Advanced Content Management System in Murdoch Research Institute

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ABSTRACT

The Hugh Williamson Gait Analysis Laboratory is a world leader in the analysis of walking disorders in children. Using state of the art equipment, highly specialised staff are able to determine why children walk the way they do. Knowing this, it is then possible to plan treatment individually for each child. Gait Lab aims to make thorough and reliable measurements of children’s walking ability in an efficient and friendly manner. It provides considered interpretations of these measurements to referring clinicians and conducts research to advance the understanding of human walking. This paper introduces The Gait Analysis Laboratory Content Management System, a contemporary approach using a Content Management System for surgery and research alike. The system provides the ability for surgeons to edit data and extract specific reports for research using the Internet from any location and at any time. The CMS has the functionality to save patient details, create referrals and make appointments, information which can be used for specific reports, during the surgery process, and for research around the world.

Keywords: Content Management System, Data, Gait Lab, Research, Surgery, Walking Disorders

1. CONTENT MANAGEMENT SYSTEM (CMS)

A CMS is used for the control and editing of content. Content includes electronic files, images and video based media, audio files, electronic documents and web text. The main concept behind a CMS is to make these files available for editing between offices or over the Internet. A CMS is often used to archive documents as well. Many companies use a CMS to organise and store files in a public forum and share content with others easily using server based technology. As the CMS is available on the Internet, it is available to the administrators and customers across the whole globe at all times as long as there is Internet access (Ort, 2000). Web Content Management Systems are mainly used to control and publish text based documents likes articles, text documents and information. A CMS is normally able to provide the following features (Ort, 2000):

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• Import and create documents, videos and other imagery.
• Identify the main users and their roles within the content management system.
• An ability to assign certain roles and rights within the document management system and across differing content types and categories.
• Define management and system workflows, definitions, tasks and tie in event messaging so that managers of the content are notified of changes to specific content.
• Ability to record, track and manage many versions of the same content or files with versioning.
• An ability to publish content to a centralised content archive to facilitate greater access to the content. More importantly, with time, this repository becomes a vital element of the CMS system, and incorporates search and retrieval methods.

1.1. CMS and Web

A Content Management System is not really a product or a technology. It is a catch-all term that covers a wide set of processes that will underpin the ‘Next Generation’ large-scale web site. The pervasive nature of the Web means that it has become the preferred vehicle for content delivery. ‘CMS’ should therefore be read as ‘Web Content Management System’. Institutions have no shortage of ‘content’ - be it data, information or knowledge. When the creation and publication of content is well managed then the organisation functions more cost-effectively; it is also likely to lead to better decision making. The key goal of a CMS is the increased integration and automation of the processes that support efficient and effective internet delivery (Browning & Lowndes, 2001).

1.2. The Core Features

In order to provide the functionality required by a complex, large scale, multi-author and dynamic web based system, many features are desirable. Some CMSs try to contain them all, but it is unlikely that everything you may need will be available in a single product.

To be called a CMS, a product or set of tools will, in our view, provide three core functions (Vidgen, Goodwin, & Barnes, 2001):

• **Versioning**, so that groups of individuals can work safely on a document and also recall older versions.
• **Workflow**, so that content goes through an assessment, review or quality assurance process.
• **Integration**, so that content can be stored in a manageable way, separate from web site design ‘templates’, and then delivered as web pages or re-used in different web pages and different document types.

This core feature set is augmented by a list of additional functions that vary significantly from product to product. These additional CMS features can be grouped into the five major categories shown in Table 1. A complete product – feature matrix is beyond the scope of this report, though others have attempted this.

In the CMS product marketplace there is a tendency for those new to the technology to lump all CMSs together. In some comparative reviews of CMSs, products with widely different origins, functionality and goals, often because not enough information about the system is readily available (Vidgen, Goodwin, & Barnes, 2001; Doyle, 2000).

2. CMS in Gait Analysis Laboratory (GAL CMS)

Content Management System Gait Analysis Laboratory (GAL CMS) (Figure 1) is a user-friendly, open-source Content Management System built with PHP, Ajax and Mysql, producing well structured and standard-compliant pages with Web 2.0 goodness. The system makes it easy for developers, designers, webmasters, or just about anyone to deploy and manage a
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