VIEWER OF CONTENTS FOR E-LEARNING THROUGH FRAMEWORK OF CONSTRUCTION E-CONTENT

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Abstract

A collaborative model for the creation, management, and use of E-Learning environments is proposed. In particular, the interaction between students, multimedia elements, and content creators is defined in such a way that the process of building, reviewing, and using content is optimized. In order to make the system efficient, some main roles have been identified and the tasks and interactions between these roles are established. Based on the requirements defined in the model, a content viewer that meets quality standards with respect to usability and interaction between the student and multimedia elements is presented. Multimedia materials ranging from audio, pictures, videos, texts, and narratives to animations, which are designed under the care of the content author, who ensures that the contents are adequate and correspond according to the study area selected to be reviewed by experts in instructional design. Once approved by those experts, it would be passed into the hands of multimedia developers. The viewer is supported by a communication oriented information service on the internet-based architecture to allow the publication of content in both mobile and desktop environments. The display also allows students to learn about the different educational content in an easily organized and practical system that allows the monitoring of the activities that the student completes.

Keywords: Collaborative work, learning objects, online-learning, rapid e-learning, virtual object learning.

Introduction

Traditional education methodologies might not be enough to handle the constantly increasing amount of information, knowledge, and technological innovation we experience today. In particular, new content is produced every day and an efficient method is required to keep the content and its structure updated. In the last few decades, E-content has emerged as a solution for the management of such a dynamic system. E-content supports the teaching-learning process even when the teacher and student are in different physical locations. However, the available applications offer little or no management of the monitoring mechanisms for the creation of educational content. In this work we define a framework for the creation of an efficient system in terms of the times required for the creation of content, updating content, and reviewing and displaying content in educational systems. In addition, the content can be supervised by experts in instructional design.

The creation of any environment for academic training where the participants are not in the same physical location requires the development, adaptation, and selection of educational content. Since new content is produced every day, it is important to keep the content and its structure updated. That is, the content should be stored in the system and it should be in a well

organized structure that allows for quick and efficient access. Research in education has determined that not only is the content important for a good learning process, but also the way that content is presented [1]. The planning, preparation, and publishing of educational content must be oriented to improve the learning experience of motivation, the reduction of study times, and the selection of relevant material. For a training environment to be effective, it is desirable to implement all the components of the learning process on it; from the creation of the content, to the presentation, and finally to end users and administrators.

The main idea of the Project was based to support the teaching-learning process by providing management direction and advice. This process of building content frames as a quality system specified by each institution, pedagogy, and structured workflows to ensure quality thematic content of implementing technological resources in educational materials allowing instructional design [5], which provides technical review of content, styles, and resources.

Additionally, incorporating a communication architecture that enables service-oriented facilitation of the construction and visualization of study materials, E-viewer has now denominated the project. It was designed with the purpose to show the educational contents in the form of congenial.. Also, the structure created a way for the organization of the study to be displayed based on usability.

Research Problem

The design, creation, and maintenance of educational content requires an usually sequential procedure that requires a lot of time. In general terms, the phases of the development are as follows: First, the content is created by an expert (or group of experts) on the specific subject. Once the first version of the content is ready, the instructional designer reviews it and suggests corrections. The instructional designer gives the content to the technical production team where the multimedia assets for the E-Content are created and tested.

Since the process is usually sequential (or at least partially), some members of the team have to wait for a previous phase to be partially or fully finished. For example, the assets for the E-content can not be concluded before the content from the experts is reviewed. The set up process consumes a significant amount of resources in terms of time, budgets, and human resources. Furthermore, if no efficiency is developed, the content can become obsolete faster than expected [2]. A solution strategy must be developed as model that allows to collaboratively build educational content, which facilitates work organization, reduces production time, and improves managing the process of structuring the material for creating objects for learning.

E-viewer aims to become a tool for students during their learning activities. The main goal is to display educational content in a simple and easy to understand way. To achieve that, it is necessary to include within its technical structure some tools for monitoring activities that allow feedback, control, and organization.

Review of the relevant literature

There are now various authoring tools that facilitate construction of interactive multimedia materials under the concept of rapid e-learning. These programs are designed to create content, to adapt static or interactive presentations into document components. Products published, can be limited to a simple presentation with minimal interactivity forward or backward in a sequence, to the generation of packets allowing use in learning management systems (LMS, Learning System Manager). These applications perform functions of organization, control, and management information for virtual education. At present there are different types of tools,

which can be categorized according to an analysis of direct observation and field testing made, are presented as follows:

Plugin: An extension that adds a certain installed programs, tools to convert documents in their native OVA (virtual learning object). Normally need installation of a structured product, leading to perform the process of buying the larger package and the extension or plugin to adapt the program to authoring software.

Software application: It is a package that is installed inside the computer as a separate extension, and some are limited to a single operating system. Unlike the plugins, these tend to be more complete with tools and options to manipulate information and create quality content.

Simple Web application: As its name suggests, is a Web application in line, where from a user registration author, you can create content entirely online; it is ideal for working Course information from various computers, having, yes, an Internet connection permanently.

Methods

In the design and creation of this project, we aimed at two methods: the first involves the whole part related to educational content, this method is known as the rapid e-learning model, and the second method used corresponded to all the systematic parts of software for the visualization of educational content.

In this past few years, we have been watching the emergence of new methodologies for designing educational components in order to bring them to virtual environmental learning. The proposed rapid e-learning model, defined by Alfredo Leone says: "The definition of Rapid e-Learning is refers to a set of tools and methodologies which aims to accelerate the development process content for training human resources "[3] which allows the construction of content in an agile and efficient, using tools that promote teamwork, without But rapid e-learning not parameterized production processes, but generates a concept to development oriented content virtually in a short time and with low costs[4].

These days there is a lot of software tools for the development of multimedia content, quizzes and assessments, business presentations, and study materials oriented virtual environments.

As part of the developmental process of multimedia educational content, it was necessary to reflect on their strengths and weaknesses, in order to minimize downtime efforts and increase organizational value content production, and improving processing time. Achieving these meant improvements in the economic, educational, and technological needs of the institution [2].
Determining roles is essential to facilitating the production processes of educational content with an edit line running from the author, who is ultimately responsible for approving the content. For this reason the E-viewer, you must be able to facilitate the communication between members involved in the process and enable to do detailed monitoring of the activities of state officials and development each phase of work. The roles considered in the development of the framework are as show in the figure 1:

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┌─────────────────────────────┐
│        Administrator        │
└─────────────────────────────┘
                │
                ▼
┌─────────────────────────────┐
│        Assign Roles         │
└─────────────────────────────┘
     │          │          │
     ▼          ▼          ▼
┌──────────┐ ┌──────────┐ ┌──────────────┐
│ Author of│ │Instruct- │ │  Multimedia  │
│ contents │ │ional     │ │  Developer   │
│          │ │Designer  │ │              │
└──────────┘ └──────────┘ └──────────────┘
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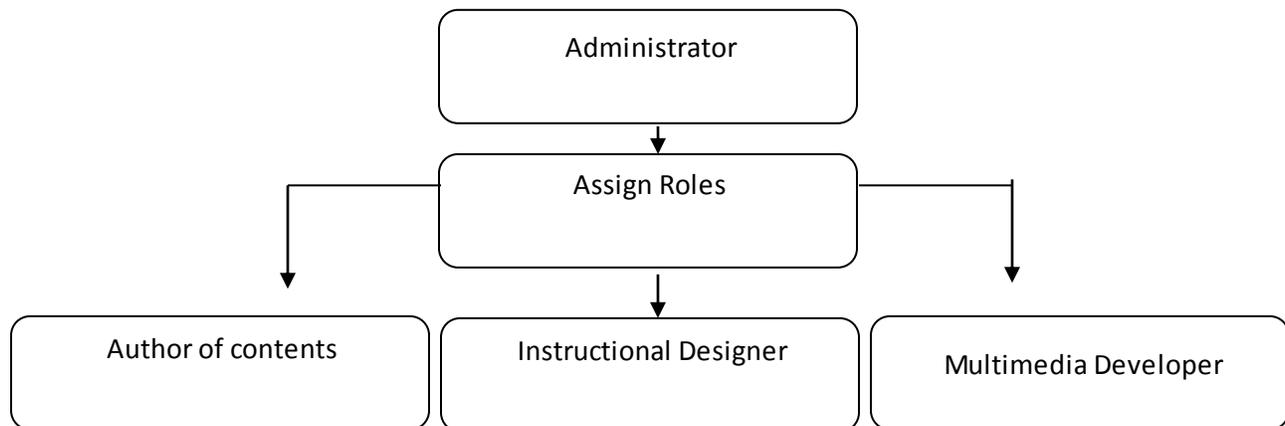
Administrator:

Its functions correspond to user management, allocation tasks and activities, validation and approval of the study materials produced.

Author of contents:
Is the person skilled in the study area for the conception of the topics, has defined functions corresponding to specify, textual and graphical, what should be the appropriate content subject matter and its distribution in each OVA produced.

Instructional Designer:
A professional responsible for accompanying technical and pedagogically the author in the process of conducting the study material and supervise the construction of the scripts.

Multimedia Developer:
Responsible produce multimedia material requested by the author, assigned by the administrator and validated by the instructional designer the materials are structured images, stories, videos, animations and interactivities, mainly.

On the technology side, using tools can analyze usability issues and development where advantages and disadvantages are presented, computational elements are designed to be deployed virtually since they require a permanent connection in building content. This allows for the ease of communicating and sharing information. The interfaces are intuitive and integrated different tools that enable interaction. The contents are based on the creation of components, which can be categorized into content and assessments. These elements allow integration between information modules that finally have a variety of graphic styles on display components as a result of the construction process content.

Data analysis and conclusions

E-viewer is presented as a basic tool for the design and construction of educational materials through a collaborative work environment, allowing the joint action of the different pedagogical actors and technicians, responsible for the production of learning objects; this work is advanced through the categorization and distribution of tasks in order to facilitate the assignment of

functions, based on the concept of building rapid e-learning content. This produces a collaborative and supervised environment, directly influencing the optimization of resources and processes for the generation of educational content, focusing on educational needs.

The E-viewer has a system of simple and easy organization, designed under the characteristics of usability, allowing the student to locate their subjects and corresponding multimedia content, also has information about the authors, the viewer, information, documentation and profile student, as show in the images 2 and 3.
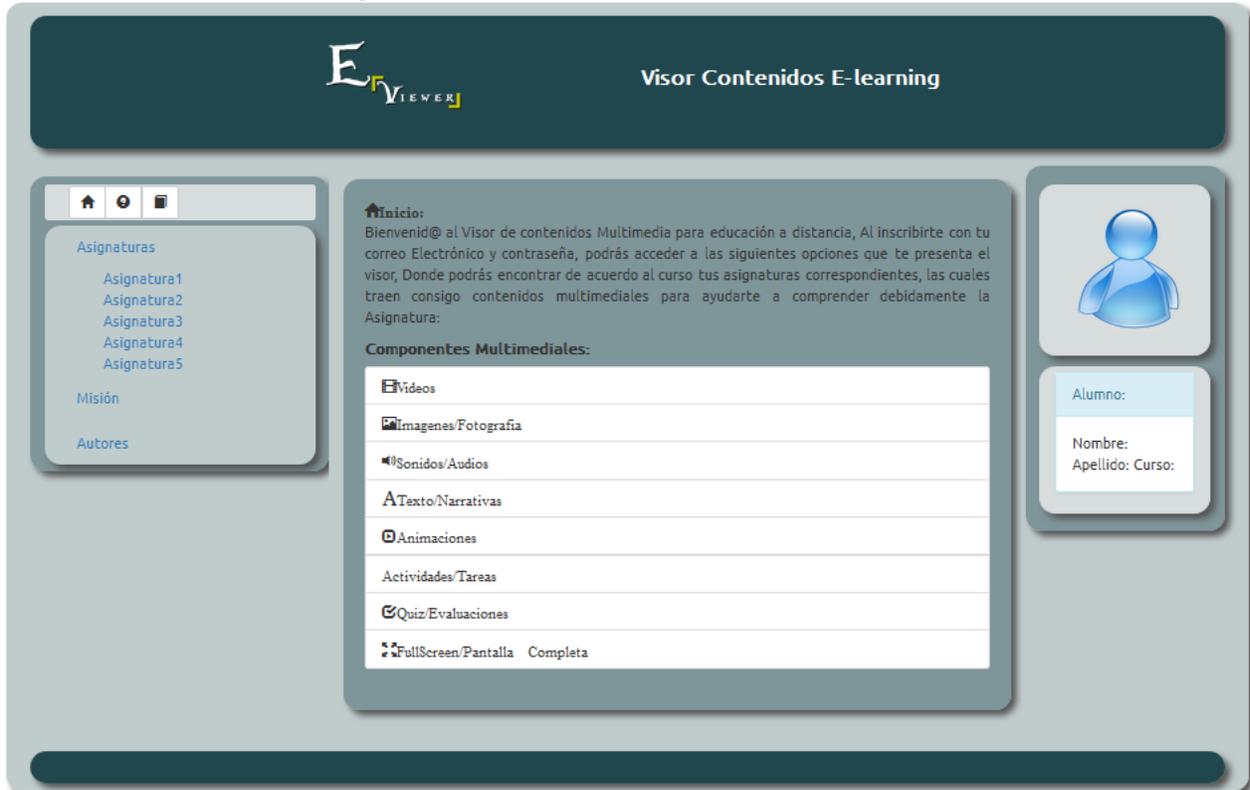

Image 1: Home of E-viewer
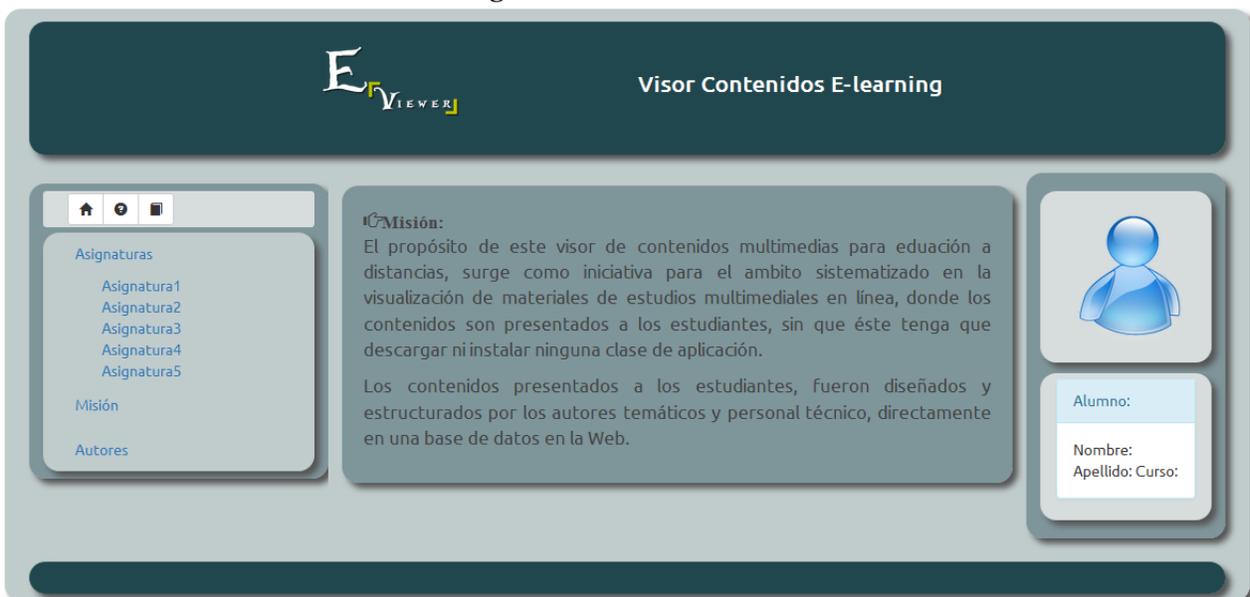
Image 2: Information about the mission of E-viewer

It is necessary to implement a model of rapid e-learning, supported in an environment collaborative to working in administrative and production processes. The development of a software product that supports the construction processes educational content as it is the content viewer, this will allow users to generate a standard that helps in visualizing solutions not only in operational and technical processes, but also in tasks of actual implementation, personnel management and optimization of time.

In the field of knowledge, an expansion of distance education as a great development, but applications are useful only for short periods of times; research into e-learning should become standard analysis and ongoing research to always renew the content and not far behind the technology of the moment.

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