Organizational Schemes

In order to design the general structure and navigation of my own web pages, I looked at the organizational scheme of the websites and DVD chosen for the Heuristic Evaluation (except those that just listed videos by name). Since most of these websites were for the human, I looked at three books on animal anatomy and physiology as well. The websites and DVD organized the topics in three different ways; most by body system, one by body part, and one by body function. The books arranged the topics by body system. The table below shows the words used by all the websites consulted. Type in black indicates terms used by websites; type in blue indicates terms used by the animal anatomy and physiology books and websites. Words in bold burgundy type represent topic labels I will use for my website navigation.

By Body System	By Body Part	By Body Function
BODY SYSTEMS **Integumentary**, Skin **Skeletal**; Bones and Joints; Bones and Skeletal System; Bones, Joints and Synovial Fluid, The Skeletal System **Muscular**, Muscle, Locomotion, Muscles **Nervous**, Brain and Nerves, Nervous I, Nervous II, Central Nervous System, Peripheral and Autonomic NS, The Nervous System Circulatory, **Cardiovascular**, Heart and vessels, Blood and its functions, The Circulatory System **Respiratory**, Lungs and Breathing, The Breathing System, Respiration **Digestive**, Digestion, Digestion and Absorption, The Digestive System **Urinary**, Excretory **Endocrine**, Hormones, The Endocrine System Immune, Immunity **Reproductive**, Male Reproductive, Female Reproductive, Reproduction, Male Reproduction, Female Reproduction, The Reproductive System **Lymphatic**, The Lymphatic System Sensory, Special Senses, the Sensory Organs, Sensory Systems Fluids and Electrolytes Circulatory and Immune Systems Communication (the Nervous and Endocrine Systems) BASICS OF STRUCTURE AND FUNCTION **BODY BASICS** **Levels of Organization**, **Body Cavities**, Animal Classification Homeostasis Anatomical Nomenclature, Anatomical Terms, **Directional terms and body planes,** Directional and Positional terms, Body Planes The Cell, Cell Physiology Chemistry Biochemistry Tissues Embryology	Upper Limb and back Head and Neck Thorax Abdomen Pelvis and Perineum Lower Limb	Levels of Organization Introduction Structure and Function Life Characteristics Human Organization Homeostasis Anatomical Planes Directional Terms Body Organization Chemistry Molecules of Life Cell Structure Membrane Functions Cellular Functions Cell Division Tissues Support and Movement Integumentary Skeletal Articulations Muscular Integration and Coordination Nervous Tissue CNS PNS The Senses Endocrine System Transport Blood Cardiovascular

Lactation and Animal Agriculture, Lactation Thermal Physiology, Body Heat and Temperature Regulation Ion and Water Balance, Body Water: Properties and Functions Food and Feeding Metabolism, Energetics, and Energy Acquisition Osmoregulation and Excretion		Blood vessels Lymphatic Absorption and secretion Respiration Urinary Water and Electrolytes Digestion Nutrition/Metabolism Reproduction and Development Reproduction Pregnancy

Subtopics

I will develop just part of the Cardiovascular topic, but need to have the full complement of system main topics. The table below lists the topics I found in animal anatomy books. Because the breadth of topics is so vast, I have chosen to have three sub topics – Blood, the Heart, and Blood Vessels. Scenarios and tasks will relate to only the Heart sub topic; therefore, that will be the only sub-topic developed at this time. Topics, sub topics and discussions included in my website are in bold burgundy type.

TOPIC	SUBTOPIC	DISCUSSIONS
Functions and Composition of Blood, **Blood** and its Functions	Functions of Blood	Transportation
		Regulation
		Protection
	Blood Groups	Blood Groups
	Crossmatching	Crossmatching
	Physical Characteristics of Blood	Components
		Plasma
		Hematocrit
		Blood Color
		Blood Volume
		Blood pH
	Types of Blood Cells in Mammals	Erythrocytes Hemoglobin and Its Forms Numbers Shape Size Erythrocyte Indices Life Span
	Fate of Erythrocytes	
	Iron Metabolism	
	Anemia and Polycythemia	
		Leukocytes Classification and Appearance Granulocytes Agranulocytes Life Span and Numbers Function
		Platelets
	Formation of Blood Cells	Before Birth
		Bone Marrow
		Erythrocyte Formation Erythropoiesis
		Leukocyte Formation
		Platelet Formation

	Hemostasis Hemostasis: Prevention of Blood Loss	Vascular Spasm
		Platelet Plug Formation Platelet Reactions
		Blood Clotting
		Hemostatic Components
The Heart	**Anatomy of the Heart**, Heart and Pericardium	Location and exterior landmarks **Location of Heart**
		Pericardium
		Layers of the heart, **Heart Wall**
		Fibrous skeleton of the heart
		Heart chambers and vessels (draw)
		Pathways of blood through the heart, **Blood Flow through the Heart (discussion and diagram)**
		Heart valves
		Heart valve operation
	Vertebrate Hearts	Mammals have four heart chambers
		The Cardiac Cycle
		The right and left ventricles develop different pressures
	Pulmonary, Systemic, and Coronary Circulation, Blood Circulatory Systems	Pulmonary Circulation
		Systemic Circulation
		Coronary Circulation
	Cardiac Muscle and the Cardiac Conduction System	Cardiac Muscle
		The Conduction System
	Control of Contraction **Contraction of the Heart**	Pacemaker cells initiate the heartbeat, **Origin of the Heartbeat**
	Conduction of the Impulse **Diastole systole**	The nervous and endocrine systems can modulate the rate of pacemaker potentials
		Pacemaker depolarizations can spread via gap junctions
		Cardiac action potentials have an extended depolarization phase
		Conducting pathways spread the depolarization across the heart
		The integrated electrical activity of the heart can be detected with the

		EKG
		The heart functions as an integrated organ
		Cardiac output is the product of heart rate and stroke volume
		The nervous and endocrine systems can modulate stroke volume
		End-diastolic volume modulates stroke volume
	Mechanisms of Heart Contraction, Cardiac Contractility	ATP Production
		Electrocardiogram (EKG)
		Heart Sounds
	The Cardiac Cycle	
	Cardiac Output	Regulation of Stroke Volume
	Regulation of Heart Rate	Autonomous nervous system regulation
		Chemical Regulation of heart rate
Blood Vessels and Hemodynamics, **Blood Vessels**	Structure and Function of Blood Vessels	Blood vessel walls
		Arteries
		Arterioles
		Capillaries
		Venules
		Veins
		Anastomoses
	Portal Systems	
	Capillary Exchange	Diffusion
		Bulk Flow
Factors Affecting Blood Flow	Flow, Pressure, and Resistance	Blood Pressure
		Resistance
		Venous Blood Return
	Maintaining Blood Pressure	Neural Regulation
		Chemical Regulation of Blood Pressure: Short-term Control
		Renal Regulation of Blood Pressure: Long-term Control
		Autoregulation of Blood Pressure
	Shock and Homeostasis	Types of Shock
	Circulatory Routes	Pulmonary Circulation
		Systemic Circulation

Other Resources

I also looked at other resources, such as books and DVDs, for innovative features that may be transferrable to my project. *Anatomy & Physiology for Health Professionals: An Interactive Journey* has an audio glossary and displays the definition for highlighted terms when clicked. *Anatomy & Physiology Coloring Workbook: A Comprehensive Study Guide* is a coloring book. Each diagram is accompanied by a key – an empty circle for the color next to the term. I can imagine this function in my project whereby the entire organ structure described by the label in the key is selected when the user selects the color circle (in much the same way as how the magic wand tool selects an area in Photoshop) and is filled with the color (in the same way as how the paint bucket tool fills an entire selected area in Photoshop). I also like the use of transparencies John Fardon included in his *Human Body* book. This idea is implemented in the Direct Anatomy site mentioned above as well as in the Visible Body website http://www.visiblebody.com/ (not analyzed as part of the Heuristic Evaluation).