



Introducing SeLCont:

Toolkit for On-line Multimedia Lectures

Synchronized Video, Audio, Transparencies, Screenshots

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On-line Synchronized Lectures



<http://webvm.netmode.ntua.gr/courses/?lectures=introduction-to-selcont-english>

- **On-line Lectures include:**

- Video
- Slides (PowerPoint/PDF)
- Internet screenshots (Browsing)
- Annotations on slides

- **Benefits to the presenter:**

- Use of standard equipment in most lecture halls (web camera, projector)
- Instructor laptop/tablet with pre-installed SeLCont time-stamp recorder
- Minimal video post-processing (optional)
- On-line storage: Simple pre-formatted web-page, links to video service e.g. YouTube

- **Benefit to the end-user (e.g. student):**

- Retrieval as a URL link in any web browser, no need for any add-on
- Transparent adjustment to any device (smartphones, tablets, laptops, desktops)



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***SeLCont* is a tool to complement e-Learning;
it does not aim to replace live lectures and off-line reference material**



Potential *SeLCont* Users



SeLCont as a **product** to be used by:

- Professors
- Teachers
- Presenters
- Web site owners delivering on-line synchronized multimedia content

SeLCont as a **service** to lecture-providing organizations:

- Schools
- Universities
- Research Institutes
- Companies organizing lectures, seminars, presentations



Synchronization Process in three Steps



1st Step:

Lecture delivery & recording

2nd Step:

Post-processing

3rd Step:

Publishing of final result



1st Step: Lecture Delivery & Recording

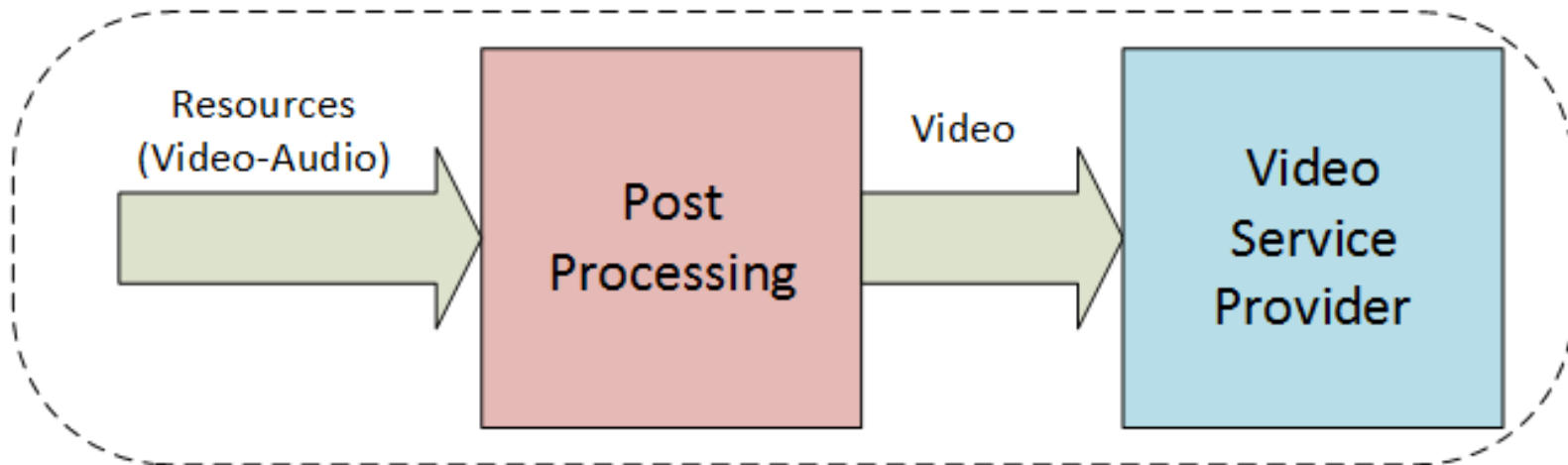


- **Video-audio recording**
 - Using common lecture hall equipment
 - May also capture hand-written notes on a blackboard/whiteboard
- **Recording of support material from presenter's laptop/tablet**
 - Slides (PowerPoint/PDF)
 - Internet screens and other browser screenshots
 - Annotations produced on presenter laptop/tablet
- **Timestamps recorded in a *SeLCont* file**
 - Synchronization of screenshots within video – audio stream
 - Timestamps generated on *PrtScn* or *Spacebar* or *PgUp* – *PgDn* or *arrow keys* via a light *SeLCont* Python script (downloaded in the presenter's Windows laptop)



2nd Step: Post-Processing

- **Optional** simple video editing of recorded video file (e.g. in MP4) using off-the shelf editors (e.g. Camtasia, Wondershare, OpenShot...)
- **Uploading** of (edited) video in a video provider cloud (e.g. YouTube)

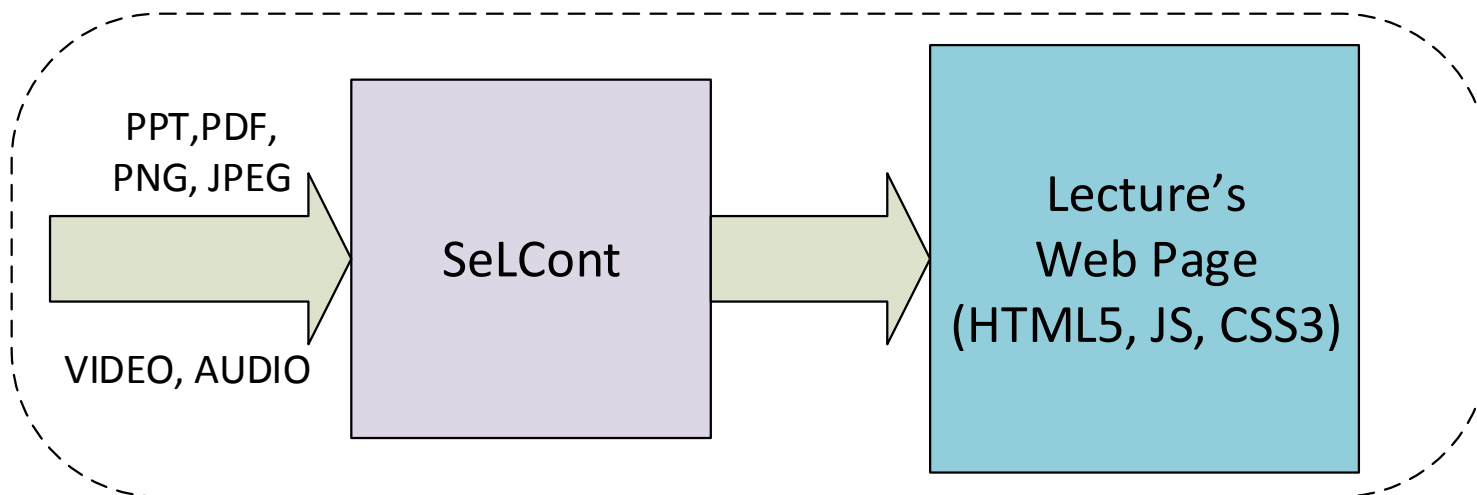




3rd Step: Publishing of Final Result



- **Development of lecture web page**, preferably via a Content Management System - CMS (e.g. *WordPress*)
- **Data entry** in pre-formatted web form of lecture-specific info:
 - Lecture title, Keywords, Presenter
 - Video URL (in video cloud, e.g. YouTube)
 - Presentation file (PowerPoint/PDF)
 - Screenshots (timestamps) to be synchronized with the video stream
- **Final check & uploading** of *SeLCont* lecture via its URL





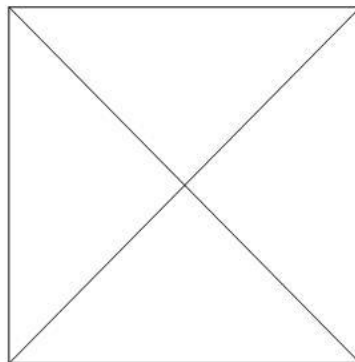
SeLCont Lecture Web-page



Synchronized e-Learning Content

Lecture Title and Date

Lecture Description



Instructor:

Date:

School:

Presentation File:

Technical Highlights

HTML5: HTML5 video player (JWPlayer)

JavaScript: Using jQuery

Responsive: Bootstrap framework

Synchronization: Automatic or user controlled via thumbnails associated with screenshots below video sub-frame



The *SeLCont* Initiative



- Development: Network Management & Optimal Design Laboratory (**NETMODE**), School of Electrical & Computer Engineering, National Technical University of Athens (**NTUA**): www.netmode.ntua.gr
- SeLCont S/W: Wordpress [plugin](#) & Windows [screen capturing](#) tool. Also available in <https://github.com/netmode/selcont> under **GNU GPL**
- Partial support: Up2University H2020 Research & Innovation EU Project, www.learn.up2university.eu
- Partial support: Institute of Communication & Computer Systems (**ICCS**) www.iccs.gr
- Partial support: NTUA Unit for Innovation & Entrepreneurship (**MOKE**) www.mke.ntua.gr
- In collaboration with: NTUA Network Operations Center (**NTUA NOC**) www.noc.ntua.gr
- Complementarity: NTUA Academic Open Courses (**NTUA AOC**) www.aoc.ntua.gr