Documentation: Innovation Hub Directory Tool

Creators of Data Directory Tool

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Purpose of Data Directory Tool

The Data Directory Tool is an innovative and user-friendly platform designed to enhance your connection with local farms while enriching your understanding of sustainable farming practices. This directory not only offers the latest insights and developments in agriculture and farming but also addresses frequently asked questions regarding sustainable farming. With its intuitive interface, the tool simplifies the process of discovering nearby farms, allowing you to explore a diverse range of produce available in your area. No matter if you are a farmer or just an individual curious about the process, this directory is your gateway to a deeper appreciation and support of local, sustainable agriculture.

How to User Data Directory Tool

This data directory tool essentially helps individuals locate Black-owned farms, stay up to date with farming and agriculture news, and get answers to questions that are frequently asked.

1. When you first enter the data directory tool, you are presented with the home page which provides a background on what the directory tool is used for and how the user of the site can gain more insight in regards to farming and agriculture.
2. The first tab after the Home page is the Farm Locator Tab
    a. Once you click on that Home tab there is a map and chart with all the farms in the local area.
    b. To specify your search, put your preference of city under the message “Type the city in which you would like to find a farm:”
    c. Once you enter your desired city, you are given different search results of the farms in that city which have the name, address, zip code and state, and their website information as well.
    d. When you have received the information you were looking for you can move over to the Farming & Agriculture News tab.
3. The Farming & Agriculture news tab is there to give the latest agricultural news relevant to Maryland
    a. There are 10 links provided from sites like:

        i. Maryland Farm Bureau
        ii. USDA - Farm Service Agency
        iii. Maryland's Best
    b. If there are more farm questions that you need answered, you can go on to the Farming & Agriculture FAQs tab
4. The Farming & Agriculture FAQs tab is there to help with any questions you may have in regards to the agriculture in Maryland
    a. There are 15+ questions you can select from and once you click on the search button
    b. Once you click on that, you will be given links that will have the answers to your questions.

Areas of Growth for Directory Tool

1. **Geolocation Mapping**
    a. **Problem:** The Farm Locator page currently has a map that doesn't serve an active role. It is manually tied to Mel 'n Nem Farms which adds a nice visual component, but it does not serve a purpose. This is mostly due to needing to pay for the Google Maps API to populate additional farm locations onto the map.
    b. **Idea 1:** The page would greatly benefit from a map that coincides with the farm that the user is searching for. For example, if the user were to press on a farm from the list, perhaps it could be linked to show the Google Maps location within the website.
    c. **Idea 2**: When users type a location into the search bar for the Farm Locator page, perhaps the map on the page could load in all of the farms that fit that criteria. In other words, when a user searches for farms in PG County MD, the map could update to show the location of all the farms in that region.
2. **User Interface**
    a. **Problem:** The interface and overall visual design of the website will need to be tweaked to better reflect the refined goals and theme of the Innovation Hub (once decided)
    b. **Idea 1:** Once the vision for the Innovation Hub is finalized, edit the visual design and/or layout of the website to be on-brand
    c. **Idea 2:** Include additional features that better encapsulate the mission and goals of the Innovation Hub
3. **Farming News Design**
    a. **Problem:** The design of the farming news generator is a bit static and bare bones although it does serve its intended purpose.
    b. **Idea 1:** Make the news feature more than a list of links, perhaps categorized by topic, date, or type. The way it's laid out can also be more visually appealing by using tables or image carousels to better organize the resources.
4. **Farming and Agriculture Q&A Functionality**

a. **Problem:** Currently, we have a list of predetermined frequently asked questions that users can reference. While this is helpful, this feature could benefit from a more intuitive design to make it even more helpful.
b. **Idea 1:** Have a hyperlinked list of frequently asked questions at the top of the, organized by type, that users can press on that will jump to the answer they are looking for on the page.
c. **Idea 2:** Revamp the Q&A feature completely and use AI services (such as OpenAI's ChatGPT) to allow users to create custom questions and generate and answer on the spot. This feature can be tweaked to provide a reliable source that supports the answer the AI generates.

Accessing the Directory

Administration may need to access the directory for the following reasons:

1. To manage an existing file in the Data Directory Tool's GitHub repository.
2. To deploy the Data Directory Tool's GitHub repository to a web service.

In order to access the directory tool, please follow the below instructions:

1. Navigate to https://www.python.org/downloads/
    a. Download the latest version of Python
2. Navigate to https://code.visualstudio.com/download
    a. Download Visual Studio Code for your device OS
3. Upon completion of steps 1-2, open Visual Studio Code:
    a. Execute the following from your keyboard together: CTRL + Shift + P
    b. Type: Python Select Interpreter
        i. Select your Python version.
    c. Install Python Extension in Visual Studio Code
    d. For more information to complete these steps please visit https://code.visualstudio.com/docs/python/python-tutorial
4. Navigate to https://github.com/
    a. If no account present, create an account on GitHub.
5. Navigate to https://git-scm.com/downloads
    a. Choose the Operating System for your device.
    b. Choose the version of Git for download.
6. Configure your created GitHub account with Git on your local machine
    a. Please see https://docs.github.com/en/get-started/quickstart/set-up-git for more details on how to complete this.
7. Navigate to the repository on GitHub for the directory tool and copy the link.
8. After copying the link, navigate to your device's terminal and run the following command:
    a. Git clone "repository url here inside quotes"
9. For more information on how to complete steps 7-8 please visit https://docs.github.com/en/repositories/creating-and-managing-repositories/cloning-a-repository

10. Once cloning the repository, navigate to the folder in Visual Studio Code.
11. Set up your virtual environment in Visual Studio Code
    a. Execute: CTRL + Shift + P
    b. Type: Python: Create Environment
    c. Choose: .venv
    d. Choose: Python download
    e. Select: include requirements.txt
    f. Create Environment
12. For more information on how to create a virtual environment please refer to https://code.visualstudio.com/docs/python/environments

Updating a File in the Data Directory Tool

To update a file in the Data Directory Tool, navigate to the file in the repository. Python and HTML files can be edited from Visual Studio Code, while Excel files must be edited from Microsoft Excel. Once edits are made to one or more files:

1. Navigate to the folder in Visual Studio Code
2. Once in the Data Directory Tool's folder in Visual Studio Code, navigate to the "Source Control" panel to commit changes.

Please visit https://code.visualstudio.com/docs/sourcecontrol/overview for more information on how to commit updated files.

Note: If you delete a file, this may affect content being displayed in the interface of the Data Directory Tool. Please delete files responsibly and with caution. And file deleted on accident, please revive it from a previous Git commit. Visit:
https://rewind.com/blog/recovering-deleted-files-in-github/

Deploying the Data Directory Tool to a Web Server

Currently, the Data Directory Tool is operated only on your local machine. This means that it is not present on the internet for others to use. To deploy the Data Directory Tool to the internet, we have made this easy by pre-packing everything needed into a GitHub repository. Most web servers will allow you to host this tool on a yearly or monthly subscription, giving you access to scale, manage, and secure the Data Directory Tool at your own will. Requirements include:

1. A deployment provider
    a. Choose what will be most convenient for your workload and budget resources.
    b. List of web servers to host can be found at https://www.python-engineer.com/posts/hosting-platforms-for-python/
2. Data Directory Tool GitHub Repository
    a. This is the GitHub repository that has all content and files for the tool (same folder from working in Visual Studio Code)
3. Necessary budget to cover the costs of hosting this Data Directory Tool