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Web Development: Evidence of follow-up for compliance with the UN Global Compact in Construction companies

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Abstract

This article describes the process of designing, developing and implementing a web application for the Information and Communication Technologies project in Los Reyes: Evidence of the follow-up for compliance with the UN Global Compact, which is developed through an agreement of Collaboration signed in 2016 between the Universidad Tecnológica de Jalisco (UTJ) and the Cámara de la Industria de la Construcción (CMIC) capítuilo Jalisco, through the coordination and collaboration of the Academic group UTJAL-CA02 Social Responsibility, Sustainability and Development Integral for SMEs and companies that are members of the chamber, which are in process or follow up of adherence to the UN Global Compact. This web development process consisted in the creation of a portal that will allow the company Los Reyes to fulfill the commitments acquired in its adhesion process in the letter sent in 2015 by its CEO. This application will allow to be a mechanism of diffusion of the practical measures that the company has taken in the implementation of the 10 principles of the UN Global Compact, besides being a process of implementation of new technologies in its business model.

Global Compact, TIC's in Global Compact

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Introduction

The technological progress, globalization, international cooperation and international agreements that have taken place since the end of the Second World War were the preamble for the Secretary General of the United Nations at the World Economic Summit in Davos in 1999. , Kofi Annan, will speak not only to the UN conforming countries, but to the companies that collaborate and establish commercial plans among themselves, to extend a cooperation, an alliance, a global agreement, which they called the UN Global Compact, from which are derived 10 universal principles in the field of human rights, labor and the environment, which contain: The Universal Declaration of Human Rights, The Declaration of Principles of the International Labor Organization concerning fundamental rights at work, The Declaration of Rio on Environment and Development and the United Nations Convention against Corruption of 2004.

In this framework, the UTJ signed a collaboration agreement in 2016 with the CMIC, so that through the CA UTJAL-CA02 it could contribute to the adhesion of the members of said chamber to the UN Global Compact.

As of the date of preparation of this article, projects have been carried out with more than 25 companies, where it has collaborated with professors and students of the Higher Technician educational programs in: Human Resources Area Management, Information Technology and Communication area Computer Systems, Industrial Processes, Plastics area; and Engineering in: Business Development and Innovation, which pay to the Lines of Generation and Application of Knowledge (LGAC) of the CA.

Social Responsibility and Sustainability, Industrial Projects, Strategic Management and Marketing, Management, Total Quality and Finance and Technology Information and Communication for SMEs.

It is in the lines of Information and Communication Technologies (ICTs) and Social Responsibility and Sustainability where the present article is directed, since in the month of January of this year, the collaboration with the company Obras began y Proyectos Los Reyes, SA de CV, located in the municipality of Guadalajara, in the state of Jalisco, which has as a commercial area the construction industry in general and the concrete structures.

The company Obras y Proyectos Los Reyes began its process of adhesion to the UN Global Compact in August 2015, through its declaration, in which it included a description of the practical measures for the implementation of the 10 Principles of the Global Compact, among which was the disclosure of the policies, procedures and activities of the company.

These practical measures will be achieved through the creation of a web portal for the company, through an agile development methodology; and stable technologies and development frameworks, which will contain the descriptive information of the company, the services it provides, its developments and clients, as well as its policies and procedures, where its process is evidenced as a Socially Responsible Company.

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Justification

The UN Global Compact requires that companies committed to establishing practices in human rights, the environment, standards and the fight against corruption, establish mechanisms that allow the disclosure of the policies, procedures and activities of the company, so that It determines the development of a web application that allows the company to have a profound diffusion impact that goes beyond the employees, customers and suppliers of the company. Which will also allow other MyPyMES of the state, country or continent to observe their process, learn from their practices and allow more and more companies to be committed and socially responsible.

Problem

Works and Projects Los Reyes, SA De CV does not have high-impact technological mechanisms that allow its clients, suppliers, employees and its entire value chain to communicate its ethical principles, philosophy, work method, its main works in the field, as well as its policies and procedures evidencing its work in alignment with the UN Global Compact Principles.

Objectives

General objectives

Analysis, design and development of a web application that allows the projection and dissemination of the policies and procedures of the company Obras y Proyectos Los Reyes, S.A. From C.V.

Specific objectives

• Development of the Concept of Operations document (CONOPS) according to the IEEE 1362 standard for the specification of web application requirements.

• Search of multimedia elements for the design of the corporate image respecting the author's rights.

• Layout of the navigation layout of the application.

• Development of the web application with HTML, Bootstrap, CSS and Javascript.

• Obtain domain services and hosting account for distribution.

Theoretical framework

The pages or websites located on the World Wide Web (www) of the internet are files written or programmed in the HyperText Markup Language (HTML), this language is based on tags, where its simple programming and its easy understanding has made it take great strength over time.

According to Gauchat (2013) the origin of this language lies in the 80s designed by the physicist Tim Berners-Lee, member of the European Organization for Nuclear Research (CERN) to distribute documents.

This language used for the development of most web pages needs an interpreter, somewhere where they can be viewed, Internet browsers such as Google Chrome, Mozilla Firefox and others have this role for the interpretation of files written with HTML that, although not all web pages are written in this language, it is the most used and the most simple.

According to Gauchat (2013) Cascading Style Sheets (CSS) is the mechanism for assigning color and appearance to the website, it contains the attributes of each component or label placed on the skeleton.

This sheet contains the attributes of the components, such as the appearance, buttons, width and height of an image, the size and style of a font, or the positions of those components.

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Likewise; Gauchat (2013) describes that JavaScript was originally developed by Brendan Eich of Netscape with the name of Mocha, to later receive the name with which it is currently known, being an object-oriented language and with syntax similar to that of Java and c ++ to avoid the new and tedious concepts.

One of the ways in which web pages have grown in terms of their robust structure and development are frameworks (development frameworks), which have facilitated the creation of websites that have been the starting point of large creations, of such different models and complexities.

According to Gutiérrez (2007) frameworks are a software structure composed of customizable and interchangeable components for the development of an application. In other words, a framework can be considered as an incomplete and configurable generic application to which we can add the last pieces to build a specific application.

One of the main frameworks for web development is Bootstrap, it is a specialized framework for making web applications that can be shared with CSS, where it is easy and simple to manage when assembling it in the website file, it has classes and types of components along with a large number and variety of utilities to improve the display of the page.

Among the components of Boostrap are tables, panels, buttons, images carousel, lists, columns, labels, navigation bars and forms, as well as a variety of templates with which you can work quickly and efficiently, taking into account that these components have an HTML base which is modifiable is the CSS style of that component. In addition, it has a group of icons (Glyphicons) which, like the previous components, manages a class, which is defined by attributes like any other, such as color and size, with a total of 260 Glyphicons available to the user developer.

Methodology

The development methodology used in the creation of the application was SCRUM, this due to the high index of changes and how flexible this methodology is for its management.

The first phase of the development included the design, planning and conducting of interviews with the company, from which data, images and multimedia were obtained that allowed to determine the requirements of the application.

For the detection of needs, in addition to the interviews, it required close work with the company's collaborators, which allowed determining a design according to the corporate image of the company. Likewise; Activities such as brainstorming sessions were carried out, which allowed establishing a layout proposal for the application.

This allowed to start with the second phase of the development, considered as the analysis of the application for which the specification of requirements was made according to the 1362 standard of the IEEE (Institute of Electrical and Electronic Engineering), thus generating a document that was presented to the client and signed by both parties by mutual agreement.

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The third phase of the project consisted in the design and layout of the application, in which by means of drawings, strokes, illustrations and any other visual aid it was supported in the elaboration of a prototype of the site, which contained: panels, carousels, buttons, and divisions within the layout.

The fourth phase of the project consisted in the development, in this stage the technologies were used: PhpMyAdmin, IcoMoon App, JQuery and JQuery Mobile, BootStrap and Sublime Text was used as an HTML editor, the tags were added that would indicate to the browser what type of content would be used and in what positions.

Likewise; During the development with the HTML tagging language the database was also built in PHPMyAdmin which allows us to work with MySQL in a graphical environment.

Next in image No.1 the module of: Who we are is shown.

Figure 1 Module Who we are

Once the construction of both the web application and the database was completed, the fifth phase was carried out, which consisted in doing tests locally to observe the behavior in different browsers, no flaws were found in desktop view or view mobile, the images were displayed correctly, the size of the letter, the colors and the navigation between pages responded correctly.

Once the local tests were completed, the content was uploaded to a hosting service for remote testing, FileZilla was used as a free software which allows files to be managed via FTP (File Transfer Protocol) and the base was configured of data by accessing the Godaddy control panel and selecting the database option. From there, phpMyAdmin was accessed and the previously created database was imported using the phpMyAdmin of the wampserver, later a user with privileges was created in the database. By last; access to the IP (Internet Protocol) was granted remotely so that it will connect to the database and tests of connection to the website were made, just after configuring the redirect with the new domain.

Results

The implementation of this web application will allow the company Works and projects Los Reyes SA De CV has the necessary means to disseminate its activities as a company adhering to the UN Global Compact, as well as having the innovation of a means of Mass communication that will impact the business model of the company. Below is an image of the home page of the web application.

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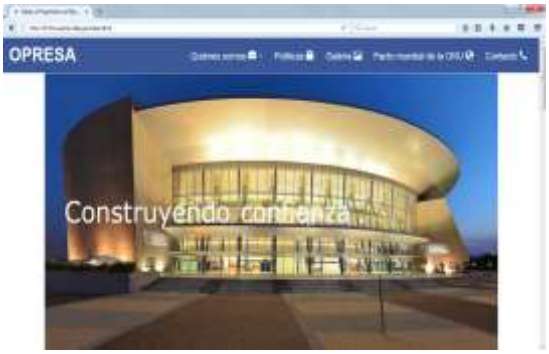

Figure 2 Home page

Likewise, the web application evidences the commitment acquired with the signing of the commitment letter that was sent to the UN Global Compact in August 2015 by the general director of the company, following is the policy section, in where the company's code of ethics is shown.

Figure 3 Code of ethics (policy section)

Derived from the previous section, the web application Values page is shown below.

Figure 4 Values Page

Conclusions

The analysis, design and development of this project allows the company Obras y proyectos Los Reyes SA De CV to support the 10 Principles of the UN Global Compact regarding Human Rights, Labor Rights, the Environment and the Fight against Corruption, working inside and outside the sphere of influence, making the principles part of the strategy, culture and daily actions of the company.

Therefore, in the communication of the annual progress made by the company to the UN, it will be able to fulfill the commitment acquired with the dissemination of the practical measures acquired in the process of adhesion to the UN Global Compact.

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