PetrSU: R&D in Smart Spaces and IoT

Face to Face Meeting at
FRUCT21 Smart Spaces Working Group

08.11.2017

Recent R&D Directions: Smart Museum

Case study of everyday life history within the History Museum of Petrozavodsk State University

- Semantic layer to interconnect information
- Mobile and augmented technology on personal and surrounding devices
- Recommendation construction by ranking information
- Welcome to FRUCT21 talks:
  - Smart Museum of Everyday Life History in Petrozavodsk State University: Software Design and Implementation of the Semantic Layer, 9.11.2017
  - Smart Services Demo for the History Museum of Petrozavodsk State University, 9.11.2017

Recent R&D Directions: mHealth

Smart spaces for constructing personalized information services in mobile healthcare of arterial hypertension

- Semantic layer to interconnect multi-source data: medical and other, from medical sensors and other sources
- Mobile technology: smart space accompanies the patient
- Involvement of patient into the process
- Welcome to FRUCT21 talks:
  - Towards a Mobile System for Hypertensive Outpatients' Treatment Adherence Improvement, 8.11.2017

Basic Research

Modeling and Programming Fundamentals of Information-Driven Interaction in Socio-Cyber-Physical Systems for Internet of Things and Big Data

- Local Information Hubs (ad-hoc smart environments)
- Involvement of low-capacity surrounding devices (fog computing, edge-centric computing)
- Involvement of users into the process (social system)
- Rank-based decision making (information-driven interaction)
- Welcome to FRUCT21 talks:
  - Study of Active Subscription Control Parameters in Large-Scale Smart Spaces, 9.11.2017

Emerging R&D Directions: mHealth

Personal At-Home Labs for Information Support of Patients in Their Everyday Life

- Use of non-professional devices (smartphones, home cameras) for monitoring
- Use case: Motion video tracking by smartphone
- Semantic fusion of heterogeneous data to improve the information quality
- Welcome to FRUCT21 talks:
  - Towards a Personal At-Home Lab for Motion Video Tracking in Patients with Parkinson's Disease, 9.11.2017
  - Smartphone-based Motion Video Tracking in Patients with Parkinson's Disease , 9.11.2017