

Programming Android Client for Smart-M3 Applications

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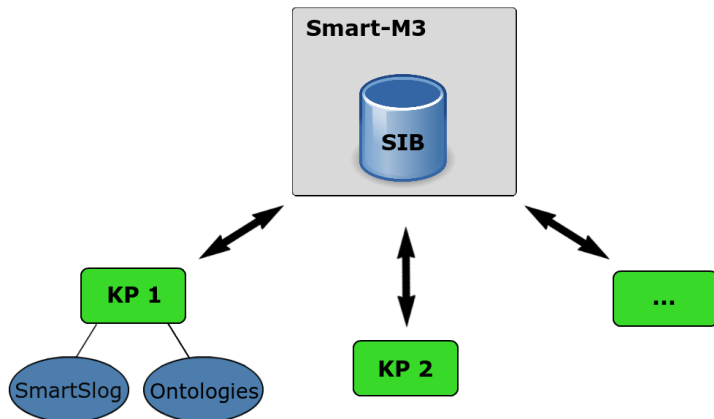
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Smart-M3 Application



Implementation tasks



SmartSlog integration to android project

SmartSlog is a development kit for programming Smart-M3 Knowledge Processors (KP)

GUI for services representation

User interface constructed by android libraries

Smart Space interaction

Implementation of C based application logic

Development kits

Android SDK for Java based GUI design

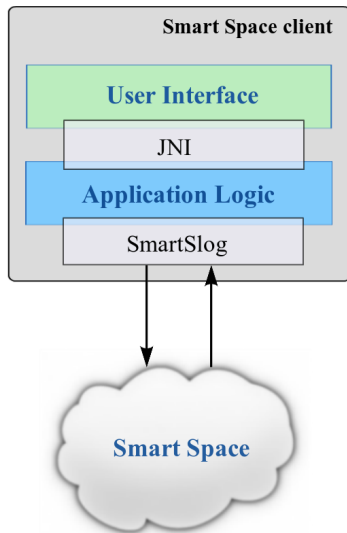
Android NDK for C based application logic implementation

Java Native Interface (**JNI**) is a bridge between user interface and logic

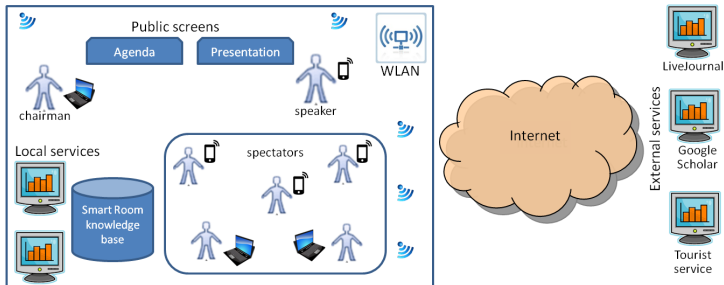


Client architecture

- **User interface** module uses Android SDK and is Java based
- **JNI** is platform dependent
- **Application logic** is C written and supported by Android NDK
- **SmartSlog** supports:
 - ▶ high-level KP development
 - ▶ heterogeneous devices

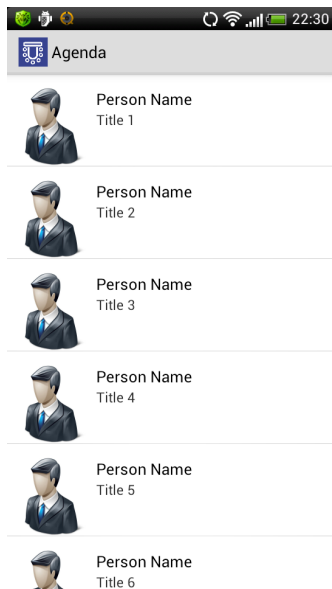


SmartRoom Service Environment



- Many services in SmartRoom
- Many personal clients to access the services
- Many mobile platforms to host the clients

Agenda service



Presentation service

Projector

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Smart Room services

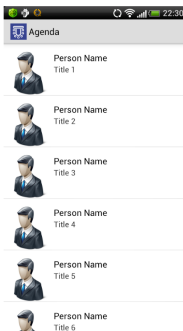
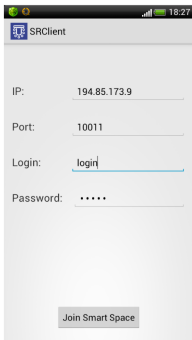
- conference services
- sensor services
- activity tracking services
- discussion services

The diagram illustrates the Smart Room services architecture. It features a central 'Smart Room Knowledge Base' (represented by a blue cylinder) connected to 'Local services' (including a computer monitor and a tablet) and 'Public screens' (including 'Agenda' and 'Presentation' screens). A 'WLAN' icon is also present. The system is connected to the 'Internet' (represented by an orange cloud), which links to 'External services' such as 'Lecturnet', 'Google Scholar', and 'Smart service'. A 'Speaker' icon is also shown. The diagram is surrounded by various icons representing users and devices.

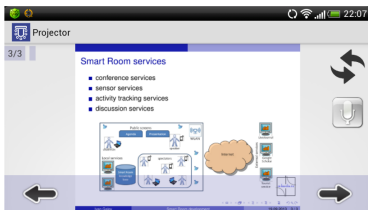
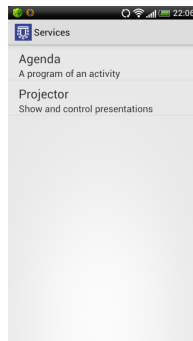
Navigation icons: back, forward, search, refresh, and a microphone icon.

Ivan Galov Smart Room development 19.09.2013 3/3

Client scenario

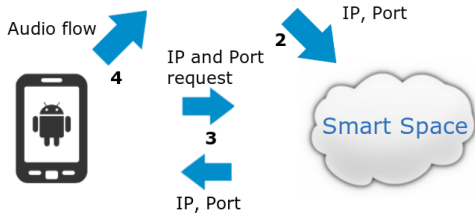
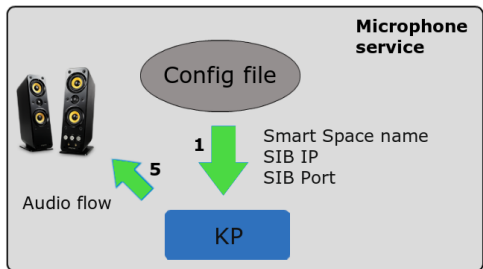


1. Authentication ↔ Agenda
2. Agenda ↔ Services list
3. Services list ↔ Presentation



Microphone service

- 1 Initialization
- 2 Publishing address
- 3 Listening for connections
- 4 Receiving data
- 5 Playing audio flow



Conclusion



- Published on Google play

<https://play.google.com/store/apps/>

- Project sources on sourceforge

<http://sourceforge.net/projects/smartroom/>

- Project wiki

<http://oss.fruct.org/wiki/SmartRoom>