Classification
of
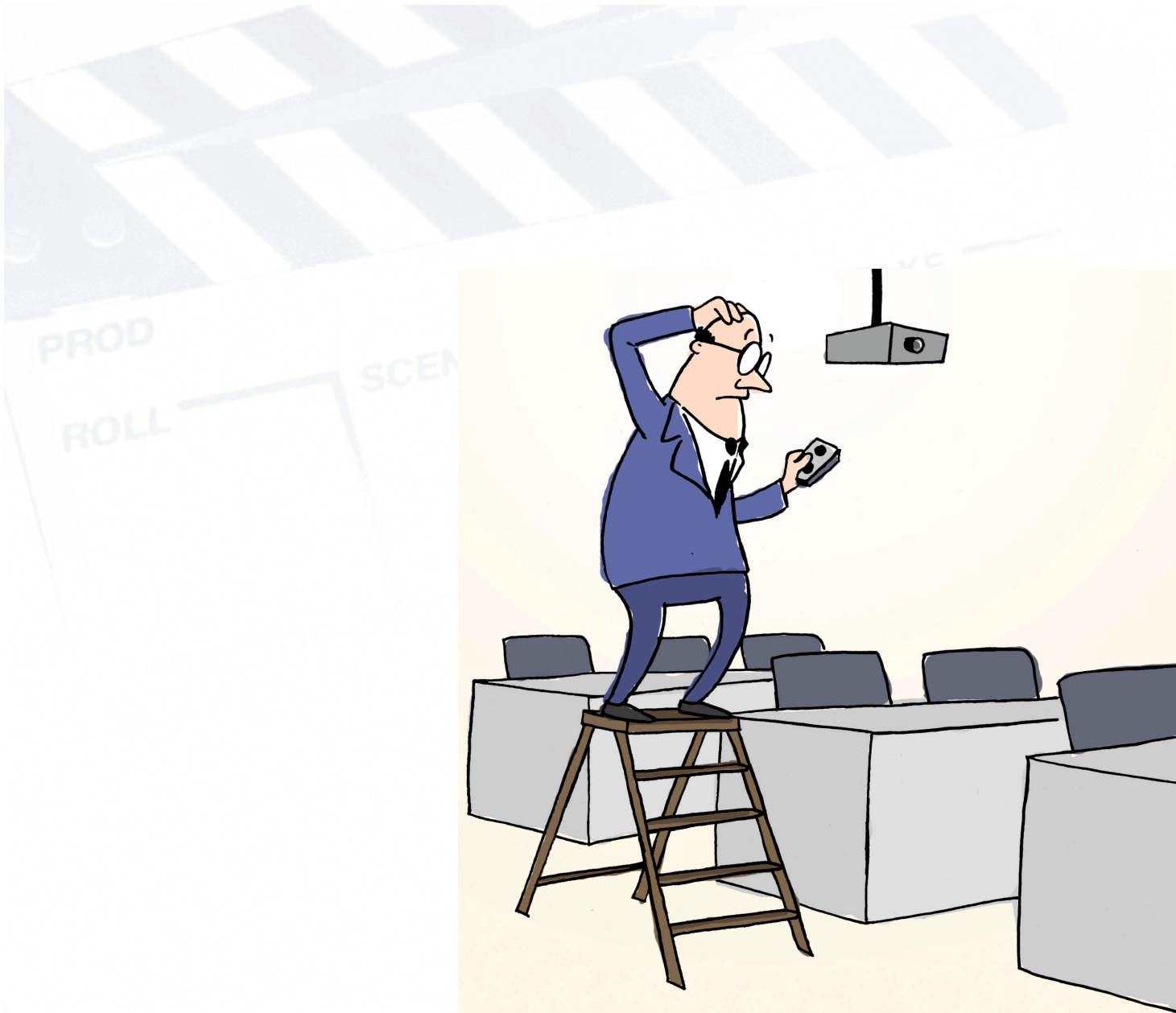# *multimedia equipment*
in
auditoria

The K.U.Leuven concept

April 10th 2008

A historically grown jungle

Until 2003

- ✓ Wilderness of different types of equipment and switching systems, for projection, sound, light and dimming
- ✓ For each device a different remote control
- ✓ Always more 'pooled' (shared) rooms
- ✓ Teacher has to learn how to 'use' the auditorium again and again

- ✓ Thus: unnecessary waste of time, equipment not ready to use, frustration of students, teachers and support services.
- ✓ Increasing demand of fixed projectors, fixed computers, better audio, …
- ✓ No global and project based approach of AV/MM in auditoria and classrooms

Wish list

- ✓ Increasing the didactical comfort of the equipment
- ✓ Uniform and central user interface for all devices: reduces number of 'buttons' and switches to a minimum
- ✓ Feedback about 'condition' of equipment
- ✓ Reset to default settings of equipment for next user

- ✓ Increasing didactical comfort of the whole room infrastructure: furniture, dimming, lights, floors, walls, ceiling ...
- ✓ Approach of the room as a whole

Solution

Classification

CONCEPT

- ✓Integration
- ✓Automatisation
- ✓Standardisation

PROJECT

- ✓Working group
- ✓Inventory
- ✓Multiannual plan
- ✓Market research
- ✓Specifications and contracts
- ✓Workflow; backplanning
- ✓Programming
- ✓Installation
- ✓Follow-up

Concept : *Integration*

- ✓ Central user interface: touch panel
- ✓ Two-way communication between devices: RS232, IR, IP, I/O and proprietary protocol
- ✓ Central control panel with respective gates
- ✓ Image, light, sound, dimming, HVC
- ✓ Monitoring and intervention at a distance

Concept : Automatisation

✓ Multitasking: one push on **selection button** activates default settings

✓ Minimal switching

✓ Continuous possibility to adapt default settings with **function buttons** and 'lock' button

✓ End of class: '**Exit**': equipment is switched off, light turns off after 5 minutes

✓ **Automixing** of microphones

Concept : Standardisation

User 'sees' always the same, thanks to:
- Uniform layout of touch screen
- Same 'sources' within one type
- Classification: subdivision of rooms in types

Integrator uses always the same:
- Standard modular desk
- Standard cabling electricity
- Standard equipment: long-term contracts
- Standard programming/adjustment

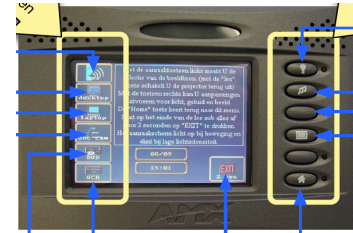Automatically leads to standardisation of workflow within the project

Classification: 7 types

- ✓ Type 0: not suitable for use of AV/MM support
- ✓ Type 1: no fixed AV/MM infrastructure available
- ✓ Type 2: equipped with fixed LCD projector
- ✓ Type 3: central and automatic control of light, sound, dimming, switching, projection, ... through limited control keyboard
- ✓ Type 4: control through extended control keyboard and preview of the graphical sources
- ✓ Type 5: Type 4 + videoconference
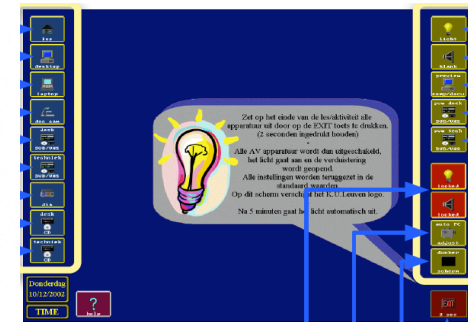- ✓ Type 6: multifunctional room: concerts, theater, shows ...

Type 0,1 en 2

- ## type 0:
  - not suitable for AV presentations
  - to be suitable, fundamental adaptations of the room architecture have to be made (height, dimming …)

- ## type 1:
  - room is suitable for (simple) AV presentations
  - no fixed equipment is present
  - equipment can be installed by Campusservice

- ## type 2:
  - LCD projector is fixed
  - extra equipment has to be added: DVD/VHS, audio
  - no automisation
  - now: fixed remote control

Type 3

✓ Automatisation, integration and simplification

✓ Standardised control through touch screen

✓ Audio is automatically adjusted (reset to default settings)

✓ Document projector, DVD/VHS ...

✓ Feedback about LCD shut-down and start-up moments

✓ Reporting through Intranet

Type 4

✓ Feedback on video and computer image through large touch screen (preview)

✓ 2nd control panel in projection cabin if possible

✓ Strong integration of light, dimming

✓ (access points for VC equipment)

Type 5

- ✓ Fixed built-in VC codec
- ✓ Echo suppression on all microphones
- ✓ Double image projection or Picture-In-Picture of video in XGA image (or POP)
- ✓ Videoconferencing via IP (to VC bridge)
- ✓ Management and start-up of VC connections possible through Tandberg Management System.
- ✓ Extra attention for teacher support

Project : workgroup

- ✓ 2003: steering group 'Didactisch Krediet', managed by Vice-president for education
  - Representatives of TD, AB, DO and AVNet
  - Start multiannual plan
- ✓ Operational core group
  - TD and AVNet
  - Supervision multiannual plan
  - When necessary extended with zone coordinators, architects and specialists techniques

Project : inventory

✓ Initially based upon existing classification according to kind of room

✓ 2005: detailed inventory based upon uniform fill-in lists and quotations.

- Existing AV equipment + dimming, bord, screen and **height!**
- General condition of room: furniture, floor, wall, ceiling, HVC, sanitary, accessibility for people with disfunction but also environment, inside and outside
- Subdivision light according to standard measurement
- Room receives 'mark'/'grade'
- Acoustics?

Project : Multiannual plan

Total K.U.Leuven (pool rooms)

	Before	After realisation
Total type 0	4	2
Total type 1	166	121
Total type 2	86	47
Total type 3	0	73
Total type 4	2	15
TOTAL	**258**	**258**

Figures 2004

Project : Market research

- ✓ Looking for suitable equipment responding to the needs identified during the first projects
- ✓ 1998: Pentalfa: first auditorium with central control + focus on 'interactif seminar room'
- ✓ 2002: Auditoria Weber en Monet: test concept in practice, first step to classification
- ✓ Separate budget for testing because demo equipment was not at our disposal soon enough for thorough analysis
- ✓ Fairs, product presentations

Project : Specifications and contracts

- ✓ Collaboration with 'Central Purchase Service'
- ✓ In-house integrator / study office:
  - Own installation schemes
  - Maximum control of offered equipment within legal framework
  - Distinction between 'delivered' and 'placed': best price for each contract possible
- ✓ Importance of scale and standardisation for price setting (+Associatie !)

Project : Workflow, backplanning

- ✓ Difficulty renovation existing auditoria:
  college-free weeks = holiday
- ✓ Workflow:
  - ▪ August: determine which auditoria will be taken care of during summer by means of inventory and other input
  - ▪ Making of estimates, for AV/MM and other equipment + works
  - ▪ Approval Gebu
  - ▪ Making of contracts, public invitations for tender, awards of contract
  - ▪ **Backplanning**, coordination between different works going on
  - ▪ Orders
  - ▪ Realisation / Follow-up
  - ▪ Budget control

Project : Programmation
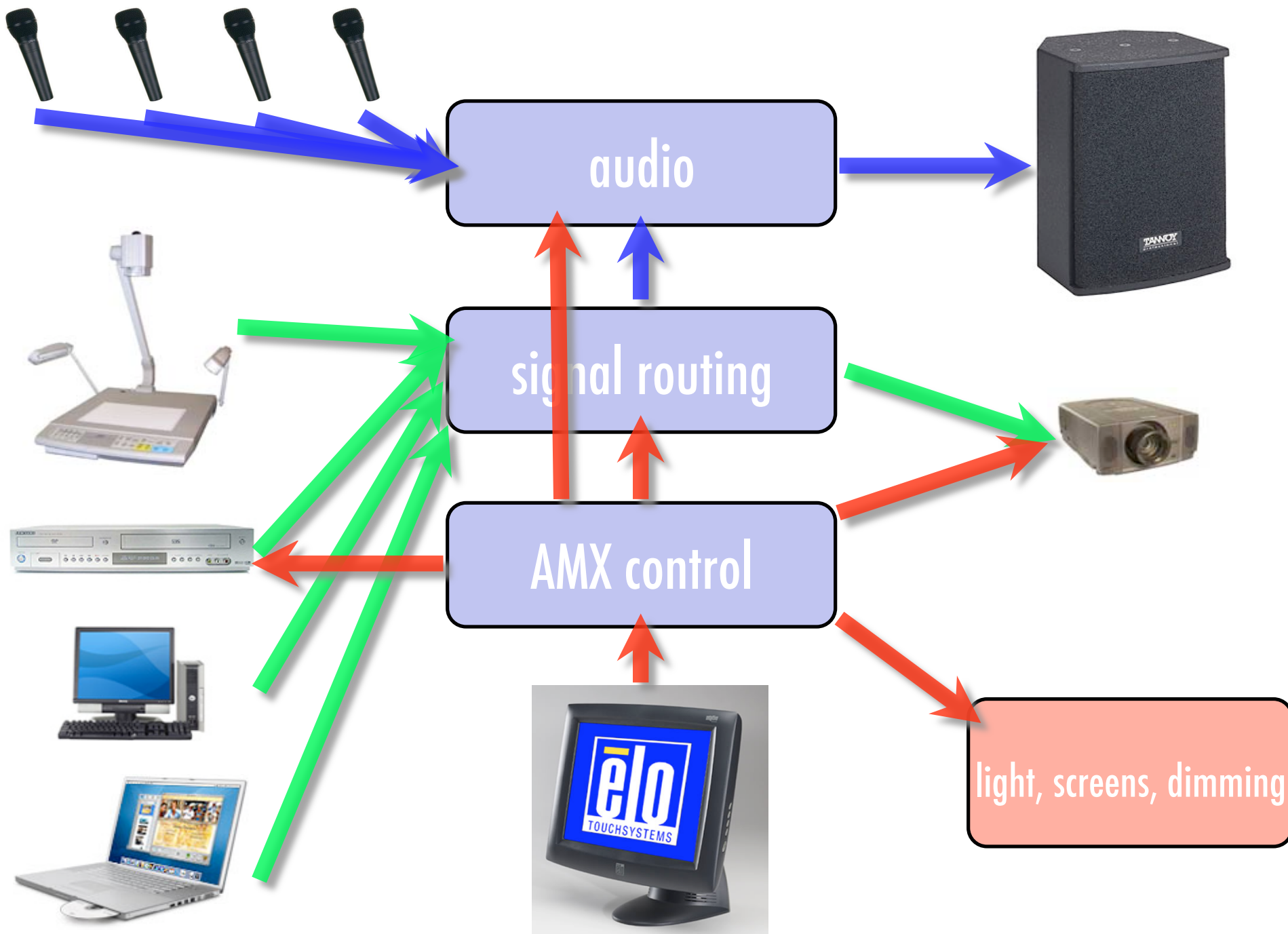
✓ In-house programming

- Guarantee of uniformity
- Fast intervention in case of interferences
- Modifications and updates can happen quickly

Project : Installation

✓ Initially in-house, now external:

- Specialisation
- Peak period
- Importance of long-term contracts

✓ Gain of time thanks to centralisation and standardisation:

- Precabling of racks
- Preprogramming of control unit + first test

✓ On-site:

- Important that other works have been done
- Final adjustments
- Acceptance: mostly not enough time to do it properly

Project : Follow-up

- ✓ Evaluation
- ✓ Instruction sessions for users
- ✓ Training sessions for Campusservice
- ✓ Centralise data equipment: SAP
- ✓ Maintenance. Especially filters and lights LCD projectors
- ✓ Online monitoring
- ✓ 'As built' plans in central database
- ✓ On website room booking: insertion icons indicating type of room

audio

signal routing

AMX control

light, screens, dimming

The budget *(without programming and adjustment)*

VAT incl.	Type 3	Type 4	Type 5
Equipment	17.000	61.000	87.000
Cabling/electric board	9.500	10.500	11.500
Installation	2.000	4.000	5.000
Total	28.500	75.500	103.500
3 to 4 or 5		47.000	75.000
4 to 5			28.000

Realisations:

✓ Pool rooms
  - http://www.kuleuven.be/admin/td/niv3/fm-i11.htm

✓ Non pool rooms
  - Pentalfa: T5
  - Interactieruimte AVNet: T5
  - Orthopedagogie: observation rooms with central control for camera and switching
  - Mediacentrum: T4
  - O&N2: T3
  - Promotiezaal: T4
  - Kardinaal Mercierzaal HIW: T3
  - Computerwetenschappen: in execution
  - Aula Faber: 2007
  - Raadzaal Landbouwwetenschappen: 2007