

ELU

Enhanced Learning Unlimited

6th Framework Program



- Spread the benefits of e-learning to broader audience

- Barriers
 - availability of the technology
 - usability
 - personalization

TV

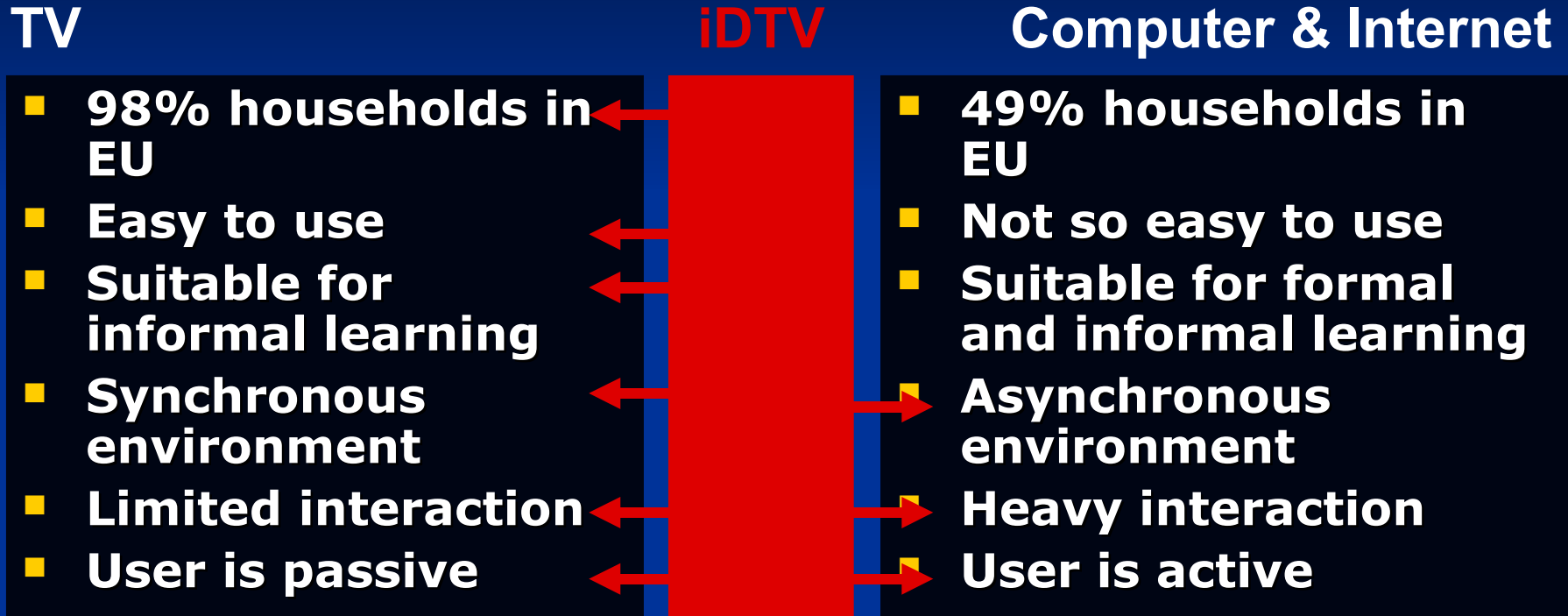
- **98% households in EU**
- **Easy to use**
- **Suitable for informal learning**
- **Synchronous environment**
- **Limited interaction**
- **User is passive**

iDTV

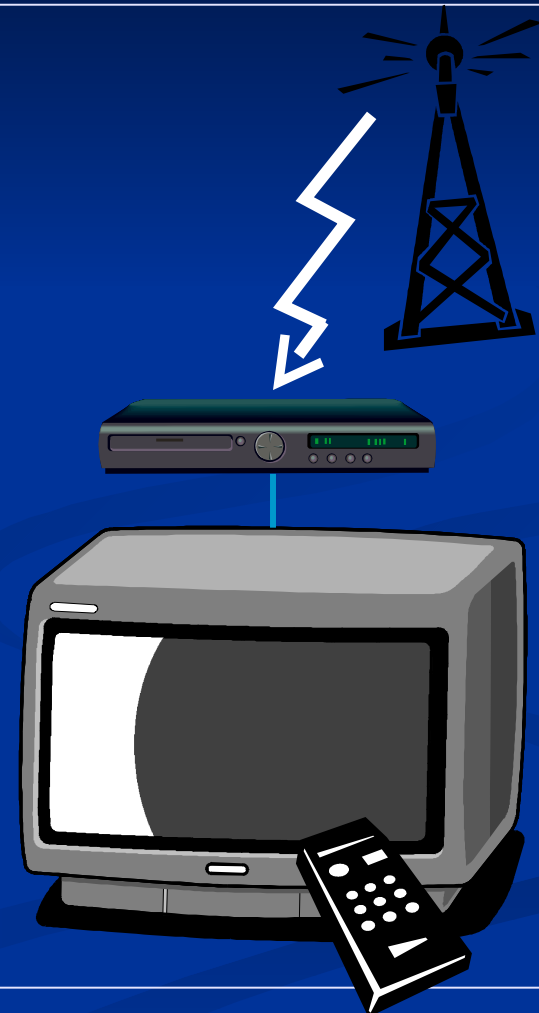


Computer & Internet

- **49% households in EU**
- **Not so easy to use**
- **Suitable for formal and informal learning**
- **Asynchronous environment**
- **Heavy interaction**
- **User is active**



- End device
 - TV with set-top box
- Input device
 - Remote control
- One way delivery channel
 - From broadcaster to all viewers
 - E.g. over the air, cable, satellite



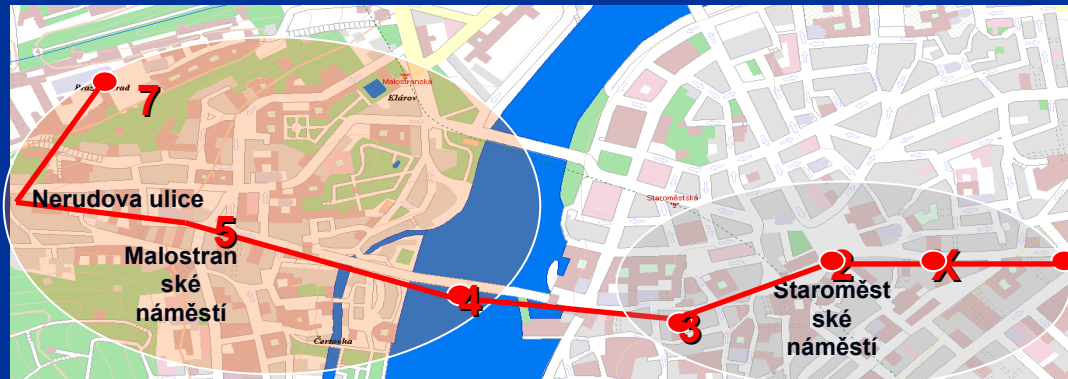


ELUTV
Enhanced Learning Unlimited



Example: King's Road

Cultural Heritage course for elderly people





Do you know
how to use
UI?

Main Feature

History

Architecture

Options

Do you know
how to use
UI?



Bonus material

Hide

Exit

Options

Main Feature

History

Architecture



Do you know
how to use
UI?



Was the Charles IV. the first Czech King?



Great!!!
Well done!!!

Was the Charles IV. the first Czech King?

YES

NO

Main Feature

History

Architecture

Options



Does exist cubism in interior design?

YES ► NO

Main Feature

History

Architecture

Options

AUDIO MALE



Typical gothic arch

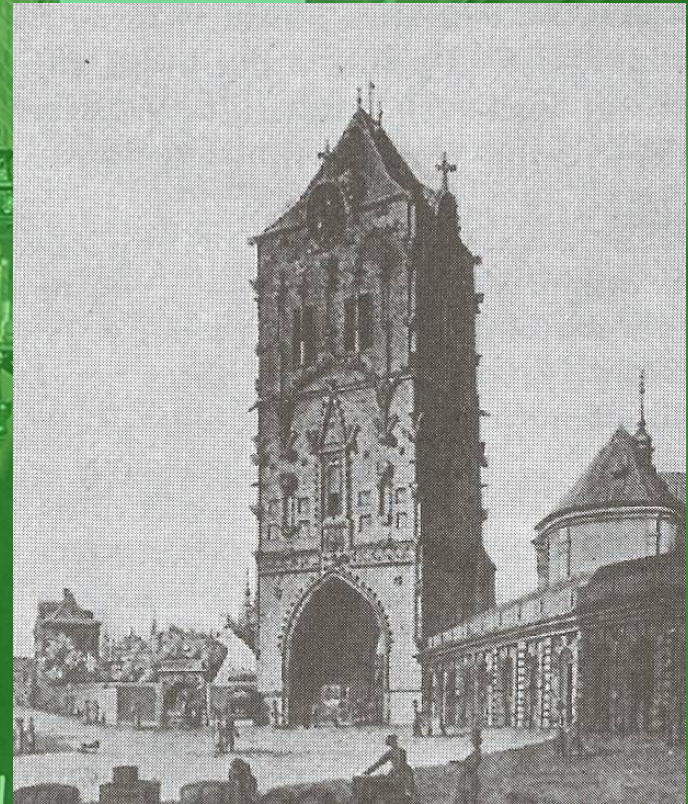
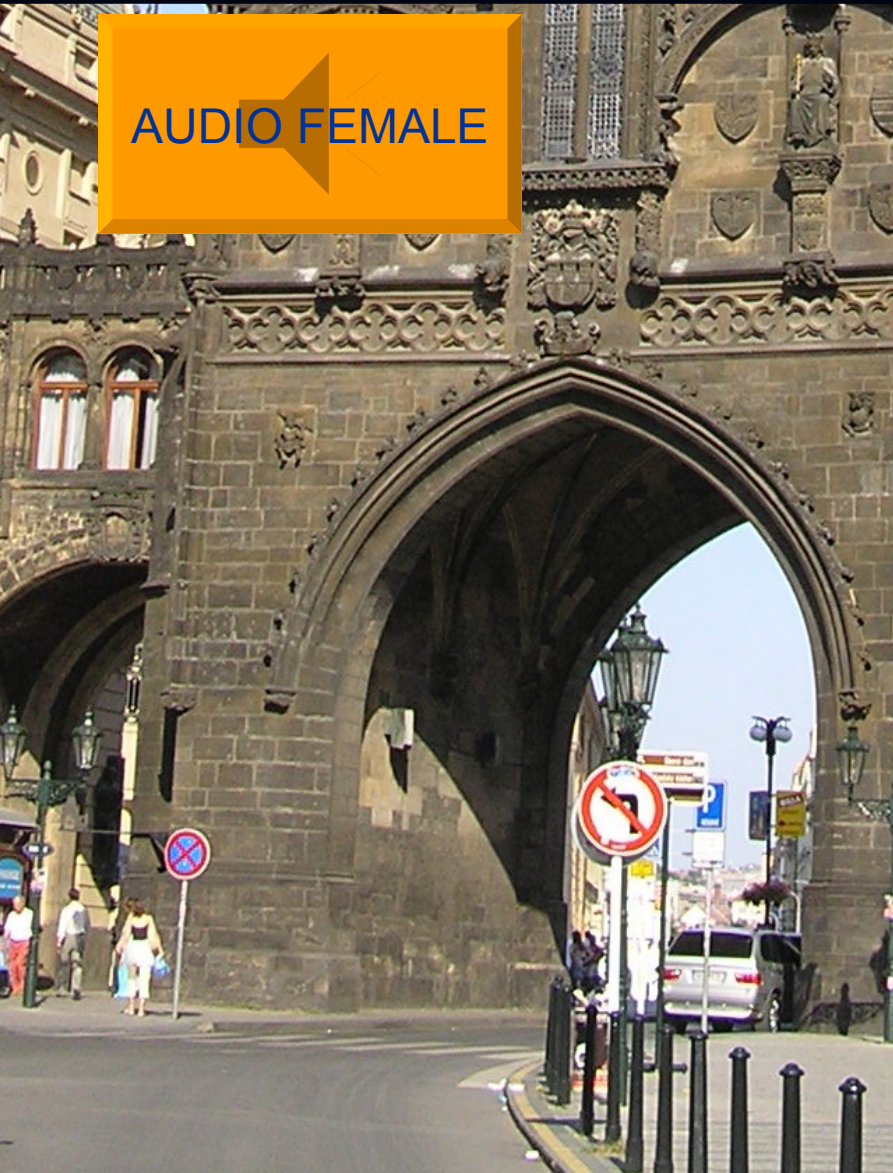
Main Feature

History

Architecture

Options

AUDIO FEMALE



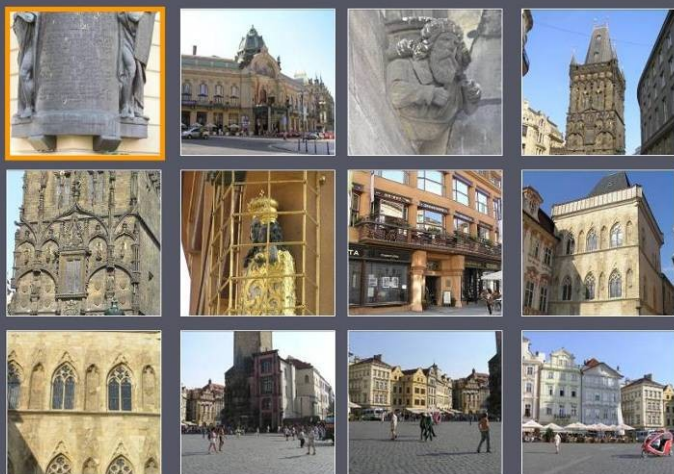
Powder Tower before neo-gothic reconstruction

Main Feature

History

Architecture

Options



Picture Gallery

Invitation to
bonus
material



Do you want to see the bonus material now?

YES



NO

Main Feature

History

Architecture

Options

Main menu

Picture gallery

The King's Road

About

Schedule

Galleries

Quiz

Game

exit course

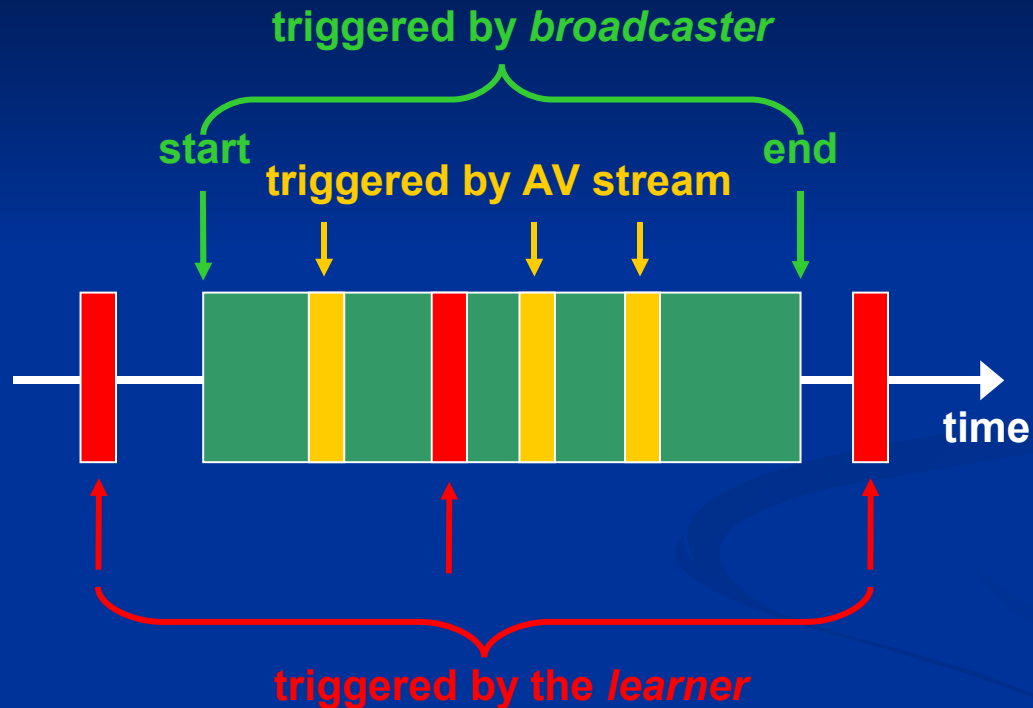
options



next

exit gallery

options



RC/DVB asynchronous content (stand alone cards)

RC/DVB synchronous content (cards synchronized with AV stream)

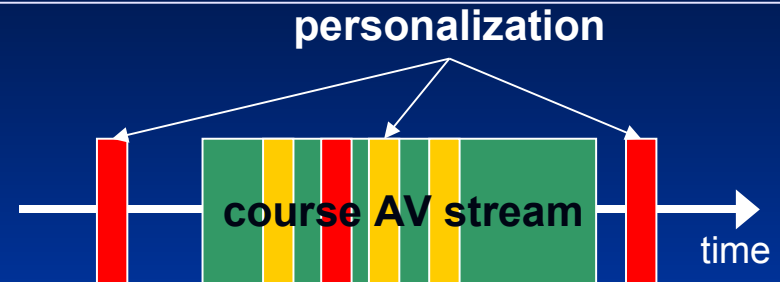
DVB audio-visual stream



Learning process support



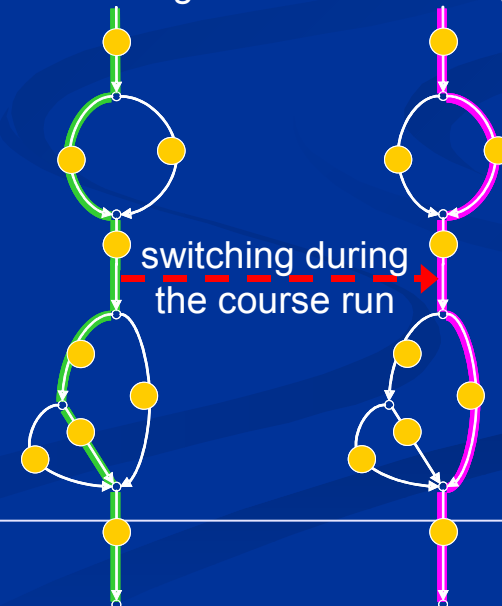
- personalization
 - content
 - architecture or history walkthrough
 - user's interaction
 - subtitles (for people with hearing disabilities)
 - layout (full-screen mode)



Course content personalization

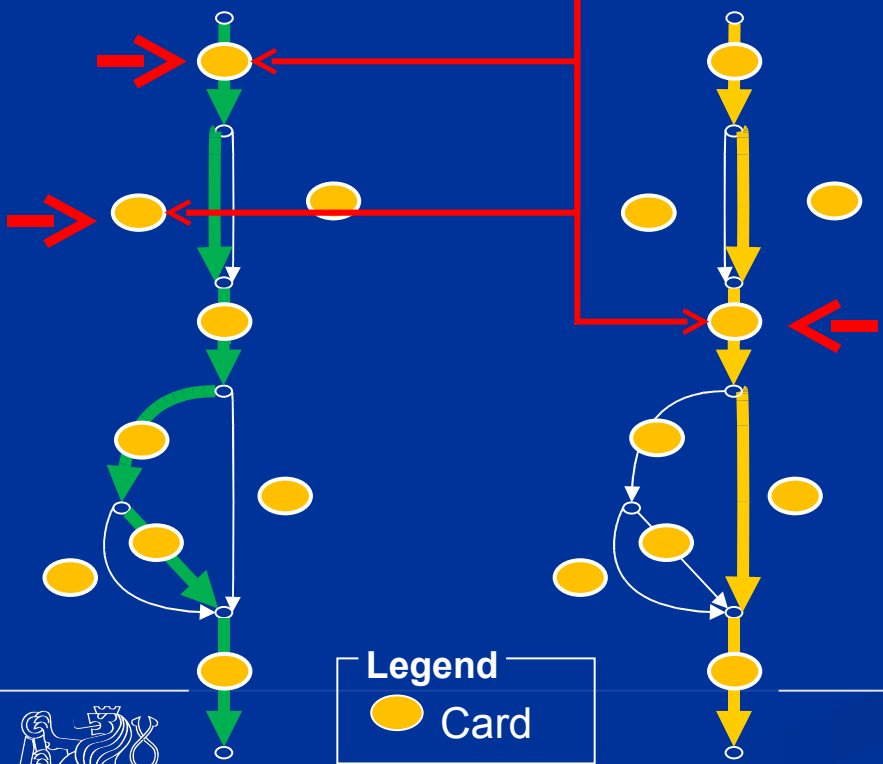
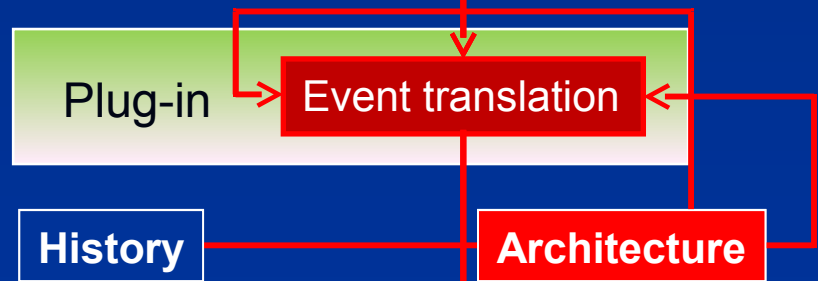
History walkthrough

Architecture walkthrough





TV screen



Learning process support



- personalization
 - content
 - architecture or history walkthrough
 - user's interaction
 - subtitles (for people with hearing disabilities)
 - layout (full-screen mode)
- virtual teacher
 - guiding the learner (help)
 - pointing out interesting things

virtual teacher as helping the learner



Learning process support



- personalization
 - content
 - architecture or history walkthrough
 - user's interaction
 - subtitles (for people with hearing disabilities)
 - layout (full-screen mode)
- virtual teacher
 - guiding the learner (help)
 - pointing out interesting things
- gaming technologies
 - synchronous mini-quizzes
 - asynchronous quiz (Phantom of Prague)

mini-quiz related to the content currently shown to the learner



- STREP, 1/2006 – 9/2008
- Topic: interactive learning courses on TV
 - CTU: elderly people
- Current state
 - creation of final version of t-learning course (scenario, AV recording, MHP application creation)
 - development of iDTV playout system
 - development of AT for creation of MHP application
- People
 - core team: Pavel S., Zdeněk M., Ladislav Č., Božena M., Tomáš P., Martin K.
 - others: Tomáš Klimčuk, Jiří Kratochvíl, (Tomáš Kunderát)
- Project partners: FR,IL,LUX,LAT,LIT,HU,I,GR

- Study the Pedagogical and Technological aspects of using iDTV as the medium for t-learning
- Develop new tools for creating content for t-learning to be used on iDTV
- Develop enhancements to MHP to meet the t-learning needs

- Usability issues
- Creation of UI guidelines
- MAINLY: investigation of interaction in iDTV specific environment:
 - limited interaction
 - rich multimedia, AV broadcast
 - suitability for elderly people (relation to technology, impairments etc.)



THANK YOU



ELU TV
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HW based input/output restrictions



Remote control

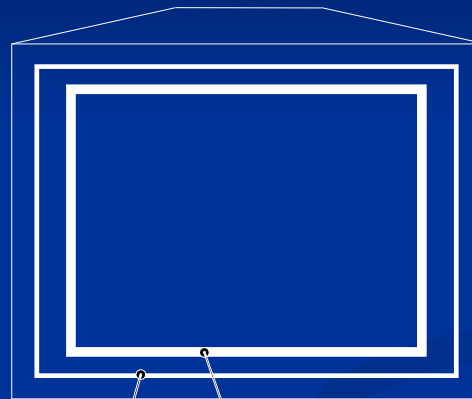


The red, green, yellow, blue buttons

Directional cross-button & OK button

Numeric pad

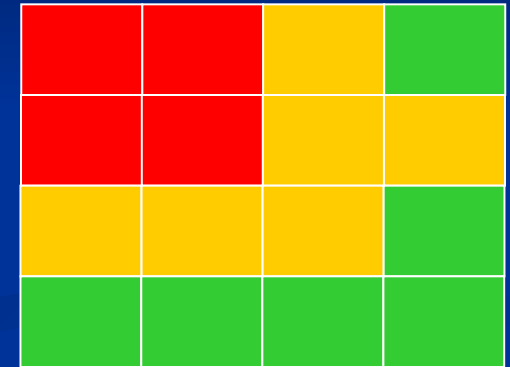
TV screen






action safe area

graphics safe area

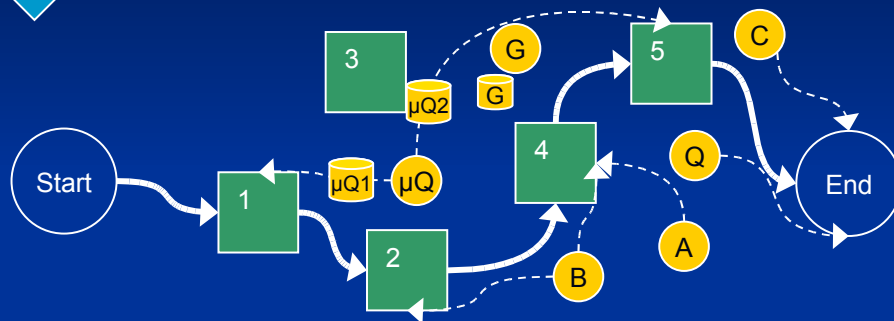
Reading text on TV screen



 high priority
 medium priority
 low priority

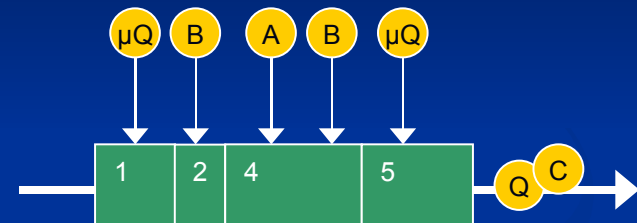


1. raw content preparation



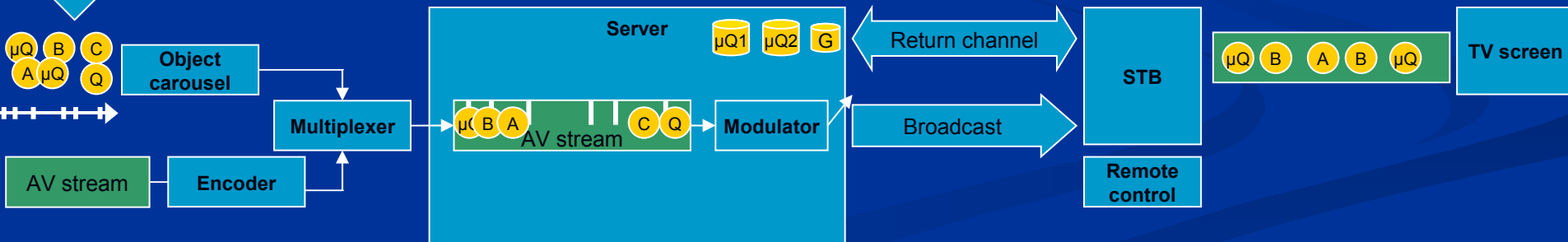
- preparing AV content
- preparing MHP applications

2. course finalization



- creation of AV stream (cutting video)
- placing MHP application in the right place and time

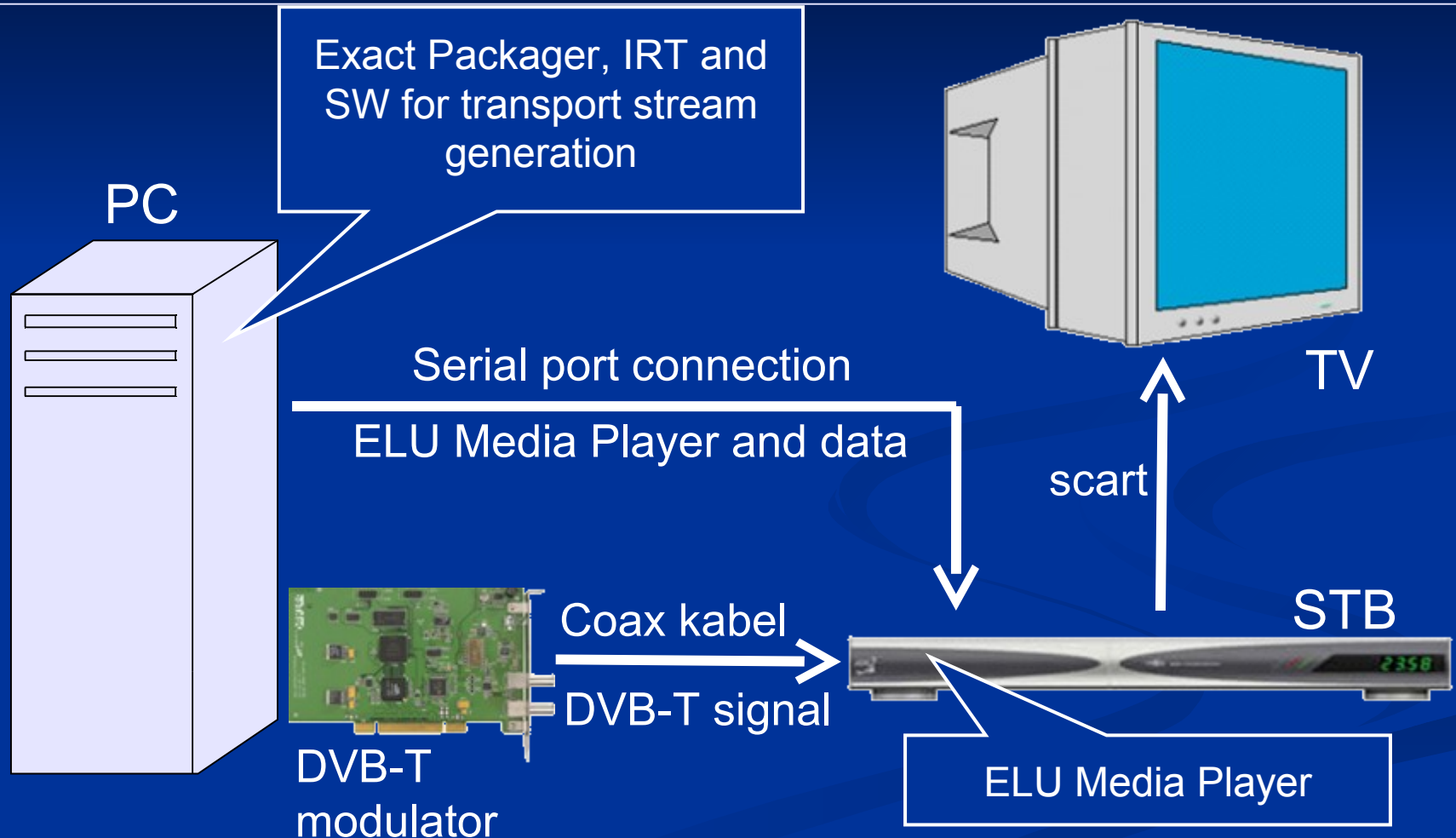
3. Testing and evaluation



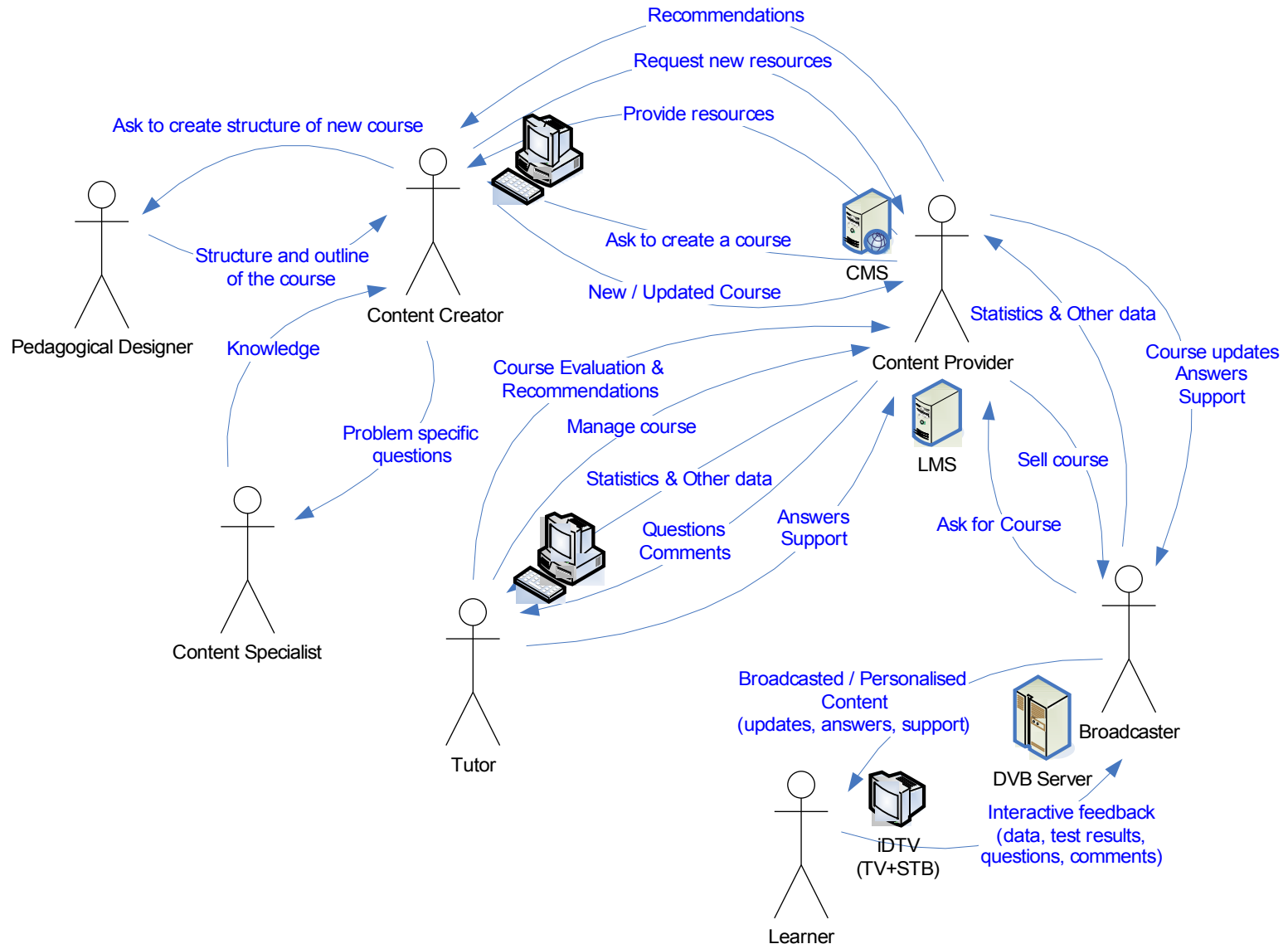


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Development environment



Communication & Services Model



- Statistics (MBA level)
- Basic mathematics (school children)
- Device Maintenance
- Management issues (university students)
- Cultural heritage (seniors – lifelong learning)