Botanical Web Manager

Technical report

Authors: Andrica Andrei, Suciu Bogdan

Institutions: Alexandru-Ioan Cuza University

Abstract

Botanical web manager is an application whose goal is to give access to the public to complex information on the collection of plants which can be found in a specific botanic garden. Up until now it was only possible to gain such knowledge by being present at the place, and was often impossible to gain access to the information you were being display and often forced to spend the whole time on researching/documenting each object that was posing an interest. By migrating the information into a web application, it will allow each visitor to retrieve information on a specific plant at any given moment and from any location.

General purpose

The application is intended to give free access to the information on all the plants of the given botanical garden. It also included the possibility of updating it with new information.

The user can perform a complex search on the subject that it is interested in, and given the option of exporting the information in various formats such as CSV, XML. The search can be performed on multiple criteria, such as English name/Latin name, description, origin, the location where
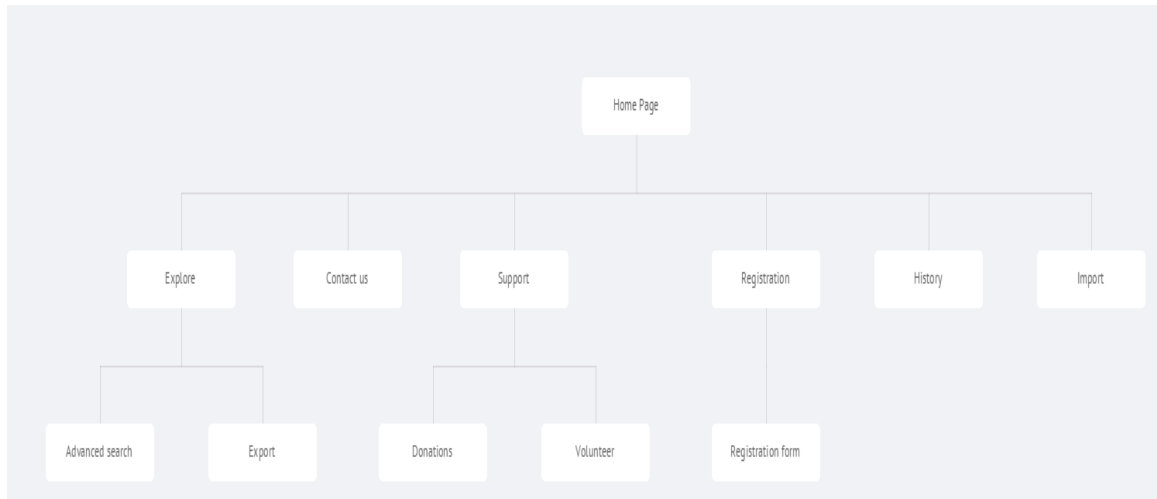
the plants can be found, the option of displaying images of it, reproduction, benefits, the purpose its servers (ornament, scent, medicinal) , the environment where it grows (open field, greenhouse).

Requirements

1.   The application is intended to run on both portable (android, IOs, windows mobile) and standing devices

2.   It can be accessed by anyone for free, authentication is not required but recommended and it can only be done via social networks

3.   There will be 3 classes of user: visitor/regular, data-entry and super user

4.   Certain modules of the application should be restricted to regular user

5.   Provide a history of the user actions, such as displaying documents that have been either imported/exported

6.   Provide a friendly and attractive interface for the visitor/ regular user

7.   The applications should be hosted 24/7 on a dedicated server

8.   The implementation should be made so it keeps the amount of resources required to a minimum

9.   It is preferred that during the implementation the following resources are used: HTML&CSS, bootstrap framework, JavaScript and it libraries and PHP

Application scheme

We have devised the following schema which will help in building the frame of the application and based on which we have built the application modules

Home Page

Explore — Contact us — Support — Registration — History — Import

Advanced search — Export — Donations — Volunteer — Registration form

Application modules

User types

The application users will be divided into 4 categories:

- visitor
- regular user
- data-entry
- administrator

Search module

There will be two types of search options available

- quick search
- advanced search

The quick search can be performed after the user types a keyword in the search bar, which is located at the top-side of the screen and it will display the top results that match his interests

The advanced search will allow the user to perform advanced filtering, based on multiple criteria which can be selected via checkboxes located in a panel, on the left-side of the screen

Both search function should only be available from the "Explore" windows.

Sign in

The registration can only be done via social networks, Facebook and Google. In order to do that, the unregistered user must action the Sign in button located at the top-right of the page. A pop-up window will appear providing with two option from which it can choose. One of the preconditions for this to happen, is the user should have an active Facebook or Google+ account.

Export

This feature will not constrain the user to be logged in the application, meaning even visitors will have access to it. The option will only be available in the "Explore" windows. The information must be exported either as a CSV file or XML document.

Contact us

The module will display a map with the address of the botanical garden and a simple form, which can be accessed by non-registered users as well, and it will have the option of sharing ideas, messages to an email address.

Support us

The mentioned module will offer two functions.

First is the possibility of supporting by donating money. The user can do that via www.patreon.com.

Second, it will allow for volunteering activities. To access this function, the user must be logged in.

Import module

This feature will only be available for a certain class of users: data-entry and system administrator. The person will be able to import data into the database in bulk without it having any technical major skills, this should be done through a user interface which will focus on functionality and not design. The import will be done by using CSV files XML documents. There will be two import options available, creating a new item and updating an existing one. When creating an item, there will be a minimum number of fields required for the task to be completed successfully. The module will also display any running tasks and its current status.

History module

Only available to registered users, it will display all the documents that have been exported by them in the past, and also provide the option of searching within a given date range.

It will also display a feature, only available for data-entry users and above, that will allow to look up on the exports/imports done by other users.

Notes

None at the moment.