CoCoS 2.0 -
An Automated Control System for Public Installations

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Overview

- Background and objectives
- Implementation
  - Reservation and authentication system
  - Flashing sensor nodes
  - Floor configuration file
  - Policies
- Outlook
- Demonstration

CoCoS 1.x

- CoCoS has grown over time
  - there are two floors now
  - the structure is not optimal for using different floors
- the main floor is a Wisebed testbed
  - there is an access control system for the testbed, but CoCoS ignores it at the moment
  - other testbed users perform tests and overwrite the sensor nodes
- the policy system has to be enhanced, e.g. no sound in the main floor if room 251 is occupied
- choosing and playing extensions automatically not possible yet

CoCoS 2.0

Main subject

Enhance CoCoS 1.x to CoCoS 2.0 !

This includes...

- use the Wisebed reservation and authorization system
- flash the nodes if necessary
- read and regard the schedule for room 251 in the policy system
- improve how the details about the floors are managed
- add something like a screensaver mode to CoCoS

Reservation and authentication system

- the `ReservationManager` deals with all reservation / authentication issues
- communicates with RS and SNAA
- two choices at login
  - make a reservation, start with xx minutes
  - use an existing reservation
- users can be marked with `isAdmin` $\Rightarrow$ old behaviour

Make a reservation

- authenticate the user using the SNAA webservice
- try to make the reservation using the RS webservice
- if ok send the reservation key to the user, else send „login failed“
- a timer renews the reservation every 15 minutes after the first interval

Use an existing reservation

- authenticate the user only with the `.properties` file
- check if the reservation is valid
- if ok send the remaining time to the user, else send „login failed“
- no renewal, the client gets a message if reservation is over

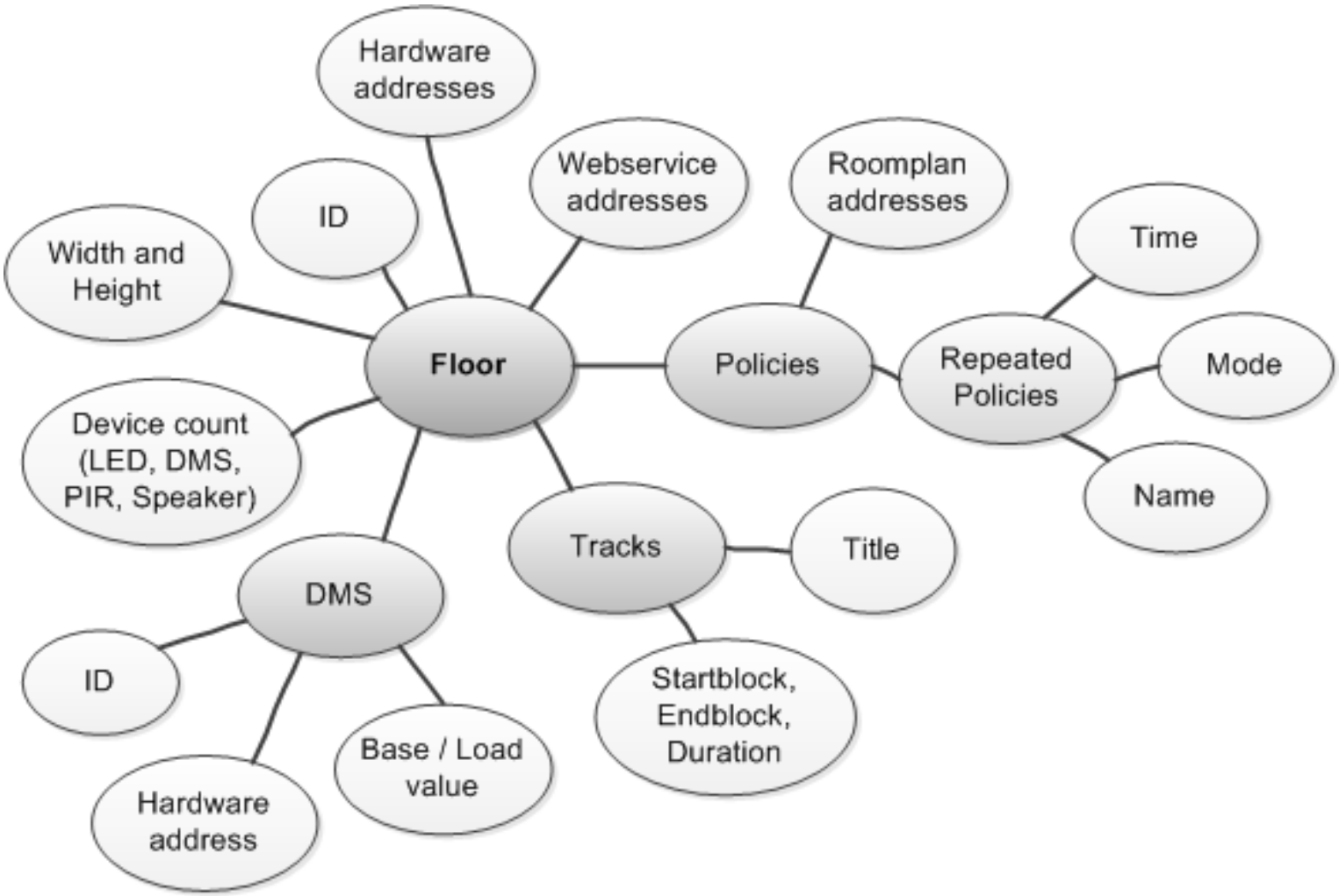
Flashing the sensor nodes

- can be done using the iWSN webservice
- requires reservation
- implemented based on the existing script
- **ToDo:** check if necessary

Floor configuration file

- all information about the floors is saved in a `.xml` file
- easier to manage and to expand
- the floors have an ID now, the ID is transfered and tells the client which floor to read

XML structure



Policies

- the policies are read from the floor file ⇒ configurable for every floor
- the `PolicyFilter` can deal with policies for a special date now
- it is possible to enter addresses for roomplans that have to be considered
- used for room 251 ⇒ `http://www.ips.cs.tu-bs.de/Raum251` is converted into policy rules
- policies are evaluated on the server now and changes are sent to client via a message

Roomplan format example

Belegungsplan für Raum 251

Regelmäßige Veranstaltungen

SOMMERSEMESTER 2011			
Montag	15:00-16:30	Reaktive Systeme Übung	Schicke
Dienstag	08:00-09:30	Softwareentwicklungspraktikum	Mensing

Einmalige Veranstaltungen

SOMMERSEMESTER 2011				
Donnerstag	14.07.	13:00-17:00	Berufungskommission Fahrzeuginformatik	Goltz
Freitag	15.07.	12:30-15:00	Oberseminar Informationssysteme	Balke

More ToDos

- read a list of available extension from the jars in a folder
- create a class for choosing extensions, maybe some rules (policy)
- play the extensions in a screensaver mode
  - runs only if nobody needs the floor
  - changes the extension from time to time
  - gives information about the extension which is currently running (GUI, HTML)

Live demonstration

Live demonstration!

Thank you for your attention!
Time to ask questions!