EDT 542 Outline of Instructional Development Process

Prepared by Scott Smith 2.27.2002

A1. Definition of Purpose

This proposal is toward the solution of presentation of original learning content and well as re-purposing existing learning content (from legacy print documents, Web Sites, etc.) It also provides a format that can be presented on a screen, delivered on the Web, or in hard copy format, though the later will not provide the highest and use of the application.

An example of the application of this project would be to post the tutorial on a school district's Web Site for reference material, additional it may be administered in a lab-setting as part of professional development.

With regard to the educational track, the project will be developed with respect to the Michigan Department of Education's 7th Standard, demonstration of technical proficiency. The standards of proficiency are described on the Michigan Consortium for Outstanding Achievement in Teaching with Technology site (http://www.coatt.org/preapp4.html http://www.coatt.org/prerubric.html) In addition, to building proficiency levels, the successful completion of the project, will provide the learner a means to develop the a digital portfolio for the presentation of Web content, video clips, or other material.

Though the prototype will be geared to learning content, the intent that the framework will be flexible as to allow the concepts to applied to corporate training settings.

The project would be judged by MCOAT consortium members.
http://www.coatt.org/mempartner.html

Since this application can be administered in a variety of formats, there are few constraints. I do not expect that this will have to meet high expectations.

A2. Description of Setting

As described in the previous section, the highest and best use of this application would be in a computer lab-style trainings session. The application could be projected on-screen with lecturing by an instructor, and students could perform exercises at individual computer. The intent is to design an application that is self-navigating, so a secondary delivery method will be that the application can be delivered on the Web, CD, or perhaps e-mail (dependent on attachment size limitations).

To view the presentation the learner will need to have a personal computer and a PDF viewer (Adobe's free utility Acrobat Reader is recommend). However to actually perform the learning exercises, the learner will need to have the full version Adobe Acrobat, an Internet connection and a means to develop learning content. With regard the latter requirement, there is no specific requirement, anything that can be printed can be converted to PDF format; the tools can textual or visual (Word, Quark, Photoshop…).

The most likely scenario is that the application will be delivered to multiple learners. The application can be presented by a single instructor. However, additional staff could be utilized to more efficiently address individual question that may arise during exercises. No other special conditions need to be accounted for.

A3. Description of Learner

The primary population of learners will be teachers. As secondary target will be trainers on a comporate setting. It is recommended that the learners have some prior knowledge with computers, including the following

Conceptual understanding of their computer's operating system
Experience with Web browsing particularly with URL's
Familiarity with content tool, ie word processor, layout or graphics applications

There is no requirement for related experience, though application will seem familiar to those experienced with other presentation packages such as Powerpoint.

The expected age of learner population will be from early twenties, with no upper age limit.

The first release of application will not specifically be targeted toward special education contexts, though that is certainly something that could be developed in future phases.

The presentation won't be geared toward any on the intelligence types described by Howard Gardner. However, content can be created in a number of tools, it is conceivable that the methods might be embraced by learners of several different intelligence types. Those who are prone to linguistic intelligence might express creativity in Word document, the visually intelligent, might design in a graphics application, visual-spatially intelligent might design in a drafting program.

Regarding cultural factors, the application will be in US English, though could be translated to any language supported my personal computer operating systems.

In order to comprehend the program, the learner will only be required to comfortable with technology. Learner will not need a high degree of technical skill. As mentioned earlier, background items that will contribute to success will be: familiarity with content development tools, some experience with Web-based navigation and exposure to screen-presentation tools.

A4. Learning Objectives

The expected learning outcome falls within the cognitive domain. The intended behaviors are that learner be able explain advantages of the PDF format, assess new situations to determine viability of PDF-based presentations and apply techniques learned within his or her own area of expertise.

If it is assumed that learner has access to a computer, with adequate memory, software and hard-drive space; then primary constraint might be that optimal learning situation of instructor-led lab environment, might not be feasible in some circumstances.

It will be expected that all exit behaviors realized. It is recommended that learner review areas where there is deficiency.

A5. Analysis of Task Skills and Content

Learners will have successfully completed the instruction if the following are achieved:

Will be able convert pre-existing electronic content into PDF
Learner will be able to acquire content through Web capture
Will have a familiarity of optimal graphics formats, resolution and color models
Will be able to adding navigational links in PDF
Will be able to apply security settings to PDF file
Will be able to create bookmarks in Acrobat files
Will have conceptual understanding of preparation of PDF for other media
Will be embed sound and movie files in PDF document.

It is likely that learner meeting suggested base-level computer skills (Web browsing, work processing) maybe unfamiliar with concepts such as graphic formats, and compression schemes. Lesson will feature overview of formats necessary to compete exercises with urls and/or book titles of reference material.

The intermediate steps between starting and completing lesson will be:

high-level intro Acrobat and PDF,
introduction of graphics formats and Postscript,
generation of PDF from word processing or layout tool(s)
capture of Web content with Acrobat
merging of pre-existing PDF documents

Supplementary exercises will describe scenarios that involve challenges with assembling, editing, and exporting PDF's to other formats, These exercises will allow learners to apply acquired principles to solve new problems. This would not require any unique skills, but would encourage exploration of tools, and reliance on Help files.

The first process in creating a PDF is not all that different than send a document to a laser printer, learner would be taught the method of creating a Postscript file, then converting the file with Distiller. Other process skill would involve creating bookmarks and hyperlink navigation.

IDP2
Scott Smith EDT 542

Synthesis

S1. Design Assessment

What procedures can be used to keep track of the learning process and its outcomes?

- The assessment will resemble closely real life conditions, particularly in the scenario where module is delivered in an instructor-led lab setting. In this setting learners would be stationed at computers that have the following: layout/word processing program, Internet connection. Learners will be able to construct finished product based on instructions.

- Assessment will focus on intellectual skills. Instruction will present defined concepts, principles and procedures. Assessment will include review the aforementioned as well as the opportunity to solve problems based on this knowledge.

- Pre-testing and post-testing will be presented as a series of questions about concepts and principles related to subject matter. Students' scores will be compared to determine level of progress. Post-test will also include small project that will require the recall of prior knowledge toward the solution of problems

- As mentioned, the best forum for this module will in a computer lab setting. Recommendation is time be allocated and for learners to present project(s) on volunteer basis. This would afford instructor opportunity to reinforce concepts and principles with learners, who will be invited to ask questions. This session would allow the instructor to provide remedial instruction as necessary. However since the scope this version of the application is bound by time contstraints, the application will include a "mail to" link such that student can submit follow-up instruction to the instructor.

- Students will also be asked to submit feedback in the form of an evaluation survey and the course content

S2. Design Instruction
What instructional procedures will help learners meet the objectives?

- Design Paradigm
  - Attention will be gained by illustrating problem with Powerpoint-based media
  - Objectives will be identified as simple ordered list
  - Prior learning is recalled in computer concepts—fonts, inserting pictures, etc
  - Stimulus is provided with brief demonstration of interactive PDF
  - Performance will be solicted by enquiring of learner what are their challenges with presentation of learning content
  - Feedback is gained from review of unit's section
  - Performance is assessed through post-test measured against pre-test
  - Retention is demonstrated in student's ability to successfully perform exercises of newly acquired skills.

- Content creation will involve Quark Xpress, graphic images will be repurposed using Photoshop. Content will also be converted from other sources such as Web, and Microsoft office products. Content will be converted to PDF format, and authoring (HTML, Javascript) will occur in Adobe Acrobat.
- Lab setting requires one instructor, who will be presenting material with projected images. Instructor will demonstrate techniques and be responsive to question as material is covered. If lab is larger than 10 learners, then it's recommended that an second resource be present. This resource can be intern-level and respond to short-term issues—such as computer glitches-such that instructor is not distracted from lesson.

- Though it's not recommended that an instructor deliver this instruction without a degree of experience of the underlying principles and procedures, an annotated "teacher's edition" of the module can be constructed to provide supplementary instruction can be developed.

-------- BEGIN/ CONTINUE TO DEVELOP INSTRUCTION) ----------

S3. Tryout Instruction (**1st Trial Run- 1 or 2 individuals**)

How does the product/procedure work with typical learners?

- Early draft will be presented to users with some experience with PDF, though no familiarity of advanced capabilities for review of lesson plan and for commentary from test learners.

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Lesson Plan Framework (NCREL)

Title: Acrobat for Presentation of Learning Content

Subject Matter Emphasis and Level: Emphasis on alternative presentation media, lesson is for those of adult level.

Brief Description of the Lesson/Unit: Lesson will instruct learners on how to build interactive PDF from pre-existing and original learning content.

Goals: The project will be developed with respect to the Michigan Department of Education's 7th Standard, demonstration of technical proficiency. The standards of proficiency are described on the Michigan Consortium for Outstanding Achievement in Teaching with Technology site (http://www.coatt.org/preapp4.html http://www.coatt.org/prerubric.html) In addition, to building proficiency levels, the successful completion of the project, will provide the learner a means to develop the a digital portfolio for the presentation of Web content, video clips, or other material.

Content: The content directly related to the learning will be representative of procedural methods of preparing interactive presentation, this will primarily original content with examples in the form of screen grabs of familiar programs. Secondary content will be that used for examples and for exercises in which learners will select their own content.

Prior Learning, Interests, Misconceptions, and Conceptual Difficulties: Learners are expected to have some level of competence with computer and able to place objects in word-processing, or layout application. Learner should also be acquainted with simple Web navigation.

Major Learning Activities: Each section of the unit will include a review of acquired knowledge. The unit will conclude with exercise which build on newly gained knowledge. Learner will be directed to a variety of Web- and print-based learning material.

Materials and Resources: No other material will be required for the unit, though several sources are recommended for additional learning.

- *Adobe Acrobat 5 PDF Bible* (Ted Padova)
- *PDF with Acrobat 5 Visual Quickstart* (Jennifer Alpach)
- http://www.adobe.com/products/tips/acrobat.html

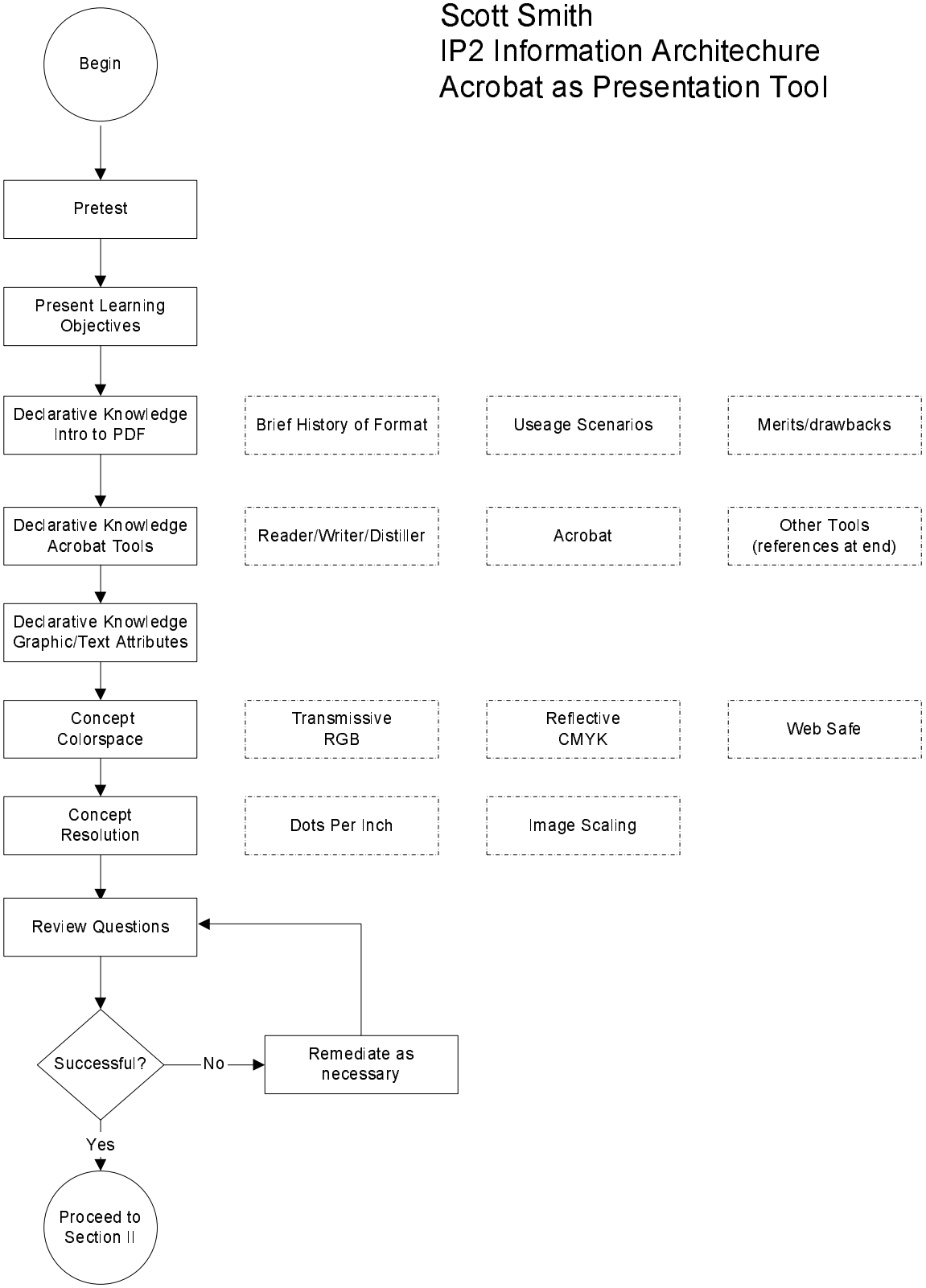
Planning Framework Lesson Plan Cont'd

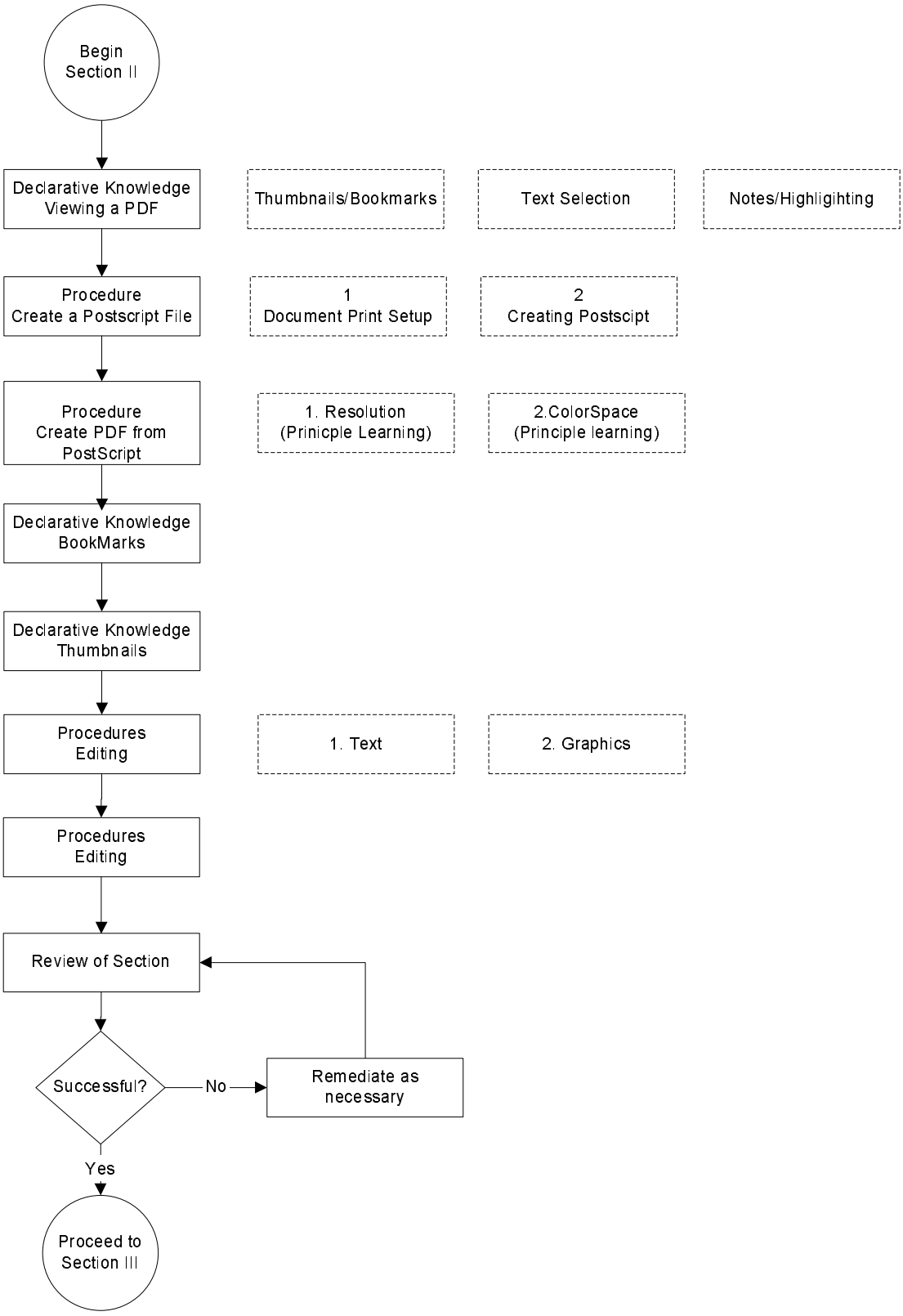
Assessment: Learners will be assessed, through a series of subjective question at the end of each section. Technology can be used by capturing responses in PDF form. Learners will also perform exercises based on new knowledge acquired from training. These will be evaluated subjectively.

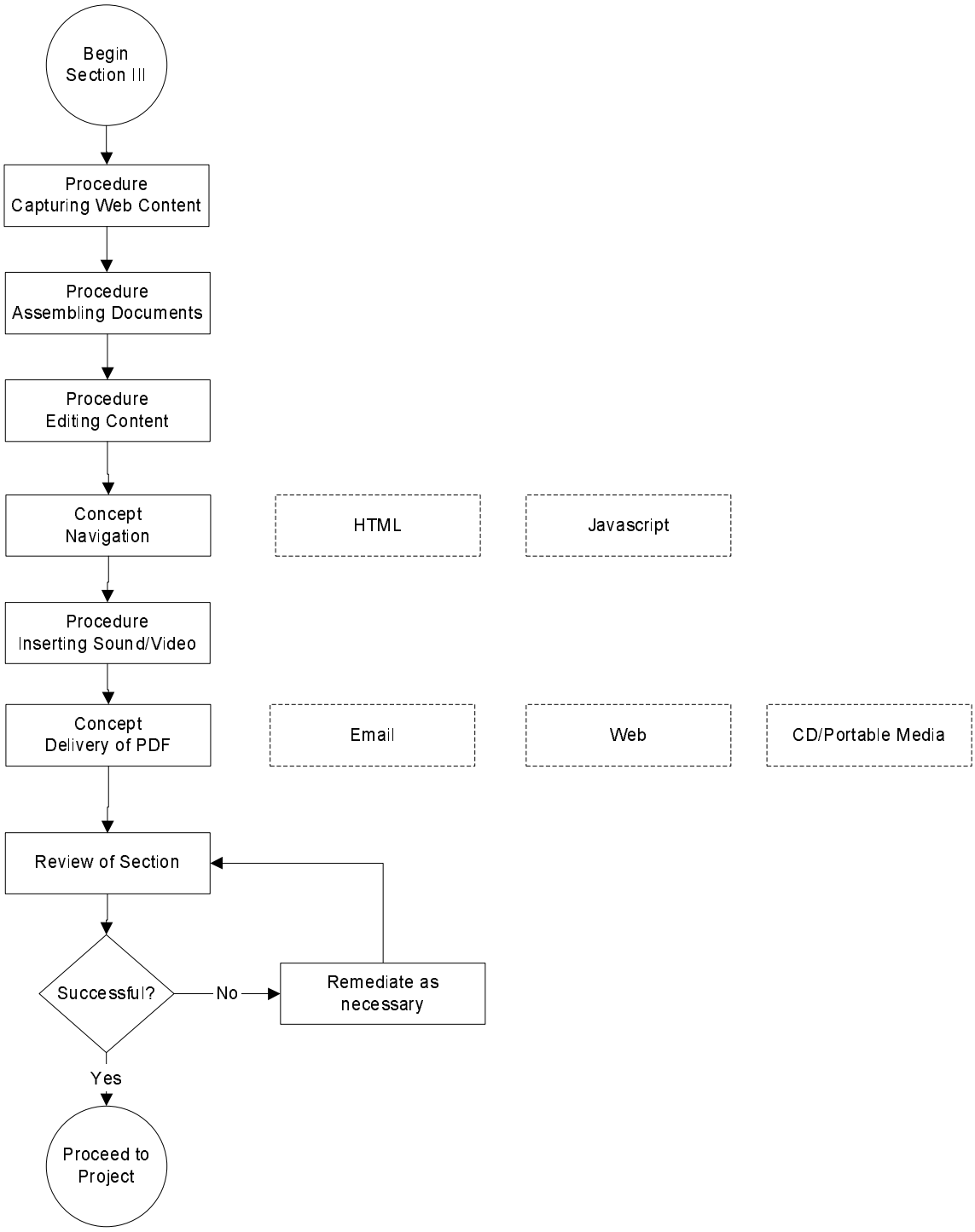
Management: This unit will be presented in a computer lab. Recommendations are for a second instructional resource—can be intern level—to assist to help to provide extra help. Follow-up questions may also be submitted by e-mail to instructor.

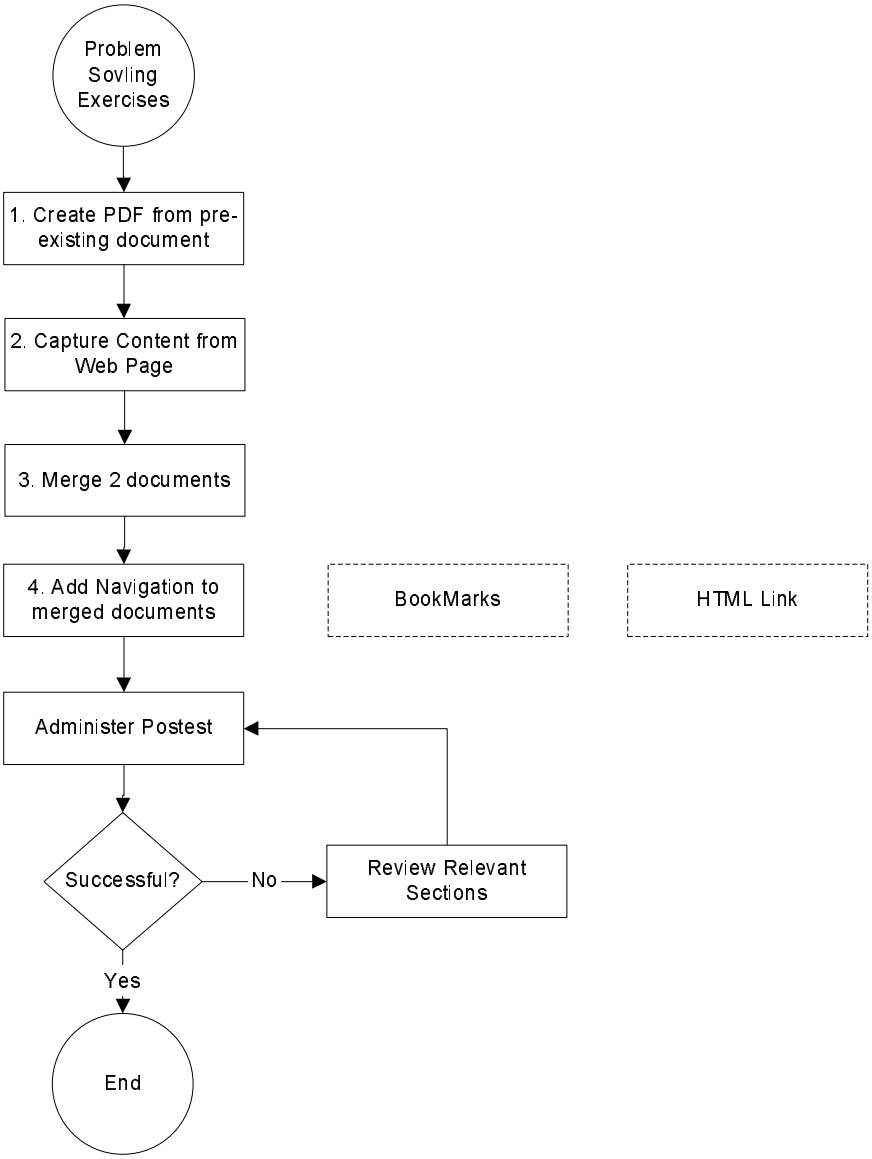
Support Services and Special Teacher Notes: Other than Internet access, lab computers will require Adobe Acrobat (version 5) as well as a word processor and/or layout program. Special needs resources will be requested as needed.

Scott Smith
IP2 Information Architechure
Acrobat as Presentation Tool




Begin Section II
Declarative Knowledge Viewing a PDF
Thumbnails/Bookmarks
Text Selection
Notes/Highligihting
Procedure Create a Postscript File
1 Document Print Setup
2 Creating Postscipt
Procedure Create PDF from PostScript
1. Resolution (Prinicple Learning)
2.ColorSpace (Principle learning)
Declarative Knowledge BookMarks
Declarative Knowledge Thumbnails
Procedures Editing
1. Text
2. Graphics
Procedures Editing
Review of Section
Successful?
No
Remediate as necessary
Yes
Proceed to Section III


Begin Section III
Procedure Capturing Web Content
Procedure Assembling Documents
Procedure Editing Content
Concept Navigation
HTML
Javascript
Procedure Inserting Sound/Video
Concept Delivery of PDF
Email
Web
CD/Portable Media
Review of Section
Successful?
No
Remediate as necessary
Yes
Proceed to Project


Problem Sovling Exercises
1. Create PDF from pre-existing document
2. Capture Content from Web Page
3. Merge 2 documents
4. Add Navigation to merged documents
BookMarks
HTML Link
Administer Postest
Successful?
No
Review Relevant Sections
Yes
End

IDP3
Prepared by Scott Smith
April 11, 2003

As of this of writing, I am going through revisions of my project source content. Since the final form of the lesson is to a Portable Document Format, the project is not in a state that is useable by learners for evaluative procedures. My decision to make these revisions was driven by my own review of the content. I felt that the I was making assumptions of prior knowledge that may not be the. In this revised version, there is, at this point, no significant deviation from the information architecture flow chart. In the new revised content, users who have already have a familiarity with Acrobat can move beyond the introductory details about viewing PDF's and are able to explore more challenging topics. That being said, much of this document will be in the future tense.

Upon completion of the content revisions, I will prepare a 'draft' PDF document to review the clarity of the user interface. My intent is to have an expert review (Smith and Ragan 340) the presentation in this state. Luckily, one of my co-workers is a former Adobe employee, who is a certified Acrobat trainer, with extensive instructional design experience. We will assess the accuracy of the content and the appropriateness of the content for high-achieving and low-achieving learners.

S3. Tryout Instruction (**1st Trial Run- 1 or 2 individuals**)
How does the product/procedure work with typical learners?
• Students will be adults. high-achieving learner will be adult with strong computer background, but no depth of knowledge pertaining to Acrobat.. The latter will be allow the measurement of effectiveness declarative knowledge. Also will be reviewed by co-worker, a certified Acrobat trainer.

• Regarding field test, since this lesson is aimed at adult learners, I plan to request for volunteers among my classmates.

IDP3
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Evaluation Phase: (IDP3)
E1. Conduct Assessment (of the technology medium for instruction)
How did the design features contribute to or detract from desired outcomes?

•Learners will be asked to provide their opinions about the session at it's end (attitude data as described by Smith & Ragan pp 345-346.

1. We're you aware that Acrobat could be used for electronic presentations?
    a. Yes
    b. No
2. Do you feel that the objectives of this lesson were clear?
    a. Yes, they were very clear
    b. The were somewhat clear
    c. They were not clear at all
3. Did the lesson accomplish these goals
    a. Yes
    b. No
    c. Some of were not accomplished

4. How do you feel that might you might use Acrobat in the future
    a. Presenting some pre-existing files
    b. To Present Web content off line
    c. For highlighting and annotating document
    d. To secure files

5. Do you feel that the lesson provided you with enough information to begin using Acrobat a presentation tool
    a. Yes
    b. No
    c. Not sure

6. Which best states your opinion of the lesson?
    a. Too Long
    b. Not Enough Depth
    c. It was confusing
    d. Not very informative

7. Are there any of the lessons topics that you felt did not provide enough detail?
    a. Introduction of Concepts and Principles
    b. Creating a Postscript file
    c. Distilling a Postscript file
    d. Navigation
    e. Security

8. Did the lesion promote interest in learning more about any of the following?
    a. Acrobat Forms
    b. XML
    c. Graphic Design
    d. JavaScript
    e. Graphic Design

9. When you receive PDF's do you currently use an other highlighting or notation tools.
    a. No, I didn't know about them
    b. No, I only have Acrobat Reader
    c. No, I usually print PDF's
    d. Yes, I frequently use the tools

10. If you answered 'a' or 'c' to question 7, do you feel that the lesson made you more likely to use the tools in the future?
    a. Yes
    b. No
    c. I'm not sure yet

E2. Revise Instruction *

How can we make it better?

• Instruction will be revised according to student feedback. Problem areas will be addressed and rectified in future versions.

E3. Implement Product *

How good is good enough?

• As stated in IP1 learning objectives were for that student

--Will be able convert pre-existing electronic content into PDF
--Will be able to acquire content through Web capture
--Will have a familiarity with graphics formats, resolution and colormodels
--Will be able to adding navigational links in PDF
--Will be able to apply security settings to PDF file
--Will be able to create bookmarks in Acrobat files
--Will have understanding of preparation of PDF for other media
--Will be able embed sound and movie files in PDF document

I do not anticipate any issues that would preclude accomplishment of the learning out comes

With respect to revising instruction, the data I collect will determine what revisions might to need to be made to improve the product. However, I can see the viability to creating versions of the product that are targeted to specific levels of user expertise. Also, there would be the possibility of foreign language version.

IDP3
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Assesment will be in the form of pretest and post-test. Question are as follows

1. Which tool is used to convert Postscript to PDF
    a. Acrobat Reader
    b. Acrobat Capture
    c. Acrobat Distiller
    d. Acrobat Converter

2. Which format in never appropriate for use in Web presentation
    a. TIFF
    b. GIF
    c. JPEG
    d. SVG

3. If you have the bookmark tool selected which command gives you the hand tool
    a. Control-H
    b. Control-Shift-A
    c. H
    d. H-Enter

4. Which is not a scenario in which you would use Acrobat
    a. To convert Pagemaker layouts into screen presentation
    b. A document that is going to require a lot of revisions
    c. A document that can posted on the Web
    d. Offline viewing of Web content

5. What is the best resolution for a screen based presentation
    a. 100 ppi
    b. 300 ppi
    c. 72 ppi
    d. 36 ppi

6. Which best describes the method for capturing Web content
    a. Choose “Save as PDF” in you Web browser
    b. Open a url from Acrobat
    c. Download PDF’s available on Web site
    d. Control click on the Web Page

IDP3
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In addition to the posttest, learners will be asked to produce a document using skills learned in the lesson. This exercise will require the student

- To create a PDF from a pre-existing electronic document
- To capture Web Content within Acrobat
- To merge two documents
- To create bookmarks within the file
- To add hypertext links to the file
- To Apply security settings