Where's Your Evidence? Designing and Creating an Interactive Evidence-Based Medicine (EBM) Tutorial

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Background

In 2003, we created an interactive online tutorial for PubMed using Flash. This took about 6 weeks to complete. For our next project, we decided to focus on EBM. We had already created a tutorial and we knew something about EBM, so it should be easy, right?

Well, not only is EBM a hot topic, but it is also a huge topic. We wanted to cover the whole process : background, framing the clinical question, resources, searching, and evaluating. The tutorial should deliver explanations, demonstrate how to do things, and immerse users in interactive exercises. We quickly figured out that Flash wouldn't really work for huge chunks of explanatory text and that sometimes a Camtasia video demonstration can speak volumes.

So how do we combine all these needs using multiple technologies such as Flash, HTML, and Camtasia?

The Tools of the Trade

PowerPoint – Presentation software which can also be used for rapid storyboarding.

Dreamweaver – An HTML editor which can also be used for overall Web site management.

Fireworks – An image editor. Graphics can be edited or created and then used in other applications such as Flash.

Flash – Typically used for online animation, this offers both a controlled, consistent presentation environment and high-end programmability.

## Flowchart of EBM Tutorial Creation Process
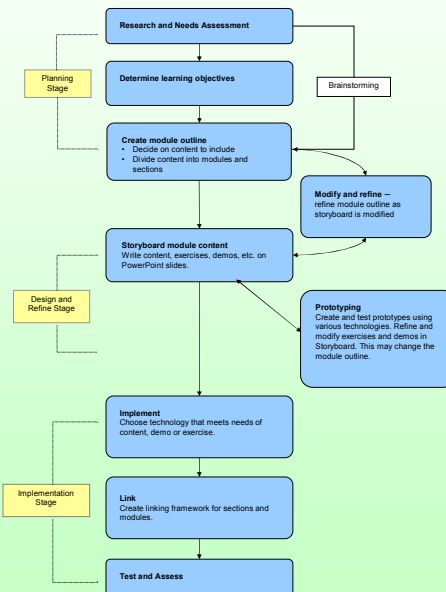
## Prototyping in Action: the Evidence Pyramid

Step 1   **Microsoft PowerPoint**

Storyboard the content using PowerPoint. This includes adding notes about the goals of this section, what it will demonstrate and how to make it interactive, along with suggestions for which technology and software could be used to implement these ideas.
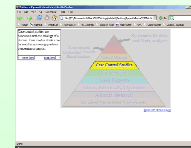
Step 2   **Macromedia Dreamweaver**

Create HTML mock-up using Dreamweaver. This is a low-resolution, functional simulation of one of the ideas workshopped during Step 1. A nested, mini-navigation system enables the user to selectively define the various elements of the evidence pyramid graphic.
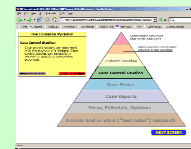
Step 3   **Macromedia Fireworks**

Create original, optimized graphics and navigation elements using Fireworks, redrawing the pyramid. The layout created for the Step 2 mock-up is retained and enhanced, while the graphics are standardized for possible integration with other tutorial modules.
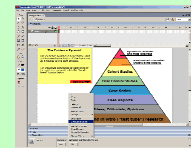
Step 4   **Macromedia Flash**

The graphical elements created in Fireworks are imported into Flash. The rapid iteration of functionality which originated with Step 2 is combined with the streamlined graphics of Step 3. The result is a building block which can be easily exported to common computer platforms, and then tested both heuristically and with live users.