



Asia-Pacific
Economic Cooperation

2006/HRDWG/SYM/004

Agenda Item: 3

Connexions - Sharing Knowledge and Building Communities through Open Educational Resources

Purpose: Information

Submitted by: USA



**APEC Symposium on Open Source
and Open Course for E-Learning
Ha Noi, Viet Nam
4 - 6 December 2006**



*Sharing Knowledge and Building Communities
through Open Educational Resources*

Cathy Casserly

William and Flora Hewlett Foundation

motivation – 1999

- difficult to “**connect**” across concepts, courses, grades, curricula
 - ex: math to science to engineering to applications
 - grade school to higher education
 - curricular stove-piping, disintegration in spite of ...
 - research indicating that study / education is made meaningful by connections to other fields
- difficult to engage students in **interactive exploration**
 - “I hear, I forget; I see, I remember; I do, I understand”
- difficult to build **communities, collaborations** among faculty, students
 - inefficiencies: no economies of scale, glacial time scales

disconnects

author



publishing



shutouts

Български Hausa कश्मीरी

العربية Gàidhlig Ido 日本語

Українська Español Laal Français

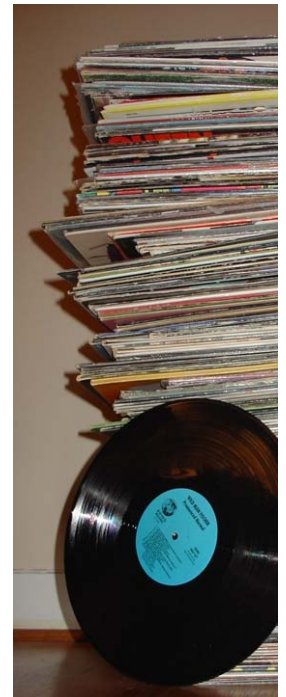
தமிழ் Swahili □□□ Český



**create
rip
mix
burn**



vibrant
interactive
community
connected
innovative
up-to-date





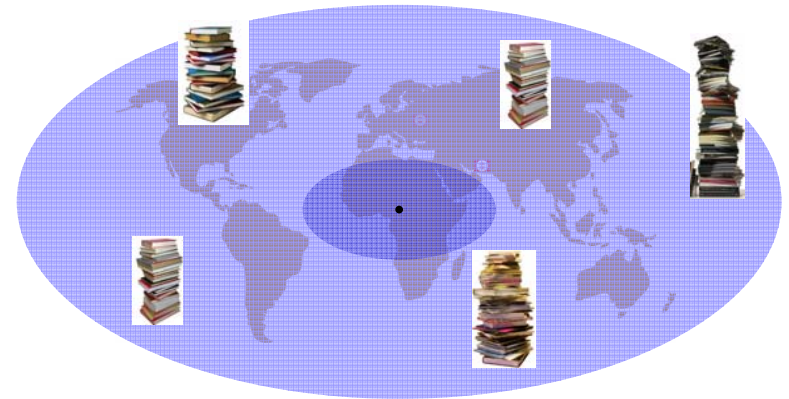
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innovative
up-to-date



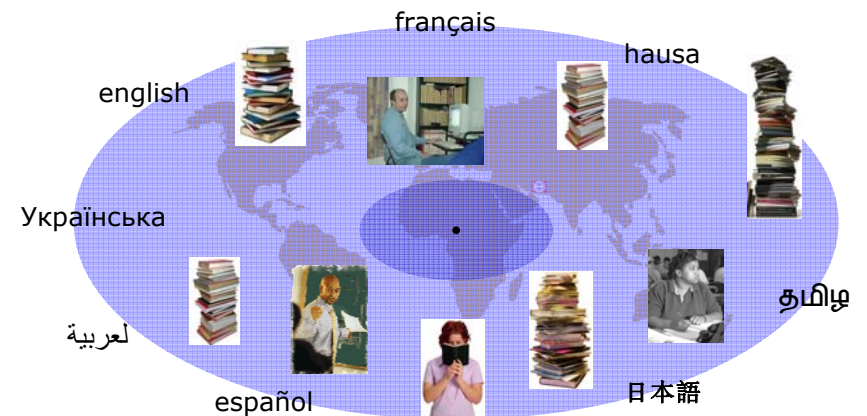
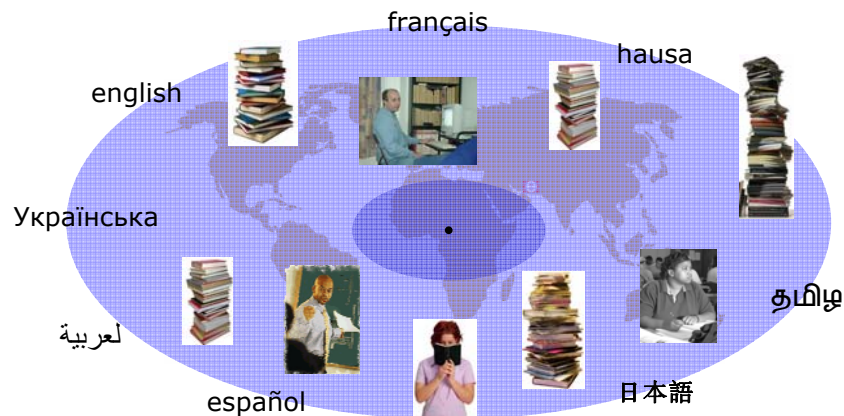
liberate course materials

book	>>>	page
shelf	>>>	interconnected global repository
closed	>>>	open
\$	>>>	free



invite participation

inclusive **community**
grassroots organization



create

rip
mix
burn

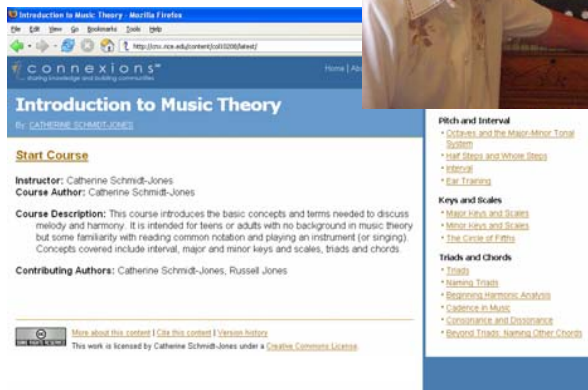
anyone can become an author...

create

Catherine Schmidt-Jones

600,000+ page views per month

many by
K-12
teachers



Introduction to Music Theory
By Catherine Schmidt-Jones

Start Course

Instructor: Catherine Schmidt-Jones
Course Author: Catherine Schmidt-Jones

Course Description: This course introduces the basic concepts and terms needed to discuss melody and harmony. It is intended for teens or adults with no background in music theory but some familiarity with reading common notation and playing an instrument (or singing). Concepts covered include interval, major and minor keys and scales, triads and chords.

Contributing Authors: Catherine Schmidt-Jones, Russell Jones

Rich and Interval

- Octaves and the Major/Minor Tonal System
- Half Steps and Whole Steps
- Interval
- Scale Triads

Keys and Scales

- Major Keys and Scales
- Minor Keys and Scales
- The Circle of Fifths

Triads and Chords

- Triads
- Triads, Triads
- Beyond Triads, Triads, Triads
- Beyond Triads, Triads, Triads
- Beyond Triads, Triads, Triads



Vietnam opencourseware

VIETNAM



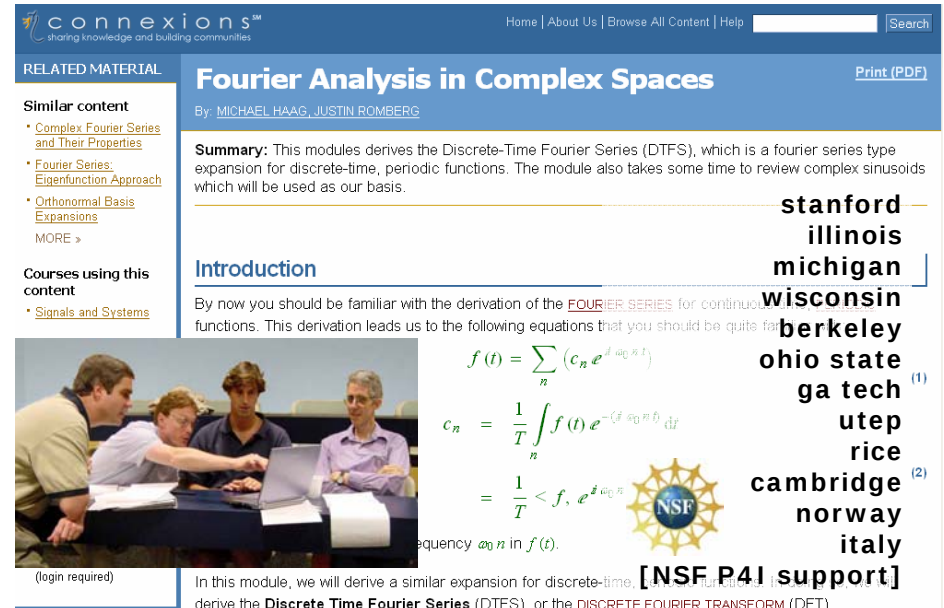
Surface area: 331 689 km²
Population (2000): 79 832 000
GNP per capita (1998): USD2312



MOET



create



Fourier Analysis in Complex Spaces
By MICHAEL HAAG, JUSTIN ROMBERG

Summary: This module derives the Discrete-Time Fourier Series (DTFS), which is a fourier series type expansion for discrete-time, periodic functions. The module also takes some time to review complex sinusoids which will be used as our basis.

Introduction

By now you should be familiar with the derivation of the **FOURIER SERIES** for continuous-time functions. This derivation leads us to the following equations that you should be quite familiar with:

$$f(t) = \sum_n (c_n e^{j \omega_0 n t})$$
$$c_n = \frac{1}{T} \int_n f(t) e^{-j \omega_0 n t} dt$$
$$= \frac{1}{T} \langle f, e^{j \omega_0 n} \rangle$$

frequency $\omega_0 n$ in $f(t)$.

In this module, we will derive a similar expansion for discrete-time functions. We will derive the **Discrete Time Fourier Series** (DTFS), or the **DISCRETE FOURIER TRANSFORM** (DFT).

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- Playland

Análisis de Fourier en Espacios Complejos

By: [MICHAEL HAAG, JUSTIN ROMBERG, ERIKA JACKSON, FARA MEZA](#)
Based on: [FOURIER ANALYSIS IN COMPLEX SPACES](#) by MICHAEL HAAG, JUSTIN ROMBERG

[Print \(PDF\)](#)

Summary: Este modulo deriva la series de Fourier discreto en el tiempo (DTFS), la cual es un tipo de expansión de fourier para funciones periodicas y discretas en el tiempo. El modulo tambien da un repaso a los senosoidales complejos que sirven como bases.



estar familiarizado con la derivación de la [SERIES DE FOURIER](#) par alas

Esta derivación nos lleva a las siguientes ecuaciones las cuales usted

$$f(t) = \sum_n (c_n e^{j \omega_0 n t})$$

$$c_n = \frac{1}{T} \int_n f(t) e^{-j \omega_0 n t} dt$$

$$= \frac{1}{T} \langle f, e^{j \omega_0 n t} \rangle$$

donde c_n nos dice la cantidad de frecuencia en $\omega_0 n$ in $f(t)$.





Connexions for the Americas

rip


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RELATED MATERIAL

Preface for U of I DSP Laboratory (Thai Version)

By: DOUGLAS L. JONES, PATRICK FRANTZ, KAMOLCHANOK KRIENGCHAIPIRUK
Based on: PREFACE FOR U OF I DSP LABORATORY by DOUGLAS L. JONES

[Print \(PDF\)](#)

Summary: The DSP Laboratory textbook is well suited for a variety of course organizations, and Connexions provides the ideal venue for the textbook.

RELATED MATERIAL

Preface for U of I DSP Laboratory (Japanese Version)

By: PATRICK FRANTZ, EMIKO YAMA
Based on: PREFACE FOR U OF I DSP LABORATORY by DOUGLAS L. JONES

[Print \(PDF\)](#)

Summary: The DSP Laboratory textbook is well suited for a variety of course organizations, and Connexions provides the ideal venue for the textbook.

RELATED MATERIAL

Preface for U of I DSP Laboratory (Chinese Version)

By: PATRICK FRANTZ, KANGLIN WANG
Based on: PREFACE FOR U OF I DSP LABORATORY by DOUGLAS L. JONES

[Print \(PDF\)](#)

Summary: The DSP Laboratory textbook is well suited for a variety of course organizations, and Connexions provides the ideal venue for the textbook.





OpenSource OpenCourseware Prototype System

開放式課程計劃

www.twocw.net
www.cocw.net

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burn

assemble a customized course, ...

mix



Teachers Without Borders



*"For our teachers,
one size never fits all"*

Jane Goodall
International Spokesperson for TWB



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RELATED MATERIAL

Inverted Pendulum on a Translating Base

By ROBERT BISHOP

[Print \(PDF\)](#)

Prerequisite links

- LabVIEW Simulation Tutorial
- LabVIEW Control Design Tutorial (TechTeach)

Similar content

- Control Systems Laboratory
- Fundamentals of Digital Signal Processing Lab
- What is Priority Control?
- MORE »

Courses using this content

- Control Systems Laboratory

Summary: The objective of this lab is to understand the dynamics of an inverted pendulum with a translating base. Students will use feedback to control an unstable system. The controller will be designed and implemented in LabVIEW using the Simulation Module and Control Design Toolkit.

NATIONAL INSTRUMENTS

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RELATED MATERIAL

FIR Filter Example

By DON JOHNSON

Summary: An example of using a Finite Impulse Response filter.

Similar content

- Frequency Sampling Design Method for FIR Filters
- Perfect Reconstruction FIR Filter Banks
- Window Design Method
- MORE »

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EDIT-IN-PLACE

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HEWLETT FOUNDATION

UCMERCED



CAMBRIDGE
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growth

>190 courses

>3600 modules (November 2006)

multiple languages

engineering, computer science, nanotech
physics, statistics, math, history, music
bio-diversity, botany, bio-info, IP
BRIT, UNESCO, UN, Sigma Xi, ...
from authors *worldwide*

Usage November 2006
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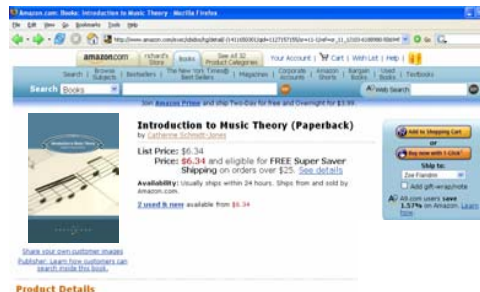
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continuously updated
personalized on assembly
published on demand

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textbook for \$25,
not \$125



enablers

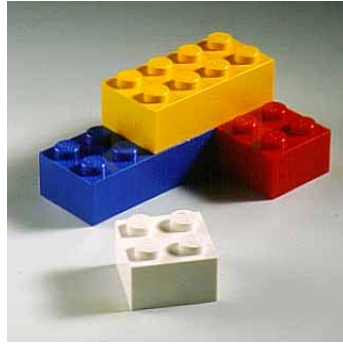
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enabler 1: technology

XML

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framework
for sharing

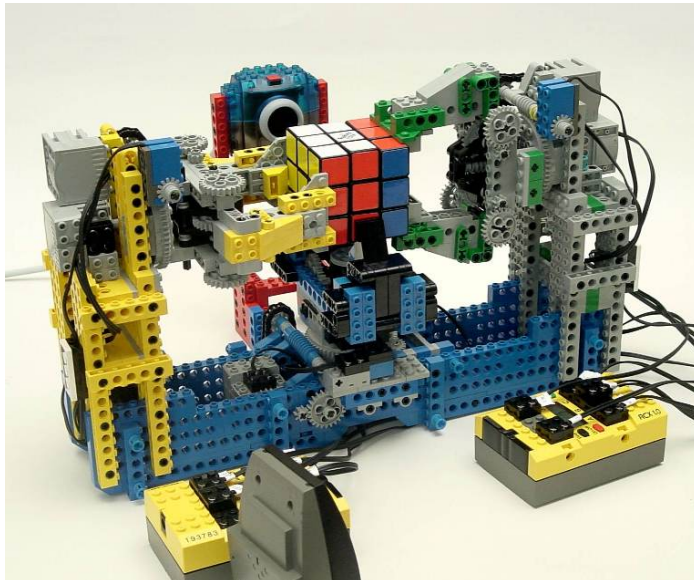
turns book pages
into Lego blocks



Connexions repository



book / course



personalized courses



A photograph of four interlocking plastic blocks, commonly known as LEGO bricks. There is a yellow 1x3 brick at the top, a blue 1x3 brick to its left, a red 1x3 brick to its right, and a white 1x1 brick in the foreground. The blocks are set against a plain, light-colored background.

initiatives

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current initiatives

open-source **tools**

authoring, course-building, peer review (quality control)

outreach

Latin America (UTEP)

China (OOPS), Japan (TI), Vietnam (VEF), North Korea (PUST)

content projects

"top 10" community college courses

K-12 science and math textbooks

open textbooks for colleges worldwide

Rice University Press and university press consortium

rice university press

Rice University Press re-starts as **all digital press**
within Connexions (2007)

RUP now exploring joint publications

- University of Michigan Press
- Stanford University Press
- Chicago University Press
- Columbia University Press
- Texas Medical Center
- National Academies
- Carnegie Foundation
- Central European University Press



July 13, 2006

Rice University Revives Its Press In Digital Model

By REBECCA BUCKMAN
July 13, 2006; Page B3



Chuck Henry

One of the nation's most prestigious universities is resurrecting its defunct academic press online -- a move that adds a new wrinkle to the debate over who will profit from Web publishing.

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