

Need to teach students how to write lesson plans? There's an App for that!

**Presenters: Professors Jane Thielemann-Downs, Janice Nath, Ping Chen, and Irene Chen
University of Houston Downtown
CSOTTE 2012**

Moving from idea to Implementation

- **Create an interdepartmental team**
 - **Urban Education (content) & Computer and Mathematical Sciences (programming)**
- **Design a “Lesson Plan tutorial software iApp” program to help student-teachers write appropriate student-centered lesson plans.**

Platforms

- **Designed to use with the Apple iOS on an iPad and MAC Computers**
- **Create a similar web-based version for multiple platforms: PC/Windows and ANDROID-based smartphones.**

Product Vision

- Design an iApp to provide a supportive learning experience that develops students' understanding of a constructivist, student-centered lesson plan.
- Provide comprehensive text, graphic information and samples for each lesson plan component:

- Goals / TEKS / Objectives / ELPS
- Focus / Rationale / Connections
- Materials
- Teaching Strategies
- Assessment
- Closure
- Accommodations



A successful App solves a problem.

- **PROBLEM:** Current instruction did not support students' development and understanding of a constructivist lesson plan
 - Some students still wrote teacher-centered lesson plans
 - Some students simply copied a lesson plan from the Internet
- Students viewed a lesson plan as a time consuming chore
- **SOLUTION:** a Lesson Plan iApp with teaching components could help students develop a deeper understanding of a constructivist lesson plan.

Project Timeline

Phase I: Spring 2012 – Communications and storyboarding
Minimum functions

Phase II: Summer 2012 – Product prototype
Test Functions

Phase III: Fall 2012 – Recursive feedback and revisions
Fully functional

Phase I: Spring 2012 – Begin communications and storyboarding for prototype

Test Notebook

Lesson Plan Title

Materials

Folder

Glue stick

HI-lighter

Markers

Pen

Pencil

Pencil—map colors

Paper—loose leaf

Paper— composition note- book

Paper—plain unlined

Post-it notes

Ruler

Scissor

TEKS/STAAR

(A) recognize that spoken words are represented ...

ELPS

(1) identify the student's English language proficiency ...

Objectives

Focus

Materials General Student Materi...

Describe specific materials (books, visuals, manipulatives, etc.) and technology to be utilized in this lesson.

iPAD Version

Lesson Plan

A framework provided by the Lesson Plan Committee to be fully implemented by Block III
Follow the Guidelines of your Professor

Information Materials Goals/TEKS Sponge/Focus Rationale Teaching Strategies Evaluation Closure Modifications Add'l Info Print

Type in your own material list or select from below

Dictionary, Pattern blocks, Paper - large chart, Metric ruler, Fossil collection, Paper - composition notebook, Markers, Pen,

Folder

Pencil

Post-it notes

Algebra Tiles

Geoboard

Number balance scale

Flashcards

Paper - construction

Samples of student work

Drawing paper

Batteries

Magnets

Scientific calculator

Glue stick

Pencil - Map colors

Ruler

Base blocks

Graphing calculator

Protractor

Modeling clay

Paper - index cards

Sentence strips

Calligraphy pens

Flashlight

Metric tape measure

Solar system model

HI-lighter

Paper - loose leaf

Scissors

Coins / Money

Graph paper

Spinners

Digital camera

Pocket folder

Word cards/ word strips

Drawing pens

Human anatomy models

Microscope

Wires

Paper - plain unlined

Tape

Color chips

Mechanical pencil

Tangrams

Paper - art drawing

Books (Title: _____)

Color chalk

Drawing pencils

Light bulbs

Mineral collection

Algebra Balance Scales

Cuisenaire Rods

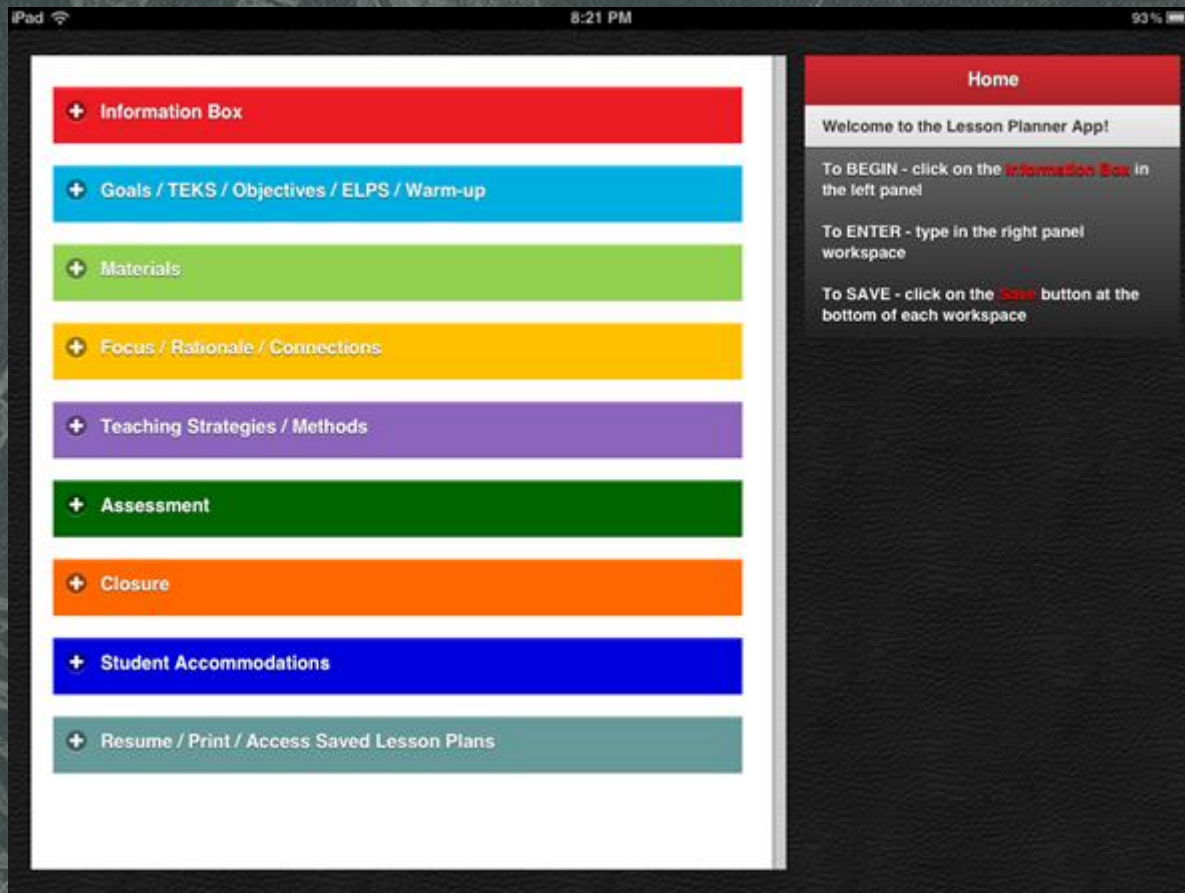
Color wheel

Paper: Construction

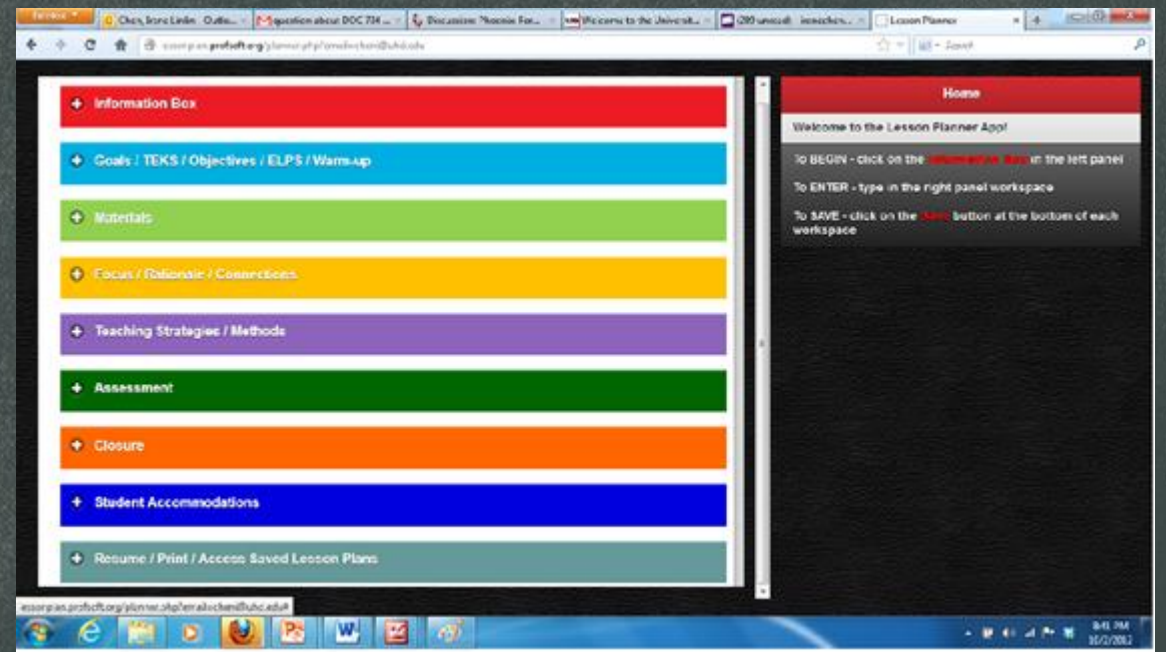
Rock collection

Web-based Version

Phase II: Summer 2012 – Produce product prototype Review and test Functions



iPAD Version



Web Version

Our Technology team collaborators: Professor Ping Chen and student David Hinote

Subtitle



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Links

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Dr. Ping Chen is a Professor of Computer Science and the Director of **Artificial Intelligence Lab** at the University of Houston-Downtown. His research interests include Bioinformatics, Data Mining, and Computational Semantics. Dr. Chen has received five NSF grants and published over 50 papers in major Data Mining, Artificial Intelligence, and Bioinformatics conferences and journals. Dr. Ping Chen received his BS degree on Information Science and Technology from **Xi'an Jiao Tong University**, MS degree on Computer Science from **Chinese Academy of Sciences**, and Ph.D degree on Information Technology at **George Mason University**. Here is my [CV](#).



App Development Process -1

- The application was initially developed for use on the Internet by using the JQuery Mobile framework, HTML, Javascript, and PHP.
- During construction and development, it was hosted on a public Web server so anyone could access it during construction.
- Corrections and improvements to the program were made based on user input during and after construction.

App Development Process - 2

- Once complete, the web application was turned into a native iOS application using the Cordova library for Xcode.
- Cordova made it possible to reuse most of the code developed for the web version. The result is an iPad application that is almost identical to the Web version in appearance and functionality.
- Once converted, Apple's Xcode IDE was used to package the app and test on simulators and actual iPads.

Software tools provided by Apple iOS Development Center

Xcode is Apple's powerful integrated development environment (IDE)

Xcode is presented in a Workspace Window

provides users with the tools needed to develop apps
Xcode toolset includes the instrument analysis tools,
iOS Simulator, compilers, and specific frameworks.

Xcode makes it possible to ensure the application is working properly before it is released.

Phase III: Fall 2012 – Recursive feedback and revisions into fully functional model

- Acquire a permanent Web address
 - Homepage URL: <http://www.professorsoft.com/>
- Pilot testing with UHD teacher candidates
- Submit App to Apple iOS Development Center for approval



iPAD Version



Web Version

Log In & First Page

iPad 2:30 PM 100%

Email:

[Continue to Lesson Planner](#)

iPad 2:32 PM 100%

Information Box

Title: The Rain Forest
Date and Time: 10/16/2012 2:30:46 PM CDT
E-mail: Cheni@uhd.edu
Subjects: Science, Social Studies, Language Arts and Reading
Grades: 6, 7, 8

+ Goals / TEKS / Objectives / ELPS / Warm-up

+ Materials

+ Focus / Rationale / Connections

+ Teaching Strategies / Methods

+ Assessment

+ Closure

+ Student Accommodations

Information [View Plan](#)

Tap here to start a new lesson plan

Lesson Plan Title:
The Rain Forest

Prerequisite skills

Name:

Date and Time:
10/16/2012 2:30:46 PM CDT

E-mail:
Cheni@uhd.edu

Phone Number:

Mentor Teacher:

School:

Room:

Teaching Strategies & Pop Up Window

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+ Information Box

+ Goals / TEKS / Objectives / ELPS / Warm-up

+ Materials

+ Focus / Rationale / Connections

- Teaching Strategies / Methods

Teaching strategy or method used:
-Deductive: Provide information/guide to independent practice
-Deductive: Lecture

+ Assessment

+ Closure

Teaching Strategies/ Methods [View Plan](#)

Definition: the strategy or method chosen for delivering the lesson to students. Teaching strategies and methods differ with regard to: classroom setup, teacher role, and student role.

Sample: Direct Teaching - The teacher will read the folktale "Paul Bunyan." The teacher will give a mini-lecture on folktales.

Cooperative groups - The students will work in cooperative groups to identify the attributes of a folktale. Students will write their own folktale on the computer.

Teaching strategy or Method

-Deductive: Provide information/guide to independent practice
-Deductive: Lecture

Teaching Strategy or Method

Direct Instruction ●

Deductive: Lecture ●

Deductive: Provide information/gu... ●

Inductive: Discovery ●

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Direct Instruction

Definition: teacher transmits information directly to students for specific objectives and time frame.

Benefits: good for teaching new skills students must master; efficient for concept development.

Caveat: lesson may be too teacher centered; students passive, lack motivation

Lesson Components:

1. State objective
2. Review prerequisites
3. Present new material
(Explanation, examples, models, videos, illustrations)
4. Pose questions
(higher order thinking questions provide wait time; all-pupil response; partner talk)
5. Allow students to practice independently
6. Assess performance and provide feedback
7. Allow for additional practice and review

[Go Back](#)

Materials & Closure

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+ Information Box

+ Goals / TEKS / Objectives / ELPS / Warm-up

- Materials

[\(Click to edit\)](#)

- Glue Stick
- Metric tape measure
- Samples of student work
- Fossil collection

+ Focus / Rationale / Connections

+ Teaching Strategies / Methods

+ Assessment

+ Closure

+ Student Accommodations

Materials [View Plan](#)

- Human anatomy models
- Light bulbs
- Magnets
- Metric tape measure
- Microscope
- Mineral collection
- Rock collection
- Scientific calculator
- Solar system model
- Wires
- Other

Materials:

- Glue Stick
- Metric tape measure
- Samples of student work
- Fossil collection

Save

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+ Information Box

+ Goals / TEKS / Objectives / ELPS / Warm-up

+ Materials

+ Focus / Rationale / Connections

+ Teaching Strategies / Methods

+ Assessment

+ Closure

+ Student Accommodations

+ Resume / Print / Access Saved Lesson Plans

Closure [View Plan](#)

Definition: a final time to emphasize the most important parts of the lesson. Restate the main points of the lesson.

Select from the samples below or add your own in the text area below.

- Ask students questions about the main concepts learned.
- Exit ticket (student writes something about today's lesson before he/she leaves the classroom and leaves it before exiting the room)
- Do another (some more) examples
- Students show work they completed.
- Read a related poem
- Read a related story
- Read a related book
- Demonstrate a silly nonexample of today's concept
- Ask students to point out examples

Archives & Output

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- + Materials
- + Focus / Rationale / Connections
- + Teaching Strategies / Methods
- + Assessment
- + Closure
- + Student Accommodations

Resume / Print / Access Saved Lesson Plans

Saved lesson plans for Cheni@uhd.edu:

- [The solar system - 8/21/2012 10:14:46 AM CDT](#)
- [Unnamed Plan - 8/21/2012 1:10:42 PM CDT](#)
- [Rain forest - 9/10/2012 9:11:06 AM CDT](#)
- [Unnamed Plan - 9/17/2012 1:12:19 PM CD](#)
- [Unnamed Plan - 9/17/2012 1:35:34 PM CDT](#)
- [Unnamed Plan - 9/17/2012 1:46:36 PM CDT](#)
- [The Solar System - 10/16/2012 2:29:24 PM CDT](#)

Print/Save Lesson Plan [View Plan](#)

Lesson Plans are saved automatically. Resume working on a lesson plan by clicking the link to it in the left panel. Lesson plans are saved under the e-mail address you entered in the information box.

Download this Lesson Plan (.docx)

Print this Lesson Plan

New Lesson Plan

Delete this Lesson Plan

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Lesson Plan

Teacher Candidate:	Phone:	Email: Cheni@uhd.edu
Mentor Teacher:	School:	Room:
Supervisor:	Date: 10/16/2012	Time: 2:30:46 PM CDT
University Professor(s) / Instructor:		
Subject(s): Science,Social Studies,Language Arts and Reading		Grade: 6,7,8

Lesson Title: The Rain Forest

Materials:

- Glue Stick
- Metric tape measure
- Samples of student work
- Fossil collection

Goals / TEKS / Objectives

1. Goal(s):
2. TEKS/STAAR:
3. ELPS:
4. Lesson Objective(s):
5. Prerequisite Skills:

Sponge / Focus

1. Sponge (warm-up):
2. Focus:

Rationale/ Connections:

Rationale:

A successful App should offer the user a positive experience.

We received positive Statements from students regarding:

- Innovative experience:
 - Gained knowledge of lesson plan components through visual reinforcement
 - Motivated and encouraged by numerous samples and prompts
- User Friendly
 - Easily accessible on web: students could easily produce and save lesson plans
 - Ease of use: intuitive quality high, consistency in User Interface high
- Quality of design
 - Attractive, easy to read, high quality colorful design

App Demonstration, Questions, & Feedback

This Lesson plan iApp now available on web:

www.profsoft.org/
www.professorsoft.com

iPad version available soon!

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