



## Title: Web Business Management System

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## Introduction

Organizations have multiple activities to perform daily to achieve the success of objectives and goals set, so it is very difficult to keep track of them if you do not have a system that makes it easy to record and view these tasks to be performed, in time and form. In some companies, the control of appointments and tasks to be carried out is carried out in the traditional way, writing the activity data on a piece of paper or notebook, if there is no electronic system, so sometimes these annotations are lost and the company attends late or does not show up for these activities

We can say that web systems are easy to use, only with basic computer knowledge you can work with them and be used by several users at the same time.

Based on the importance and impact, the project was developed in BIOCENOSIS A.C. Monarch region in August 2020 - August 2022..Organizational Management System on the Web was strengthened with the development of an intelligent task manager app, which is based on the same importance of having control of activities and documents, identifying the main problems of the organization, in addition, the management system sends a reminder, which will be programmed with the date and time in which you want to receive the notification, obtaining optimal results for the organization Biocenosis A. C.

What is sought with the web and app system is to maintain:

*Relevance:* Manage call information

*Integrity:* Always ensure that you are notified of your activities

So when the user is notified, he can save his documents in the cloud.



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# Methodology

### **Problem**

The paper record of the tasks to be carried out, which sometimes caused the loss or forgetting of these annotations where said record was made, as well as the forgetting of the date and time of the activity. Sometimes scheduled appointments are delayed or there is a delay in the delivery of activities. with a document stored on the office computer from another location, be it from home, another location, or even across the country, and the only way to access these documents was at the office to get the file. Since there is no dedicated space to store your documents, they are often lost between office computers, as it is not known which computer the file is on.



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## Methodology

### Hypothesis

Implementing the use of a web system allows users to access information in a simpler way, updated from the comfort of a mobile device at the desired time and place, for any type of organization

### Variables

#### Independent variable

Lack of time  
Lack of time  
Updating of information  
Easy to use  
Resource availability

#### Dependent variable

Mobile application for consultation and access to documents to be generated

Web system to store information on different projects in the cloud and collaborate in the development of documents

### General objective

Generate a web administrative system and mobile application for the organization and management of the registration of the different participation activities, calls, monitoring of plans BIOCENOSIS A.C. Monarch region.

### Specific objectives

- Analyze the delay times in responding with documents to your different calls
- Identify and meet the needs for the management of activities.
- Develop the modules for the different processes within the system.
- Design a mobile application that allows the user to capture data and store the information in a database.
- Implement the tools for programming notifications in the app, so that the alert process is more efficient.



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## Methodology

The project has the character of application, of mixed and transversal type; It is necessary to carry out a satisfaction survey of end users, as well as to obtain their appreciation of use in optimizing their processes and cross-sectionally, since data from the variables must be observed and analyzed over a period of time (after testing the web system and mobile application) on the sample population

### **Software development Methods and tools**

Survey through direct interviews with users. Those involved are 10 employees. The organization is BIOCENOSIS A.C from the eastern region of Michoacán

### **Technologies used**

The tool for the design and development of a web system and mobile application, as well as the development environment and the database manager used in the development of the project: Scrum, MySql, PHP, HTML, Firebase, JavaScrip, jQuery, Host



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## Methodology

### *Software development*

The sprints developed based on the selected methodology are:

#### **1.Sprint planning.**

In the first team meeting, the definition of functionality, objectives, sprint risks, delivery deadlines, among others, was achieved.

#### **2.Sprint backlog**

The sprints developed based on the selected methodology are:

The sprints developed based on the selected methodology are:

- 1: Creation of the database and user interface.
- 2: Programming the registration, updating and deletion of users as well as activities.
- 3: Programming for uploading files to the system as well as downloading them and assigning permissions to users.
- 4: Choice of host that will store the system and upload it.



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## Methodology

### *Software development*

#### **3. Sprint review**

At the end of the interval development, it is possible to analyze and evaluate the results

- Collaboration between teams, supervisors.
- External analytics are supported as a form of supplementation.
- The work team answers what has been developed and what shortcomings they have had.
- List all activities



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## Methodology

### *Software development*

#### **Functionality**

This option will show all the activities registered in the database with the different options that can be carried out on the activities.

#### **Feedback**

The results are delivered to receive feedback from all those involved in the project. It was considered to add a section of completion of activities.





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## Website system

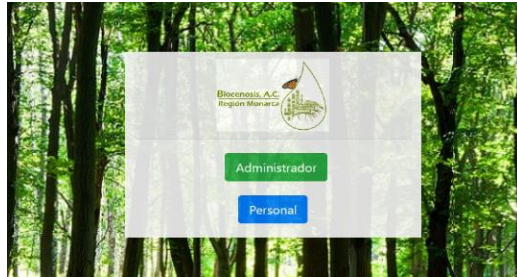


Figure 1. SW Login Menu

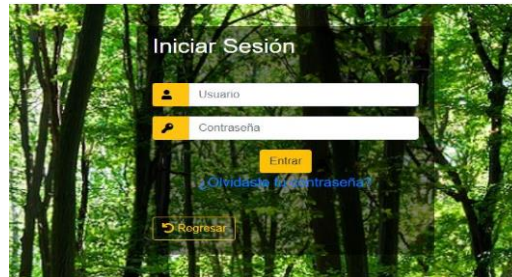


Figure 2. SW Admin and Staff Login

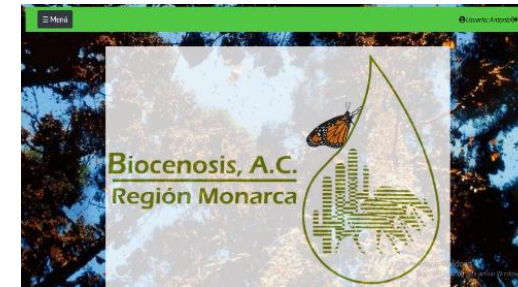


Figure 3. Home screen.



Figure 4. Vertical drop-down menu of the administrator. SW



Figure 9. List activities screen.SW

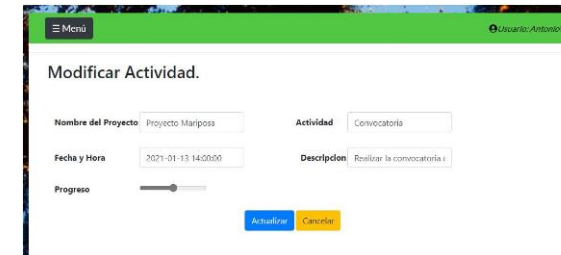


Figure 10. Screen to modify SW activities



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Actividades Finalizadas.

| Nombre del Proyecto       | Actividad  | Fecha de Finalización | Status     |
|---------------------------|------------|-----------------------|------------|
| Proyecto Mariposa Moravia | Conocedora | 2021-02-28 17:14:00   | Finalizado |
| Entrega                   | Avance 1   | 2021-02-20 02:28:43   | Finalizado |

Figure 12. Pantalla de Listar actividades finalizadas. SW

Archivos

Subir Archivo

| Lo Subió      | Fecha               | Nombre del Archivo | Descargar | Eliminar |
|---------------|---------------------|--------------------|-----------|----------|
| Edwin Viterbo | 2021-02-25 02:20:50 | Pantalla Sección   |           |          |
| Edwin Viterbo | 2021-02-25 02:20:50 | Pantalla Vistas    |           |          |

Figure 3. Document list screen.



Figure 14. WhatsApp message that will be sent with the login data.



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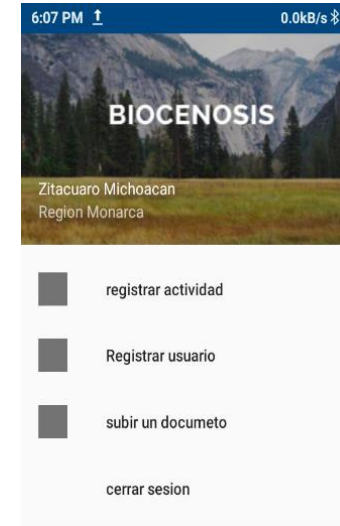
## Mobile app



**Figure 5** Manager app startup image



**Figure 6** Login app login



**Figure 8.** App options menu.



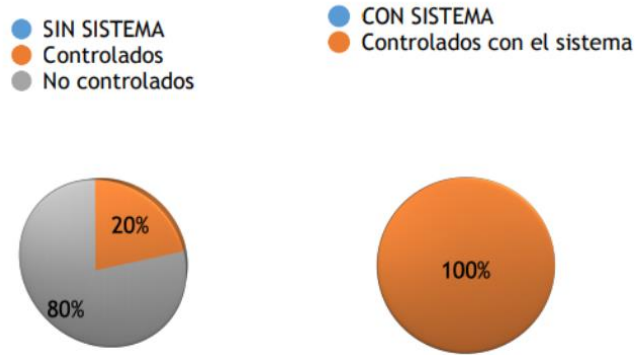
**Figure 11.** View of the activity log window. apps



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## Results



Graph 1. Reduction of document loss.

Desarrollo de Actividades



Graph 2. Improvement in the development of activities



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## Results

| Aspectos/opciones              | APP  | Documentos   | Porcentaje de mejora   |
|--------------------------------|--|--|--|
| Event notification             | Now from mobile with a notification, which notifies the user of calls. | Forgetting to call, due to omission of registration of the activity.   | 100% of 10 notifications that were attended. Before, only three out of 10 per month were attended, now with the mobile application and the web system, all calls are covered.        |
| Access to information          | Access to information is 24 hours 365 days                             | Information is only accessible when the office is open, this activity was before the system and the application. | The attention was Face-to-face, having an effectiveness of 20%. With the implementation of the web system and the mobile application, 100% service is provided.                      |
| Ease in handling documentation | Documents are available on the server to users at any time             | It was attended at times at certain times according to the user or client.                                       | Users took turns using the computer equipment for their use, which generated an effectiveness of 2%, now allowing 90% to be covered, since a project must be handled asynchronously. |

| Aspectos/opciones      | APP  | Documentos  | Porcentaje de mejora  |
|------------------------|--|---|---|
| hHistories             | The database saves all the information at the time the application is accessed | There is a record of the paperwork from the beginning to the end in The organization according to the database in the cloud.      | Only 70% of documents correspond to projects. Currently every project has a history, covering 100%. |
| Job Alerts/ activities | The application notifies the user when there is a new activity                 | Previously, important dates were forgotten, because the use of the paper agenda was not reviewed and was forgotten in the office. | So far all activities are attended to 100%, previously only 70%.                                    |

As the prototype is in testing, data is expected in November 2022 and the Pearson correlation statistical test will be applied.



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## Gratitude

I thank the association BIOCENOSIS A.C. Monarch region for allowing technological and technical services, as well as collaborating students, since their activity is equally valuable to participating teachers..



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# Conclusions

The use of an agile design methodology in web projects and mobile applications such as Scrum, allows systematic planning that includes collaborative teamwork, leadership by experts in the area, enriching the developer experience as the project progresses.

It can be concluded so far that the hypothesis is fulfilled, by obtaining satisfaction results with acceptable percentages.

Web technology with well-designed tools gives certainty to the development of a robust, functional and efficient software product for an organization. BIOCENOCIS A.C. Monarca region is experiencing an integration to digital management.





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