Program of

15th Conference of Open Innovations Association FRUCT

St. Petersburg, Russia
21-25 April 2014

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 QUAELIBET!
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!

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The program of 15th FRUCT conference
April 21-25, 2014, St. Petersburg, Russia

All events are free of charge, but all participants must be registered at www.fruct.org/conference15
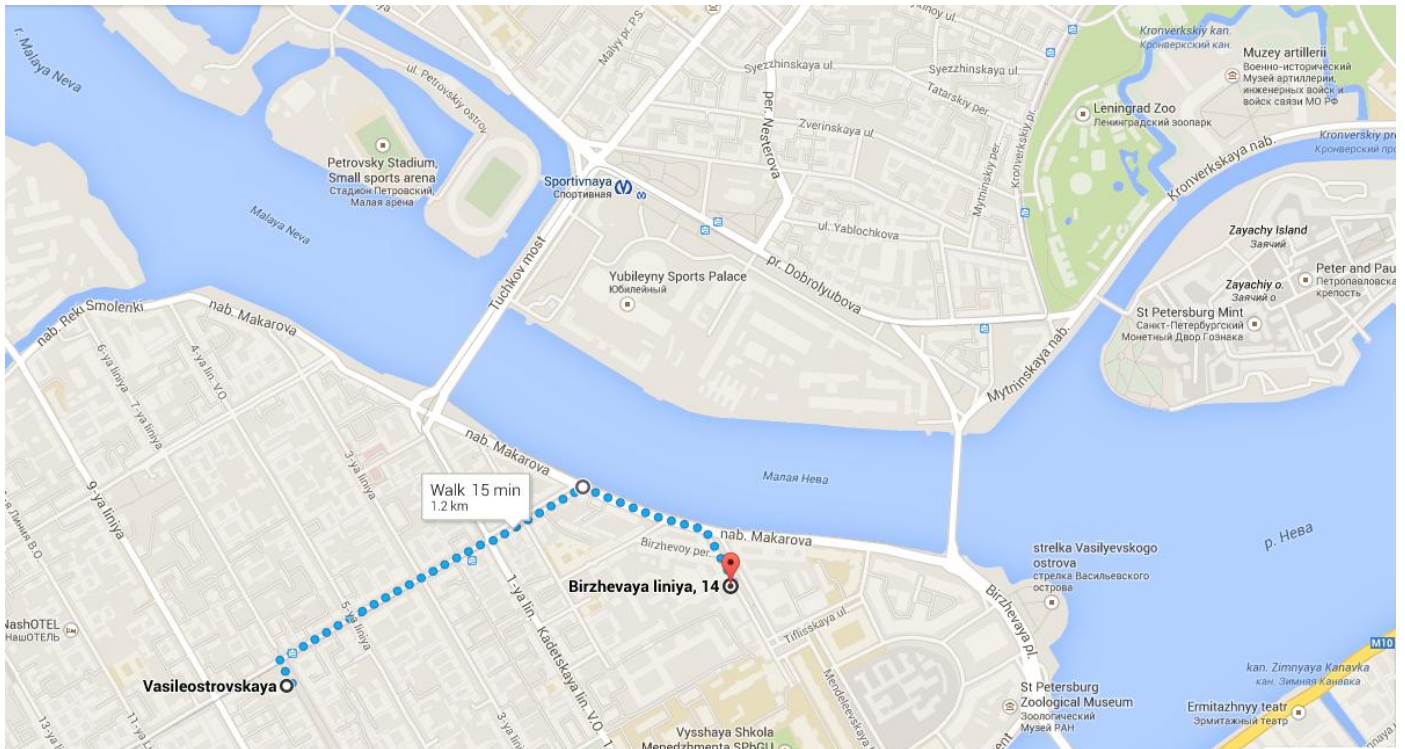
On April 21-22, St. Petersburg State Electrotechnical University "LETI", ul. Prof. Popova, 3

On April 22-25, St. Petersburg National Research University ITMO, Vasilievskiy island, Birzhevaya liniya, 14

DATE	TIME	PROGRAM	
21.04.14	13:30-14:00	**Nokia workshop and Conference Registration**	
	14:00-17:30	Nokia Developers Workshop: Developing for Nokia X Platform LETI, 5th building, conference room, 1st floor	
22.04.14	08:30-09:00	**Registration to Nokia Workshop**	**Registration to Tizen DevLab**
	09:00-12:30	Nokia Developers Workshop: Advanced imaging with Nokia Imaging SDK, **in LETI**, 5th building, conference room, 1st floor	Tizen Developers Lab **in ITMO**, Auditorium 515 (in Russian language)
	12:30-13:30	**Lunch break**	
	13:30-17:30	Nokia Developers Workshop: Working with Windows Phone device APIs **in LETI**, 5th building, conference room, 1st floor	
23.04.14	09:00-09:30	**Conference Registration**	
	09:30-12:00	Internal meeting of ENPI Karelia CBC projects (KA-179, KA-322, KA-432)	
	11:30-12:30	**Conference Registration**	
	12:30-14:30	**Opening of 15th FRUCT conference:** Welcome words and the Main Plenary Session, Auditorium 103	
	14:30-15:00	**Coffee break**	
	15:00-16:20	Mobile Healthcare, Early Diagnostics and Fitness, Auditorium 103 **Invited lecture**: Security and Smartness for Medical Sensor Networks in Personalized Mobile Health Systems, Andrei Gurtov, HIIT, Finland	
	16:20-16:50	**Coffee break**	
	16:50-18:50	Video and Multimedia, Auditorium 103	
24.04.14	09:00-09:45	**Conference Registration**	
	09:45-10:30	**Invited lecture**: The main challenges of m-Health: the most promising directions for research and development, Oleg Medvedev, MSU, Auditorium 103	
	10:30-11:00	**Coffee break**	
	11:00-13:20	Network Technologies, Auditorium 103	Smart Spaces and IoT WG
	13:20-14:30	**Lunch break (on your own)**	
	14:30-16:30	Smart-M3 Applications, Auditorium 103	
	16:30-17:00	**Coffee break**	
	17:00-17:40	Demos Promo: Presentation in Pecha Kucha format, Auditorium 103	
	17:40-18:00	**Break and Preparation to Demo Session**, Auditorium 103	
	18:00-20:30	**Demo Session and Social Event**, Auditorium 103	
25.04.14	09:30-10:00	**Conference Registration**	
	10:00-11:20	Smart Systems and Embedded Networks, Auditorium 103	
	11:20-11:50	**Coffee break**	
	11:50-13:30	Mobile Device oriented solutions, Auditorium 103	
	13:30-14:30	**Lunch break (on your own)**	
	14:30-15:50	Modern User-centric Services and Solutions, Auditorium 103	
	15:50-16:00	**Official closing of the 15th FRUCT conference**, Auditorium 103	

Practical Information

The main conference will be held at the historical center of St. Petersburg in business incubator of National Research University of Information Technologies, Mechanics and Optics (ITMO). Address: St. Petersburg, Vasilievskiy island, Birzhevaya liniya 14 (**metro Vasileostrovskaya** or **Sportivnaya**). Please make sure that you have ID with your photo.

List of images related to the location

Clickable map

Current weather

Path from the user location to FRUCT 15th conference

First three interesting places around

Interested places around

Scrollable list of images for interesting place

Interesting place description

Distance from the location to an attraction

Attraction image

We recommend you to use Tourist Attraction Information System (TAIS) - a mobile tourist guide for Android devices. 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, Flickr.

During FRUCT conference TAIS will allow participants to easily find way to the locations of the main conference and Nokia developers training. In the main screen please select one of main attractions "FRUCT 15th Conference" or "Nokia Developers Trainings". When the user selects one of the attractions he/she can open map and see path from current location to the FRUCT 15th conference place.

Nokia Developers Workshop

Training dates: 21-22 April 2014   Place: Saint-Petersburg State Electrotechnical University "LETI", 5th building, conference room, 1st floor, ul. Prof. Popova, 3

NOKIA
Connecting People

Overview

Nokia and FRUCT invite you to take part in the Nokia Developers Workshop. The workshop consists of 3 professional trainings on "Developing for Nokia X Platform", "Advanced imaging with Nokia Imaging SDK", and "Working with Windows Phone device APIs".

The trainings will be held at Saint-Petersburg State Electrotechnical University "LETI", 5th building, conference room at the 1st floor, ul. Prof. Popova, 3. The fastest way to get to the trainings is to go by subway to **Petrogradskaya metro** station and take a walk to State Electrotechnical University "LETI", as illustrated by the map below.
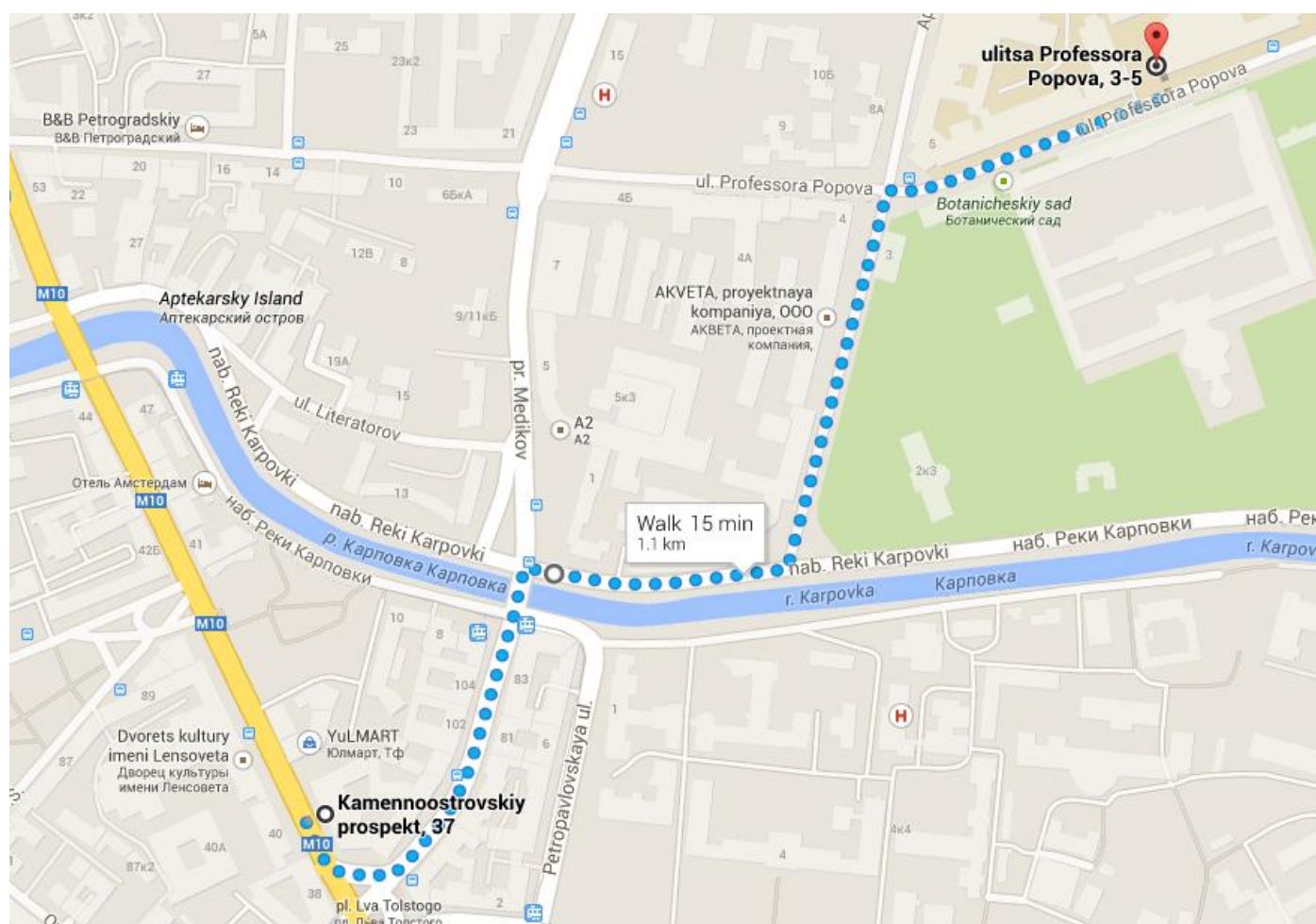
Developing for Nokia X Platform

Nokia X is a new platform for mobile developers. In this training session, developers will get an overview of Nokia X platform and tools (Android based). We will look at Nokia X APIs such as Here Maps, In-App Purchases and Nokia Notifications. We will discuss and illustrate, how to analyse required porting effort for your existing Android apps. The training will be held on April 21, 2014 from 14.00 till 19.00. Before the training please install Nokia X SDK.

Advanced imaging with Nokia Imaging SDK

Nokia Imaging SDK is new set of tools available for all Windows Phone 8 developers. It includes specially optimized libraries for various filters suitable for offline and real-time image processing. In this training you will learn about capabilities of Nokia Imaging SDK and how to build impressive apps with image processing and camera functionality on Windows Phone and Windows 8/RT. You will see many practical demonstrations and will get code snippets for using imaging filters, special effects, working with live camera feed and full resolution 41 and 20 Megapixel photos. The training will be held on April 22, 2014 from 09.00 till 12.30. For the training please have device with Windows 8 and install Windows Phone 8 SDK and Nokia Imaging SDK.

Working with Windows Phone device APIs

During this session, you will learn how to work with Windows Phone APIs such as Voice and Speech, as well as, how to control external devices with Bluetooth. As an example, during the training we will build an app for a low level binary RFCOMM protocol used in Lego Mindstorms NXT 2.0 and will control Lego robot with the voice commands. The training will be held on April 22, 2014 from 13.30 till 17.00. For the training please have device with Windows 8 and install Windows Phone 8 SDK.

Pre-requirements

It is expected that participants know principles of object-oriented programming. Preferably have some experience of development with C#/XAML.

Program

April 21 (Monday)
St. Petersburg State Electrotechnical University "LETI", 5th building, conference room, 1st floor, ul. Prof. Popova, 3

Hands-on training: Nokia Developers Workshop		
Room: 5th building, conference room, 1st floor		Trainer: Michael Samarin
13:30	30m	**Registration**
14:00	2h	Developing for Nokia X Platform
16:00	30m	**Coffee break**
16:30	2h	Developing for Nokia X Platform (cont.)
18:30	30m	Questions & Answers session
17:30		**Closing of Day 1**

April 22 (Tuesday)
St. Petersburg State Electrotechnical University "LETI", 5th building, conference room, 1st floor, ul. Prof. Popova, 3

Hands-on training: Nokia Developers Workshop		
Room: 5th building, conference room, 1st floor		Trainer: Michael Samarin
08:30	30m	**Registration**
09:00	1.5h	Advanced imaging with Nokia Imaging SDK
10:30	30m	**Coffee break**
11:00	1.5h	Advanced imaging with Nokia Imaging SDK (cont.)
12:30	1h	**Lunch break**
13:30	1.5h	Working with Windows Phone device APIs
15:00	30m	**Coffee break**
15:30	1.5h	Working with Windows Phone device APIs (cont.)
17:00	30m	Questions & Answers session
17:30		**Closing of Training**

Tizen Developers Lab

Training date: 22 April 2014   Place: National Research University ITMO, Birzhevaya liniya 14
                                      Room: Auditorium 515

Overview

Tizen является программной платформой, основанной на открытом исходном коде, поддерживаемой ведущими операторами мобильной связи, производителями устройств и поставщиками микроэлектроники. Платформа Tizen предоставляет гибкую среду для разработки приложений, основанных на технологиях HTML5, и нативных приложений.

Участвуя в DevLab, вы получите возможность прослушать лекции и мастер-классы специалистов Samsung и FRUCT, а также получить индивидуальные консультации по разработке под систему Tizen. Каждый зарегистрировавшийся участник тренинга получит прикольные и полезные Tizen сувениры на память.

Для полноценного участия в тренинге необходимо иметь с собой ноутбук, удовлетворяющий минимальным системным требованиям, на который настоятельно рекомендуется заранее установить подходящую версию Tizen SDK. Также очень рекомендуем ознакомиться с SDK перед началом тренинга, это позволит Вам лучше понять материал.

Tizen DevLab будут проводиться 22 апреля 2014 года (вторник) в бизнес инкубаторе Санкт-Петербургского национального исследовательского университета ИТМО, по адресу Васильевский остров, Биржевая линия, 14 (это самый центр города, в 15 минутах пешком от м. Василеостровская или Спортивная) в конференц-зале 515. В случае возникновения вопросов по нахождению места в дни проведения мероприятий, звоните по телефону 8-962-692-3481 (Сергей).

Регистрация на Tizen DevLab – бесплатная и открыта на странице http://www.fruct.org/tizen9.

Program

April 22 (Tuesday)
National Research University ITMO, Vasilievskiy island, Birzhevaya liniya 14, Auditorium 515

Hands-on training: Tizen Developers Lab		
Room: Auditorium 515		
08:30	30m	**Регистрация**
09:00	30m	Общий обзор платформы Tizen
09:30	30m	Обзор Tizen SDK: Введение и обзор работы с Tizen SDK
10:00	30m	Tizen HTML5 разработка
10:30	30m	Перерыв на кофе, общение участников, вопросы тренерам, и окончание установки SDK
11:00	1h	Обзор Tizen Web Runtime и API устройств: Введение в HTML5 web runtime и API устройств
12:00	30m	Лабораторная работа по Tizen: Первый практический опыт разработки под Tizen с использованием SDK
12:30	30m	Tizen Store: возможности для разработчиков. Размещаем первое приложение
13:00	30m	Перерыв на кофе, общение участников и индивидуальные консультации у тренеров
13:30		**Завершение Tizen DevLab**

The program of the 15th FRUCT conference
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April 23 (Wednesday)
National Research University ITMO, Vasilievskiy island, Birzhevaya liniya 14, Auditorium 103

Session: Internal meeting of ENPI Karelia CBC projects (KA-179, KA-322, KA-432)		
Room: Auditorium 103		Chairman: Anton Shabaev
09:30	2h	Internal seminar: discussion on the project progress, results and planning of the next half a year
Session: Official opening of the 15th FRUCT conference		
Room: Auditorium 103		Chairman: Sergey Balandin
11:30	1h	**15th FRUCT Conference Registration**
12:30	20m	Official opening of the 15th FRUCT conference
12:50	20m	Welcome words from ITMO
13:10	20m	Welcome on behalf of ENPI Karelia CBC projects and overview of the projects lead by Petrozavodsk State University, Anton Shabaev, Petrozavodsk State University, Russia
13:30	30m	Position of the Russian Software development industry on the Global market in 2014: prospects and challenges, Valentin Makarov, Russoft, Russia
14:00	30m	Skolkovo: how to do tech startup, Albert Efimov, Skolkovo Fund, Russia
14:30	30m	**Coffee break**
Session: Mobile Healthcare, Early Diagnostics and Fitness		
Room: Auditorium 103		Chairman: Alexander Borodin
15:00	40m	Invited talk: Security and Smartness for Medical Sensor Networks in Personalized Mobile Health Systems, Andrei Gurtov, Helsinki Institute for Information Technology, Finland
15:40	20m	Mobile Device for Monitoring Heart Rate, Aleksandr Efimov, Pavel Rudych, Andrew Jakushin, Sergey Jakushin, Margarita Bizunova, Novosibirsk State University, and Zoya Pedonova, Novosibirsk State Technical University, Russia
16:00	20m	"Accessibility Map" and "Social Navigator" Services for Persons with Disabilities, Kirill Kulakov, Yury Apanasik, Anton Shabaev and Irina Shabalina, Petrozavodsk State University, Russia
16:20	30m	**Coffee break**
Session: Video and Multimedia		
Room: Auditorium 103		Chairman: Dmitry Korzun
16:50	20m	Measurement Data Recognition from Seven-Segment Indicator by Mobile Device, Ivan Timofeev, Ilya Paramonov and Eldar Mamedov, YarSU, Russia
17:10	20m	Recognition of hand gestures on the video stream based on a statistical algorithm with pre-treatment, Vitaly Palochkin, Alexander Maksimovskiy and Andrey Priorov, YarSU, Russia
17:30	20m	Allocation of Text Characters of Automobile License Plates on the Digital Image, Ilya Trapeznikov, Andrey Priorov and Vladimir Volokhov, YarSU, Russia
17:50	20m	Monocular Visual Odometry and 3D Reconstruction, Alexandr Prozorov, Vladimir Volokhov and Andrew Priorov, YarSU, Russia
18:10	20m	Gender Classification for Real-Time Audience Analysis System, Vladimir Khryashchev, Lev Shmaglit, Andrey Shemyakov and Anton Lebedev, YarSU, Russia
18:30	20m	Analysis of Capacity of Picocell with Dominating Video Streaming Traffic, Evgeny Bakin, Anna Borisovskaya and Igor Pastushok, SUAI, Russia
18:50		**Closing of Day 3**

April 24 (Thursday)

National Research University ITMO, Vasilievskiy island, Birzhevaya liniya 14, Auditorium 103

09:00	45m	**Conference registration**
09:45	45m	Invited lecture: The main challenges of m-Health: the most promising directions for research and development, Oleg Medvedev, Moscow State University, Russia, Auditorium 103
10:30	30m	**Coffee break**

Session: Network Technologies Room: Auditorium 103 Chairman: Oleg Medvedev			**WG:** Smart Spaces and IoT Chairman: Sergey Balandin
11:00	20m	Towards Evaluation Study on Commissioning and Operation of Industrial Wireless Sensor Networks, Alexey Andrushevich, Alexander Kurbatski, Belarusian State University, Valeriy Lazovik, Victor Dravitsa, Vladimir Voitovich and Ihar Ravin, Centre for Identification Systems, Belarus	FRUCT Smart Spaces and Internet of Things Working Group Meeting
11:20	20m	Simulation-based Optimization of Signaling Procedures in IP Multimedia Subsystem, Jasmina Barakovic Husic, Alisa Hidic, Mesud Hadzialic, University of Sarajevo, and Sabina Barakovic, Ministry of Security of Bosnia and Herzegovina, Bosnia and Herzegovina	
11:40	20m	A Hysteretic Model of Queuing System with Fuzzy Logic Active Queue Management, Andrey Maslennikov, Vladimir Deart, Moscow Technical University of Communications and Informatics, and Yuliya Gaidamaka, Peoples' Friendship University of Russia, Russia	
12:00	20m	Improving Usability and Context Awareness over Fifth Generation (5G) Wireless Networks, Jussi Niutanen, Intel, Finland	
12:20	20m	Fairness Characterization in Contemporary IEEE 802.11 Deployments with Saturated Traffic Load, Aleksandr Ometov, Tampere University of Technology, Finland	
12:40	20m	IP-Address Reflection Scheme Implementation for Linux, Mike Krinkin, St Petersburg Academic University, and Kirill Krinkin, OSLL, Russia	
13:00	20m	Energy-efficient communication system based on nonlinear scattering of standard OFDM signals, Maxim Grankin, Evgeny Bakin and Alexander Volodin, SUAI, Russia	
13:20	1.10h	**Lunch break**	

Session: Smart-M3 Applications Room: Auditorium 103 Chairman: Dmitriy Mouromtsev		
14:30	20m	Virtual Shared Workspace for Smart Spaces and M3-based Case Study, Dmitry Korzun, Ivan Galov, PetrSU, Alexey Kashevnik, SPIIRAS, Russia, and Sergey Balandin, ITMO, Russia / FRUCT Oy, Finland
14:50	20m	Planning Social Activity in SmartRoom: Ontology-based Service Design, Andrey Vdovenko and Dmitry Korzun, PetrSU, Russia
15:10	20m	Presence detection in SmartRoom: experimental performance evaluation, Sergey Marchenkov and Dmitry Korzun, PetrSU, Russia
15:30	20m	Microphone Service for Use in SmartRoom System, Pavel Kovyrshin and Dmitry Korzun, PetrSU, Russia
15:50	20m	An Approach for Monitoring and Smart Planning of Urban Solid Waste Management Using Smart-M3 Platform, Vincenzo Catania and Daniela Ventura, University of Catania, Italy
16:10	20m	Smart Space-Based Intelligent Mobile Tourist Guide: Service-Based Implementation, Alexander Smirnov, Alexey Kashevnik, Andrew Ponomarev, Nikolay Shilov, Maksim Shchekotov and Nikolay Teslya, SPIIRAS, Russia
16:30	30m	**Coffee break**

Session: Demos Promo: Presentation in Pecha Kucha format Room: Auditorium 103 Chairman: Ilya Paramonov		
17:00	5m	Geo-coding and Smart Space Platforms Integration Agent, Kirill Yudenok, SPbETU "LETI", Russia
17:05	5m	Cellular Traffic Offloading onto WiFi Direct, Jussi Niutanen, Intel, Ixonos, Finland
17:10	5m	Mobile Device for Monitoring Heart Rate, Alexander Efimov, Zoya Pedonova, NSU-Intel lab, Russia

17:15	5m	Recognition of Blood Pressure Measument Data from Seven-Segment Indicator of Tonometer by Mobile Device, Ivan Timofeev, YarSU, Russia
17:20	5m	Intelligent Mobile Tourist Guide – TAIS, Maxim Shchekotov, SPIIRAS, Russia
17:25	5m	MariaDB Enterprise Cluster, Timofey Turenko, SkySQL, Finland
17:30	5m	27faces - Real-Time Online Audience Measurement System, Vladimir Khryashchev and Anton Lebedev, YarSU, Russia
17:35	5m	QR-code healthy menu, Aleksei Karasavov, FRUCT OSLL, Russia
17:40	20m	**Break and Preparation to Demo Session**

Session: Conference social event combined with Demo session
Room: Auditorium 103   Chairman: Ilya Paramonov

18:00	2.5h	**Demo Session and Social Event**
20:30		**Closing of Day 4**

April 25 (Friday)
National Research University ITMO, Vasilievskiy island, Birzhevaya liniya 14, Auditorium 103

09:30	30m	**Conference registration**

Session: Smart Systems and Embedded Networks
Room: Auditorium 103   Chairman: Alexey Kashevnik

10:00	20m	NoC Performance Parameters Estimation at Design Stage, Nadezhda Matveeva and Elena Suvorova, SUAI, Russia
10:20	20m	The Analytical Model of Distributed Interrupt Mechanism in SpaceWire Network, Liudmila Koblyakova, SUAI, Russia
10:40	20m	Analysis of the Transport Protocol Requirements for the SpaceWire On-board Networks of Spacecrafts, Valentin Olenev, Irina Lavrovskaya, Ilya Korobkov, SUAI, and Dmitry Dymov, JSC "Academician M.F. Reshetnev" Information Satellite Systems", Russia
11:00	20m	The Guaranteed Power Supply System Using Distributed Generation on the Base of Alternative and Renewable Energy Sources, Boris Abramovich, Yuriy Sychev, National, Alexey Fedorov University of mineral resources «Mining», and Veronica Prokhorova, SUAI, Russia
11:20	30m	**Coffee break**

Session: Mobile Device oriented solutions
Room: Auditorium 103   Chairman: Kirill Kulakov

11:50	20m	High-level componentization as a way of efficient server-side logic implementation in Ubiq Mobile platform, Alexandra Grazhevskaja, Valentin Onossovski and Dmitriy Timokhin, Russia
12:10	20m	Web Mapping Service for Mobile Tourist Guide, Nikolay Teslya, SPIIRAS, Russia
12:30	20m	Storage Efficient Backup of Virtual Machine Images, Artur Huletski, Saint-Petersburg Academic University of RAS, Russia
12:50	20m	Virtual HSM Implementation in OpenVZ Containers, Dmitriy Kartashov and Kirill Krinkin, Saint-Petersburg Academic University of RAS, Russia
13:10	20m	On Database for Mobile Phones Ownership, Dmitry Namiot, MSU, and Manfred Sneps-Sneppe, ZNIIS, Russia
13:30	1h	**Lunch break**

Session: Modern User-centric Services and Solutions
Room: Auditorium 103   Chairman: Valentin Onossovski

14:30	20m	Automated Approach for Rhythm Analysis of French Literary Texts, Elena Boychouk, Ilya Paramonov, Nikita Kozhemyakin and Natalia Kasatkina, YarSU, Russia
14:50	20m	VODRE: Visualisation of Drools Rules Execution, Maxim Lapaev and Maxim Kolchin, National Research University ITMO, Russia
15:10	20m	A Hybrid Peer-to-Peer Recommendation System Architecture Based on Locality-Sensitive Hashing, Alexander Smirnov and Andrew Ponomarev, SPIIRAS, Russia
15:30	20m	Implementation of Program Part at Automated Workplace for a Teaching Department, Vitaly Ushakov, SUAI, Russia
15:50	10m	**Official closing of the 15th FRUCT conference, Auditorium 103**

Demo Session of the 15th FRUCT conference

Time: 24 April 2014, 17:00-20:30   Place: National Research University ITMO, Vasilievskiy island,
Birzhevaya liniya 14, Auditorium 103

The Demo section of the 15th 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/demo15.

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 done by April 8*)

1. *Geo-coding and Smart Space Platforms Integration Agent, Kirill Yudenok, SPbETU "LETI"*

   Geo-coding and smart spaces are two most promising directions in modern mobile market. Both of them will be a base for user and machine oriented proactive services. Geo-coding allows us to markup any kind of data by geographical coordinates and time. Smart spaces should provide continuous distributed semantic data and communication field for software services, which is being run on personal devices and autonomous computers and robots. This is the basis for defining geographical context, which can be used in different types of applications e.g. semantic information search, machine-to-machine (M2M) interactions.

   Until now, the smart spaces and geo-coding systems have been developed mainly separately. Most desired feature of coming software is pro-activeness and context awareness, i.e. services will be able to adapt to the user's needs and situations and be able to manage decisions and behaviors on behalf of the user. As most developed open source middleware for smart spaces and geo-coding we choose Smart-M3 and Geo2Tag platforms. Based on these platforms we developed Geo-Coded Smart Space (GCSS) middleware, with the main purpose to present and use geographic information in smart space environment. In other words, this is allow us to use of various techniques for geographical context processing in smart spaces, such as searching and filtering smart space subjects by geographical and temporal characteristics based on geo-coding system. This demo demonstrates the integration of Smart-M3 and Geo2Tag platforms, which main tasks are the platforms data transformation mechanisms from one platform format to another and vice versa, platforms data filtration mechanisms and geo-data matching interface with smart space subjects. The purpose of this demo is to demonstrate the geo-coding and smart space platforms integration proof of concept.

2. *Cellular Traffic Offloading onto WiFi Direct, Jussi Niutanen, Intel Finland, Ixonos*

   Cellular operators are currently facing increased congestion levels on their networks due to rapid acceleration in the volumes of mobile data traffic, which translates to poor quality-of-experience (QoE) for the end users. While deploying higher density of serving base stations is indeed expected to mitigate the growing disproportion between the user QoE and the available wireless resources, this solution is costly and hindered by many practical challenges. An attractive simple alternative to relieve cellular network congestion is to enable traffic offloading onto direct device-to-device (D2D) connections in unlicensed bands, as modern multi-radio user devices are already capable of establishing concurrent cellular (HSPA, LTE, etc.) and short-range (e.g., WiFi) links.

   This demo includes the complete network-assisted D2D technology prototype, which demonstrates reliable cellular traffic offloading onto WiFi Direct links, thus providing seamless D2D connectivity experience. With D2D offloading, the resultant QoE (e.g., video transmission quality) is shown to improve dramatically, even when using bandwidth-hungry and/or real-time mobile applications in challenging urban conditions.

3. *Mobile Device for Monitoring Heart Rate, Alexander Efimov, Zoya Pedonova, Laboratory NSU-Intel*

   Here you can see our engineering for personal health monitoring - pulse meter. It's a pulse meter, the special features of it are algorithms which are used for forecasting health statement of organism and allow data recording - we do mean monitoring of heart rate variability. It is a decision for mobile device. We can mind three categories of users:medicos, who are busy with for example before or post operational distant observation, common people, who are interested in their health and sportsmen, who would like to know their results and have possibility for health estimation.

   This demo demonstrates prototype of wearable device, smartphone app (WiFi and Bluetooth communication) and server program.

4. *Recognition of Blood Pressure Measurement Data from Seven-Segment Indicator of Tonometer by Mobile Device, Ivan Timofeev, YarSU*

   A task of vital signs tracking is important for people suffering from chronic deceases. One way to keep a measurement diary is to use software installed on a personal mobile device. The application can add records using wireless technologies if both the mobile device and measuring device support this method. But the majority of consumer devices for vital signs measurement provides information only on the built-in seven-segment indicators and do not include wireless modules.

   In the demo we will show automatic retrieval of blood pressure measurements from a photo of a tonometer's display made by the mobile device's camera. Such an approach was implemented in our Blood Pressure Diary application available from Google Play.

5. *Intelligent Mobile Tourist Guide – TAIS, Maxim Shchekotov, SPIIRAS*

TAIS (Tourist Attraction Information System) is a mobile tourist guide developed for Android-based devices. It determines the current tourist location, provides recommendations about attractions around (like museums, monuments, square and etc.). Tourist can browse their description and photos. For information sources the following resources are used at the moment (Wikipedia, Wikivoyage, Wikitravel, Panoramio, Flickr). Moreover, the service can display current user location on the map provides possibilities to build pedestrian and car paths to the interested attraction, find fellow travelers who can pick tourist up around location and drop off around interested attraction. Current weather in the tourist location is displayed for the tourist in mobile device and used for making recommendations for the tourist (e.g. in rainy weather outdoor attractions less preferred than indoor).

Mobile tourist guide consists of several services that solving particular tasks and interact in common smart space that allows providing interoperability support between these services. There are Attraction Information Service, Recommendation Service, Administration Service, Context Service and Mobile Client.

Attraction Information Service extracts the information about attractions from different Internet Sources and shares it with the smart space. Recommendation Service takes the list of shared attractions and range this list in according with the tourist preferences and context situation in the considered area shared with the smart space by Context Service. It uses for automated filtering and ranking two approaches: content analysis and user evaluation. Administration Service allows to setup parameters for the mobile tourist guide operation. Using the mobile client for accessing to the mobile tourist guide allows the tourist to see recommendation about attractions in the region during the trip and rate the attractions, photos and their descriptions.

6. *MariaDB Enterprise Cluster, Timofey Turenko, SkySQL*

MariaDB Enterprise Cluster is composed of several components including MariaDB Manager, which is a set of management tools and an API with which you can easily provision, monitor, and manage a highly available MariaDB Galera Cluster for multi-master, synchronous replication. Galera is a powerful technology that can eliminate single points of failure for your database infrastructure, but it is relatively new and can be a challenge to configure for administrators who aren't familiar with it.

MariaDB Enterprise Cluster removes the guesswork from initially provisioning and configuring a MariaDB Galera Cluster. It handles monitoring the health of a cluster, and performing basic management tasks such as starting and stopping nodes, isolating and rejoining nodes, and performing backups and restores.

Cluster deployment, UI operations and basics of the product internals will be shown as well as build and testing system work.

7. *27faces - Real-Time Online Audience Measurement System, Vladimir Khryashchev and Anton Lebedev, YarSU, Russia*

27 faces is a special application including unique computer vision algorithms. It utilizes a video sensor to scan the space in front of a digital display or a showcase, detects human faces and tracks their position. At any given time 27 faces detects from all potential viewers only those who were looking directly on the screen, recognizes their gender and age group. Collected data is anonymously transmitted in encrypted form to a central server for storage and analysis.

27faces helps you to calculate the following metrics:

- Count – the number of viewers who've paid an attention to a particular product or have watched the advertisement.
- Opportunity to see – the number of potential viewers who were close to the presented product or advertising media;
- Dwell Time – the average time during which potential viewers have been in the visibility range to the presented product or advertising media;
- Attention Time – the average time when the viewer was watching the object of interest;
- Gender - viewer gender (man / woman);
- Age – viewer age group (child/youth/adult/elderly).

27faces doesn't require any audience assistance. Information is collected in the real time anonymously and impartially without storing any personal data.

8. *QR-code healthy menu, Aleksei Karasavov, FRUCT OSLL*

The application is designed for visitors of healthy food restaurants and other people, who are interested in healthy food. It includes client and server parts.

Client side is a mobile application. Users scan QR-code of dishes from a menu to get information about its calories, carbohydrates, fats and 5 other components. Visitors can also make an order using application and get recommendations about what to choose.

Server side is a web application, which consists of order-management system that operates with orders made by visitors using mobile application. Another component is a menu editor that helps restaurateurs to create and edit QR-code menu. In addition, there is an expert database with information about basic products properties.

FOR NOTES

15th Conference of Open Innovations Association FRUCT

Program

St. Petersburg, Russia
21-25 April 2014

CALL FOR PARTICIPATION
16th Conference of Open Innovations
Association FRUCT
Oulu, Finland, 27-31 October 2014

Overview

FRUCT is the largest regional cooperation framework between academia and industry in form of open innovations. FRUCT conferences are attended by the representatives of more than 20 FRUCT member universities from Russia, Finland, Denmark, Italy, Ukraine, industrial experts from Nokia, Qt community, EMC^2, Ericsson, Samsung, Intel, Nokia Siemens Networks, Siemens 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 Program. Thanks to our sponsors, all participants can enjoy free of charge registration to the event, but the online registration must be done by everyone before the conference.

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

Submit your full papers (min 6, max 12 pages) and extended abstracts (min 200 words, max 5 pages) for project in progress and to poster/demo section by **September 14, 2014**. All submitted papers will be peer reviewed by the technical committee. Please follow provided paper templates. The list of conference topics is as follows:

- Mobile-Health, fitness and medical mobile solutions
- Open source cross-platform development, Mobile Linux
- Cross-platform development and improvement of Qt platform
- Internet of things, smart spaces, context analysis and data mining
- Technology proofing, modeling, verification, validation, testing techniques
- Smart grids, energy management and alternative sources, green technologies
- Software and services for mobile devices, future applications design, UIs
- Mobile device security, management of personal and business privacy
- Design and optimization of emerging wireless network technologies
- Energy efficient design of sensors, integration of peripherals
- Modern network architectures, air interfaces and protocols
- Inter-device connectivity, embedded networks, co-design
- 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/conference16.