

# Preparing the Teaching Material for Web-educational Courses

Evgenia Suzdaleva

Department of Adaptive Systems  
Institute of Information Theory and Automation of the Academy of Sciences of the  
Czech Republic

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# The Edukalibre Project

- UTIA AS is a member of the Edukalibre project team
- Basic objectives of the project:
  - libre software development for web-based information systems applied to education
  - exploring and re-use of existing software tools
  - organizing the teaching material for them
- Developers and teaching content creators need possibility of collaborative editing
- Both the collaborative editing and converting the different formats are the points the creators try to apply preparing the material for Bayesian Dynamic Decision Making

## Functional Requirements to Software Tools

- Version control of a document;
  - Connecting to already existing CVS repository;
- Authentication of the users with different privileges;
  - Capability of simultaneous access to the document of two/several users. Unlocking the document on server;
- Providing the different formats of the document;
  - Support, compilation check and conversion of LaTeX format;
- Availability of the document at the Web site;
  - Capability of user-friendly algorithm running
- Access to the document with the aim of its obtaining in different formats, modifying, uploading as well as downloading and printing according to the privilege of the user;
  - Handling the document inside the same software interface and using multi-file documents.

# Moodle is a software package for producing internet-based courses and web sites.

- Moodle is a Learning Management System
- After installation the user obtains the prepared web site that only has default settings to use it for e-learning
- The Moodle site has the same structure as the sites created with the help of it
- Really user-friendly system
- Moodle enables to have a great amount of courses
- One can even use Moodle for making a personal web page



## Moodle in UTIA AS

- UTIA AS tries rather to apply Moodle as a management system
- Lack of the module for collaborative editing
- Use of the functionality of Moodle at least as the tool for making information available in Web.
- Course for every creator as well as combination of access rights
- Opening the document from server, modifying and uploading
- Powerful flexible system for handling the web sites and publishing the information on the Internet



## Courseware content is expected to:

- depend heavily on underlying math and its presentation;
- deal with numerically solved examples;
- have math-like structure with top-down way of explanation of underlying notions;
- be built with math-oriented tools (Octave, LaTeX).

User friendliness:

- standard appearance of examples;
- defined color of hyperlinks for each target;
- each variable is a hyperlink to its description.

# Structure of the Example Main Page

## Title of The Example

- **Aim:**
- **Description:**
- **Specification:**
- **Recommended experiments:**
- **Comments and references:**

[Run example](#) [Read theory](#) [View code](#) [Home](#)

## Octave dialog

One step prediction for known model parameters

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Input variables

--- system -----

Size of data sample                    -> ndat=20;

Parameters (P(1|u(t),y(t-1))) -> th1 =

u(t)=1    y(t-1)=1        0.1

u(t)=1    y(t-1)=2        0.2

u(t)=2    y(t-1)=1        0.9

u(t)=2    y(t-1)=2        0.8

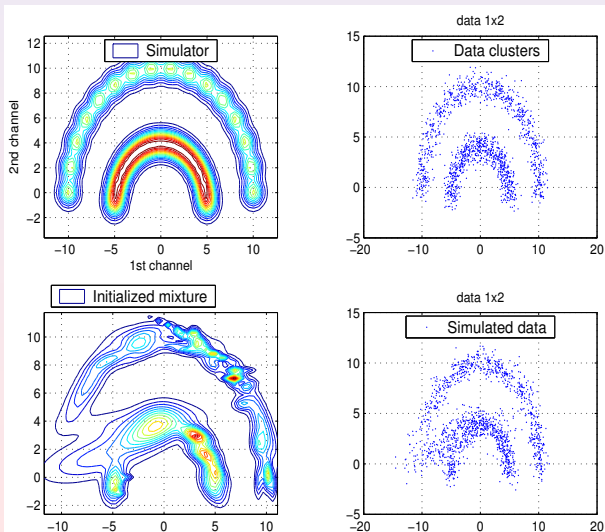
Initial output                       -> y(1) = 1;

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Do you want to change variables ?

ENTER = no, or type a command: >

## Example of results with default values



## Settings for next experiment

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Next experiment ?

ENTER = continue with current setting,

I = continue with initial values,

S = stop experiments >

## The Expected Results

- The educational material will be available for the students at Moodle-created web courses.
- All the source files will be located at CVS repository.