



MESHCHERYAKOV
LABORATORY OF
INFORMATION
TECHNOLOGIES

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**MLIT Conference Hall
Online seminar via Webex**

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**SPATIAL NETWORK PROXIMITY TECHNOLOGIES: CONCEPT, MODELS AND
ALGORITHMS, DISTRIBUTED SYSTEMS, AND SERVICES**

(based on the doctoral thesis)

The talk discusses a new programming system for location-based services: concept, architecture, models and algorithms, distributed systems and services, and development tools. The purpose of this paper is to justify the development and create a new approach to the design and development of location-aware services (applications). The proposed model extends (complements) or completely replaces classical service architectures using location information. The paper considers an alternative approach to the definition and operation of such services, i.e., the technology of spatial network proximity, when existing (or specially created) nodes of wireless networks are used to define a service, and all operations with geo-coordinates are completely excluded and replaced by a direct definition of spatial proximity based on the availability of signals from nodes of wireless networks. In the proposed model, services are automatically localized (available only in a limited area), and tracking the work of clients is impossible.

The proposed model makes it possible to create services without infrastructure support, and the refusal to use geo-coordinates (geo-calculations) avoids the problems associated with the limitations of global positioning technologies (GPS), as well as privacy violations inherent in the classical approach to the development of location-based services.

The paper considers all aspects of the application and use of the new model, including the rationale for its appearance, the scope of applicability, restrictions, types of possible services, the implementation of new context-aware mobile services, proposals for changing the standards for working with network interfaces, development tools using new forms of presenting contextual information, the use of the proposed tools in the educational process.

More information on the seminar and the link to connect are available at Indico:
<https://indico-hlit.jinr.ru/event/270/>