

Definition of the system about Documentation Management

InnovApp

1. Problem

The client, David Medranda from the company "Biosigma Ambiental," requires a system to manage the documents of different projects inside this environmental consulting firm. They need to understand how information is organized within an environmental project, determine which documents are permanent, and which ones are updated dynamically.

Additionally, the system should allow the consulting firm's clients to view the documents related to their specific project, so they can track progress and legal permits, while managers and internal employees should be able to view all projects and their respective content easily and directly.

As an additional point, the company wishes to continue working with Dropbox folders for files that are constantly updated, so it is requested that the web system be linked to these Dropbox folders, allowing clients to view the documents without needing to access Dropbox directly or have a Dropbox account.

2. Overview

In the field of environmental consulting, each project typically generates multiple documents, which must be reviewed by internal staff. However, the clients, need to check the progress and information related to the specific project.

Proper access to these documents enables effective communication of information and provides evidence of regulatory compliance or timely project advancements. Having a centralized and intuitive web system that allows for the control, storage, consultation, and updating of each project's information improves collaborative workflow and enhances control over the project schedule.

Furthermore, integrating a Dropbox connection through an API or developing a software solution that allows for concurrent updates of documents that need constant modifications, will

facilitate the deployment of these files without additional configurations, allowing clients to view the current status of their project easily.

3. Background

Environmental consulting was created to help companies comply with environmental regulations and minimize their impacts on the environment, promoting sustainable development. These consultancies provide specialized technical advice, conduct environmental impact studies, design management plans, and implement safety, occupational health, and environmental management systems, facilitating the integration of economic growth with ecological responsibility in the projects.

BIOSIGMAMBIENTAL CIA. LTDA., founded in 2016 in Quito, Ecuador, specializes in socio-environmental, socioeconomic, biological, industrial safety, and occupational health studies. It serves sectors such as electricity, oil, mining, construction, manufacturing, health, food, vertical transport, and tourism, relying on a multidisciplinary team with high technical and academic expertise that ensures regulatory compliance and promotes sustainability.

In Ecuador, environmental consulting for a company starts with identifying the potential environmental impacts associated with its activities. Then, environmental impact studies, socio-environmental assessments, and management plans are developed, following the national regulations established by the Ministry of Environment, Water, and Ecological Transition. The process includes field visits, technical data collection, social participation, report writing, and management of required environmental permits, ensuring that the company's activities are carried out responsibly and sustainably.

3.1. About the documents

The kind of documents that "Biosigma" requires are wide, from permits and documents about the process of the different projects, to the own management of these processes that "Biosigma" does. Below, it's visible some of the documents the company manages. In the figure 1, it's the monitoring of the project, such as the land measurements, values and other important features.

INCENTIVO INICIAL / PREDIO	VALOR TERRENO / HECTAREA	VALOR PRODUCTIVO / HECTAREA	VALOR / TORRE	METROS 2	HECTAREAS	M2 PRODUCTIVOS	HECTAREAS PRODUCTIVAS	TORRES	TOTAL
300	3500	1500	500	100	0,01	50	0,005	0	342,5
300	3500	1500	500	200	0,02	100	0,01	0	385
300	3500	1500	500	300	0,03	150	0,015	0	427,5
300	3500	1500	500	400	0,04	200	0,02	0	470
300	3500	1500	500	500	0,05	250	0,025	0	512,5
300	3500	1500	500	600	0,06	300	0,03	0	555
300	3500	1500	500	700	0,07	350	0,035	0	597,5
300	3500	1500	500	800	0,08	400	0,04	0	640
300	3500	1500	500	900	0,09	450	0,045	0	682,5
300	3500	1500	500	1000	0,1	500	0,05	0	725
300	3500	1500	500	2000	0,2	1000	0,1	0	1150
300	3500	1500	500	3000	0,3	1500	0,15	0	1575
300	3500	1500	500	4000	0,4	2000	0,2	0	2000
300	3500	1500	500	5000	0,5	2500	0,25	0	2425
300	3500	1500	500	6000	0,6	3000	0,3	0	2850
300	3500	1500	500	7000	0,7	3500	0,35	0	3275
300	3500	1500	500	8000	0,8	4000	0,4	0	3700
300	3500	1500	500	9000	0,9	4500	0,45	0	4125
300	3500	1500	500	10000	1	5000	0,5	0	4550
300	3500	1500	500	11000	1,1	5500	0,55	0	4975
300	3500	1500	500	12000	1,2	6000	0,6	0	5400
300	3500	1500	500	13000	1,3	6500	0,65	0	5825
300	3500	1500	500	14000	1,4	7000	0,7	0	6250
300	3500	1500	500	15000	1,5	7500	0,75	0	6675
300	3500	1500	500	16000	1,6	8000	0,8	0	7100
300	3500	1500	500	17000	1,7	8500	0,85	0	7525
300	3500	1500	500	18000	1,8	9000	0,9	0	7950
300	3500	1500	500	19000	1,9	9500	0,95	0	8375
300	3500	1500	500	20000	2	10000	1	0	8800
300	3500	1500	500	21000	2,1	10500	1,05	0	9225
300	3500	1500	500	22000	2,2	11000	1,1	0	9650
300	3500	1500	500	23000	2,3	11500	1,15	0	10075

Figure 1: Document of constant monitoring of a project site

In figure 2, it's the most important document that "Biosigma" advises its clients, this document is developed after all the studies in the project, and has all the plans that the clients will follow and that will be analysed by the state.


	
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Figure 2: Plan of Environmental Management

Figure 3 and 4, are the permits needed and approved by the state, the project needs these permits so that the project can have green light and it's also an important document for the environmental plan, because without them, the plan cannot be approved by state regulations, all of this following the law to acquire these permits, and the respective analysis of the proposal needed to get them.



Figure 3: Water Permit



Ministerio
del Ambiente

CERTIFICADO DE INSCRIPCIÓN DE LICENCIA AMBIENTAL No. 1268

El Ministerio del Ambiente, a través de la Subsecretaría de Calidad Ambiental, certifica que se encuentra inscrita la Licencia Ambiental (L.A.), en el folio del Registro Nacional de Permisos Ambientales. Una vez que se ha dado cumplimiento a lo dispuesto en el Artículo No. 42 del Acuerdo Ministerial No. 061, publicado en la Edición Especial del Registro Oficial No. 316 de fecha 04 de mayo de 2015, que dispone un registro de los permisos ambientales otorgados a nivel nacional a través del Sistema Único de Información Ambiental SUIA.

AUTORIDAD AMBIENTAL DE APLICACIÓN RESPONSABLE (AAAr):	GOBIERNO AUTÓNOMO DESCENTRALIZADO PROVINCIAL DEL GUAYAS
PROMOTOR:	TABACALERA LA MECA S.A TABAMESA
PROYECTO:	OPERACIÓN, MANTENIMIENTO Y ABANDONO DE LA PLANTA TABACALERA LA MECA
UBICACIÓN:	CANTÓN EL TRIUNFO PROVINCIA DEL GUAYAS
No. DE RESOLUCIÓN DE LA AAAr:	No. 232-LA-DPGA-GPG DE FECHA 26 DE OCTUBRE DE 2015

Quito, 01 de marzo de 2016

Atentamente,



Mgs. Ángel Virgilio Benavides Andrade
Subsecretario de Calidad Ambiental
Ministerio del Ambiente

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Figure 4: Environmental Permit

4. The Preliminary Solution

For this type of document management, a document viewer will be required, allowing both the client and the workers of "BIOSIGMA" to view and filter the documents of a specific project, displaying the type of document, the date of creation, among other details. Workers will also be able to modify the documents, update certain concepts or announce the completion of milestones, these changes then be uploaded in the storage of Dropbox and reflected on the system.

Additionally, it will be necessary to develop a module that enables a connection with DROPBOX, at the client's request, as they wish to facilitate the use of this storage system and take advantage of its features.

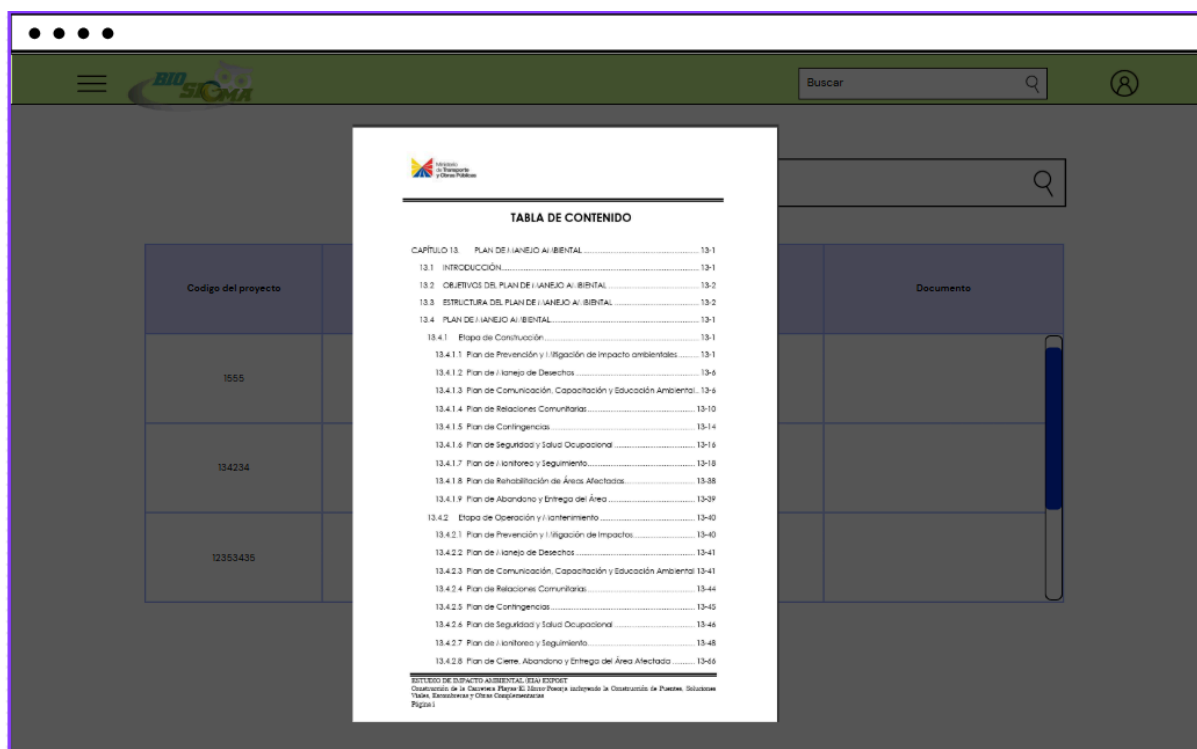


Figure 5: Page functionality and preliminary idea of the management of the page