

Creating Meaningful Multimedia with The Multimedia Design and Planning Pyramid

Nalin Sharda

Victoria University, Australia

Nalin.Sharda@vu.edu.au

Abstract: This paper describes the Multimedia Design and Planning Pyramid (MUDPY), a meta-design¹ framework for multimedia project planning and design.

Introduction: Most multimedia creation models and tools are disjoint entities [1]. It remains the multimedia author's responsibility to integrate the functionality of these models and tools. MUDPY facilitates the creation of meaningful multimedia (stand-alone or online) by exposing the semantic connections between the various design components.

Architecture and Components: Multimedia provides a wide range of symbols from the domains of text, audio, still and moving images for creating meaning. These symbols can link in many complex patterns on a page (or screen), and different pages (or screens) can be hyperlinked in multiple ways, each creating a new meaning or a new shade of the same meaning. MUDPY architecture provides a meta-design framework for conceptualizing multimedia design, and managing its complexity by partitioning the design process into five levels. To design a multimedia system, the designer works top-down; expanding higher-level design components into lower-level components. A clear understanding of the meaning and function of various design components, and the semantic links between them, helps in creating meaningful multimedia.

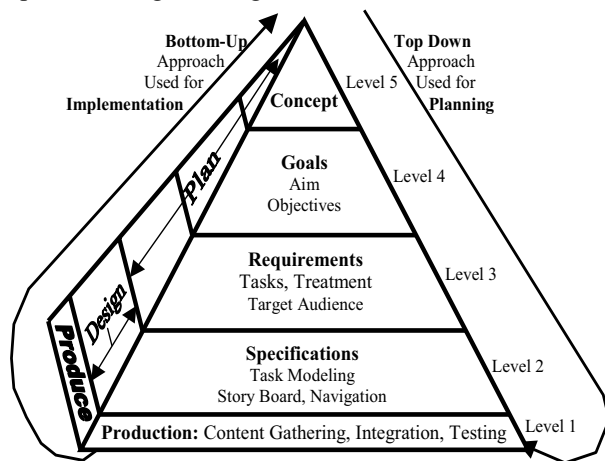


Figure 1: Multimedia Design and Planning Pyramid (MUDPY)

¹ A perspective of design in which the user is a designer.

Concept statement gives an overview of the entire project in two or three sentences, as in an elevator pitch.

Goals are specified as aim and objective. Aim is a succinct statement that embodies the purpose of the project. Objectives list outcomes, or deliverables.

Requirements include the system tasks [2], and the target audience – based on age, profession, interests, special needs etc. These factors influence the treatment, i.e. the look and feel of each section.

Specifications include the lowest hardware specifications, and the communication bandwidth required for delivering the required Quality of Service for networked multimedia [3]. A storyboard represents design components as meta-information. It is presented as an overlay of spatial composition and navigation links, to provide a system-wide view, and locate any missing or misplaced parts.

Production begins by selecting multimedia content elements that match the intent of higher-level design components; followed by integration of these elements to create a meaningful presentation. A bottom-up approach is employed for implementation, where the choice of lower-level components follows the dictum of one or more higher-layer components. Testing under various operating conditions ensures congruence between the original intent and the outcome.

Semantic links between the various components are explored in an HTML and ASP based hypermedia MUDPY system located at <http://melba.vu.edu.au/mudpy>. To fully exploit these semantic links, we are developing a multimedia design ontology, and a Semantic Web [4] enabled system to facilitate good multimedia designs.

References:

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- [4] Tim Berners-Lee, James Hendler and Ora Lassila, "The Semantic Web", *Scientific American*, May 2001.