Study Background

The product for which this study was conducted is an animal anatomy and physiology eLearning website. For this study, the application moved from concept to initial design. Currently, the scope of the application is limited to the dog.

In order to design the product, a Competitive Analysis and Heuristic Evaluation were performed. The Competitive Analysis involved the examination of websites and DVDs whose primary purpose is anatomy and physiology eLearning for either the human or animals. Forty three resources were identified mostly for the human. Since I wanted to do the Heuristic Evaluation on twelve resources, I narrowed the definition to a resource whose primary instructional purpose is principles of anatomy and physiology of the organ systems, either human or animal. The resource must include explanatory text; it may include any other type of visual aid such as diagrams, animations, and videos. This definition excludes instruction sites solely related to health (for example, diseases or conditions).

The twelve resources chosen through the Competitive Analysis were scored in a Heuristic Evaluation using Jakob Nielsen's 10 Heuristics from which I incorporated design features from the high scorers into my prototype wireframe. The *McGraw-Hill Essential Study Partner Anatomy & Physiology* website (http://www.mhhe.com/biosci/esp/2002_general/Esp/default.htm) and *Interactive Physiology* DVD tied for the best score. The McGraw-Hill site is easy to use and aesthetically pleasing; it includes user experience enhancing features such as icons which show page type (informational versus animation versus activity) as well as position within topic. Likewise, the *Interactive Physiology* DVD is easy to use. It has a nice clean interface and uses breadcrumbs.

Preliminary to the design, primary, secondary, and tertiary users were identified and a persona was developed for primary users. Primary users are high school students or undergraduates who want to work with animals in some capacity (such as veterinarian, veterinary technician or technologist, or veterinary researcher) and will use the application as a learning tool. Secondary users are individuals working in the veterinary field who will use the application in a continuing education capacity. Tertiary users are product purchasers; such as teachers, libraries, employers, and parents, who will purchase the product for use in their workplace or home.

The website is intended to be used as a study tool to learn anatomy and physiology at the undergraduate level. The main menu, located in the left sidebar, is organized into two high-level areas; **Body Basics** (the basics of body structure and function) and **Organ Systems** (the anatomy and physiology of eleven body systems). In these sections, concepts are presented through text and animated diagrams. In addition, there are tabs with specialized functionality located in the lower right side of the wireframe. From left to right they are **At the Clinic**, **Cross Section**, **Color**, and **Quiz**. The **At the Clinic** tab has discussions on clinical topics. Two tabs, **Cross Section** and **Color**, provide interactive functionality. **Cross Section** allows the user to zoom in and out through layers of body structures; **Color** enables the user to color and label body structures. The **Quiz** tab has review questions.

Concepts to be incorporated into future renditions include the ability to change physiological variables and observe the effects on organ systems as well as social media. Three social media concepts considered for inclusion are; first, the addition of forums to the **At the Clinic** function; second, a sharable bulletin board work space where individuals and study groups could drag and drop components from other areas of the website and add comments; and third, a Second Life type of game where users would take on avatars representing pathogens and play against the system representing the body. The object of the game would be to inflict maximum damage on the body as the pathogen does so in real life.

The website is organized with the goals of the primary user group, high school students and undergraduates, in mind; that is, to find information on topics of interest easily, and to use the special zooming and coloring functions efficiently and effectively without reading a manual or accessing Help.

This study was limited to the first user goal and was designed to answer the following questions through interviews using a paper prototype with blank pages:

Are participants easily able to navigate to specific information?
Do participants understand terms and icons used?
Do participants understand the organization of the site?