

Event Recording System for Smart Space Applications

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Motivation

Smart space is a source of multiple events generated by KPs. Information, which describes the events, can be collected and used for:

- Analysis & Visualization
- Playback
- Automatical report generation

Previous Work

- HiveMind Add-on for Smart Conference System
- Pulse Monitoring for Smart Conference System

The results were presented at FRUCT 11 during the Smart Spaces section and working group meeting



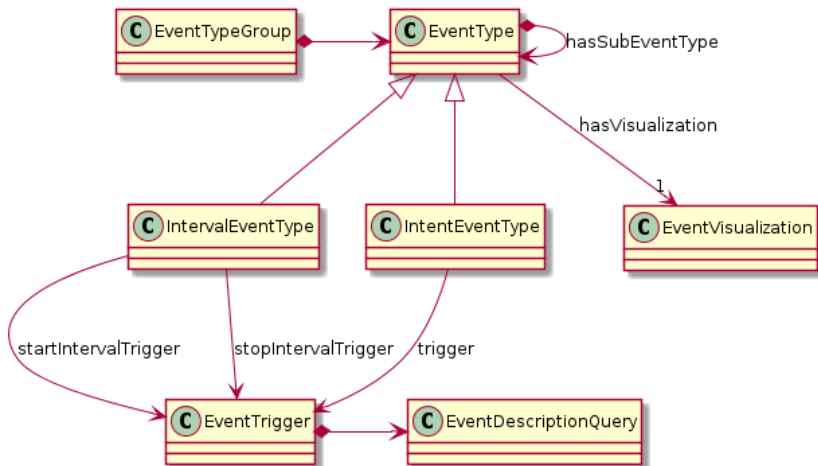
Problem Statement

Propose a general approach for registration of events in Smart-M3 environment and develop an application for such registration

Main requirements

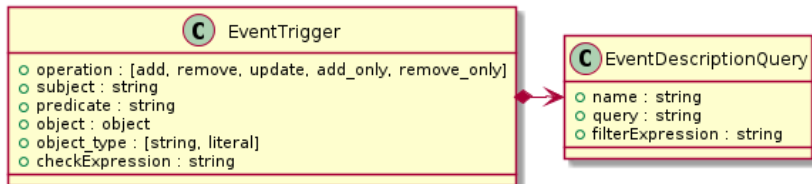
- Support for arbitrary events
- Configuration-based solution
- Pluggable visualization modules

Event Registration Ontology



Event Trigger

- Event trigger defines the event in terms of an alteration in the smart space
- Each trigger is associated with a set of EventDescriptionQueries intended to gather information for event description



Application Lifecycle

Initialization

- Read configuration (EventType, EventTrigger, EventDescriptionQuery individuals) from the smart space
- Subscribe to the triples defined in EventTrigger individuals

Operation (on subscription notification)

- Execute queries corresponding to the retrieved event
- Collect the results of the queries execution
- Visualize the resulted event information



Example: Talk Event in Smart Conference System

Talk is an interval event:

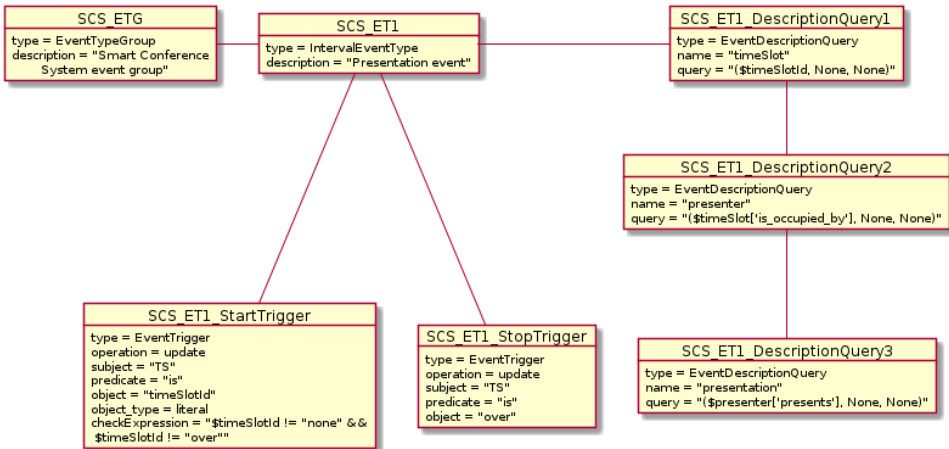
- Start: (TS, is, *number of time slot*)
- End: (TS, is, done)

To construct a useful description of the event we need

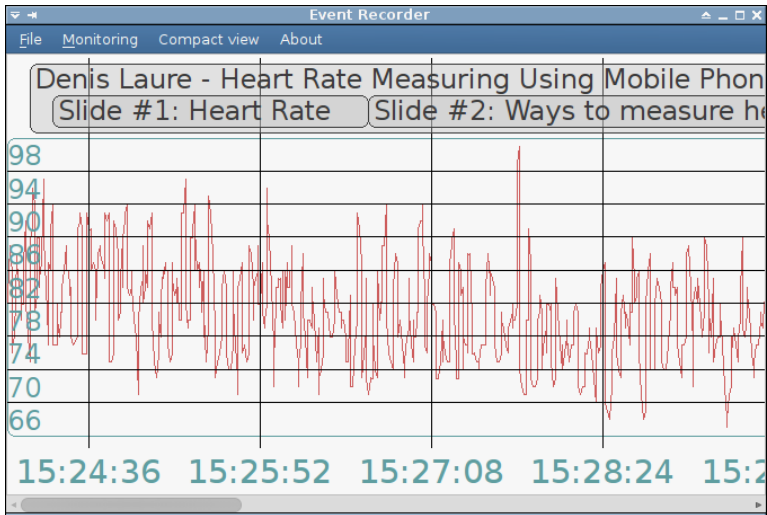
- presenter's name
- presentation title



Event Recorder Configuration for Smart Conference System



Smart Conference System: Visualization (early prototype)



Future Proposals

- Migrate to Redland SIB and use SPARQL as a query language
- Implement visualization modules (e.g., mind map, HTML, online plotting)
- Try out event recorder inside Smart Room environment (joint activity with PetrSU)

