

SmartRoom Demo: Guide for FRUCT19 Conference Participants

Sergey A. Marchenkov, Andrey S. Vdovenko, Andrey N. Borodulin, Dmitry G. Korzun
 Petrozavodsk State University (PetrSU)
 Petrozavodsk, Russia
 {marchenk, vdovenko, boroduli, dkorzun}@cs.karelia.ru

Abstract—During the 19th FRUCT Conference the SmartRoom system is used for assisting the organization and collaborative activity of some conference sessions.

The SmartRoom system is developed at Petrozavodsk State University in cooperation with other FRUCT members [1], [2]. The system provides digital services to assist humans in such collaborative work activity as conferences, meetings, and seminars. The activity is localized in a multimedia-equipped room. Two public screens are available for visualizing the information on ongoing processes: the Presentation screen and the Agenda screen. Each participant can also exploit her/his personal mobile device (smartphone, tablet) to access SmartRoom services. The smart spaces approach is used for the software development, where the Smart-M3 platform provides appropriate technologies, middleware, and toolkit [3], [4], [5]. The open source code is available at <https://sourceforge.net/projects/smartroom/>.

To register in the SmartRoom system several options are available for participants. First, the organizers can register corresponding presenters of the sessions in the SmartRoom system based on the FRUCT19 conference program and provided presentations. Second, any interested participant can also send by email her/his full name and presentation (title and PDF file) to smartroom@cs.karelia.ru for early registration. Third, if none of the above two options, the steps of individual web-based registration immediately before the session are as follows.

- 1) Register your account at the SmartRoom web service using QR code on the Presentation screen in the conference session room to get the URL (or find this information from the organizers).
- 2) Log in and upload your presentation in PDF yourselves (or provide the presentation directly to the organizers).

Before the beginning or during the session each presenter joins the system using SmartRoom client [6] installed on her/his Android or Windows Phone personal mobile device (smartphone or tablet). The system uses one of Wi-Fi network provided for the FRUCT19 conference. The following steps describe the procedure.

- 1) Install the SmartRoom client, see QR codes in Fig. 1.
- 2) 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.)



Android devices



Windows Phone devices

Fig. 1. QR codes to download SmartRoom clients from mobile application stores

Other conference session participants (attendees, not presenters) are welcome to use either anonymous login (guest) or even their register own accounts (no presentation is needed). QR codes and short URLs for downloading the SmartRoom client can be found in Fig. 1. User manuals (PDF file, in English) for the SmartRoom client are accessible using the QR codes shown in Fig. 2.



Android manual



Windows Phone manual

Fig. 2. QR codes to download SmartRoom client manuals

In addition to the 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 FRUCT19 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 [7]. 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 [8], [2]. 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.

Welcome service: It allows the users to see the information about speakers hometown. By default, the service provides information about a currently authenticated user. An option is to display the list of all registered speakers. By choosing an entry in the list, the description (text and pictures) is shown to the user (e.g., city name, foundation date, summary article, photo with either flag or panoramic view of the city). This way, the participants can learn more about the place which the speaker came from. This context provides better understanding of speaker and her/his presentation. In particular, new topics for discussion can appear and the user experience of the ongoing conference can be enhanced.

ACKNOWLEDGMENT

The research is financially supported by the Ministry of Education and Science of Russia within project # 14.574.21.0060 (RFMEFI57414X0060) of Federal Target Program “Research and development on priority directions of scientific-technological complex of Russia for 2014–2020” and within

project # 2.2336.2014/K from the project part of state research assignment.

REFERENCES

- [1] D. Korzun, I. Galov, A. Kashevnik, and S. Balandin, “Virtual shared workspace for smart spaces and M3-based case study,” in *Proc. 15th Conf. of Open Innovations Association FRUCT*, S. Balandin and U. Trifonova, Eds. ITMO University, Apr. 2014, pp. 60–68.
- [2] D. Korzun, S. Marchenkov, A. Vdovenko, A. Borodulin, and S. Balandin, “Performance evaluation of Smart-M3 applications: A SmartRoom case study,” in *Proc. 18th Conf. of Open Innovations Association FRUCT*, S. Balandin, T. Tyutina, and A. Levina, Eds. ITMO University, Apr. 2016, pp. 138–144.
- [3] S. Balandin and H. Waris, “Key properties in the development of smart spaces,” in *Proc. 5th Int’l Conf. Universal Access in Human-Computer Interaction (UAHCI ’09). Part II: Intelligent and Ubiquitous Interaction Environments, LNCS 5615*, C. Stephanidis, Ed. Springer-Verlag, Jul. 2009, pp. 3–12.
- [4] J. Honkola, H. Laine, R. Brown, and O. Tyrkkö, “Smart-M3 information sharing platform,” in *Proc. IEEE Symp. Computers and Communications (ISCC’10)*. IEEE Computer Society, Jun. 2010, pp. 1041–1046.
- [5] D. Korzun, A. Lomov, P. Vanag, J. Honkola, and S. Balandin, “Generating modest high-level ontology libraries for Smart-M3,” in *Proc. 4th Int’l Conf. Mobile Ubiquitous Computing, Systems, Services and Technologies (UBICOMM 2010)*, Oct. 2010, pp. 103–109.
- [6] A. Vdovenko, S. Marchenkov, and D. Korzun, “Mobile multi-service smart room client: Initial study for multi-platform development,” in *Proc. 13th Conf. of Open Innovations Association FRUCT and 2nd Seminar on e-Tourism for Karelia and Oulu Region*, S. Balandin and U. Trifonova, Eds. SUAI, Apr. 2013, pp. 143–152.
- [7] A. Vdovenko, S. Marchenkov, and D. Korzun, “Enhancing the smartroom system with e-tourism services,” in *Proc. 17th Conf. Open Innovations Framework Program FRUCT*, Apr. 2015, pp. 237–246.
- [8] D. G. Korzun, I. V. Galov, A. M. Kashevnik, N. G. Shilov, K. Krinkin, and Y. Korolev, “Integration of Smart-M3 applications: Blogging in smart conference,” in *Proc. 4th Conf. Smart Spaces (ruSMART’11) and 11th Int’l Conf. Next Generation Wired/Wireless Networking (NEW2AN’11)*. Springer-Verlag, Aug. 2011, pp. 51–62.