



QU
LAB

Quality of Urban Life
Laboratory



Saint-Petersburg
2019

A white L-shaped graphic element consisting of a vertical line on the left and a horizontal line on the top, framing the text on the right side.

QULLAB studies quality of urban life and urban environment, analyses citizens' emotions, values, needs and behavior, integrates sociological methods and geolocated digital data analysis, develops new digital instruments to generate 'soft' urban data.

Comprehensive approach to transformation of urban space



Actual data collection and analysis



Development of software and web interface focused on urban space



Architectural and planning solutions based on multilateral analysis



Participatory planning and education

Imprecity - study of emotions in the city

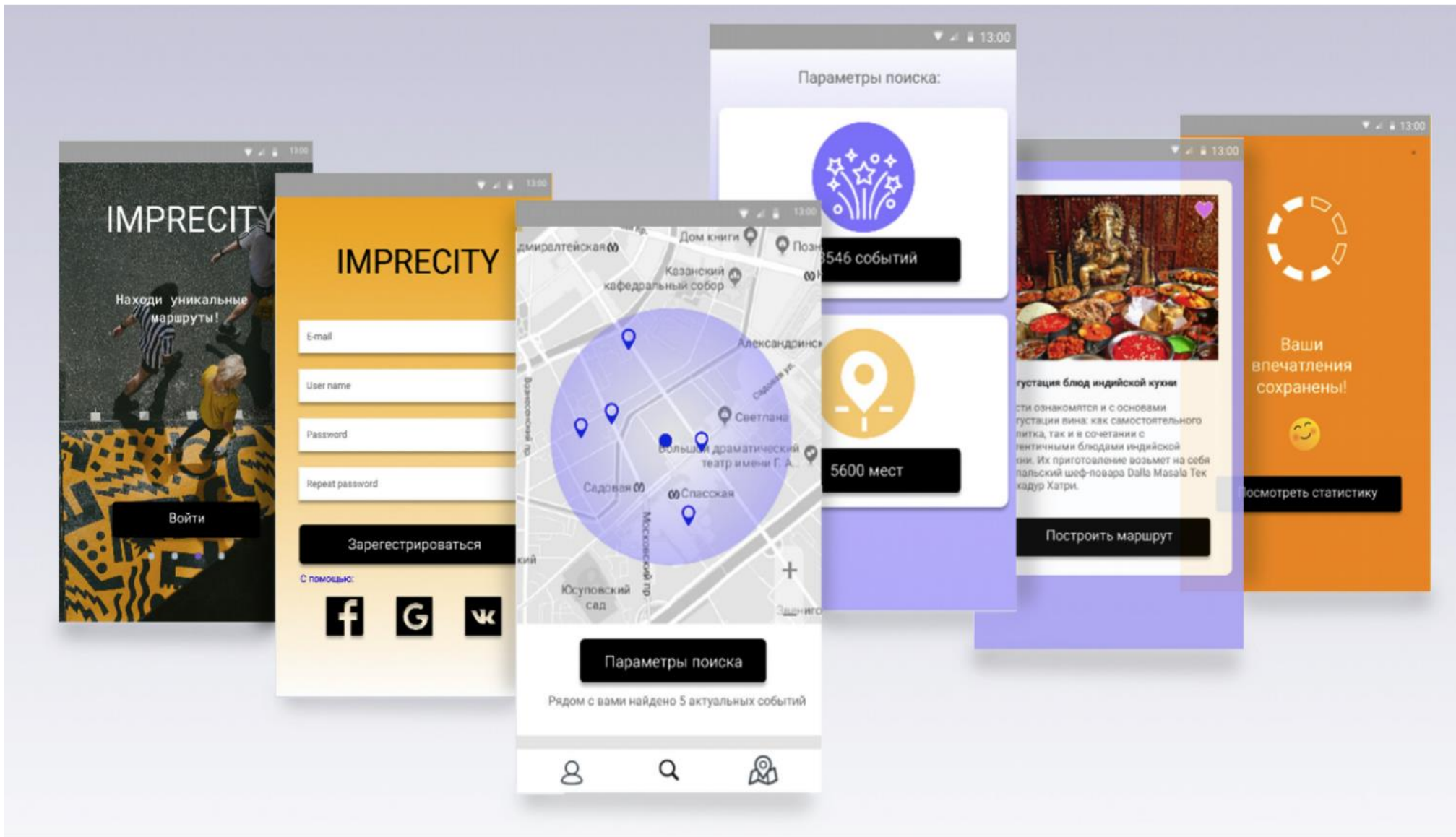


User interface (web version imprecity.ru)

Imprecity desktop version is an interactive map where residents and guests of St. Petersburg can share their emotions about public spaces - streets, parks, squares, or embankments. Based on these data maps of urban emotions, emotional ratings of places, and emotional routes are created. Imprecity mobile application (now in the pipeline) will provide recommendations on urban places and events.

Imprecity is launched as a part of the state program “Smart Saint-Petersburg” supported by the city government. Analysis of emotional perception of the urban space is employed as a basis for improving public spaces.

Nenko, A., Petrova, M. (2018) Emotional Geography of St.Petersburg: Detecting Emotional Perception of the City Space // Proceedings of the 2018 DTGS conference, CICS Series by Axel Springer Verlag



Defining vernacular areas of the city: SPb Livehoods



Distribution areas of citizens' activity in St Petersburg based on Google Places

The study on vernacular areas of habitation in the city has been based on analysis of user-generated urban data: geolocated check ins in cafes, bars, shops, etc. The venues have been considered socially similar if they shared users. Spatial proximity and social similarity have been measured for the urban venues in order to provide clustering patterns in urban space. The results of clustering algorithm have been validated by analysis of pedestrian accessibility, physical borders, and sociological interviews employing mental mapping technique. Socio-economic and functional parameters of the areas



have been defined.

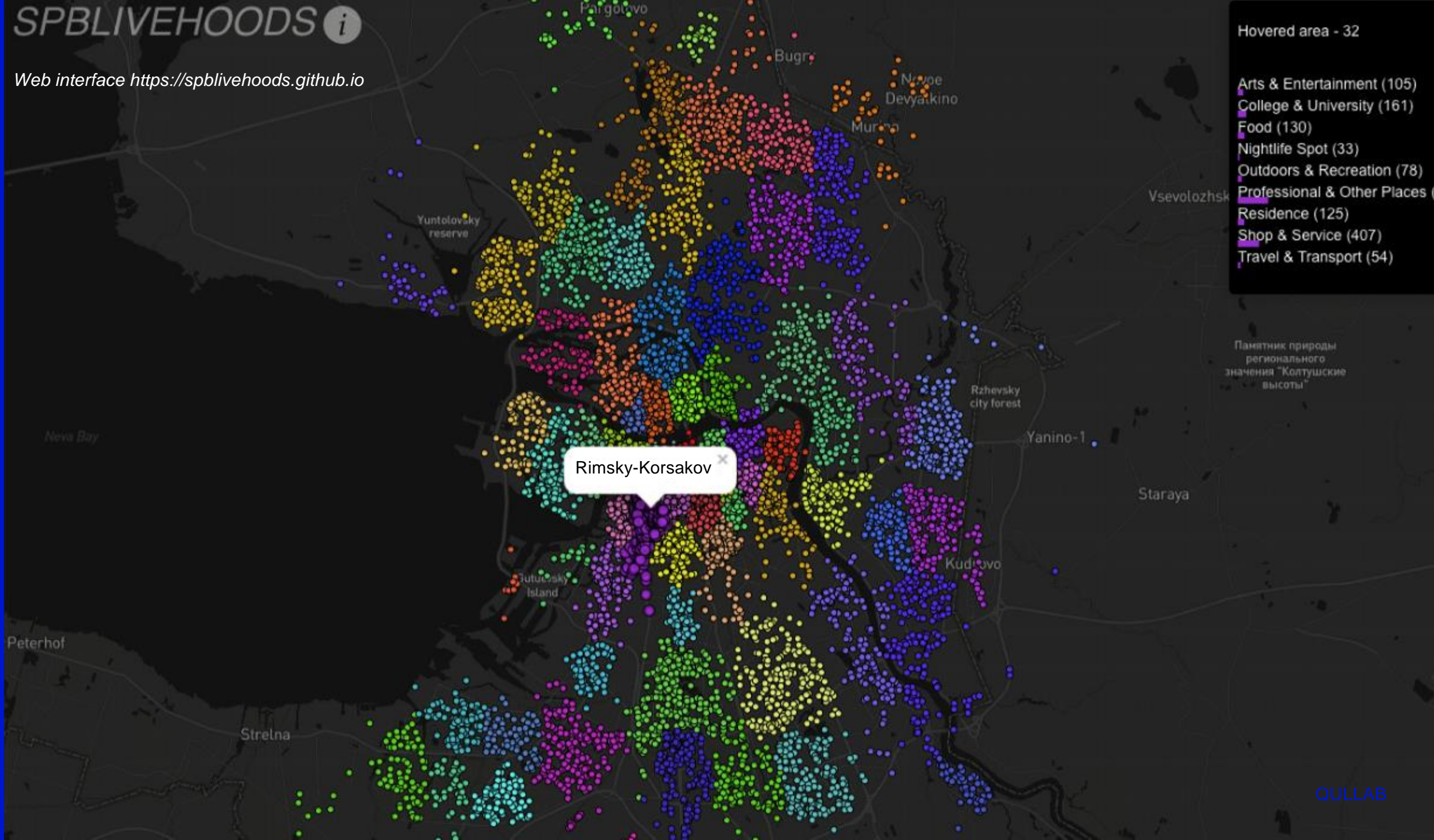
The diverse sources of data have been used in the study, namely: VKontakte, foursquare, 2GIS, field work sociological research.

Online interactive platform demonstrating St.Petersburg vernacular areas can be found at: <https://spblivehoods.github.io/>
Konyukhov, A., Nenko, A., Petrova, M. (2018) Areas of Habitation in the City: Spatial Analysis of St.Petersburg Based on Social Media Data

Hovered area - 32

- Arts & Entertainment (105)
- College & University (161)
- Food (130)
- Nightlife Spot (33)
- Outdoors & Recreation (78)
- Professional & Other Places (5)
- Residence (125)
- Shop & Service (407)
- Travel & Transport (54)

Algorithm



Geoinformation public participation system Mapsurvey

The system is designed to provide online polls on the map. The system implements the functions of survey design, web interface for conducting surveys (collecting answers from respondents), and downloading poll results. The main function of the system is the formation of questions, the answers to which are cartographic data provided by users (points, lines, polygons). Questionnaire editing mode allows you to create, customize and publish polls. The interface provides the possibility to collect and generalize answers, including geo-referenced geometries. Data can be downloaded from the system as geojson or csv files.

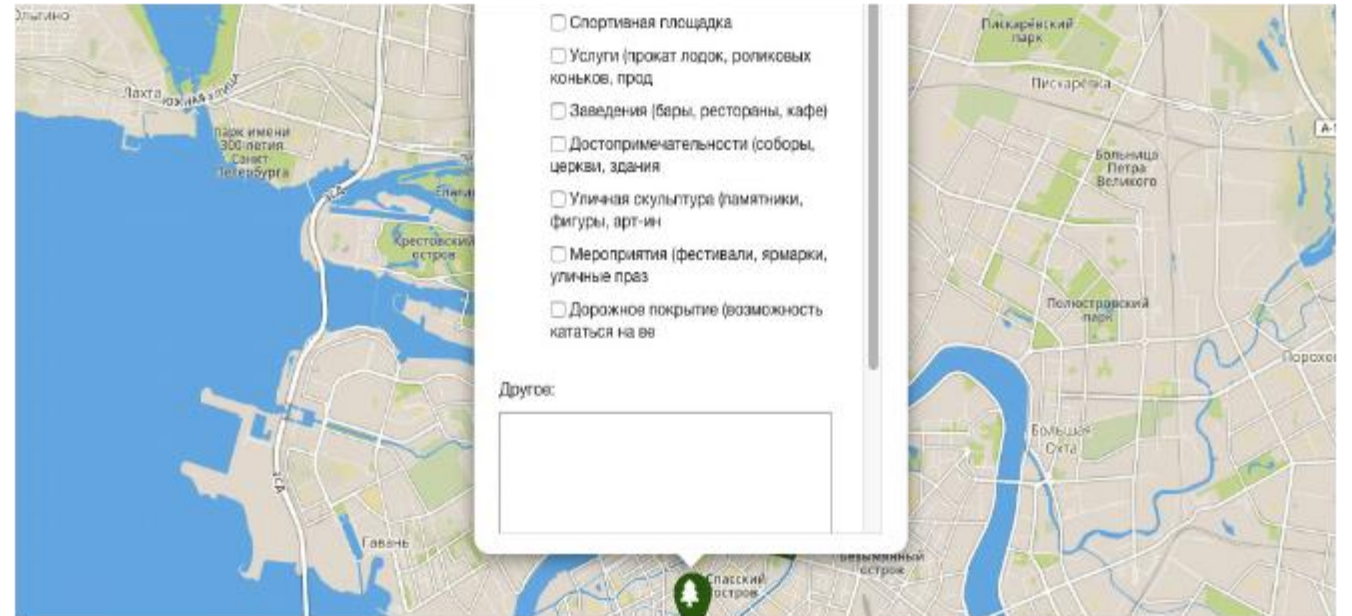
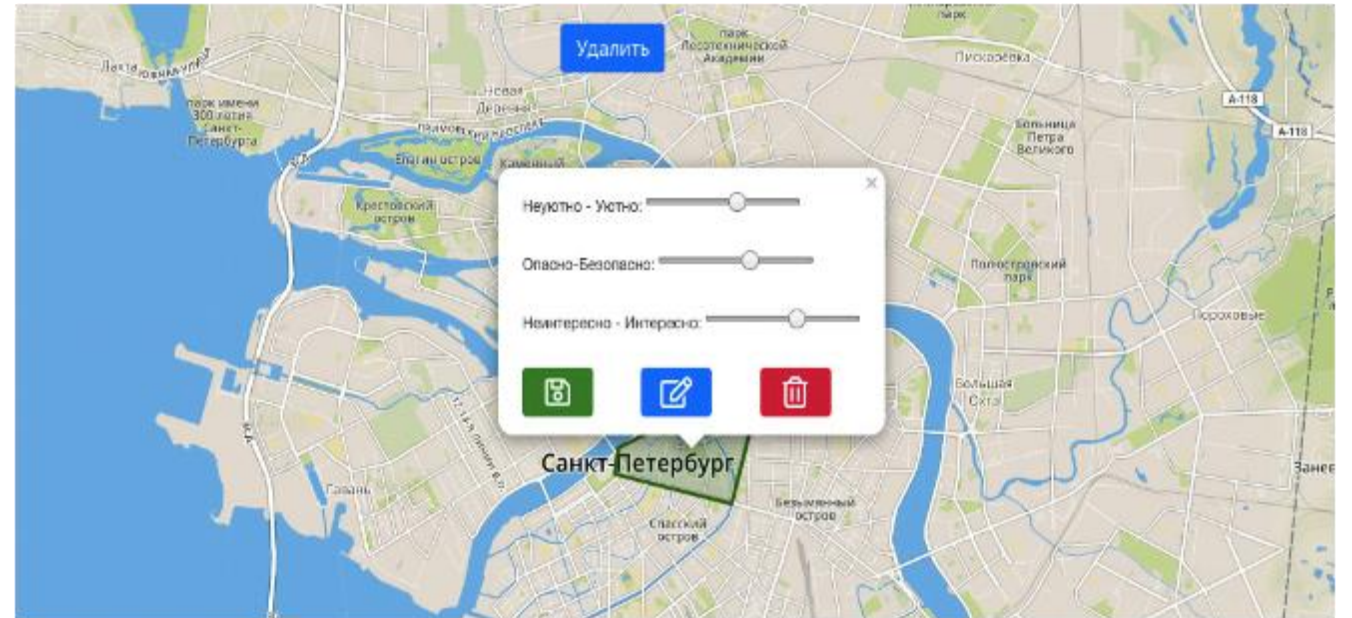
Computer Type: Supported processor architecture: x86, x86-64

Languages: Python, Java Script

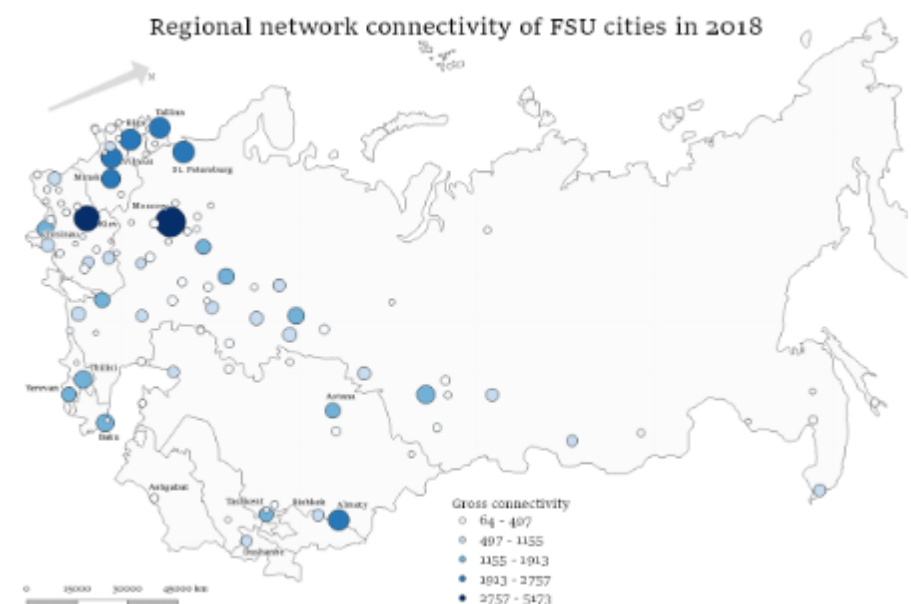
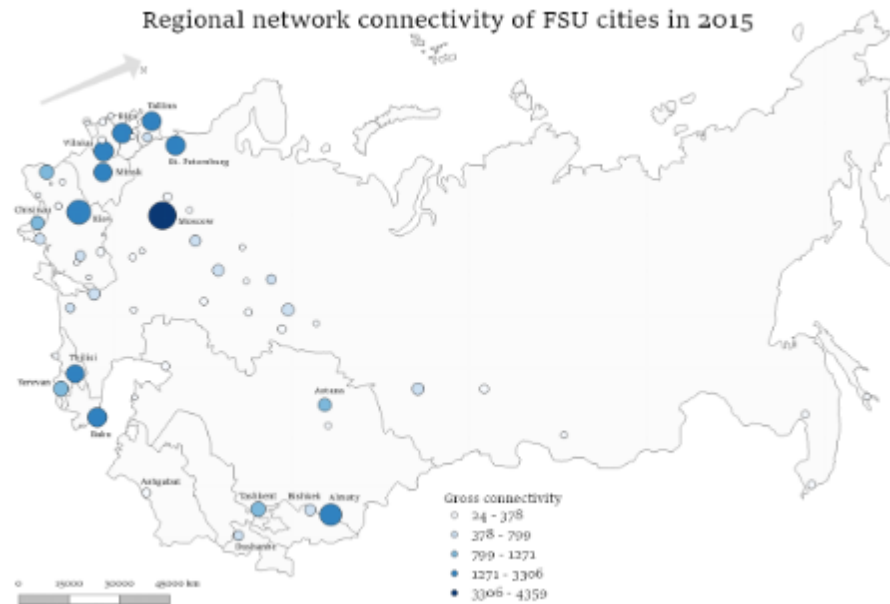
Server OS: Linux

Supported Browsers: Chrome, Firefox, Safari 5+, Opera 12+, IE 7-11, Edge

Program size: 128 KB



Intercity networks of global service companies in post-Soviet space



The project is focused on the transformation of intercity relations in the former USSR. The post-Soviet region is a unique territory where the formation of new intercity ties provided by globalization occurs simultaneously to dissolution of Soviet urban hierarchy and interaction. Also, the increase of political instability impacts the interurban connections. The research of corporate structures of global service companies shades a light on transformation of urban hierarchy, emergence of new economic centers, reproduction of inequalities between and within countries, impact of political instability on economic interaction.

Generally, the database of corporate offices' locations includes companies of 6 specializations: accountancy, advertising, banking, insurance, law and management. Various strategies of localization of firms depending on their specialization can be identified through studying the dynamics of spatial structures by sector.

Frost I. & Podkorytova M. «Former Soviet Cities in Globalization: an Intraregional Perspective on Interurban Relations through Networks of Global Service Firms» Eurasian Geography and Economics, 2018, 59(1):98-125.

Urban data and spatial segregation: analysis of food venues clustering in St.Petersburg

Diversity and spatial segregation of urban venues have been studied basing on open data: check-ins, user reviews, data from rating systems, average check data obtained from Google maps, Yandex maps, Foursquare and other location based social networks. Clustering algorithm has been elaborated basing on venue rating, average check, popularity.

During interpretative analysis of the clusters' localization physical characteristics of urban space have also been considered. Overall, the algorithm predicts the probability of appearance of clusters with predefined parameters in a certain location.

Nenko, A., Konyukhov, A., Mityagin, S. (2018) Urban data and spatial segregation: analysis of food services clusters in St.Petersburg, Russia // Proceedings of the ICCS 2018, Lecture Notes in Computer Science (LNCS)



Distribution of venues with lower and higher average check in Petrogradsky district, St.Petersburg



Variety of venues by average check in Petrogradsky district, St.Petersburg

Venue clusters

low rating

- 0

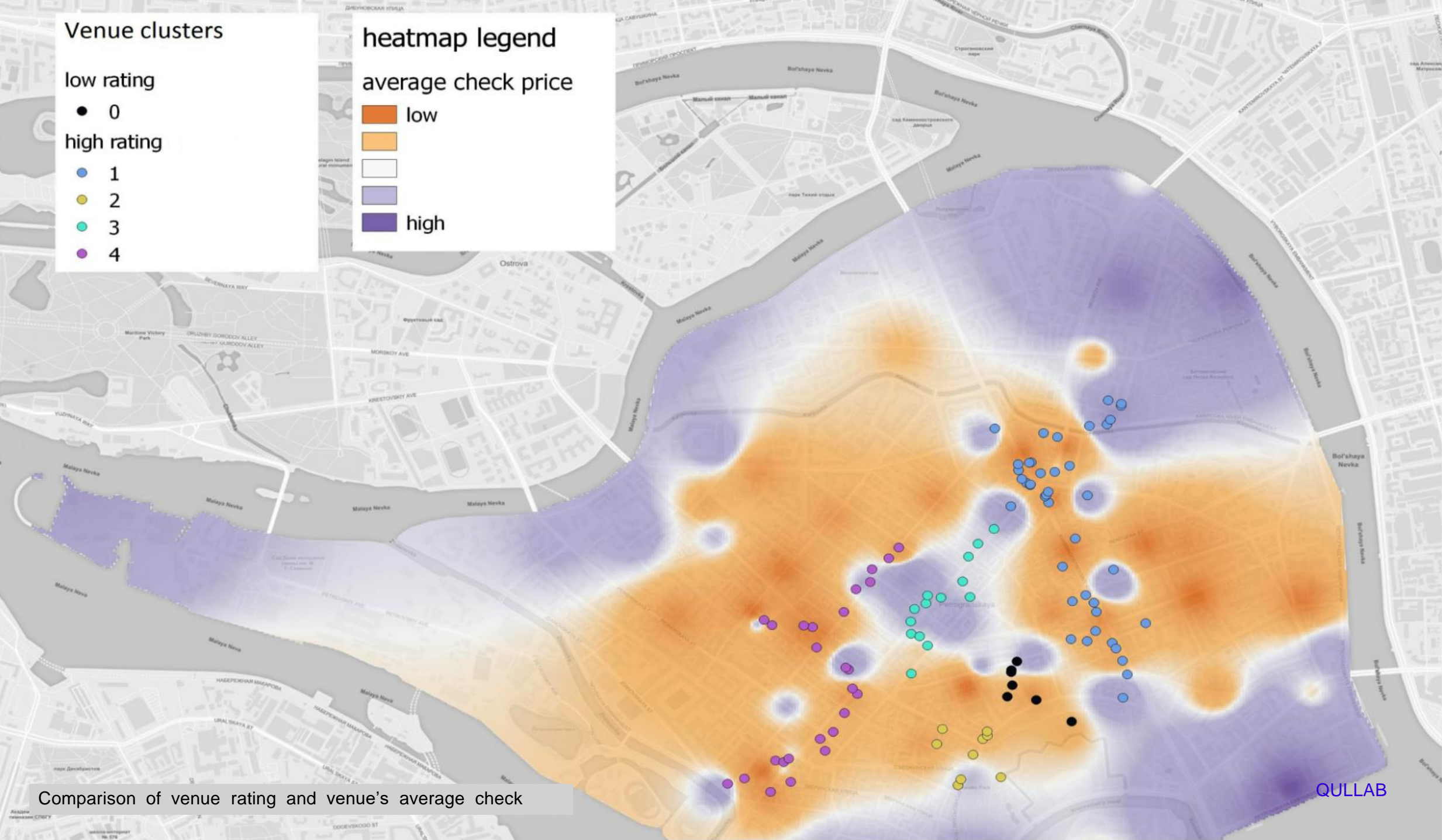
high rating

- 1
- 2
- 3
- 4

heatmap legend

average check price

- low
- high

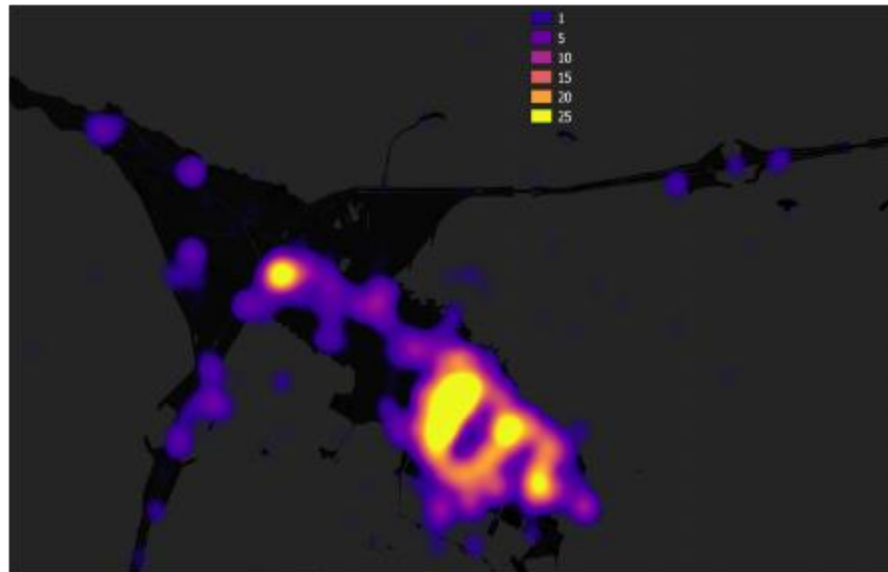


Comparison of venue rating and venue's average check

Research on quality of mobile and Internet connection in the city of Kronstadt, St.Petersburg

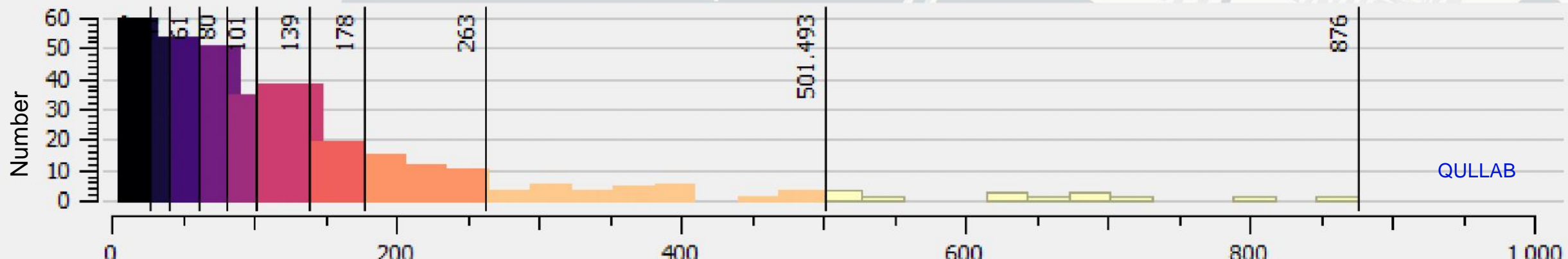
The study has been conducted within a project “Smart Kronstadt” launched by company “Russian Towers”, which produces infrastructure for mobile and internet connection, in partnership with the city government. The research has been focused on analysis of user experience of mobile connection, mobile Internet and public wi-fi in Kronstadt. The study comprises sociological survey within dwellers and tourists of Kronstadt and digital urban data analysis. During sociological survey users have evaluated a set of indicators, e.g. availability, accessibility, reliability of mobile connection

and internet. Besides urban space functions, like housing, workplace, or leisure have been reconsidered basing on received data. User’s evaluation of mobile and Internet connection have been mapped and precisely analyzed. The observation of online urban data on attraction and dynamics of urban venues usage has also been employed during the analysis of online urban data. As a result, recommendations for localization of new items of infrastructure for mobile and internet connection have been provided



Number of residents in a residential building

- 4 - 27
- 27 - 41
- 41 - 61
- 61 - 80
- 80 - 101
- 101 - 139
- 139 - 178
- 178 - 263
- 263 - 501
- 501 - 876

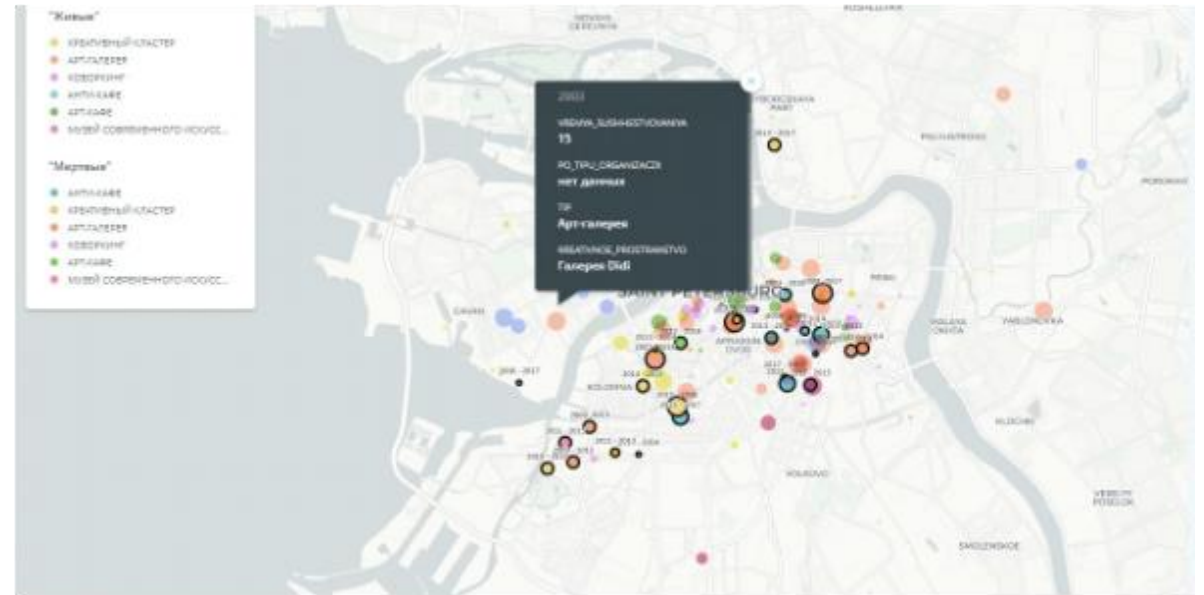


Life and Death of Creative Spaces in St. Petersburg

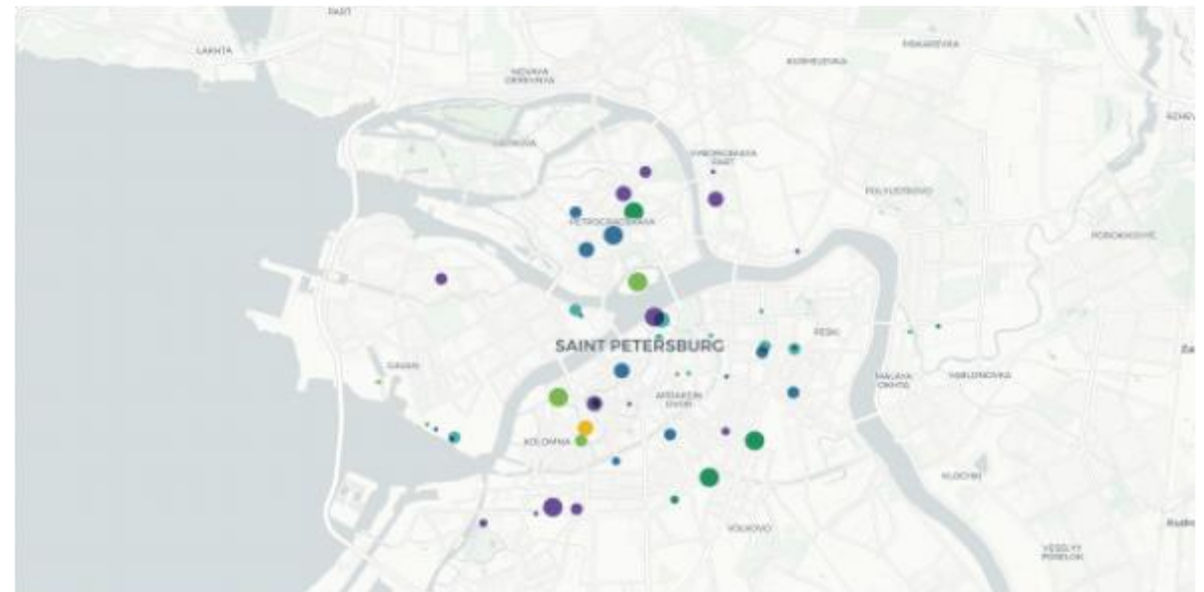
The study implements analysis of dynamics of creative spaces and creative industries development in St. Petersburg, research of creative economy evolution, analysis of creative spaces typology, careers, problems and perspectives of creative professionals. Animated maps have been provided in CartoDB. Data sources used: data on creative spaces from open sources (websites, public profiles of venues in social networks), interviews with creative industry professionals.

Full publication (in Russian) <https://medium.com/@idu>

Publication (in English) <https://www.theguardian.com/cities/2018/jul/27/can-artists-savest-petersburgs-crumbling-palaces>



Mapping of dead and live creative spaces

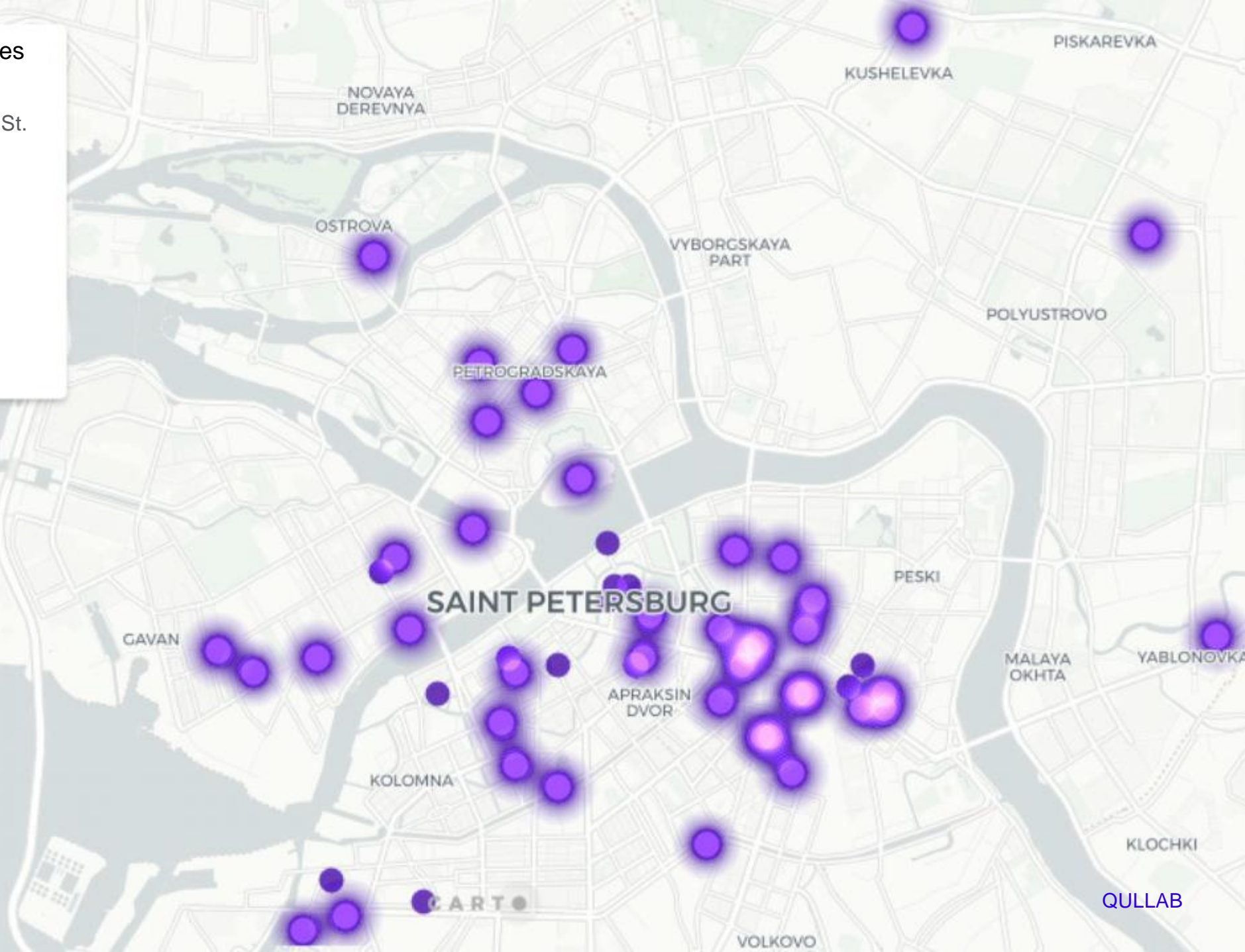


Duration of survival within creative spaces

Life and Death of Creative Spaces

Animated map of emergence and disappearance of creative spaces in St. Petersburg

- by year of launch
- alive
- dead
- type of management

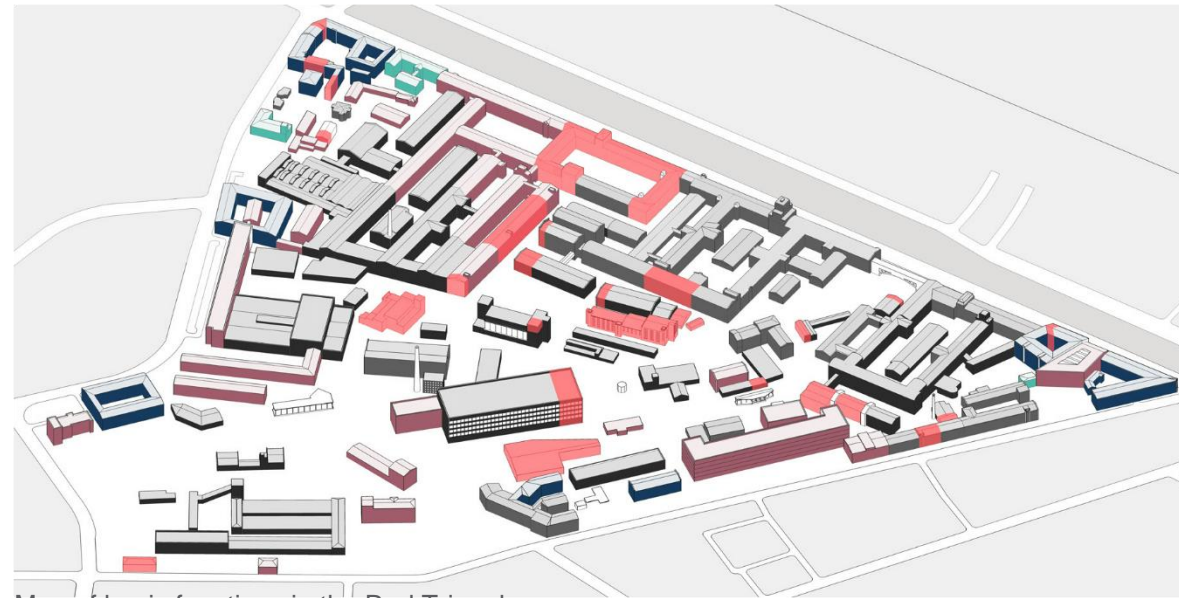


Creative redevelopment of the Red Triangle factory

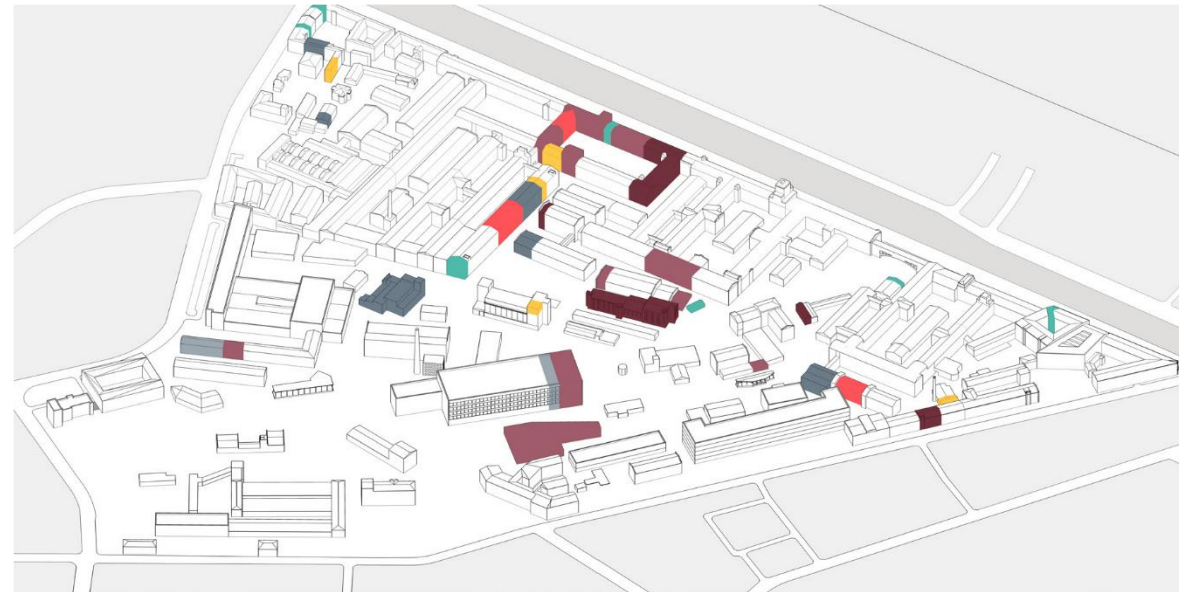
I stage. Complex research of the territory

1. Functional analysis of the territory has been carried out in order to define current functions, including administrative, industrial, creative organizations. Dwelling have been observed as well as abandoned areas.

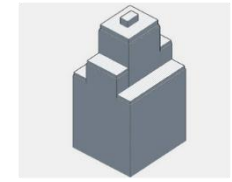
2. Mapping of the creative organizations has been provided. The patterns of bottom-up appropriation of the former industrial territory by creative function have been observed. More than 90 creative businesses have been detected: crafts, design, music, arts and sports (33%, 32%, 19%, 11% and 6% respectively). The trend of thematic clustering within creative industries have been revealed.



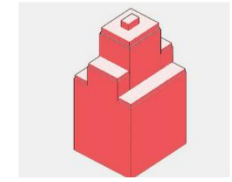
Map of basic functions in the Red Triangle



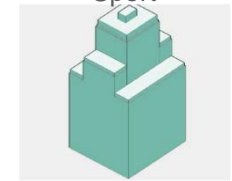
Map of creative industries in the Red Triangle



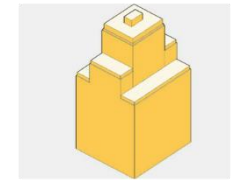
Design



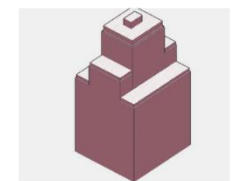
Sport



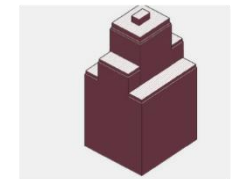
Food



Arts



Crafts

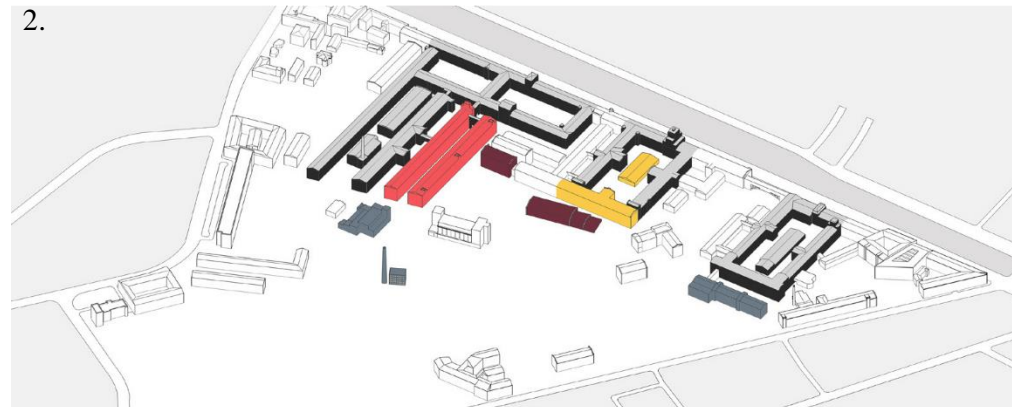
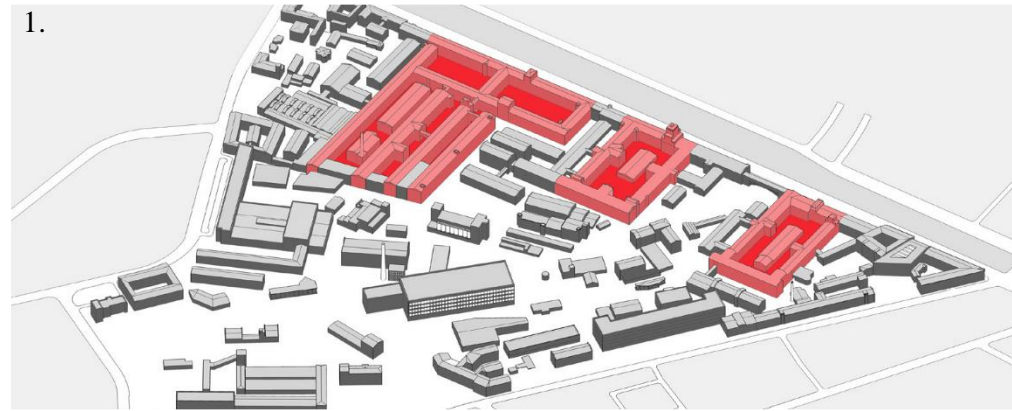


Music

II stage. Project and strategy of implementation

1. Priority zones for redevelopment have been defined - historical abandoned buildings at the facade of the Red Triangle facing Obvodny channel. The suggested development model assumed mixture of business, creativity and public functions. It accounted for the legal restrictions for objects of cultural heritage embracing the buildings, unique architectural appearance and existing functional load.

2. A set of thematic creative clusters has been proposed. The decision supposed relocation of some current creative residents to condense their network and to empty some space for other functions or new constructions. New thematic clusters are demonstrated at the picture 2: crafts (pink), music (dark red), arts (yellow), design (grey).



3. The master-plan for creative, public and residential zones and road network has been proposed. Buildings with creative and cultural functions marked in red have been integrated with residential function marked in yellow. Thus, the dwellers gain access to creative entertainment and open public spaces marked in white. The triangle-shaped building of Museum of Industrialization has been designed as a new symbolic heart of the Red Triangle, the core of culture and creativity. The floors of the Museum represent different stages in the history of industrial development in St.Petersburg from Peter the Great epoch to massive Soviet industrialization and contemporary spheres of IT, media and robotics.

Corporate style for Smart Saint-Petersburg Project Office

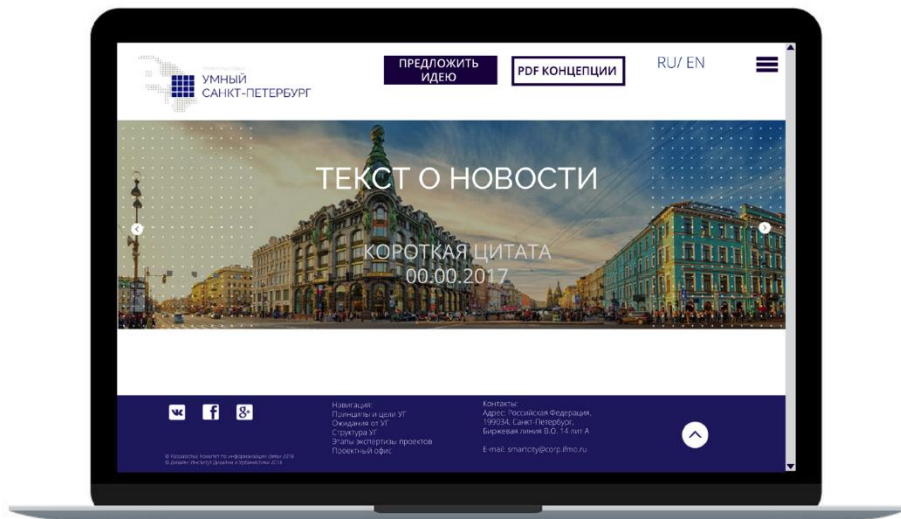
The corporate style reflects the nature of the Project Office "Smart Saint-Petersburg" as a dynamically developing innovative community, aiming to carry out "Smart Saint-Petersburg" program. The "Smart Saint-Petersburg" program covers major areas of urban development. Along with optimization of urban life using contemporary digital technologies, the program is focused on preserving the identity of the city and its historical values. The corporate identity interwinds visual elements symbolizing digital era in human development.

700 #1976D2

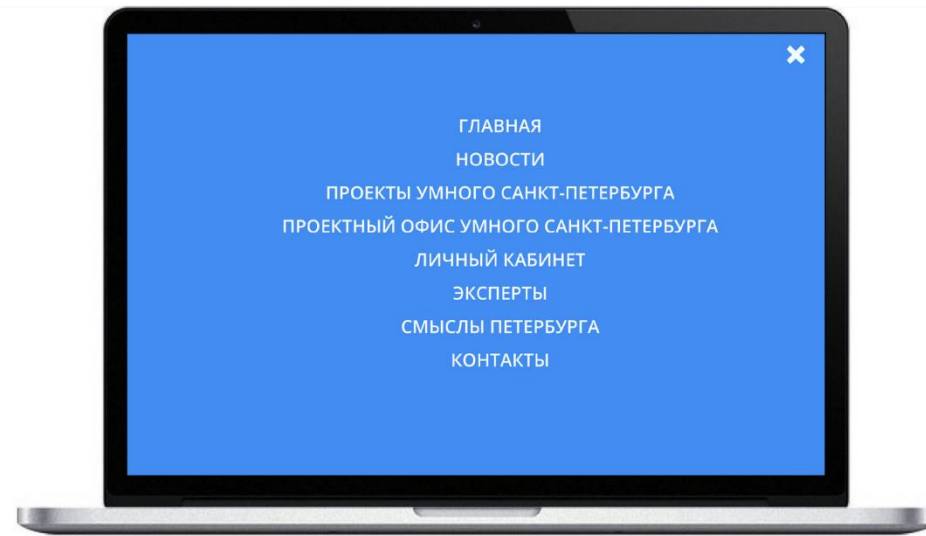
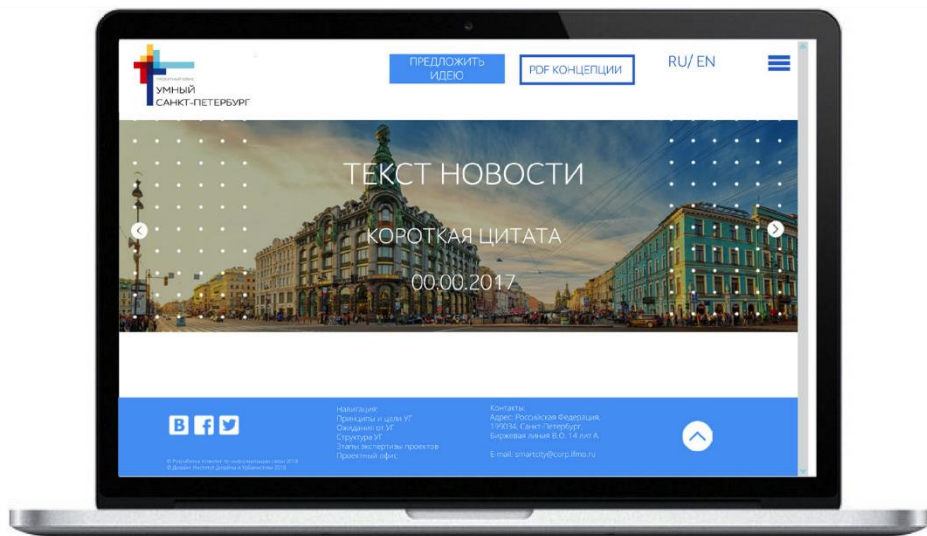
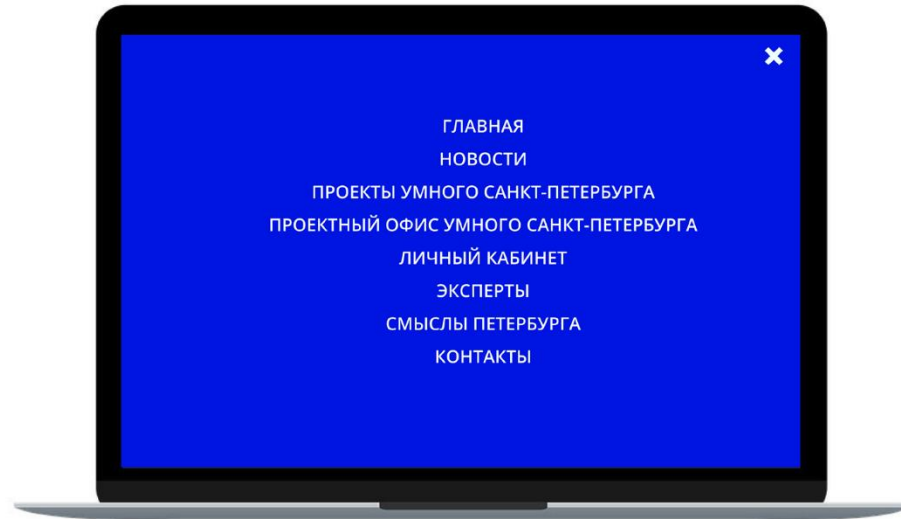
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The main page

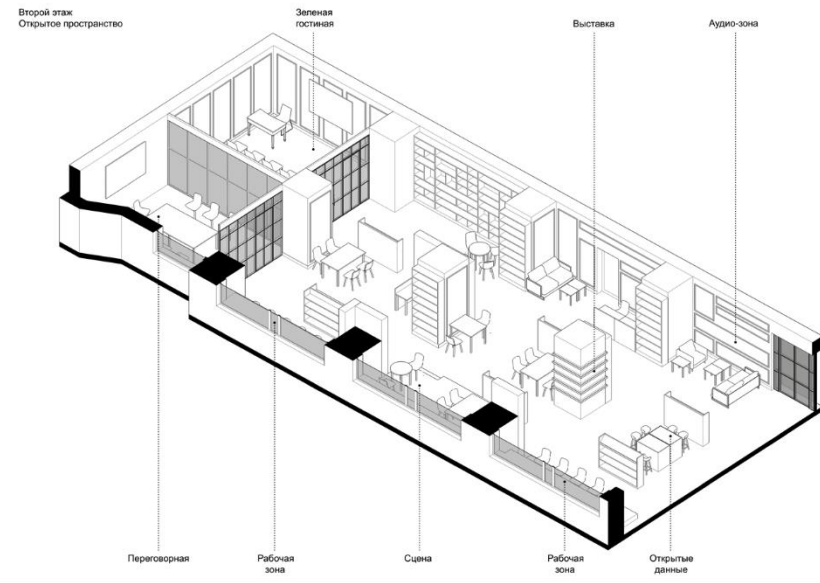


The navigation of site

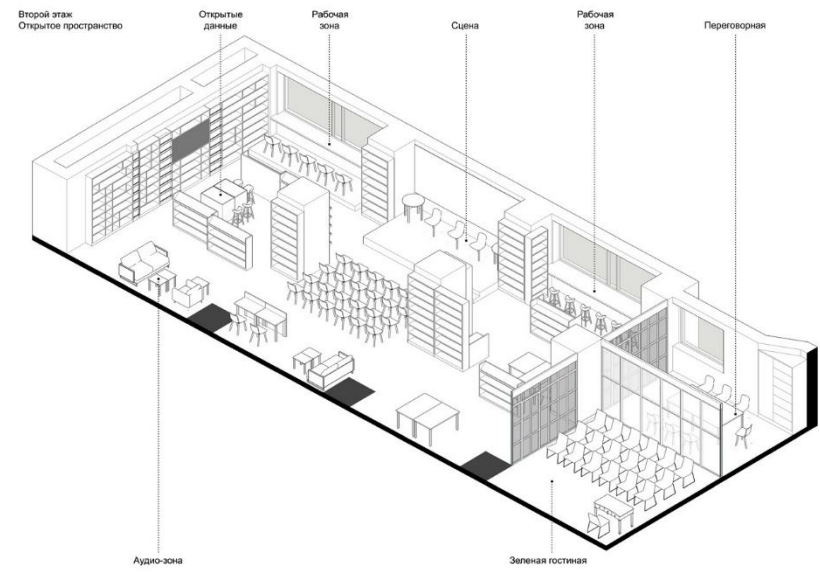


Library Center "Paustovsky"

The project has been devoted to redevelopment of the central library named after well-known Russian writer Konstantin Paustovsky into a modern multifunctional public space. The project included development of a new concept for the space, a design project, a new corporate style and an event program.



Plan. Axonometry of the 2d floor (a)



Plan. Axonometry of the 2d floor (b)

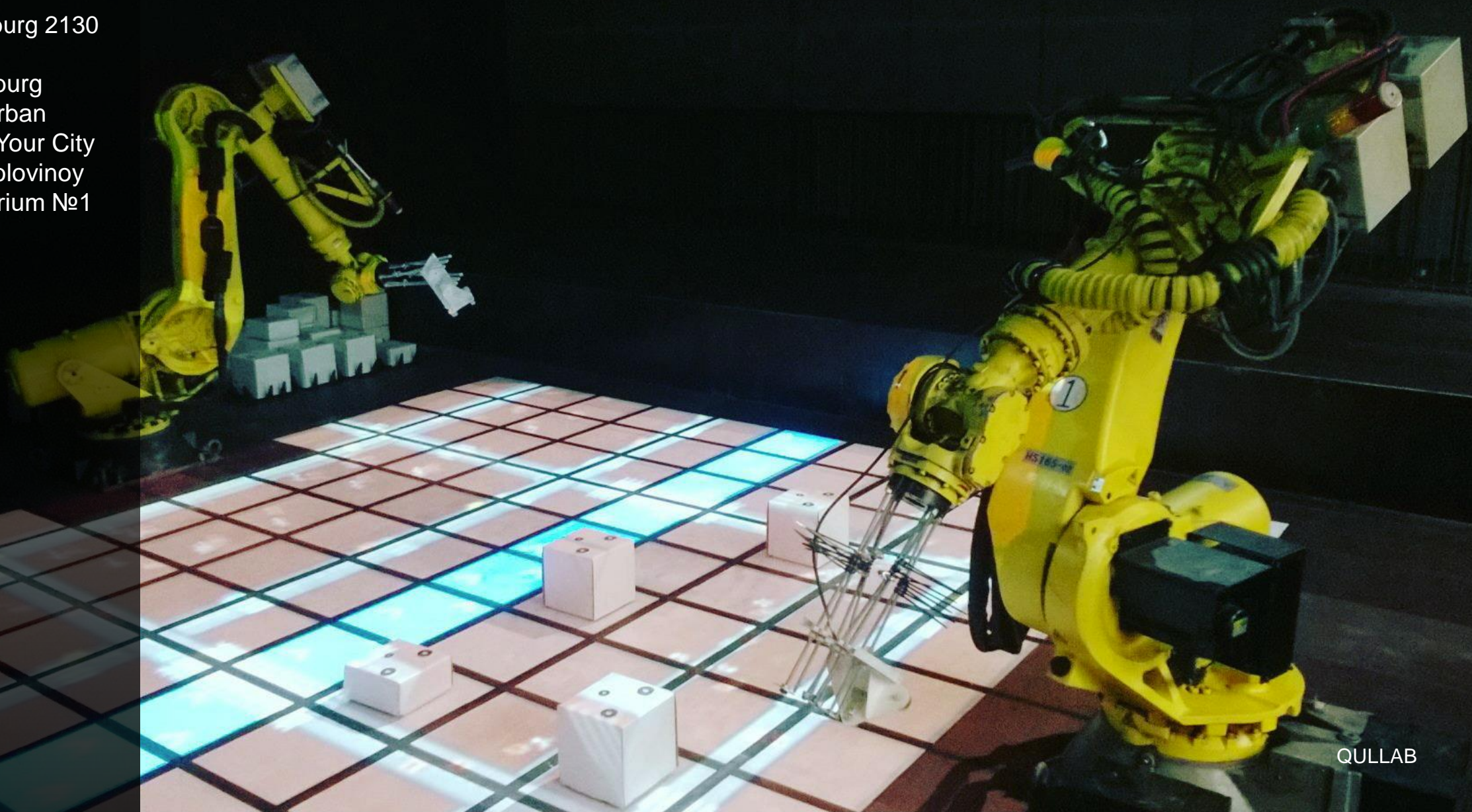




April 13-15, 2018

International workshop on place-making Genius Loci at Port Sevkabel creative space at former industrial area of St.Petersburg

2019
International
exhibition
SaintPetersburg 2130
at Manege,
SaintPetersburg
Robotized urban
game Build Your City
feat #dvaspolovinoj
and Planetarium №1





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Urban data analyst,
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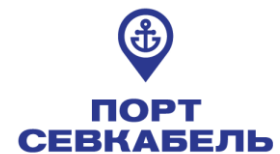
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HABIDATUM

MLA+



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