Image Recognition of Plant Leaves for Species Identification

User Manual

What is this project?:

A Search Engine For Photographs of Plants.

What license is this software issued under?

This software is issued under Reciprocal Public License 1.5
http://www.opensource.org/licenses/rpl1.5.txt

Requirements:

Image-Magic	http://www.imagemagick.org/script/index.php
Image-Magic Scripts	http://www.fmwconcepts.com/imagemagick/
MySql	http://www.mysql.com/downloads/
CentOS	http://www.centos.org/

Installation:

1. Install CentOS.
2. Make sure the following repositories are activated:

   CentOS base
   CentOS plus
   CentOS epel
   CentOS extras
   CentOS updates
   rpmforge
   rpmfusion-free-updates
   rpmfusion-nonfree-updates
3. Install ImageMagick using yum package manager.
4. Clone the git repository to your local machine
   "git clone https://github.com/hughpearse/Sato-folium.git".
5. Extract the archive file of the website from "Sato-folium/website-demokit/website-demokit.tar.gz" into your web server folder "/var/www/html/".
6. Run the SQL script "Sato-folium/website-demokit/web.sql" to create the tables in the database "mydb".
7. The administrator can add leaves to the database by using the administrator tools in "Sato-folium/website-demokit/adminTools/".
8. Execute the script "Sato-folium/website-demokit/adminTools/TOOL-cronjob.sh" upon first installation, then add it to the cron server for regular averaging of the leaf table.

How to use:

1. Open the web page "http://localhost/yii/myapplication/".
2. Press "Login" at the top of the page.
3. Enter the username "demo" and password "demo".

4. You will be brought to a page called “Current searches” which shows the ongoing activity on the website.
5. Press “Create search” on the right hand side of the “Current searches” page.
6. The “Create search” page will be displayed where you can enter an image location and some optional commentary.
7. Enter a url directly to an image file in the first box. This should end in .jpg or .png or a similar file type.
8. You may also enter a comment about the image that you may think is relevant.
9. Press “Submit search” and wait for the application to download the image, extract the information and perform the search. This should take 20 seconds at most.
10. You will automatically be redirected to your search results page. Notice the image you uploaded is displayed at the top and possible answers are displayed underneath.
11. Hover your mouse over the names of the results and notice the corresponding image is loaded at the side of the page.

Troubleshooting:

Q. The current searches page is empty.
A. Create a search, problem solved.

Q. I want more accounts other than “demo”.
A. Accounts can be added in “/var/www/html/yii/myapplication/protected/components/UserIdentity.php”.

Q. The leaf is in the database but the tile is not loading on mouseover on the “Search Result” page.
A. If a leaf is a new species to the database the tile has probably not yet been added. Add the tile manually by running the tile script “Sato-folium/website-demokit/adminTools/TOOL-addTile.sh”.