



Program of 18th Conference of Open Innovations Association FRUCT and Seminar on Information Security and Protection of Information Technology

**St. Petersburg, Russia
18-22 April 2016**



GAUDEAMUS IGITUR,
JUVENES DUM SUMUS!
POST JUCUNDAM JUVENTUTEM,
POST MOLESTAM SENECTUTEM
NOS HABEBIT HUMUS.

UBI SUNT, QUI ANTE NOS
IN MUNDO FUERE?
VADITE AD SUPEROS,
TRANSITE AD INFEROS,
UBI JAM FUERE.

VITA NOSTRA BREVIS EST,
BREVI FINIETUR,
VENIT MORS VELOCITER,
RAPIT NOS ATROCITER,
NEMINI PARCETUR.

VIVAT ACADEMIA,
VIVANT PROFESSORES!
VIVAT MEMBRUM QUODLIBET,
VIVANT MEMBRA QUAE LIBET!
SEMPER SINT IN FLORE!

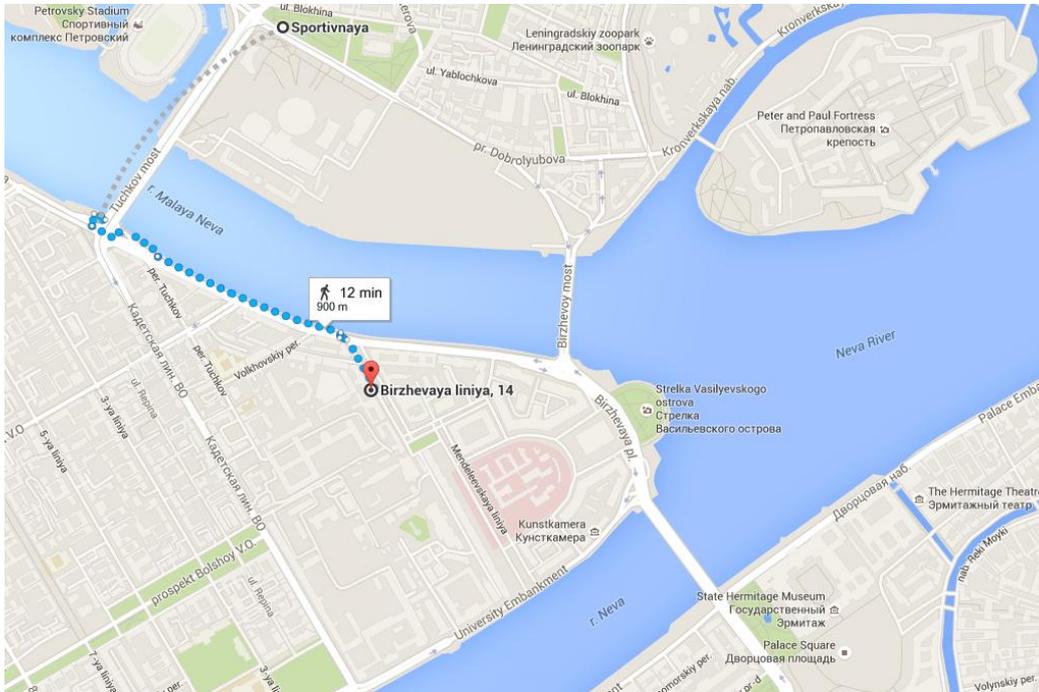
VIVANT OMNES VIRGINES
FACILES, FORMOSAE!
VIVANT ET MULIERES,
TENERAE, AMABILES,
BONAE, LABORIOSAE!

VIVAT ET RESPUBLICA,
ET QUI ILLAM REGIT!
VIVAT NOSTRA CIVITAS,
MAECENATUM CARITAS,
QUAE NOS HIC PROTEGIT

PEREAT TRISTITIA,
PEREANT DOLORES,
PEREAT DIABOLUS,
QUIVIS ANTIBURSCHIUS,
ATQUE IRRISORES!

Practical Information

The main conference will be held at the historical center of St. Petersburg in Technopark of National Research University of Information Technologies, Mechanics and Optics (ITMO). Address: St. Petersburg, Vasilievskiy island, Birzhevaya liniya buildings 4 & 14 (**metro station Sportivnaya**). Please make sure that you have ID with your photo. During the whole conference and trainings you can use Wi-Fi network: **Seminar 2 Password: qwer7890**



List of images related to the location

Clickable map

User destination point

Current weather

First three interesting places around

Map with path to the interesting place

Estimate the interesting place

Interesting place image

Interesting place caption

Interesting place description

Palace Bridge (Russian: Дворцовый мост, *Dvortsovyy Most*) is a road and foot bascule bridge spanning the Neva River in Saint Petersburg between Palace Square and Vasilievsky Island. Like every other Neva bridge (except for Big Obukhovskiy Bridge), it is drawn by night, making foot travel between various parts of the city virtually impossible. It was built by the French firm Société de Construction des

We recommend using mobile tourist guide for Android - Tourist Attraction Information System (TAIS). Based on your current location, it provides recommendations about places of interest around. You can see your location in the map, browse information about attraction around, check photos, current weather and create path to place of interest. The information is aggregated from Wikipedia, Wikivoyage, Wikitravel, Panoramio.

During FRUCT conference TAIS will help you to easily find way to the conference locations plus do sightseeing in the city around you. Download the app and at the main screen select the main attractions "FRUCT 18th Conference". Then you will be able to open a map and see path from current location to the FRUCT 18th conference place and learn more about surrounding area.



Organization Committee of The 18th FRUCT & ISPIT Conference

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Conference Secretaries: Alexey Kashevnik, Ekaterina Balandina
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The program of 18th FRUCT & ISPIT conference

April 18-22, 2016, St. Petersburg, Russia

Technopark of National Research University ITMO, Birzhevaya liniya 14, Room 103 & 305/1 / Birzhevaya lin. 4, Conference hall

| DATE | TIME | PROGRAM | | |
|-------------|--|---|---|--|
| 18.04.16 | 10:00-10:30 | Registration to Internet of Things training, Birzhevaya lin. 4, Conference hall | | |
| | 10:30-18:30 | Training: Introduction to the Internet of Things on the example of Intel Edison | | |
| 19.04.16 | 10:00-10:30 | Training, Day 2: Introduction to the Internet of Things on the example of Intel Edison, Conference hall | Registration to EMC Cloud Tech Day | |
| | 10:30-18:30 | | Baltic Sea edition Cloud Tech Day, in EMC office: Sredny prospect 36, 5 th floor (in Russian language) | |
| 20.04.16 | 11:30-12:15 | Conference Registration | | |
| | 12:15-14:00 | Opening of 18th FRUCT conference: Welcome words and the Main Plenary Session, room 103 | | |
| | 14:00-14:30 | Coffee break | | |
| | 14:30-16:45 | Emerging Topics, room 103 | Process Management Systems, room 305/1 | |
| | 16:45-17:15 | Coffee break | | |
| | 17:15-18:45 | Video and Image Processing and Computer Vision I, Room 103 | | |
| 21.04.16 | 09:15-09:45 | Conference Registration | | |
| | 09:45-11:00 | Video and Image Processing and Computer Vision II, room 103 | | |
| | 11:00-11:30 | Coffee break | | |
| | 11:30-13:30 | Smart Spaces and Internet of Things (<i>SmartRoom</i>), room 103 | Embedded and Real-Time Systems, Embedded Networks, room 305/1 | |
| | 13:30-14:15 | Lunch break (on your own) | | |
| | 14:15-15:30 | Network Technologies, room 103 | Geo-aware services and platforms, Conference hall | |
| | 15:30-16:55 | Coffee break | | Meetup of Russian Sailfish OS community, Conference hall (in Russian language) |
| | 16:55-17:10 | | | |
| | 17:10-17:50 | Demo pitches in Pecha Kucha format, room 103 | | |
| | 17:50-18:00 | Break and Preparation to Demo Session, room 103 | | |
| 18:00-20:30 | Demo Session and Social Event, room 103 | | | |
| 22.04.16 | 09:30-10:00 | Conference Registration | | |
| | 10:00-10:45 | Keynote talk: On Optimal S-Boxes for Block Ciphers, by Lilya Budaghyan, University of Bergen, Norway, room 103 | | |
| | 10:45-11:15 | Coffee break | | |
| | 11:15-12:45 | Information Security and Protection of Information Technologies I, room 103 | e-Healthcare, room 305/1 | |
| | 12:45-13:30 | | FRUCT m-Health WG, room 305/1 | |
| | 13:30-14:15 | Lunch break (on your own) | | |
| | 14:15-15:15 | Information Security and Protection of Information Technologies II, room 103 | Smart Spaces & IoT WG, room 305/1 | |
| | 15:15-15:45 | | FRUCT LBS WG, room 305/1 | |
| | 15:45-16:00 | Coffee break | | |
| | 16:00-17:15 | Information Security and Protection of Information Technologies III, room 103 | Information Security and Protection of Information Technologies IV, room 305/1 | |
| | 17:15-17:30 | Official closing of the 18th FRUCT conference, room 103 | | |

SmartRoom Demo: Guide for Conference Participants

The SmartRoom system will be used for assisting the organization and collaborative activity of some sessions of the 18th FRUCT Conference. All presentations of these sections are facilitated by SmartRoom system. Any interested participant can register by sending full name and presentation (title and PDF file) to smartroom@cs.karelia.ru. Or authors can make web-based registration just before the session, by taking the following 2 steps:

1. Register to the SmartRoom web service using QR code on the Presentation screen in the conference room.
2. Log in and upload your presentation in PDF yourselves (or provide the presentation directly to the organizers).
3. Install the SmartRoom client, see QR codes below.
4. Use the client to log in the SmartRoom system using your registration credentials. (You can download a client configuration file using QR code on the Presentation screen in the room or enter the IP address and port of the deployed system manually.)

During the session each presenter interacts with the system using the SmartRoom client on Android or Windows Phone device (smartphone or tablet). The system uses one of Wi-Fi network provided for the FRUCT18 conference.

Client for Android devices



bit.do/srclient_android

Client for Windows Phone devices



bit.do/srclient_wp

User manuals (PDF file, in English) for the SmartRoom client are accessible using the QR codes below:



Other conference session participants (not presenters) are welcome to use either anonymous login (guest) or even their register own accounts (without presentation). Before are QR codes and URLs of the SmartRoom client.

In addition to basic control of conference session activity, such as slide show control and session agenda manipulation, the SmartRoom system supports advanced services to assist the collaborative work. The following examples are included to the SmartRoom demo at the FRUCT18 conference.

Social Program. The result of the social program construction consists of some nearby points of interests (POIs), which conference participants would like to visit within some groups. The construction is cooperative by all interested participants. They make own decisions to decide which POIs are of their personal interest, and for some POIs a group of potential visitors is formed. Voting is via a specialized web interface on the client side (for details, please refer to the client manual). The construction process and its results are also shown on public room screens during the sessions and breaks. Such public services as Flickr and Panoramio are used for searching photos and pictures associated with the POIs.

Discussion. This assistance scenario allows the participants to discuss by publishing commentaries on conference talks, either currently ongoing, or already passed ones, or just going to happen. Any participant can join a discussion thread of the talk using the SmartRoom client (for details, please refer to the manual). Blog comment hosting service Disqus for web sites and online communities is used (<https://disqus.com/>). After each talk a collected set of questions and commentaries is shown on the public screen in the room, and the presenter can make discussion based on this feedback from the participants.

The system is developed at Petrozavodsk State University in cooperation with other FRUCT members. The open source code is available at <https://sourceforge.net/projects/smartroom/>.

Introduction to the Internet of Things on the example of Intel® Edison

Training dates: 18 - 19 April 2016
Two full days training

Place: Technopark of University ITMO, Birzhevaya liniya 4
Room: Conference hall

The Internet of Things (IoT) is the network of physical objects—devices, vehicles, buildings and other items—embedded with electronics, software, sensors, and network connectivity that enables these objects to collect and exchange data. The IoT allows objects to be sensed and controlled remotely across existing network infrastructure, creating opportunities for more direct integration of the physical world into computer-based systems.

Each thing is uniquely identifiable through its embedded computing system but is able to interoperate within the existing Internet infrastructure. Experts estimate that the IoT will consist of almost 50 billion objects by 2020.

The “father” of the concept of the IoT, Rob van Kranenburg defined it as a single network connecting real-world and virtual objects around us, claiming that all of the analog and digital worlds can be combined into a single interconnected system.

The training will be presented the history and development of the IoT concept, examples of existing projects in this area, as well as provides technical capabilities, use cases and test SBCs Corporation Intel: Intel® Edison, as well as Intel®Galileo, Intel® GalileoGen 2. During the training it will be asked to solve practical problems in small groups. With this platform, participants will be able to collect their own hands, such devices as: interesting interactive gadgets, home robots, the elements of a smart home, as well as to control anything via the Internet. As part of the lessons will be given access to the following equipment: Intel®Galileo, Intel® GalileoGen 2, Intel® Edison, Intel IoT Dev Kit and other sets of sensors Training Participants are encouraged to bring a laptop.

If there will be no international participants the training will be held in Russian.

Free registration is open at <http://fruct.org/iot18>.

Requirements for the initial level of knowledge: knowledge of programming (programming experience in any language) and electrical engineering school level (for example, what is the capacitor and Ohm's law), fluency in a PC.

Program

April 18 (Monday)

Technopark of National Research University ITMO, Birzhevaya liniya 4, Conference hall

| | | |
|--|------|---|
| Training: Introduction to the Internet of Things on the example of Intel® Edison, Day 1 | | |
| Room: Birzhevaya liniya 4, Conference hall | | Leader: Diana Ilina |
| 10:00 | 30m | Registration of participants |
| 10:30 | 30m | Introduction: What is the Internet of Things |
| 11:00 | 30m | Review of activities and projects in the field of Internet of Things |
| 11:30 | 1.5h | Theoretical part: familiarity with the Intel® Edison boards and Intel® GalileoGen 2. Overview modular tasks (educational projects). Formation of teams. |
| 13:00 | 1h | Lunch break (on your own) |
| 14:00 | 1h | Setting up the environment for basic practical tasks |
| 15:00 | 1h | Basics Intel® Edison, both with full linux-computer |
| 16:00 | 2h | Getting started on the project |
| 18:00 | 30m | Q&A session, Closing of Day 1 |

April 19 (Tuesday)

| | | |
|--|------|--|
| Training: Introduction to the Internet of Things on the example of Intel® Edison, Day 2 | | |
| Room: Birzhevaya liniya 4, Conference hall | | Leader: Diana Ilina |
| 10:00 | 3h | Continuation of work on the project: connecting sensors and sensors |
| 13:00 | 1h | Lunch break (on your own) |
| 14:00 | 3h | Completing the necessary projects: prototyping and final assembly of the school layout |
| 17:00 | 1.5h | Demonstration projects. Closing of the training and Day 2 |

EMC AF-2016 - Baltic Sea edition Cloud Tech Day

Date: 19 April 2016

Place: EMC Research Center, Sredny prospect 36, 5th floor

The tech day is free of charge and registration link is <https://goo.gl/sy1q4R>.

The Tech day language will be English or Russian depending on audience.

Program

April 19 (Tuesday)

EMC Research Center, Sredny prospect 36, 5th floor

| | | |
|---|------|---|
| Seminar: EMC AF-2016 - Baltic Sea edition Cloud Tech Day | | |
| Room: EMC research center, Sredny prospect 36, 5th floor | | Chair: Gennady Smorodin |
| 10:00 | 30m | Registration to EMC Cloud Tech Day |
| 10:30 | 30m | Higher education trends, by Maxim Arzumanyan |
| 11:00 | 30m | University 2020. Management and Engineering, by Maxim Arzumanyan |
| 11:30 | 30m | Academic Cloud: Case Study, by Dmitry Sergeev |
| 12:00 | 30m | Coffee Break |
| 12:30 | 30m | Big Data: Overview & Case Study, by Igor Nikiforov |
| 13:00 | 1h | Round Table: Academic business cooperation. Project approach, moderated by Gennady Smorodin |
| 14:00 | 1h | Lunch Time / Corporate Data Center Excursion |
| 15:00 | 1.5h | Master class. EMC Cloud Tech Training Course. Basics, by Victor Dashonok |
| 16:30 | 30m | Coffee Break |
| 17:00 | 1.5h | Master class. EMC Cloud Tech Training Course. Advanced, by Victor Dashonok |
| 18:30 | 30m | Closing of Cloud Tech Day |



Meetup of Russian Sailfish OS Developers Community

Seminar date: 21 April 2016
Time: 15:30 – 18:30

Place: Technopark of University ITMO, Birzhevaya liniya 4
Room: Conference hall

We welcome you to take part in the first Meetup of Russian Sailfish OS Developers Community. Meetup will be held in Russian language.

Приглашаем всех принять участие в первом Meetup российского сообщества Sailfish OS разработчиков, который пройдет с 15.30 до 18.00, после чего все участники приглашаются на social event FRUCT конференции. Бесплатная регистрация на Meetup открыта на <http://fruct.org/sailfish1>, спешите, количество мест ограничено.

Program

April 21 (Thursday)

Technopark of National Research University ITMO, Birzhevaya liniya 4, Conference hall

Seminar: Meetup of Russian Sailfish OS Developers Community (in Russian)

Room: Birzhevaya liniya 4, Conference hall

| | | |
|--------------|------|---|
| 15:30 | 20m | Кофе |
| 15:50 | 20m | Знакомство с Sailfish OS для разработчиков, Кирилл Чувилин |
| 16:10 | 30m | Мастер-класс по созданию приложения и обзор основных API, Марк Заславский |
| 16:40 | 30m | Интерфейс пользователя: принципы построения и компоненты, Марк Заславский |
| 17:10 | 20m | Кофе |
| 17:30 | 10m | Планы развития сообщества и начало дискуссии, Сергей Баландин |
| 17:40 | 20m | Свободная дискуссия |
| 18:00 | 2.5h | FRUCT Social Event |



SAILFISH OS

The program of the 18th FRUCT & ISPIT conference

April 18-22, 2016, St. Petersburg, Russia

April 20 (Wednesday)

Technopark of National Research University ITMO, Birzhevaya liniya 14, Rooms 103 & 305/1

| 11:30 | | 45 | | 18 th FRUCT & ISPIT Conference Registration | |
|---|--|-----|--|--|--|
| Session: Official opening of the 18 th FRUCT conference | | | | | |
| Room: 103, Birzhevaya liniya 14 | | | | Chairman: Sergey Balandin | |
| 12:15 | | 20m | | Official opening of the 18 th FRUCT conference | |
| 12:35 | | 15m | | Welcome words from ITMO and Technopark, Olesya Baraniuc, Technopark of ITMO University, Russia | |
| 12:50 | | 10m | | Sailfish OS meetup announce, Kirill Chuvilin, Open Mobile Platform, Russia | |
| 13:00 | | 30m | | Internet of Things: vision from EMC Corporation, Pavel Egorov, St. Petersburg Center of Excellence, Director Engineering, EMC, Russia | |
| 13:30 | | 30m | | Internet of Things: Platforms, Technologies, Future, Anton Sergeev, SUAI, Russia | |
| 14:00 | | 30m | | Coffee break | |
| Session: Emerging Topics | | | Session: Process Management Systems | | |
| Chairman: Vladimir Deart | | | Chairman: Dmitriy Mouromtsev | | |
| Room: 103, Birzhevaya liniya 14 | | | Room: 305/1, Birzhevaya liniya 14 | | |
| 14:30 | | 15m | | Quantitative Valuation of the Effectiveness of Existing Antivirus Software, Tatiana Markina, ITMO University, Russia | |
| 14:45 | | 15m | | Kondratiev's Waves, Big Data and Value Chain Mapping, Olga Kolesnichenko and Yuriy Kolesnichenko, Security Analysis Bulletin, Gennady Smorodin, EMC, Dariya Yakovleva and Lev Mazelis, Vladivostok State University of Economics and Service, Russia | |
| 15:00 | | 15m | | Performance analysis of threads synchronization strategies in concurrent data structures based on flat-combining, Marsel Galimullin and Evgeny Kalishenko, SPbETU LETI, Russia, Nikolai Rapotkin, Inteltech, Russia | |
| 15:15 | | 15m | | Volunteering, Crowdsourcing and Citizen Science: an Overview from the IT/Computing Perspective, Salvatore Distefano, University of Messina, Samuele Rodi, Politecnico di Milano, Italy | |
| 15:30 | | 15m | | Intelligent Service-Oriented Enterprise Architecting for Knowledge Portals Design: Fusion of Approaches, Dmitry Kudryavtsev and Tatiana Gavrilo, St-Petersburg State University, Russia | |
| 15:45 | | 15m | | Two-Step Noise Reduction Based on Soft Mask for Robust Speaker Identification, Gennadiy Tupitsin, Artem Topnikov and Andrey Priorov, YarSU, Russia | |
| 16:00 | | 15m | | Actors Interactions Research in Cloud Computing Environments Using System Dynamics Methodology, Aleksandr Skatkov, Elena Mashchenko, Victoria Shevchenko and Dmitry Voronin, Sevastopol State University, Russia | |
| | | | | Machine Learning Approach to Automated Correction of LaTeX Documents, Kirill Chuvilin, MIPT, Russia | |
| | | | | P2P Outsourcing Model for Agile Project Tasks Allocation, Anton Ivaschenko, Samara State Aerospace University, Andrey Lednev, Haulmont Development Ltd, Alfija Dijazitdinova, Povolzhskiy State University of Telecommunications and Informatics, Russia | |
| | | | | Multi-Agent Approach to Monitoring of Cloud Computing System With Dynamically Changing Configuration, Dmitrii Zubok, Aleksandr Maiatin, Maksim Hegai and Tatiana Kharchenko, ITMO University, Russia | |
| | | | | Intermediary Service Provider for Supply Chain Management, Anton Ivaschenko, Ilya Syusin and Oksana Dvoynina, Samara State Aerospace University, Pavel Sitnikov, Open Code, Russia | |
| | | | | On Forming a Library of Script Tools for Computer Network Management, Vladimir Sayenko, Kharkov National University of Radio Electronics, Ukraine | |
| | | | | Distributed Storage System Approach For Imagery Data In Content Delivery Networks, Andrew Kokoulin and Alexander Yuzhakov, Perm National Scientific Research University, Russia | |
| | | | | Implementing of Interaction between the Components of the Automated System of Knowledge Testing by C++/Qt and PostgreSQL, Aleksandr Flegontov and Yuliya Prosenkova, Herzen State Pedagogical University, Russia | |

| | | | |
|--|-----|---|---|
| 16:15 | 15m | Real-Time Multi-Task Simulation in Forth, Sergey Baranov, SPIIRAS, Russia | Abstract Predicate Entailment over Points-To Heaplets is Syntax Recognition, René Haberland, Kirill Krinkin and Sergey Ivanovskiy, SPbETU LETI, Russia |
| 16:30 | 15m | The Application of Neural Network and Spline Wavelet Models in the Electroencephalogram Analysis Automation Process, Andrey Stepanov, Bonch-Bruevich St-Petersburg State University of Telecommunications, Russia | Smartphone-Based Identification Of Dangerous Driving Situations: Algorithms and Implementation, Alexander Smirnov and Alexey Kashevnik, SPIIRAS, Igor Lashkov, Vladimir Parfenov and Olesya Baraniuc, ITMO University, Russia |
| 16:45 | 30m | Coffee break | |
| Session: Video and Image Processing and Computer Vision I | | | |
| Room: 103, Birzhevaya liniya 14 | | Chairman: Dmitry Korzun | |
| 17:15 | 15m | The Concept of Video Surveillance System Based on the Principles of Stereo Vision, Dmitry Stepanov and Igor Tishchenko, PSI RAS, Russia | |
| 17:30 | 15m | Comparison of Image Focus Assessment Methods for Multi-focused Image Construction, Andrey Noskov, Elena Aminova and Vladimir Volokhov, YarSU, Russia | |
| 17:45 | 15m | Concept of Distributed Processing System of Images Flow in Terms of Pi-calculus, Aleksey Kondratyev and Igor Tishchenko, PSI RAS, Russia | |
| 18:00 | 15m | A Study of Influencing Factors on the Quality of Experience Perception in Video Streaming, Vladimir Dearth and Alexey Nesterkin, MTUCI, Russia | |
| 18:15 | 15m | The Use of Visual Technologies and Tracking Data to Improve Virtual Reality Perception in Training Simulator, Maxim Khlamov and Kirill Chuvilin, MIPT, Russia | |
| 18:30 | 15m | Compression and Transmission of Video Stream over Mesh Network, Sergey Kuzmin and Rifkat Bulyakulov, SUAI, Russia | |
| 18:45 | | Closing of Day 3 | |

April 21 (Thursday)

Technopark of National Research University ITMO, Birzhevaya liniya 14, Room 103 & 305/1 / Birzhevaya lin. 4, Conference hall

| | | | |
|---|-----|---|---|
| 09:15 | 30m | Conference registration | |
| Session: Video and Image Processing and Computer Vision II | | | |
| Room: 103, Birzhevaya liniya 14 | | Chairman: Kirill Chuvilin | |
| 09:45 | 15m | Convolution Neuro Network Architectures Analysis for Digits Recognition, Anna Kiryushyna and Igor Tishchenko, PSI RAS, Russia | |
| 10:00 | 15m | Evaluation of Interest Point Detectors and Feature Descriptors for Visual SLAM, Alexander Prozorov, Andrew Priorov and Vladimir Khryashchev, YarSU, Russia | |
| 10:15 | 15m | Construct the path around obstacles detected by stereo vision, Aleksandr Smirnov, Artem Bezzubtsev and Igor Tishchenko, PSI RAS, Russia | |
| 10:30 | 15m | Face Detection Algorithm Based on a Cascade of Ensembles of Decision Trees, Anton Lebedev, Vladimir Pavlov, Vladimir Khryashchev and Olga Stepanova, YarSU, Russia | |
| 10:45 | 15m | Data-Flow Processing of Data from Surveillance Cameras for Objects Detection Using Distributed Data Processing System, Egor Ivanov and Igor Tishchenko, PSI RAS, Russia | |
| 11:00 | 30m | Coffee break | |
| Session: Smart Spaces and Internet of Things (<i>SmartRoom demo</i>) | | Session: Embedded and Real-Time Systems | |
| Chairman: Dmitry Korzun | | Chairman: Valentin Olenev | |
| Room: 103, Birzhevaya liniya 14 | | Room: 305/1, Birzhevaya liniya 14 | |
| 11:30 | 15m | Performance Evaluation of Smart-M3 Applications: A SmartRoom Case Study, Dmitry Korzun, Sergey Marchenkov, Andrey Vdovenko and Andrey Borodulin, PetrSU, Sergey Balandin, ITMO University, Russia | Protocol for Deterministic Data Delivery in SpaceWire Networks, Valentin Olenev, Elena Podgornova and Irina Lavrovskaya, SUAI, Russia |
| 11:45 | 15m | A modular lightweight implementation of the Smart- | SystemC NoC Simulation as the Alternative |

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| | | M3 Semantic Information Broker, Fabio Viola and Alfredo D'Elia, ARCES, Luca Roffia and Tullio Salmon Cinotti, DISI, Italy | to the HDL and High-level Modeling, Aleksandr Romanov, NRU Higher School of Economics, Aleksandr Ivannikov, IDPM RAS |
| 12:00 | 15m | Hybrid Automated Line Workstations Interaction Scenario for Optical Devices Assembly, Alexey Kashevnik and Nikolay Teslya, SPIIRAS, Eugeny Yablochnikov, Valery Arckhipov and Kirill Kipriyanov, ITMO University, Russia | Mixed-Criticality Scheduling in Real-Time Multiprocessor Systems, Sergey Osmolovskiy, Ivan Fedorov, Vladimir Vinogradov, Ekaterina Ivanova and Daniil Shakurov, SUAI, Russia |
| 12:15 | 15m | Design and Implementation of the First Aid Assistance Service Based on Smart-M3 Platform, Iuliia Zavalova and Nikolai Lebedev, PetrSU, Ivan Timofeev, Yaroslavl State University, Russia | Reconfigurable NoC Development with Fault Mitigation, Elena Suvorova, Yuriy Sheynin and Nadezhda Matveeva, SUAI, Russia |
| 12:30 | 15m | Remote Networking Technology for IoT: Cloud-based Access for AllJoyn-enabled Devices, Pavel Masek, Radek Fujdiak, Krystof Zeman and Jiri Hosek, Brno University of Technology, Czech Republic, Ammar Muthanna, State University of Telecommunication, Russia | The Impact of Blocking Factor on Real-Time Applications Feasibility, Sergey Baranov and Victor Nikiforov, SPIIRAS, Russia |
| 12:45 | 15m | Intermediate Models Evaluation for Ontology Development for Smart Spaces Technologies, Natalya Gusarova, Galina Artemova and Igor Kotciuba, ITMO University, Russia | Hierarchical Real-Time Scheduling for Multicore Systems, Sergey Osmolovskiy, Ekaterina Ivanova, Daniil Shakurov, Ivan Fedorov and Vladimir Vinogradov, SUAI, Russia |
| 13:00 | 15m | Advanced Optimization Method for Improving the Urban Traffic Management, Radek Fujdiak, Pavel Masek, Petr Mlynek and Jiří Mišurec, Brno University of Technology, Czech Republic, Ammar Muthanna, State University of Telecommunication, Russia | Cross-Platform Programs Implementation for Specialized Distributed Embedded Systems, Vladimir Sharov and Oleg Bolshakov, RSATU, Alexander Petrov, NPP SATEK Ltd, Russia |
| 13:15 | 15m | Unequal Temperature Changes in City: A Case Study using a Semantic IoT Platform, Maxim Kolchin, Nikolay Klimov, Ivan Shilin, Daniil Garayzuev and Alexey Andreev, ITMO University, Russia | Using P-median Algorithm for 3D Network-on-Chip Design, Nadezhda Matveeva, Lev Kurbanov and Elena Suvorova, SUAI, Russia |
| 13:30 | 45m | Lunch break (on your own) | |
| Session: Network Technologies Chairman: Dmitriy Mouromtsev Room: 103, Birzhevaya liniya 14 | | | Session: Geo-aware Services and Platforms Chairman: Kirill Krinkin Room: Conference hall, Birzhevaya liniya 4 |
| 14:15 | 15m | Application of Specialized Computer Systems to Study the Characteristics of Telecommunication Networks, Vadim Goikhman, SOTSBI, Kirill Yesalov, State University of Telecommunications, Nikolay Sokolov, LO ZNIIS, Russia | Towards an Understanding of Smart Service: The Case Study for Cultural Heritage e-Tourism, Kirill Kulakov, Oksana Petrina, Dmitry Korzun and Aleksey Varfolomeyev, PetrSU, Russia |
| 14:30 | 15m | Validating Information Security Framework for Offloading from LTE onto D2D Links, Antonino Orsino, University Mediterranea of Reggio Calabria, Italy, Aleksandr Ometov, Tampere University of Technology, Finland | On Connectivity of Automatically Extracted Keyphrase Graph of Object Descriptions in "Open Karelia" Tourism Information System, Ksenia Lagutina, Eldar Mamedov, Nadezhda Lagutina and Ilya Paramonov, YarSU, Russia |
| 14:45 | 15m | Decentralized Field Service Automation Using Adeptik Platform, Dmitry Spanderashvili, Alexander Morozov and Adelya Mamleeva, Astrakhan State Technical University, Sergey Gudyrin, Adeptik, Russia | Logistics Service Development based on the Geo2Tag and Smart-M3 Platforms, Kirill Yudenok, Kirill Krinkin and Mark Zaslavsky, FRUCT OSL, Russia |
| 15:00 | 15m | On Physical Web Browser, Dmitry Namiot, Moscow State University, Russia, Manfred Sneps-Snepe, Ventspils University College, Latvia | Maritime Safety Monitoring On The Northern Sea Route, Oksana Smirnova and Misha Tsvetkov, SPIIRAS, Russia |

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|---|------|---|---|
| 15:15 | 15m | Field of Study and Research Methods for an Effect of Cognitive and Information Load on PC's Users, Andrei Balkanskii, Artem Smolin and Yury Solonitsyn, ITMO University, Russia | Recommending Tourist Locations Based on Data from Photo Sharing Service: Method and Algorithm, Andrew Ponomarev, SPIIRAS, Russia |
| 15:30 | 15m | Detection of SCMA Signal with Channel Estimation Error, Vyacheslav Klimentyev and Alexander Sergienko, SPbETU LETI, Russia | <p style="text-align: center;">Coffee break</p> |
| 15:45 | 15m | The Public Communication Network Development as the Process of Complex System Evolution, Vyacheslav Efimov and Nikolay Sokolov, LO ZNIIS, Russia | |
| 16:00 | 15m | Platform-independent Reverse Debugging of the Virtual Machines, Pavel Dovgalyuk, Denis Dmitriev and Vladimir Makarov, Novgorod State University, Russia | |
| 16:15 | 15m | Automated Extraction of Concept Matcher Thesaurus from Semi-Structured Catalogue-Like Sources of Data on the Web, Maxim Lapaev, ITMO University, Russia | |
| 16:30 | 25m | Emulation of Dynamic Adaptive Streaming over HTTP with Mininet, Anatoliy Zabrovskiy, Evgeny Kuzmin, Evgeny Petrov and Mikhail Fomichev, Petrozavodsk State University, Russia | |
| 16:55 | 15m | Coffee break | |
| <p>Session: Demo Pitches in Pecha Kucha format Chairman: Ilya Paramonov Room: 103, Birzhevaya liniya 14</p> | | | |
| 17:10 | 4m | Timer - Mobile Application for Android OS, Kiril Prihodko, Vladimir Sayenko, KhNURE | <p style="text-align: center;">Coffee break</p> |
| 17:14 | 4m | Mobile App for Controlling Calories - "Calories Counter", Valeriya Chub, Vladimir Sayenko, KhNURE | |
| 17:18 | 4m | Nightmares – Survival Shooter Computer Game, Dmitro Nesterenko, Vlad Zherniuk, Angelika Kalnitskaya and Vladimir Sayenko, KhNURE | |
| 17:22 | 4m | InSight guide – mobile tourist service for tourists and travelers, Vlad Korobka, Galyna Kluchko, Angelika Kalnitskaya and Vladimir Sayenko, KhNURE Web- | <p style="text-align: center;">Meetup of Russian Sailfish OS Community (discussion module), Conference hall, Birzhevaya liniya 4</p> |
| 17:26 | 4m | Smart Mobile Driver Assistance for Android, Igor Lashkov, ITMO University | |
| 17:30 | 4m | Smart-M3 Platform Installation to DD-WRT-Based Wi-Fi Router, Sergei Mikhailov, SPIIRAS | |
| 17:34 | 4m | TAIS Client Application Improvements and Optimization for Tablets, Nikolay Teslya, SPIIRAS | |
| 17:38 | 4m | Based Competency Management System for ITMO University Technopark, Boris Gordeev and Olesya Baraniuc, ITMO University, Alexey Kashevnik, SPIIRAS | |
| 17:42 | 4m | First Aid Assistance Service, Iuliia Zavialova, Nikolai Lebedev, Alexander Borodin, PetrSU | |
| 17:46 | 4m | CuteSIB Demo for Raspberry Pi, Sergey Marchenkov, Dmitry Baganov, Dmitry Korzun, PetrSU | |
| 17:50 | 10m | Break and Preparation to Demo Session | |
| <p>Session: Conference social event combined with Demo session Room: 103, Birzhevaya liniya 14 Chairman: Ilya Paramonov</p> | | | |
| 18:00 | 2.5h | Demo Session and Social Event | |
| 20:30 | | Closing of Day 4 | |

April 22 (Friday)

Technopark of National Research University ITMO, Birzhevaya liniya 14, Rooms 103 & 305/1

| | | | |
|---|-----|--|--|
| 09:30 | 30m | Conference registration | |
| 10:00 | 45m | Keynote talk: On Optimal S-Boxes for Block Ciphers, by Lilya Budaghyan, University of Bergen, Norway Birzhevaya liniya 14, room 103 | |
| 10:45 | 30m | Coffee break | |
| Session: Information Security and Protection of Information Technologies I Chairman: Alla Levina Room: 103, Birzhevaya liniya 14 | | Session: e-Healthcare, Early Diagnostics and Fitness Chairman: Sergey Balandin Room: 305/1, Birzhevaya liniya 14 | |
| 11:15 | 15m | Next Generation FPGA-based Platform for Network Security, Olga Viatcheslavovna Mamoutova, Alexey Filippov and Alexander Antonov, St. Petersburg State Polytechnic University, Russia | Surgery Scene Representation in 3D Simulation Training SDK, Anton Ivaschenko and Nikolay Gorbachenko, Samara State Aerospace University, Alexandr Kolsanov, Samara State Medical University, Andrey Kuzmin, Penza State University, Russia |
| 11:30 | 15m | Handheld Wireless Authentication Key and Secure Documents Storage for the Internet of Everything, Sviatoslav Edelev, University of Goettingen, Germany, Maria Komar and Yevgeni Koucheryavy, Tampere University of Technology, Finland | Classification of Pulmonary Nodules on Computed Tomography Scans, Evaluation of the Effectiveness of Application of Textural Features Extracted Using Wavelet Transform of Image, Igor Ryabchikov, Marina Sergeeva, Mark Glaznev and Natalia Gusarova, ITMO University, Russia |
| 11:45 | 15m | Design of Service-Oriented Architecture Pattern for Multi-Device and Multi-Platform User Interfaces, Roman Arefev and Tatiana Zudilova, ITMO University, Russia, Ahmed Seffah, LUT, Finland | Remote Photoplethysmography Application to the Analysis of Time-Frequency Changes of Human Heart Rate Variability, Konstantin Purtov, Vladimir Kublanov, Anna Petrenko and Timur Petrenko, Ural Federal University, Russia |
| 12:00 | 15m | Efficiency Metrics for Flocking with Implicit Leadership, Oleg Maslennikov and Igor Komarov, ITMO University, Russia | Hand Skin Temperature: Usability for Health Care Services, Ludmila Gerasimova-Meigal, Anna Fedosova and Alexander Meigal, PetrSU, Russia |
| 12:15 | 15m | Flocking Factors' Assessment in Case of Destructive Impact on Swarm Robotic Systems, Ilya I. Viksnin, Anastasia L. Drannik, Radda A. Iureva and Igor I. Komarov, ITMO University, Russia | Heart Rate Variability Predicts the Ovulation in Young Women: Possible Implications for Mobile Medicine Services, Alexander Meigal, Nina Voronova, Liudmila Gerasimova-Meigal, Liudmila Yelaeva and Galina Kuzmina, PetrSU, Russia |
| 12:30 | 15m | Performance Evaluation of Cloud Computing Accounting for Expenses on Information Security, Anatoly Khomonenko and Sergey Gindin, Petersburg State Transport University, Russia | A Mobile System for the Hypertension Management in Remote Patients and Evaluation of the Risk Markers for Hypertension-Related Complications, Aleksandr Borodin and Tatyana Kuznetsova, PetrSU, Elena Andreeva, Petrozavodsk City Clinic №1, Russia |
| 12:45 | 15m | Utilizing Type Systems for Static Vulnerability Analysis, Lavrentii Tsvetkov and Anton Spivak, ITMO University, Russia | FRUCT m-Health WG meeting Room: 305/1, Birzhevaya liniya 14 |
| 13:00 | 15m | Side-channel attacks and machine learning approach, Alla Levina, Daria Sleptsova and Oleg Zaitsev, ITMO University, Russia | |
| 13:15 | 15m | Mobile Phone Security: Side Channel Point of View, Alla Levina, Pavel Borisenko and Roman Mostovoy, ITMO University, Russia | |
| 13:30 | 45m | Lunch break (on your own) | |

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|---|-----|--|---|--|
| Session: Information Security and Protection of Information Technologies II Chairman: Alla Levina Room: 103, Birzhevaya liniya 14 | | | FRUCT Smart Spaces & IoT WG meeting Room: 305/1, Birzhevaya liniya 14 Kick-off talk: Semantic Information Broker for Smart Spaces: Value Offering Deployment Options, by Dmitry Korzun, Aleksandr Lomov, Ivan Galov | |
| 14:15 | 15m | Compromising Windows 10 Phone Security System with Standard API Calls, Ogolyuk Alexander and Tatiana Markina, ITMO University, Russia | | |
| 14:30 | 15m | Sensor Data Anonymization Based on Genetic Algorithm Clustering with L-diversity, Ainur Abdrashitov and Anton Spivak, ITMO University, Russia | | |
| 14:45 | 15m | Control of Exchange Messages in a Noisy Channel, Valentin Yakovlev and Farruh Kushnazarov, Petersburg State Transport University, Russia | | |
| 15:00 | 15m | Method of Classification of User and System Data Based on the Attributes, Igor Zikratov, Igor Pantiukhin and Anna Sizykh, ITMO University, Russia | | |
| 15:15 | 15m | "Tap2smart": a New Lock-screen Option for Modern Smartphones, Maxim Grankin, Maria Shelest, Evgeny Bakin and Grigory Evseev, SUAI, Russia | FRUCT LBS WG meeting Room: 305/1, Birzhevaya liniya 14 | |
| 15:30 | 15m | Research Availability of Devices Based on Wireless Networks, Nurzhan Bazhayev, Ilya Lebedev, Irina Krivtsova and Igor Zikratov, ITMO University, Russia | | |
| 15:45 | 15m | Coffee break | | |
| Session: Information Security and Protection of Information Technologies III Chairman: Alla Levina Room: 103, Birzhevaya liniya 14 | | | Session: Information Security and Protection of Information Technologies IV Chairman: Anton Spivak Room: 305/1, Birzhevaya liniya 14 | |
| 16:00 | 15m | Evaluation of Cryptographic Primitives Security Based on Proximity to the Latin Square, Vladimir Palagushin and Anatoly Khomonenko, Petersburg State Transport University, Sergey Adadurov, JSC "Roszheldorproekt", Russia | Using Preventive Measures for the Purpose of Assuring Information Security of Wireless Communication Channels, Mikhail Sukhoparov and Daniil Tikhonov, SPbF OAO "NPK "TRISTAN", Ilya Lebedev, Viktoria Korzhuk, Irina Krivtsova, Sergei Pecherkin and Kseniya Salakhutdinova, ITMO University, Russia | |
| 16:15 | 15m | Examining the Performance of Classification Algorithms for Imbalanced Data Sets in Web Author Identification, Alisa Vorobeva, ITMO University, Russia | Assessment of Stability of Algorithms Based on Trust and Reputation Model, Ilya I. Viksnin, Anastasia L. Drannik, Radda A. Iureva and Igor I. Komarov, ITMO University, Russia | |
| 16:30 | 15m | Effectiveness of LSB and MLSB Information Embedding for BMP Images, Natalia Voloshina, Sergey Bezzateev, Anton Prudanov, Mikhail Vasilev and Anton Gorbunov, SUAI, Russia | Bi-deniable Public-Encryption Protocols Based on Standard PKI, Nikolay Moldovyan, SPIIRAS, Andrey Berezin, SPbETU LETI, Anatoly Kornienko, Petersburg State Transport University, Alexander Moldovyan, ITMO University, Russia | |
| 16:45 | 15m | New Construction of Algebraic Manipulation Detection Codes Based on Wavelet Transform, Alla Levina and Sergey Taranov, ITMO University, Russia | Formulation and Solution the Tasks of Protection the Information from Unauthorized Access, Kirill Scheglov, Andrey Scheglov and Tatiana Markina, ITMO University, Russia | |
| 17:00 | 15m | Comparative Analysis of Halftoning Algorithms for Digital Watermarking, Anton Makarov and Elena Yakovleva, St. Petersburg State University, Russia | Method of Elf-Files Identification Based on the Metric Classification Algorithms, Igor Zikratov, Igor Pantiukhin, Irina Krivtsova and Nikita Druzhinin, ITMO University, Russia | |
| 17:15 | 15m | Official closing of the 18th FRUCT & ISPIT conference, Room 103 | | |

Demo Session of the 18th FRUCT & ISPIT Conference

Time: 21 April 2016, 17:00-20:30

Place: Technopark of University ITMO, Vasilievskiy island, Birzhevaya liniya 14, Room 103

The Demo section of the 18th FRUCT conference will be combined with the demo session of the Regional seminar on Mobile Healthcare, early diagnostics and fitness and with the conference social event. The first part is a promotional section to present/introduce demo projects to the public. Presentations will be done following the Pecha Kucha style. Main idea of this section is to make people aware of the demo and become interested to visit the demo stand at the second part of the session. During the second part of demo session teams get a place to install the demo and poster. If you have some special requirements please contact organizing committee by email info@fruct.org.

Pecha Kucha Presentation Format

Pecha Kucha is a presentation technique where a speaker shows a definite number of slides (usually 20 or 15), each for 20 seconds. The slides are changed automatically during the talk. The main intention for Pecha Kucha presentation style is to prevent participants from being too verbose and to make their talks more dynamic and impressive.

Pecha Kucha Night is an event where each speaker uses Pecha Kucha presentation, and speakers change each other in non-stop fashion. Initially invented by architects, this kind of event is often used to present creative projects or work; nowadays it is also used for R&D talks too. Pecha Kucha Night format allows all participants to make announcements about their demos in attractive and time-efficient way. That is why we have chosen this format for demo promotion section at FRUCT conference. More information can be found at <http://www.fruct.org/demo>.

How to prepare Pecha Kucha presentation

Here is an instruction on how to prepare your Pecha Kucha style presentation for Demo promotion section. Your presentation must contain exactly 6 slides, and each of them will be displayed for 20 seconds. The slides will be changed automatically. So, the whole presentation will take exactly 2 minutes (it should be noted that usually Pecha Kucha presentation has 20 slides, but we have to reduce the number due to a large amount of submitted presentations). Provide the information about yourself and your presentation on the first slide (name, institution, title of your presentation).

The main purpose of your talk would be to interest people, so your presentation should make absolutely clear the main ideas of your project and explain what you plan to show at the demo stand. Make your presentation fascinating to attract attendees and avoid technical details in your talk. Reveal one main idea on each slide. Do not overload your slides with information. Remember, that each slide is displayed only for 20 seconds. Place no more than 2 lines of text per slide, or one big picture. Avoid using slide titles. Do not duplicate the same slides in your presentation — it is cheating! If you see that 20 seconds for a particular slide is not enough for you, try to decouple it into the two or more, or omit the details. Do not place “Thank you” or “Q&A” slides in the presentation. Pecha Kucha session does not imply any questions from the auditory. All the questions will be asked afterwards in a poster room. Prepare your speech thoroughly and beforehand. As you have only 20 seconds per slide, it is quite impossible to improvise during the talk. Rehearse your speech several times to be sure in the absence of pauses when you wait for the slide change, or accelerations when you fails to follow your slides. Try to speak in the same pace during all the presentation. It definitely depends on your text, so try to prepare near the same amount of text in speech for each slide.

Check list

- Use exactly 6 slides.
- Place information about yourself and your presentation (name, institution) on the first slide.
- Reveal one main idea on each slide.
- Place no more than 2 lines of text or 1 large image per slide.
- Do not duplicate the same slides, do not place “Thank you” or “Q&A” slides in the presentation.
- Do not use any slide change animation.
- Prepare your speech thoroughly and do not forget to rehearse it.

List of Demos (preliminary list based on submissions by April 5)

1. **Smart-M3 Platform Installation to DD-WRT-Based Wi-Fi Router, Sergei Mikhailov, SPIIRAS**

The Smart-M3 platform consists of two parts: information agents and kernel. The demo describes a way for installation the kernel on a router. The key idea is compiling and installing Smart-M3 package on a router — it is needed to access to router's memory for storage compiler and packages for building chosen system. Author used Asus RT-N16 router, but it is possible to choose another vendor or model. Demo will show Smart-M3 platform installed to DD-WRT-Based Wi-Fi Router and the "Smart-M3 Control Panel", a service, which provides to the user possibilities of working with Smart-M3 platform.

2. **TAIS Client Application Improvements and Optimization for Tablets, Nikolay Teslya, SPIIRAS**

This demo presents improvements of a tourist attraction information service (TAIS) for supporting a tourist in a region. The service has been developed to recommend attractions to the tourist that could be interesting for him/her based on the current situation. Main changes that have been implemented in the service provide new user interface optimized for tablets and several background improvements in the service that provides user friendly interface and optimize the service.

3. **Smart Mobile Driver Assistance for Android, Igor Lashkov, ITMO University**

This demo demonstrates the concept of the driver assistance for smartphones to fully understand the driving situation in a given scenario in a real time and to undertake actions necessary to avoid road accidents. To fulfill these, we utilize a wide array of sensors for creating a consistent and extendable description of most common dangerous situations, a situation model and situation analysis. In the situation model, on-board smartphone sensing signals are used to build up a representation of the environment around and within the vehicle.

4. **Web-Based Competency Management System for ITMO University Technopark, Boris Gordeev and Olesya Baraniuc, ITMO University, Alexey Kashevnik, SPIIRAS**

The demo presents a competency management system development and implementation for residents of ITMO University Technopark. Every resident is described by the profile. Profile consists of several competencies and evidences with skills levels characterized the competence and evidence degree of possession. Demo is a web-based application that provides users to work with competence management system through a web-based interface.

5. **SmartRoom Demo: Guide for FRUCT18 Conference Participants, Dmitry Korzun, Sergey Marchenkov, Andrey Vdovenko, Andrey Borodulin, PetrSU (life demo at Smart Spaces & IoT section 21.04, 11:30-13:30)**

During the 18th FRUCT Conference the SmartRoom system is used for assisting the organization and collaborative activity of some conference sessions.

6. **First Aid Assistance Service, Iuliia Zavialova, Nikolai Lebedev, Alexander Borodin, PetrSU**

The first medical aid may be delivered untimely due to some difficulties such as a traffic overloading, a lack of free ambulances, etc. Volunteers may be involved to decrease the emergency response time.

The proposed first aid assistance service enables the first aid to be delivered from volunteers to patients.

The users are authenticated through their account and publish their current location. When a patient feels bad and needs medical help, he may send panic signals using the mobile application. All panic signals are processed by dispatching service that automatically distributes patients in need between free volunteers according to their locations. A volunteer uses the similar mobile application to receive such notification. He may accept help request or reject it. In case of a positive answer, a route from patient to volunteer is built.

The service uses Smart-M3 platform and a software framework SmartSlog for a virtual information environment construction of the user and the publication of information to smart space based on a given ontological model. Information describing the interaction of participants in the smart space is presented in the ontological model, which is part of the application's implementation.

7. **Timer - Mobile Application for Android OS, Kiril Prihodko, Vladimir Sayenko, KhNURE**

An Android based application is proposed. This is Timer. It maintains standard time counting functions. It could help to develop special applications and could be considered as a software designing approach.

8. **Mobile Application for Controlling Calories - "Calories Counter", Valeriya Chub, Vladimir Sayenko, KhNURE**

A brief overview of available architecture solutions for calories counter-based applications and highlighting problems of their using. Some architectural solutions on developing of 'Calories Counter' android application, which solve these problems, are proposed.

9. *Nightmares – Survival Shooter Computer Game, Dmitro Nesterenko, Vlad Zherniuk, Angelika Kalnitskaya and Vladimir Sayenko, KhNURE*

The computer video game is proposed. It is designed at Survival Shooter genre. It gives a possibility to compete in a number of points. The playable character is a boy who was fighting in his sleep with plush toys.

10. *InSight guide – mobile tourist service for tourists and travelers, Vlad Korobka, Galyna Kluchko, Angelika Kalnitskaya and Vladimir Sayenko, KhNURE*

Tourist's assistant mobile application is proposed. This application is an additional guide of numbers of little-known sights in any city. It has possibility to extend database of sights, use social networks and cloud resources.

11. *CuteSIB Demo for Raspberry Pi, Sergey Marchenkov, Andrey Borodulin, Dmitry Baganov, Dmitry Korzun, PetrSU*

This demo illustrates the opportunities of CuteSIB—the latest implementation variant of Smart-M3 semantic information broker (SIB). Credit card-sized single-board computers such as Raspberry PI are considered as hosting devices to run CuteSIB. The installation is augmented with additional software modules—Smart-M3 knowledge processors (KPs). In our example case, one KP operates with public DBpedia service from the Internet to create locally a smart space with information about the cities which the human participants are from. The participants access the smart space using their personal mobile devices such as smartphones and tablets.



EMC²



FOR NOTES



EMC²



FOR NOTES



EMC²



FOR NOTES

18th Conference of Open Innovations Association FRUCT and Seminar on Information Security and Protection of Information Technology

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CALL FOR PARTICIPATION

19th Conference of Open Innovations

Association FRUCT

Jyväskylä, Finland, 7-11 November 2016



Overview

FRUCT is the largest regional cooperation framework in form of open innovations between academia and industry. FRUCT conferences are attended by the representatives of more than 20 FRUCT member universities from Russia, Finland, Denmark, Italy, Ukraine, industrial experts from Jolla, EMC², Intel, Nokia, Skolkovo and a number of guests from other companies and universities.

The conference is an R&D forum for the most active students, academic experts, industrial researchers and influential representatives of business and government. The conference invites the world-class academic and industrial researchers to give lectures on the most relevant topics, provides an opportunity for student teams to present progress and results of their R&D projects, meet new interesting people and form new R&D teams. The conference program consists of 3 to 5 intensive (½ or full day) trainings on the most promising technologies, plus 3 days of the main conference.

We warmly welcome all university research teams to participate in the conference, present your research and join the FRUCT Association. IEEE members and representatives of Russian and Finnish universities are entitled to large discounts. Registration to the conference is open at <http://www.fruct.org/conference19>.

Background and motivation

The distinctive feature of modern IT and Telecommunications industries is in dramatic shortening of the period when technology remains commercially viable. On the one hand, this is due to the competition between key market players that are pushing all manufacturers to accelerate innovations; on the other hand, this is due to technological progress speed up caused by the growing expansion of intellectual resource invested into R&D and design activities. This trend is an important call and challenge for the leading educational and research institutions around the globe. In the FRUCT we believe that it is crucial to combine forces of EU and Russia to follow up the competition in adopting university education to the new industrial trends. The first step is to strength a bridge between Russian and Finnish academic worlds, increase visibility of involved research teams and set direct personal contacts between academic and industrial experts. More information about FRUCT is available at www.fruct.org.

Call for papers and presentations

You can select one of the following 3 types of submissions:

- Full papers (min 6 pages and up to 12 pages) - submission deadline is **September 30, 2016**
- Extended abstracts (min 200 words, max 5 pages) - submission deadline is September 30, 2016
- Poster or demo summary (min 200 words, max 5 pages) - submission deadline is October 31, 2016

All submitted papers will be peer reviewed by the technical committee. Please follow provided paper templates.

The list of priority topics is as follows:

- Location Based Services, Navigation, Logistics management, e-Tourism solutions
- Mobile Healthcare, Wellbeing, Automated diagnostics, Fitness, e-Health solutions
- Future services: Proactivity, IoT, Smart Spaces, Context Analysis, Big Data and data mining
 - Energy efficient design of sensors, integration of peripherals
 - Cross-platform software, innovative mobile services, new approaches to application design, innovative UX
- Smart Systems, Inter-device connectivity, embedded networks

The list of additional topics is as follows:

- Mobile device security, management of personal and business privacy
- Modern network architectures, Emerging wireless technologies, Air interfaces and protocols
- Mobile multimedia and video services and solutions

All conference papers and abstracts will be published in FRUCT proceeding (ISSN 2305-7254), all Full papers will be published in IEEE Xplore (Scopus) and selected papers recommended (but not guaranteed) for CPCI indexing (Web of Science). The templates, conference news and other details can be found at <http://www.fruct.org/conference19>.