User Guide
Digital Display Garden

Team Revolver en Guardia++
University of Minnesota Morris
Spring, 2017

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Overview

The Digital Display Garden is a web application that provides an easy-to-use tool that allows garden visitors to navigate through garden plants and leave feedback on plants of their choosing.

The web application allows visitors to easily find their desired plant by scanning a bed QR code within the real-world garden. Scanning a code will navigate the visitor to a webpage with a list of plants that have been filtered by the scanned bed name. The visitor may change how the plants are filtered by changing the bed name or common name filters presented near the top of the garden webpage.

Visitors may inspect a plant by tapping or clicking it from the filtered list. A plant detail page will be shown that provides information about the plant and also allows the visitor to like or dislike and comment on the plant.

Administrators of the garden also have a variety of options for managing and collecting garden information. Administrators can export collected feedback data, import or update plant spreadsheets, download bed QR codes and view garden information through Google charts.

Administration

a. ## Export Collected Data

Allows for plant feedback data from daily datasets to be downloaded in an excel format. To download a dataset, find the desired data set and click the "Download feedback for this data set" option for the data set to download and save the excel data set.
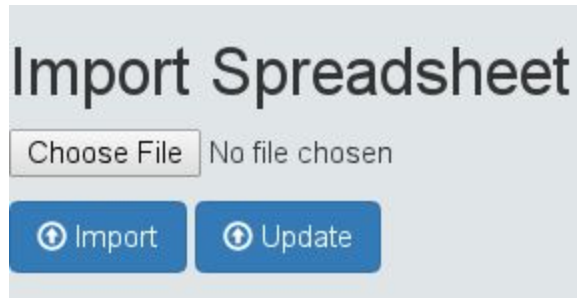

b. ## Import Spreadsheet

Spreadsheets represent what plant data is stored within the Digital Display Garden. An example spreadsheet would have the file extension .xlsx and should look similar to the following image.
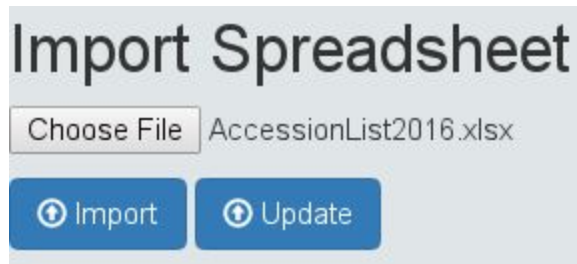
Navigating to the "Import Spreadsheet" page will present a page that looks like the following image.

i. Import

Import allows for an entirely new spreadsheet to be uploaded to the Digital Display Garden and will overwrite any previously stored data.

To import a new spreadsheet, start by choosing the file to be uploaded by clicking the "Choose File" button. A file navigator will open where the desired file to be uploaded can be chosen. Once a file is chosen, the page will appear as the following image.

The "Import" button now may be clicked to upload the new spreadsheet.

ii. Update

Update allows for the currently uploaded spreadsheet to be modified. To update an existing spreadsheet, start by choosing the file to be uploaded by clicking the "Choose File" button. A file navigator will open where the desired file to be uploaded can be chosen. Once a file is chosen, the page will appear as the following image.
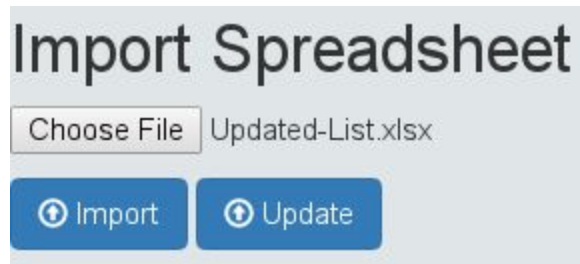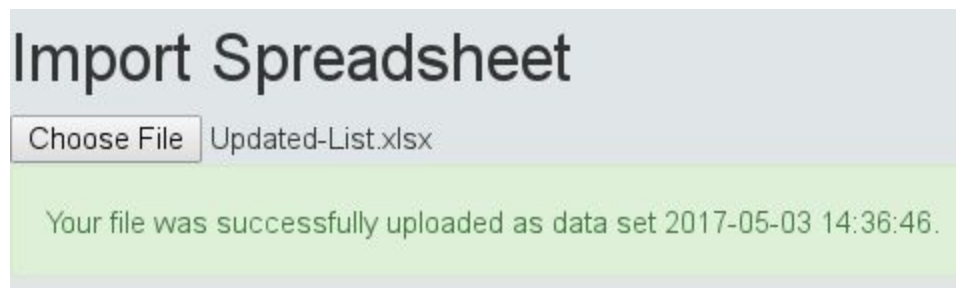

The "Update" button now may be clicked to update the existing spreadsheet.

c. Download QR Codes

Allows for bed QR code images to be downloaded. Each downloaded image is a QR code that represents the URL for each filtered bed page.

To download the QR codes, click the "Download QR Codes" button. A file named "QR Code Export DATE TIME.zip" will be downloaded. To open the file, double click the file and extract its contents. The contents of the file should look similar to the following image.

Name		Size	Type	Modified
1N.png		553 bytes	PNG image	03 May 2017, 14:40
1S.png		558 bytes	PNG image	03 May 2017, 14:40
2N.png		545 bytes	PNG image	03 May 2017, 14:40
2S.png		558 bytes	PNG image	03 May 2017, 14:40
5.png		550 bytes	PNG image	03 May 2017, 14:40
6.png		545 bytes	PNG image	03 May 2017, 14:40
7.png		554 bytes	PNG image	03 May 2017, 14:40
9.png		554 bytes	PNG image	03 May 2017, 14:40
10.png		551 bytes	PNG image	03 May 2017, 14:40
11.png		546 bytes	PNG image	03 May 2017, 14:40
13.png		552 bytes	PNG image	03 May 2017, 14:40
LG.png		547 bytes	PNG image	03 May 2017, 14:40

Each .png file is a QR code for the bed represented by each file name. For instance, bed 10's QR code image would look like the following image.
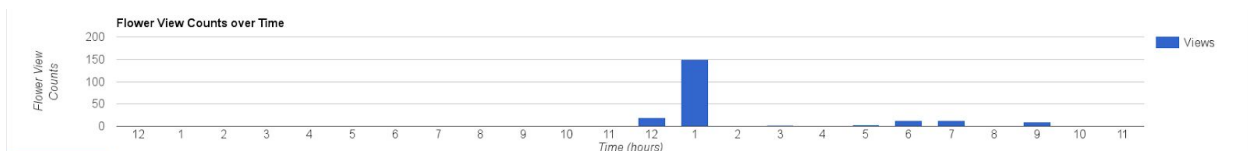
d. Google Charts

Google charts provide visual aids for visitor interaction data with the garden. The current charts shown within the web page are listed below.

i. Flower View Counts Over Time Bar Chart

Shows popularity of flower views during the day at specific times as a bar chart.
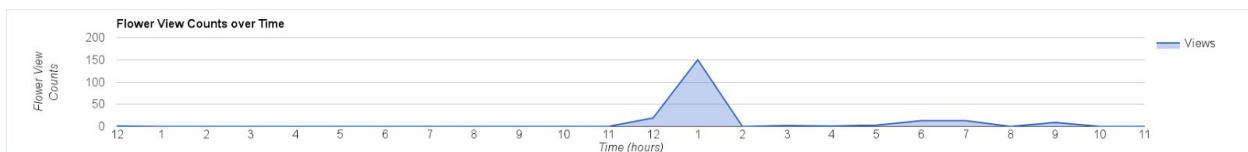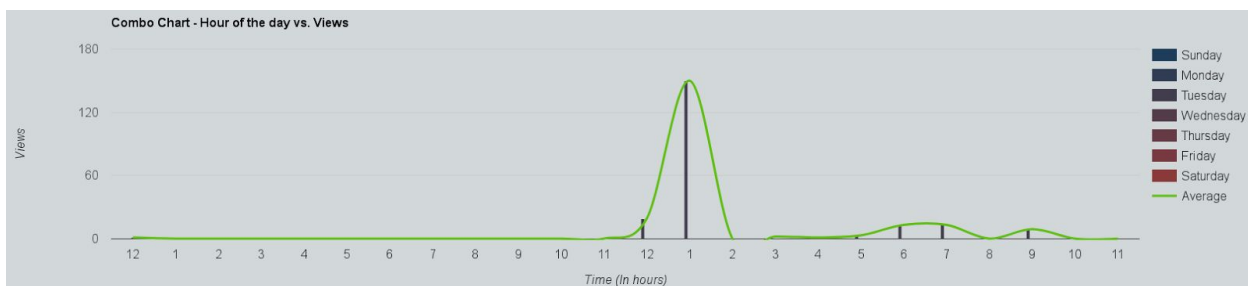

ii. Flower View Counts Over Time Area Line Chart

Shows popularity of flower views during the day at specific times as a area line chart.

iii. Hour of the Day vs. Views Combo Chart

Shows popularity of flower views during the day at specific times as a combination of a line and bar chart.

iv. Bed Ratings Satellite Chart

Shows an aerial view of the garden where each bed has a selectable pin to view number of likes, dislikes and comments.
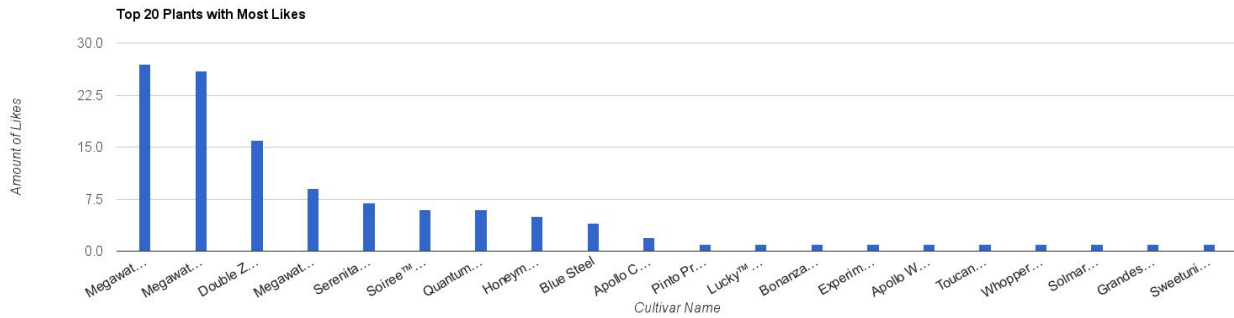

v. Bubble "Heat Map" Chart

Shows bubbles that depict likes and popularity of plants within each bed. Blue bubbles represent low amount of plant likes for each bed while purple bubbles represent a high amount of plant likes for each bed. Larger bubbles represent higher view counts for the plants within that bubble's bed.
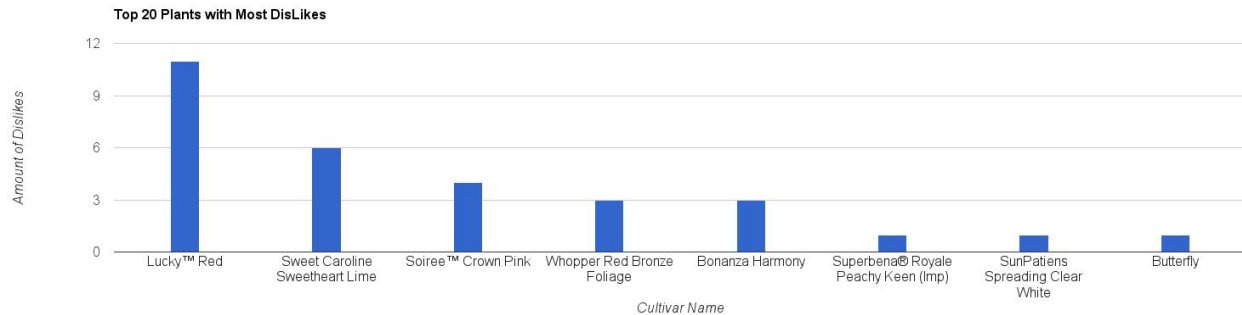
vi. Top 20 Plants with Most Likes

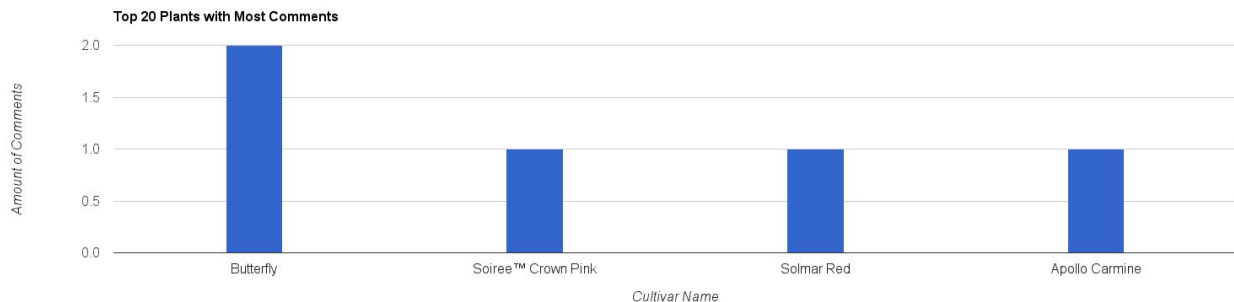Shows plants with the most likes within the garden.

Top 20 Plants with Most Likes

vii. Top 20 Plants with Most Dislikes

Shows plants with the most dislikes within the garden.

Top 20 Plants with Most DisLikes

viii. Top 20 Plants with Most Comments

Shows plants with the most comments within the garden.

Top 20 Plants with Most Comments

ix. Update Graph

Each graph has a button underneath it similar to the image above. To update the graphs after changes to the feedback data for the Digital Display Garden, simply click the "Update Graph" button underneath the desired graph to be updated.
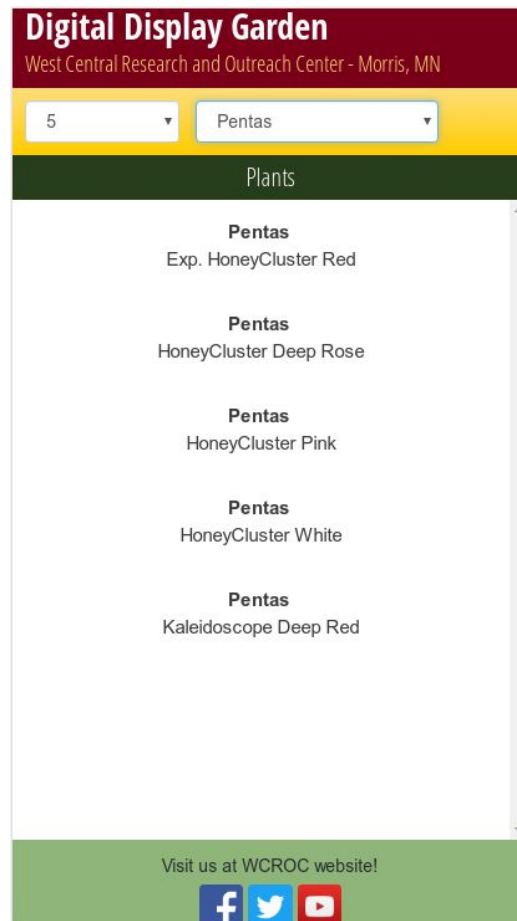
Visitor Experience

a. Garden Navigation and Filters

Once a visitor has entered the garden they may use their smartphone to scan bed QR codes. Once a bed QR code is scanned the visitor will be navigated to the following page.

At the top list the Bed and Common Name filters. Since the current bed is 2N, the visitor must have scanned the 2N bed's QR code.
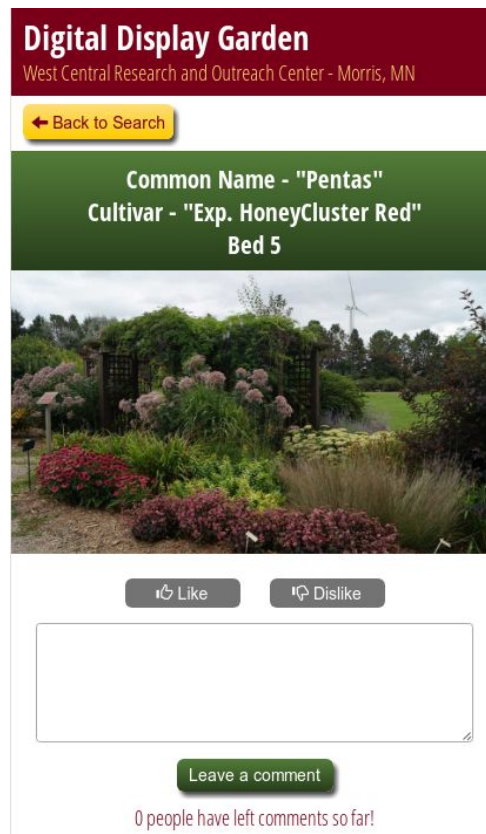
Once the visitor has access to the Digital Display Garden they can proceed to filter plants by bed and common name. For instance, the following image shows the garden plants filtered by bed 5 and common name Pentas.

Once a user has found a desired plant they may select it by tapping it. Once tapped, the Pentas Exp. Honey Cluster Red would open in a plant detail page (see Plant Detail section).
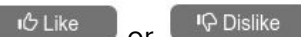
b. Plant Detail

Once a plant has been selected a page similar to the following image will be presented to the visitor.

Displayed are the common name, cultivar, bed number and an image of the plant or bed. The visitor also has the opportunity to leave a rating for the plant and commenting on it.

i. Likes and Dislikes

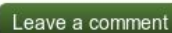To leave a rating on the plant a visitor can either select the or options.

ii. Comments

To leave a comment a visitor can type their comment into the white text box and submit the comment with the button.

Contact

For more information or help please contact the West Central Research & Outreach Center (WCROC) at:

University of Minnesota

46352 State Hwy. 329

Morris, MN 56267

Phone: 320-589-1711

Fax: 320-589-4870

Email: ejordan@umn.edu

DDG User Guide Constructed By Team Revolver en Guardia++ at UMM