active students involvement in the planning practice and it could be used with the Guide Through Potential Sources of Civic Funding, intended for the civil society organisations, local initiatives, individuals and other interested parties. Due to the experiences of collected cases and the variety of themes which they tackle, the database also provides some new possibilities such as:

- an insight into the current competitions and calls, with data and practical instructions on the conditions for applying;
- an insight into the database of international and domestic funding sources, with basic data on the types of support they provide, the areas they support, potential users, geographical area of operation.

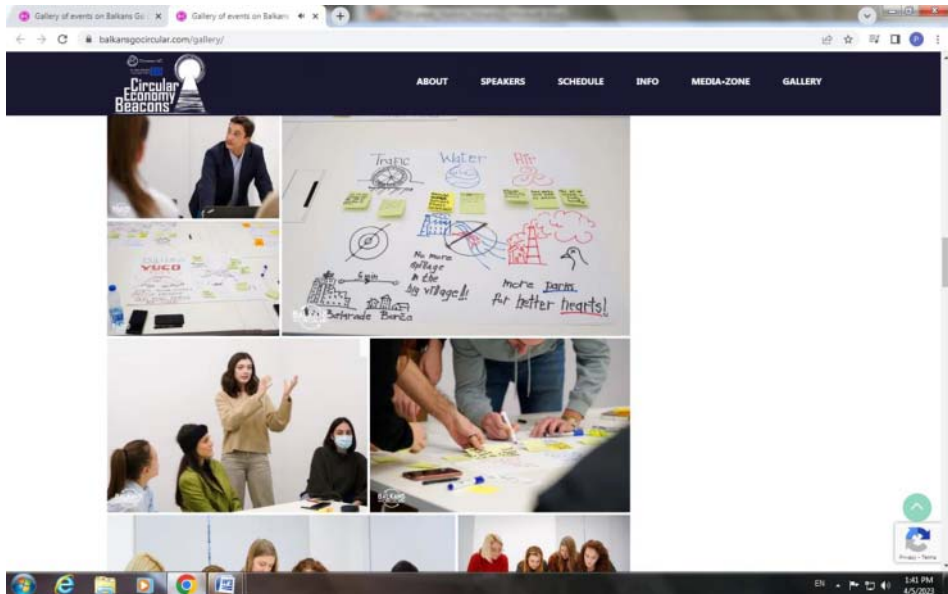


Figure 5: Balkans Go Circular workshop on the Database support to the civil initiative project proposals (December 15th, Serbian Chamber of Commerce, Resavka 15). Organized by EIT Climate KIC and CirEkon d.o.o. The participants were students from the course Sustainable City. <https://circular-beacons.net/wrapping-up-the-year-with-balkans-go-circular-conference/>

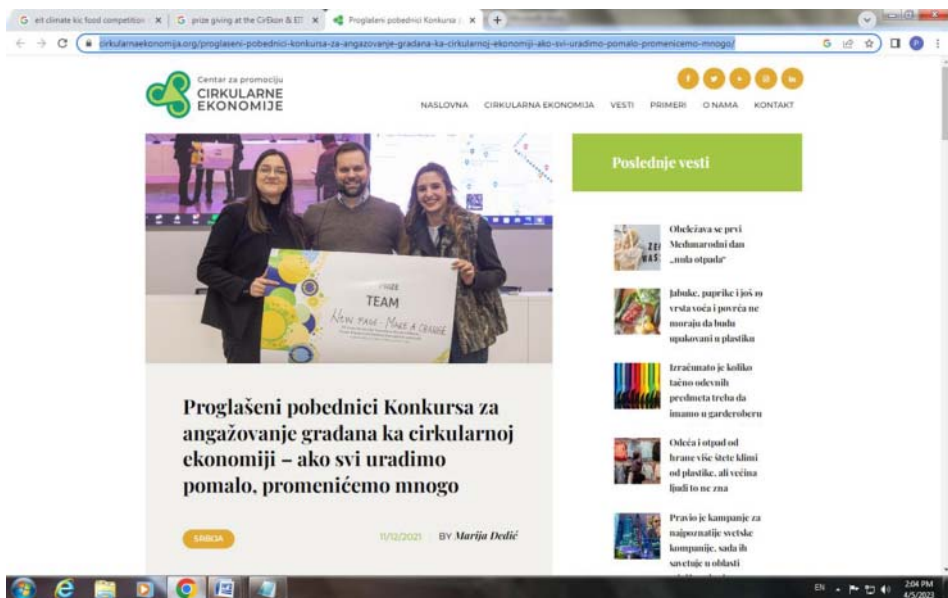


Figure 6: The award ceremony at the CirEkon & EIT Food Competition “Engagement of students towards circular economy” (10.12.2021). The authors of the winning proposal entitled New Page - Make a Change are students Emilija Dndarski and Sara Brkic (supervisor: Associate Professor Dr. Vladimir Mihajlov). <https://cirkularnaekonomija.org/proglaseni-pobednici-konkursa-za-angazovanje-gradana-ka-cirkularnoj-ekonomiji-ako-svi-uradimo-pomalo-promenicemo-mnogo/>

The process ends with Civil Initiative Project Proposal Data established on Teams platform, which provides the possibility of active involvement in practice and solving various problems of social communities in the city.

The course Sustainable city (University of Belgrade - Faculty of Architecture) tends to apply predictive learning and future design approaches to educational interventions in order to study the potential impact of changes in environmental values for the students. Through the examples selected by students, a number of specific urban problems related to different aspects of sustainability are identified and described. Chen and Hoffman (2017) successfully applied experimental and innovative game-based curriculum design to enhance college students' ability to study the urban surrounding. Kelly and Robertson (2007) provided insights in reflexive thinking, journaling and videos as an important educational method.

Civil Initiative Project Proposals Database focus is to provide an insight into the students' desired futures of cities, as well as to discover options and opportunities via linking foresight techniques with the long-term socio-cultural potentials of urban communities. Accordingly, this path turned into a designed academic intervention to assess the results of environmentally shaped and future-oriented thinking, overcoming a gap between different environmental attitudes and ecological behaviors (Stupar, Mihajlov & Simic, 2017).

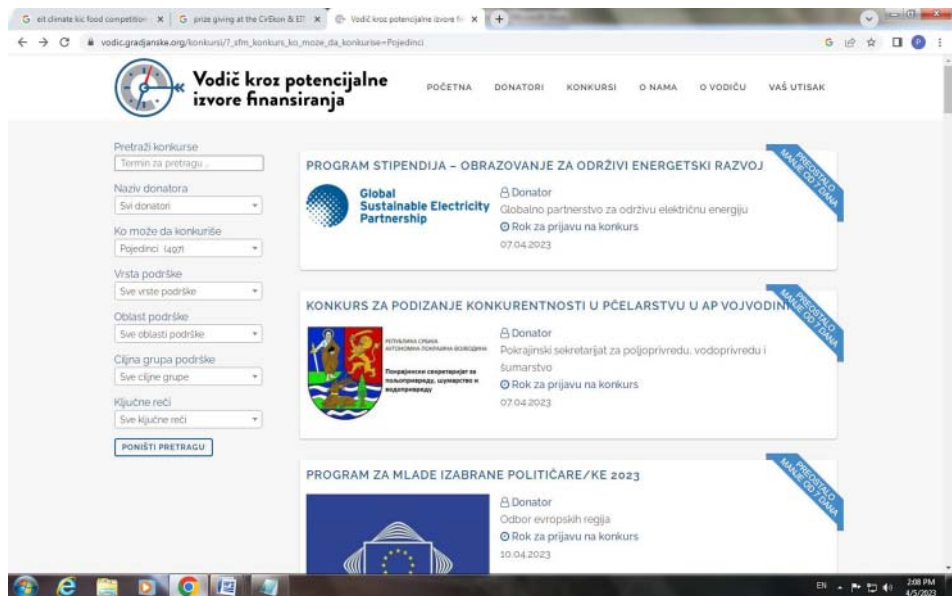


Figure 7: The Guide through the database of the potential sources of civic funding. <https://vodici.gradjanske.org/konkursi/>

CONCLUSION

The application of digital tools in university curricula represents a new channel for transmission of knowledge and experiences, which also enables younger generations to communicate and participate in numerous civic processes. Using the benefits of social media, their role in urban life and processes could be multiplied and developed, while schools and universities could encourage their active engagement in digital civic life. However, the studies related to the relationship of digital citizenship and education are still insufficient, as well as the overall conditions which would support further upgrading of this process.

At the same time, there is a certain ambivalence among teachers and students over the use of social media in fostering digital citizenship (Abad-Segura et al., 2020). Therefore, it is necessary to improve the scope and intensity of learning, targeting various themes and aspects of digital citizenship, while having in mind that this topic represents a diverse and growing phenomena on all levels of education. As a result of these efforts, students could play a significant role in directing the future growth of society through the civic engagement on social media. That might be a unique opportunity for younger generations to express their opinions and concerns about different social, environmental and urban trends and their influence on the sustainability of our future habitats. Consequently, the application of digital tools in creating a solid and informative database on various spatial and social initiatives could contribute to the consensual decision-making process leading to the implementation of the Sustainable Development Goals.

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**CIP - Каталогизacija u publikaciji
Nарodna библиотека Србије, Београд**

711.4.01(082)(0.034.2)
711.4:005.591.6(082)(0.034.2)

INTERNATIONAL Academic Conference on Places
and Technologies (8 ; 2023 ; Beograd)

Keeping up with technologies to imagine and build
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[Elektronski izvor] : proceedings / 8th International
Academic Conference on Places and Technologies,
Belgrade, 2023 ; editors Aleksandra Djukić ... [et al.]. -
Belgrade : University of Belgrade, Faculty of Architecture,
2024 (Belgrade : University of Belgrade, Faculty of
Architecture). - 1 USB (fleš memorija) ; 6 x 2 x 1 cm

Sistemski zahtevi: Nisu navedeni. - Nasl. sa naslovnog
ekrana. - Tiraž 50. - Abstracts. - Bibliografija uz svaki rad.

ISBN 978-86-7924-343-0

1. Đukić, Aleksandra, 1964- [urednik]
a) Градови - Мултидисциплинарни приступ -
Зборници б) Урбанистичко планирање -
Технолошки развој - Зборници

COBISS.SR-ID 143080457