

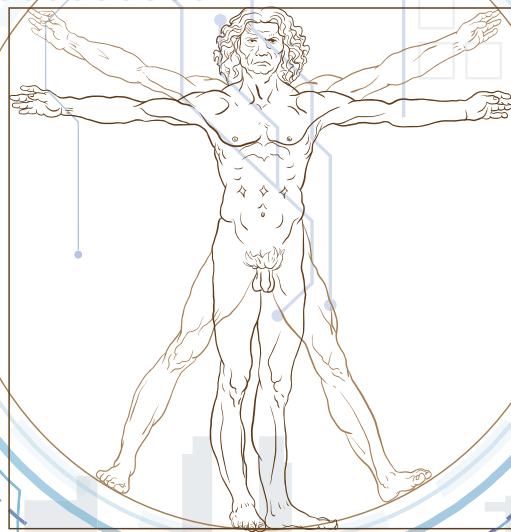


ACADEMY OF ENGINEERING SCIENCES OF SERBIA
UNIVERSITY OF BELGRADE - FACULTY OF GEOGRAPHY

THE e-FUTURE OF CITIES

BETWEEN TEMPTATIONS OF
EXPONENTIAL TECHNOLOGY
GROWTH AND THE CONCEPT
OF HUMAN CITY

EDITOR:
BORISLAV STOJKOV



BELGRADE, 2019

THE INTERNATIONAL SCIENTIFIC CONFERENCE



THE e-FUTURE OF CITIES

BETWEEN TEMPTATIONS OF EXPONENTIAL TECHNOLOGY
GROWTH AND THE CONCEPT OF HUMAN CITY

(THE BOOK OF PROCEEDINGS)

EDITOR:

PROF. DR. BORISLAV STOJKOV

Belgrade 2019

A light gray silhouette of a city skyline with various building shapes and a crane, spanning the width of the page at the bottom.

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of exponential technology growth
and the concept of human city**

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- Institute of Architecture and Urban & Spatial Planning of Serbia,
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International Scientific Conference The e-Future of Cities 2019

Conference Program

October 24, 2019 (Thursday)	
08:00-09:00	Registration
09:00-10:00	Introductory words and Welcome Speech Representatives from Ministries Representative from the City of Belgrade Representative from the University of Belgrade Prof. Dr. Branko Kovačević, President of AES Prof. Dr. Dejan Filipović, Dean of the Faculty of Geography Prof. Dr. Milan Lojanica, Serbian Academy of Science and Arts Prof. Dr. Borislav Stojkov, Conference Coordinator <i>The e-Future of Cities with Uncertain Social Outcomes</i>
10:00-11:30	Keynote lectures I - Chairing: Prof. Dr. Borislav Stojkov Prof. Dr. Dr. h. c. Bernhard Müller, Dr. rer. nat. Paulina Schiappacasse <i>The Intelligent City – Transition Towards a More Environmentally Sustainable, Resilient and Socially Inclusive Urban Development</i> and <i>Planned New Urban Expansion Areas in Europe. The Role of Technological Innovation in Enhancing Living Environments</i> Affiliation: Technische Universität Dresden, Germany Prof. Dr. ir. Arjan van Timmeren <i>Towards Resource-efficient City-region. Integrating Resource Flows and Mobilities</i> Affiliation: Amsterdam Institute for Metropolitan Solutions, TU Delft, Netherlands Prof. Dr. Rudolf Giffinger <i>Smart City: Requirements for Sustainable Urban Development</i> Affiliation: Centre of Urban and Regional Studies, Institute of Spatial Planning, TU Wien, Austria Prof. Dr. Petar B. Petrović <i>Smart Urban Manufacturing: A Systemic Frame work for Navigating Transition Process</i> Affiliation: University of Belgrade - Faculty of Mechanical Engineering, Serbia <i>Discussion</i>
11:30-11:45	<i>Coffee Break</i>
11:45-13:15	Keynote lectures II - Chairing: Prof. Dr. Borislav Stojkov Prof. Dr. Maroš Finka <i>Cities as Innovation Hubs – Challenge for Planning</i> Affiliation: Spectra Centre of Excellence EU, Slovak University of Technology in Bratislava, Slovakia Prof. Dr. Biljana Stojanović <i>Challenges in Materials and New Technologies for Buildings in Humane Cities</i> Affiliation: Academy of Engineering Sciences of Serbia, Serbia MSc Om Prakash Mathur <i>India's Urban Transition</i> Affiliation: Institute of Social Sciences, India Adj. Prof. Dr. Dushko Bogunovich <i>Smart Resilience: Decentralizing Infrastructure and Intelligence in the Auckland City-Region</i> Affiliation: School of Architecture and Planning, Auckland University, New Zealand <i>Discussion</i>
13:15-14:30	<i>Lunch Break</i>



14:30-16:00	<p>Plenary session I - Exponential Technology Growth and City Development in the Future</p> <p>Chairing: Prof. Dr. Petar Petrović and Prof. Dr. Arjan van Timmeren Prof. Dr. Andreja Cirman, Nataša Pichler-Milanović, Ass. Prof. Dr. Melita Balas Rant <i>Defining Economic Potentials of Slovenian Urban Areas for Future Urban Policies</i> Affiliation: University of Ljubljana, Faculty of Economics, Slovenia</p> <p>Prof. Dr. Vuk Bogdanović <i>The Role of Smart Mobility in Increasing the City Humane Values</i> Affiliation: University of Novi Sad, Faculty of Technical Sciences, Novi Sad, Serbia</p> <p>Dipl.ing. Dunja Kovári-Binggeli, Dr. Thomas Kovári, MSc. Dominique Erdin, MSc. Angela Wiest <i>Between Digitalization and Om-Line – New approaches for the Post-digital City</i> Affiliation: sa_partners, Switzerland</p> <p>Assoc. Prof. Dr. Aleksandra Stupar, Aleksandar Grujičić <i>Challenging Urban Chimera: Digital Stories from the City Multiverse</i> Affiliation: University of Belgrade - Faculty of Architecture, Serbia</p> <p>Santiago Sanchez Guzman <i>Drones, 3D Models and the Digital City: Exploring Digital Technology Tools and Methods in Future Urban Planning</i> Affiliation: Department of Spatial Planning, Centre of Regional Science, TU Wien, Austria</p> <p>Dr. Giulia Mura, Dr. Monica Bernardi, Ass. Prof. Nunzia Borrelli, Assoc. Prof. Davide Diamantini <i>Food 4.0: Food Sharing as a Smart Approach to Urban Food Policies. A Longitudinal Key Study in Milan</i> Affiliation: Università degli Studi di Milano Bicocca, Italy</p> <p>Dr. Milan Dimkić¹, Dr. Srđan Kovačević², Aleksandar Čalenić¹, Jelena Zarić¹, David Mitrinović¹ <i>City Development vs. Alluvial Groundwater Sources in the Future: The Belgrade Example</i> Affiliation: Jaroslav Černi Water Institute, Belgrade, Serbia¹; University of Novi Sad, Faculty of Technical Sciences², Novi Sad, Serbia</p> <p>Dr. Slavka Zeković <i>The New Industrial Policy of Serbia and Possible Consequences on Urban Development</i> Affiliation: Institute of Architecture and Urban & Spatial Planning of Serbia, Serbia</p> <p><i>Discussion</i></p>
16:00-16:15	<p><i>Short Break</i></p>
16:15-17:30	<p>Plenary session II - Smart City and Opportunity of the Sustainable City</p> <p>Chairing: Prof. Dr. Rudolf Giffinger and Prof. Dr. Dr. h.c. Bernhard Müller Assoc. Prof. Dr. Seda H. Bostanci, Assoc. Prof. Dr. Suat Çabuk, Assoc. Prof. Dr. Adem Erdem Erbaş <i>Renewable Energy Projects for the University Campuses in Turkey</i> Affiliation: Tekirdağ Namık Kemal University, Faculty of Economics and Administrative Sciences, Department of Political Science and Public Administration Department of Urban and Regional Planning, Turkey</p> <p>Dr. Siniša Trkulja, Dr. Dejan S. Djordjević <i>Cultural Diversity in Smart City Development</i> Affiliation: Ministry of Construction, Transport and Infrastructure, Serbia</p> <p>Univ. Ass. MSc. Zhang Yanli <i>A Review of the Smart Sustainable Cities Research in China</i> Affiliation: Department of Spatial Planning, Centre of Regional Science, TU Wien, Austria</p> <p>Sila Ceren Varış, Dr. Milan Husár <i>Practice Makes Smarter? A Focus on Turkish and Slovak Smart City Practices</i> Affiliation: Kütahya Dumlupınar University in Kütahya, Turkey; Spectra Centre of Excellence of the EU, Slovak University of Technology in Bratislava, Slovakia</p> <p>B.Sc. Arch. Dušan Miladinović, Dr. Biljana Vrbaški, B.A. Soc. Bojana Kulačin, B.Sc. C.E. Olja Tolmač <i>Following the Path Towards the Intelligent City - The Example of the City of Novi Sad</i> Affiliation: "URBAN CENTRE" Urban Planning, Development and Research Centre Novi Sad, Serbia</p>



	<p>Prof. Dr. Snežana Đorđević <i>Smart Policies and Innovative Services</i> Affiliation: University of Belgrade - Faculty of Political Sciences, Serbia <i>Discussion</i></p>
17:30-18:15	<p>Presentation of Student Posters <i>Smart Belgrade: Tradition vs. Innovation</i> Organizing: Assoc. Prof. Dr. Aleksandra Stupar, Assist. Prof. Dr. Ivan Simić and MSc Aleksandar Grujičić Affiliation: University of Belgrade – Faculty of Architecture</p> <ul style="list-style-type: none"> • <i>BIGZ Smart Cube</i> Marija Mićanović, Dubravka Lukić, Neda Stojanović, Marija Nikić and Stefan Stanić • <i>LocalShare: Block 62</i> Uroš Majstorović, Dušan Međedović, Jovana Ropčević, Mladen Ostojić and Jovana Vasić • <i>Clear Connection</i> Danijela Mirković, Marija Joksimović, Ivana Maksimović, Stefan Miletić and Petar Djordjević • <i>Smart Natural Conservation: IoT Island</i> Marko Prodić, Marko Stanković, Vladimir Nedeljković, Boris Stojanov and Milica Videnović • <i>Smart Sava: ESPSystem</i> Olja Popović, Kristina Simić, Mihailo Grujić, Ilija Nikolić and Bojan Stojiljković • <i>Reconnection with nature: Block 45 City Park</i> Isidora Jovanov, Nina Jovanović, Olivera Zafirović, Pavle Kovačević and Nikola Dimitriev • <i>New Network of Drinking Fountains: Thirst App</i> Nikola Mitrović, Vera Krsmanović, Jelena Vlaović, Maja Radonjić and Aleksandar Milanov • <i>Power and Light – Future City Power Station</i> Nevena Jeremić, Jovana Ćorković, Jelena Đurđević, Konstantin Ninković <p><i>Environment Through the Living Practice in Belgrade</i> Organizing: Assist. Prof. Dr. Jelisaveta Petrović Affiliation: University of Belgrade – Faculty of Philosophy</p> <ul style="list-style-type: none"> • <i>Environmental History of Belgrade (1980-2019)</i> Bogdan Spirić and Nevena Ivanović • <i>Information and Recycling Behavior in Belgrade: The Case of Voždovac Municipality</i> Milica Stević and Milica Marinković <p><i>Discussion</i></p> <p style="text-align: right;"><i>* The posters will be displayed in the Conference Venue Hall</i></p>
20:00	<p><i>Gala Dinner – optional*</i> "Restaurant Rooftop", Hotel 88 Rooms Takovska Street No. 49, 11000 Belgrade</p>

** Price for Gala dinner is 25 EUR (2900 RSD) and can be paid at registration.*

October 25, 2019 (Friday)	
09:00-11:15	<p>Keynote lectures III - Chairing: Prof. Dr. Velimir Šećerov Assoc. Prof. Dr. Thomas Dillinger, BSc. Ing. Isaak Granzer <i>Regional Principles for a Future-Orientated Planning and Building Culture by Case of Römerland Carnuntum in Lower Austria</i> Affiliation: Institute for Spatial Planning, Research Unit of Regional Planning and Regional Development, TU Wien, Austria</p> <p>Ing. Arch. Michal Hajduk, Assoc. Prof. Dr. Matej Jaššo <i>Role of Social Media Concerning Public Participation and Promotion of City Identity</i> Affiliation: Department of Spatial Planning, Institute of Management, and SPECTRA, Centre of Excellence EU, Slovak University of Technology in Bratislava, Slovakia</p>



	<p>Prof. Dr. Mina Petrović <i>Smart City and its Social Implications</i> Affiliation: Faculty of Philosophy, University of Belgrade, Serbia</p> <p>Prof. Dr. Miodrag Mesarović <i>Technological Challenges and Risks for the e-Future of Cities</i> Affiliation: Academy of Engineering Sciences of Serbia</p> <p>Assoc. Prof. Dr. Dejan Drajić <i>Towards a New Concept of Public Administration on Citizen Co-Created Mobile Urban Services</i> Affiliation: School of Electrical Engineering, Senior Researcher DunavNET, Serbia</p> <p>Dr. Mila Pucar <i>Impact of Climate Change and New Technologies on Development of Cities in the Future – Threats or Opportunities</i> Affiliation: Academy of Engineering Sciences of Serbia, Serbia</p> <p><i>Discussion</i></p>
11:15-11:35	<i>Coffee & Snack Break</i>
11:35-12:45	<p>Plenary session III – Social Aspects of New Technologies in Cities of Future</p> <p>Chairing: Assoc. Prof. Dr. Matej Jaššo and Prof. Dr. Mina Petrović</p> <p>Assoc. Prof. Dr. Svetlana Stanarević <i>New Technology as a Challenge to Security and Safety in Cities</i> Affiliation: Faculty of Security Studies, University of Belgrade, Serbia</p> <p>Dr. Marijana Pantić, Dr. Jelena Živanović Miljković, MSc Aleksandra Gajić <i>Demographic Change as Opportunity or Constraint for Technological Development and Economic Growth in Cities of Serbia</i> Affiliation: Institute of Architecture and Urban & Spatial Planning of Serbia, Serbia</p> <p>Dipl. Ing. Arch. Aleksa Ciganović <i>Developmental Trauma in the Architecture of Beliefs: Futurism of the Past from Millennium Origins of Belgrade Urban Planning</i> Affiliation: Institute for the Protection of Cultural Monuments, Serbia</p> <p>Branislava Simić <i>Transformation of the Urban Morphology Under the Influence of the New Technologies</i> Affiliation: Institute of Architecture and Urban & Spatial Planning of Serbia, Serbia</p> <p>MSc Miodrag Ferenčak <i>Genesis of Urbo-Morphology in the Future: Some Choices for the Cities in Organized Global Societies</i> Affiliation: Bureau Cube Partners, Belgrade, Serbia</p> <p>Prof. Dr. Jerry Kolo <i>Humanopolis: A Model of Future Cities</i> Affiliation: American University of Sharjah, Master of Urban Planning Program, Sharjah, UAE</p> <p><i>Discussion</i></p>
12:45-13:00	<i>Short Break</i>
13:00-13:30	Chairmen Reports and Conclusions – Closing of the Conference
14:55-17:30	<p>Field trip – “Discover Belgrade”*</p> <p><i>Starting point – Trg Nikole Pašića 3, Belgrade 11000</i></p>

* The departure is at 15:00h.

Smart Belgrade: Tradition vs. Innovation

New network of drinking fountains: Thirst App

The Thirst App should offer medical (reminder and control of daily drinking water), cultural and historical aspects (city-level tourist routes, as well as information on historical sites). The routes are named according to the parts of the city it passes. The analysis shows that the drinking fountains are missing in the new part as well as in the central parts of Belgrade. Therefore, a new network of drinking fountains has been made to form a part of a mobile urban furniture in public space - with a large number of users of this application, a drinking fountain emerges from the color-changing tile that supplies new users with filtered water of rainwater or snow.

keywords: public space, route, drinking fountain, app, urban mobiliar, network

UNIVERSITY OF BELGRADE - FACULTY OF ARCHITECTURE I

CONTEMPORARY URBAN PHENOMENA I

SUPERVISORS:

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Ivan Simić, PhD, Assistant Professor;

Aleksandar Grujičić, Teaching Assistant I

STUDENTS:

Nikola Mitrović 2015/12009

Vera Krsmanović 2014/12056

Jelena Vlaović 2016/12068

Maja Radonjić 2018/21141

Aleksandar Milanov 2018/21115

Smart Belgrade: Tradition vs. Innovation

New network of drinking fountains:

THIRST app

#public space #route

- #thirst
- #drinking fountain
- #urban mobiliar
- #app
- #network
- #popup

text diagram

collectively - individually
network system
water flow - information flow
gathering place -
reading data - sharing
resources

The Thirst App should offer medical (reminder and control of daily drinking water), cultural and historical aspects (city-level tourist routes, as well as information on historical sites). The routes are named according to the parts of the city it passes. The analysis shows that the drinking fountains are missing in the new part as well as in the central parts of Belgrade. Therefore, a new network of drinking fountains has been made to form a part of a mobile urban furniture in public space - with a large number of users of this application, a drinking fountain emerges from the color-changing tile that supplies new users with filtered water of rainwater or snow.

map of new network and city routes



Thirst App - user interface

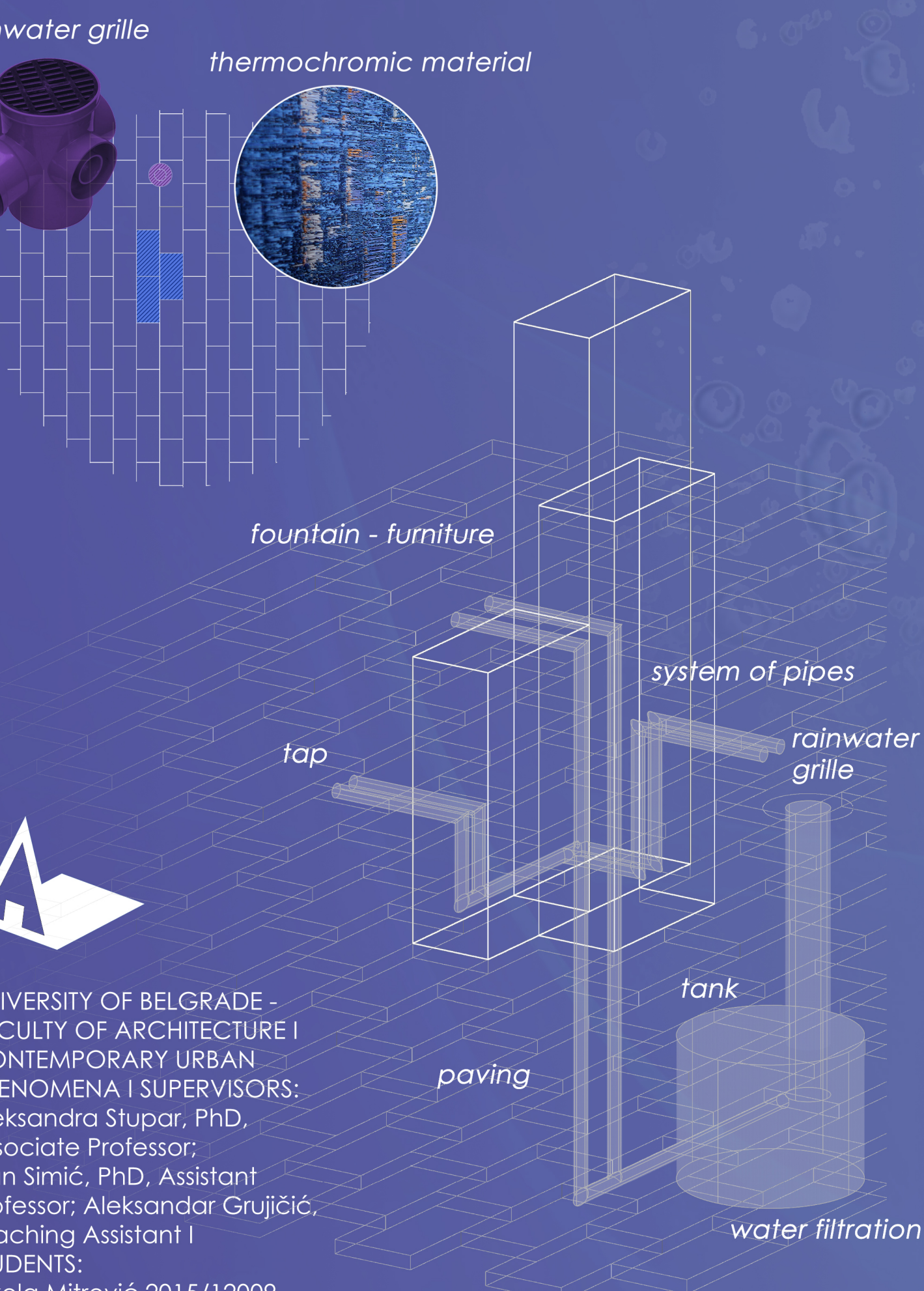


percentage of water drunk / network of other users

provides map with new routes to new fountains and historic places

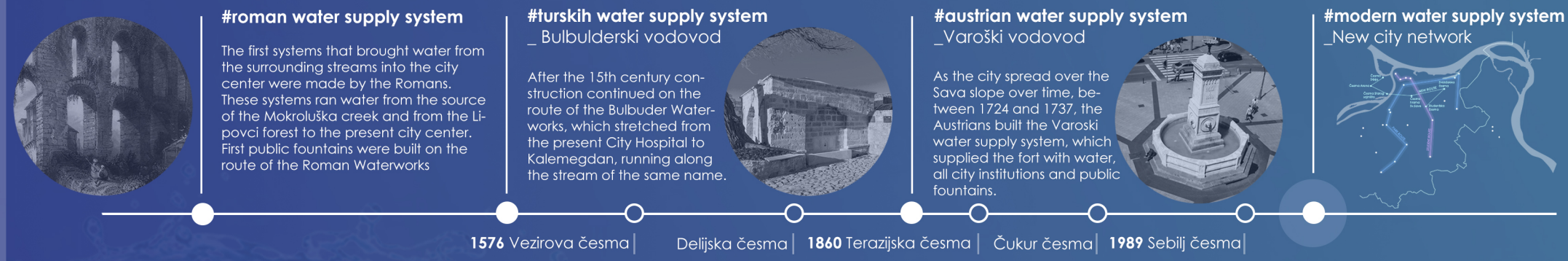
historical facts of drinking fountains for tourists and other users

diagram of paving and fountain position



axonometry diagram of water supply system

UNIVERSITY OF BELGRADE -
FACULTY OF ARCHITECTURE I
CONTEMPORARY URBAN
PHENOMENA I SUPERVISORS:
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Associate Professor;
Ivan Šimić, PhD, Assistant
Professor; Aleksandar Grujičić,
Teaching Assistant I
STUDENTS:
Nikola Mitrović 2015/12009
Vera Krsmanović 2014/12056
Jelena Vlaović 2016/12068
Maja Radonjić 2018/21141
Aleksandar Milanov 2018/21115



historical timeline

concept diagram



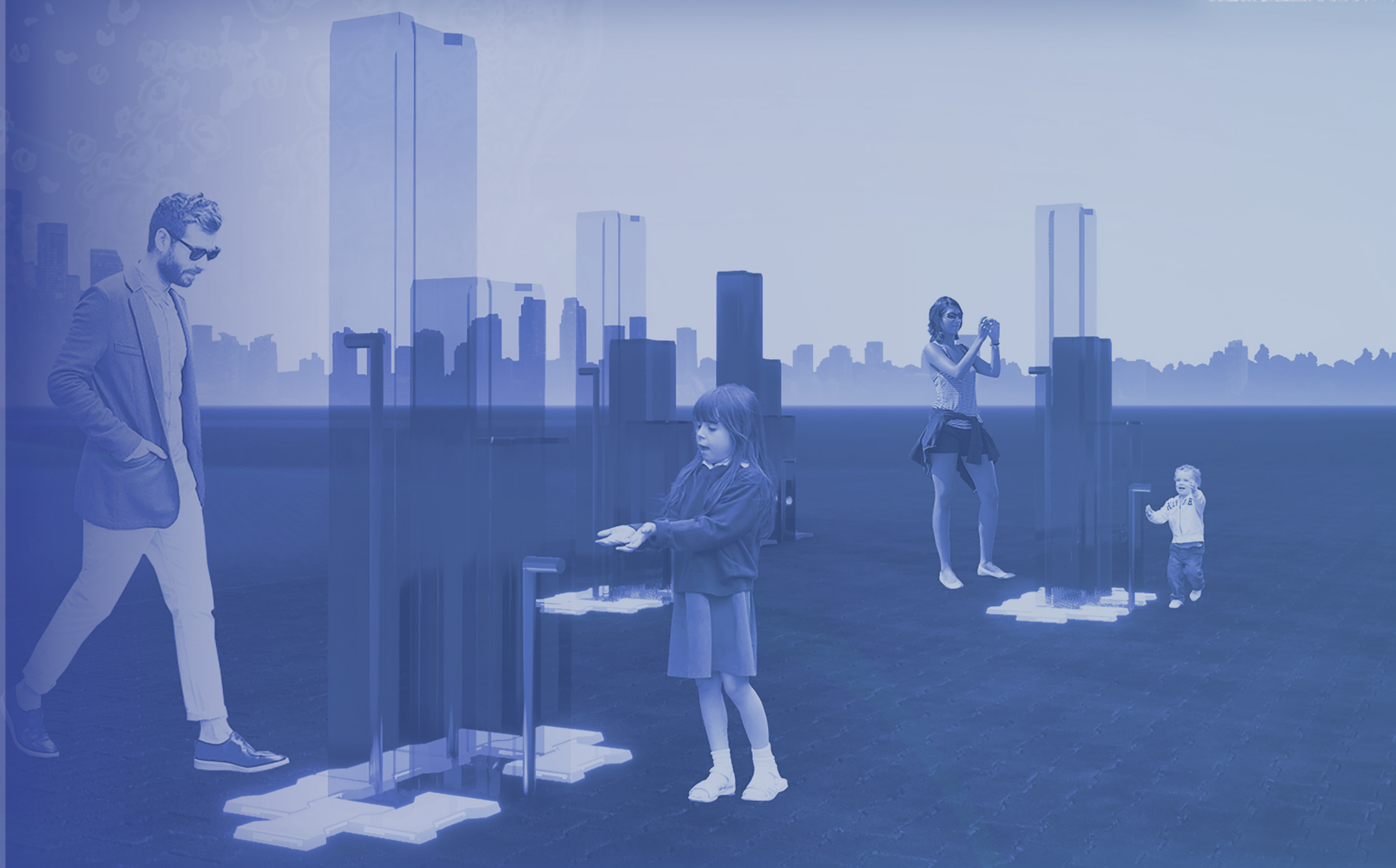
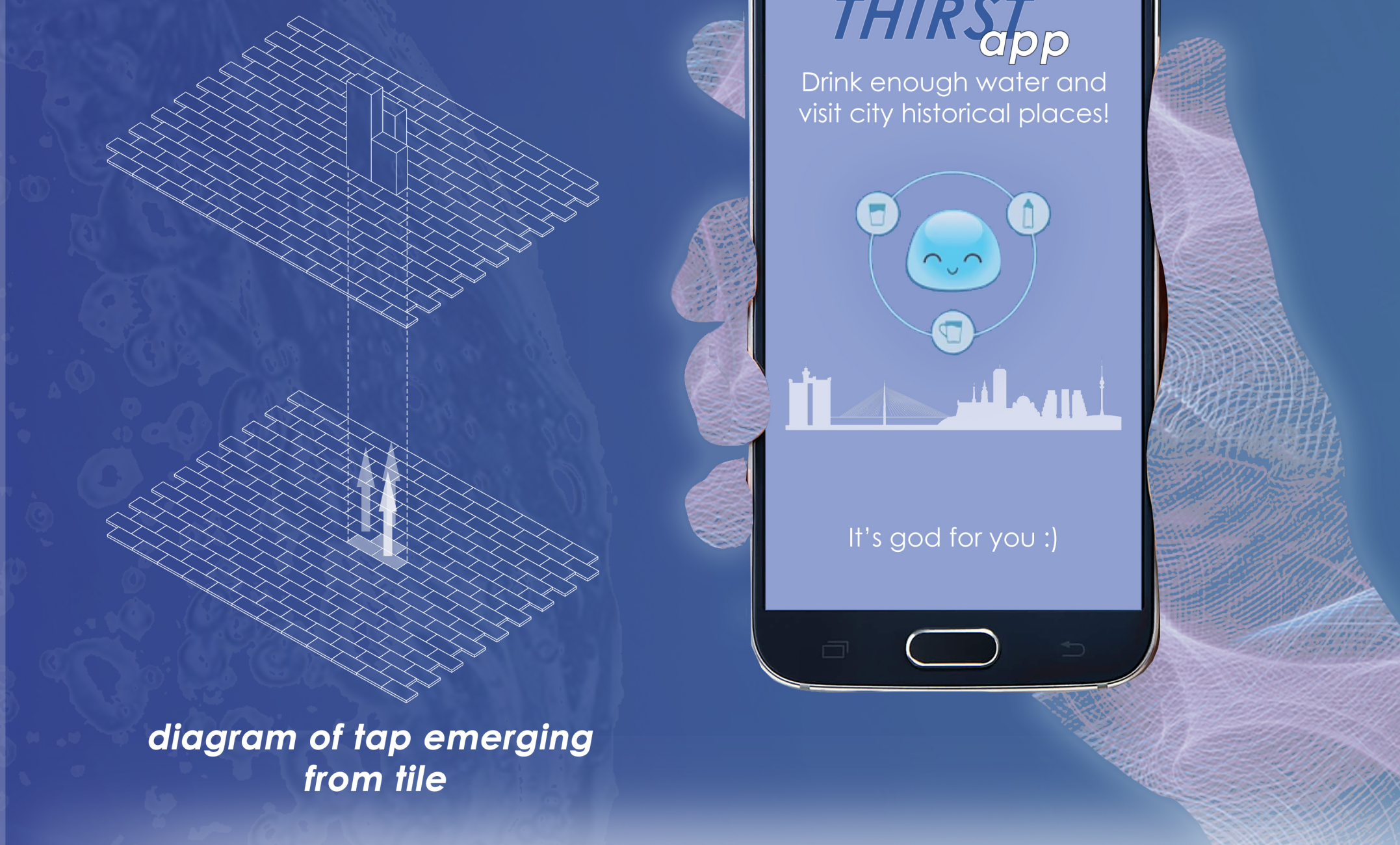
lack of drinking fountains in some part of the city

make NEW network system as mobile urban furniture in public space

problem solution

information flow & city routes in Thirst App

innovation (smart)



Presented Posters

Smart Belgrade: Tradition vs. Innovation

Supervision: Assoc. Prof. Dr. Aleksandra Stupar, Assist. Prof. Dr. Ivan Simić and MSc Aleksandar Grujičić / University of Belgrade – Faculty of Architecture



New Network of Drinking Fountains: Thirst App

Nikola Mitrović, Vera Kršmanović, Jelena Vlaović, Maja Radonjić and Aleksandar Milanov / University of Belgrade - Faculty of Architecture

