

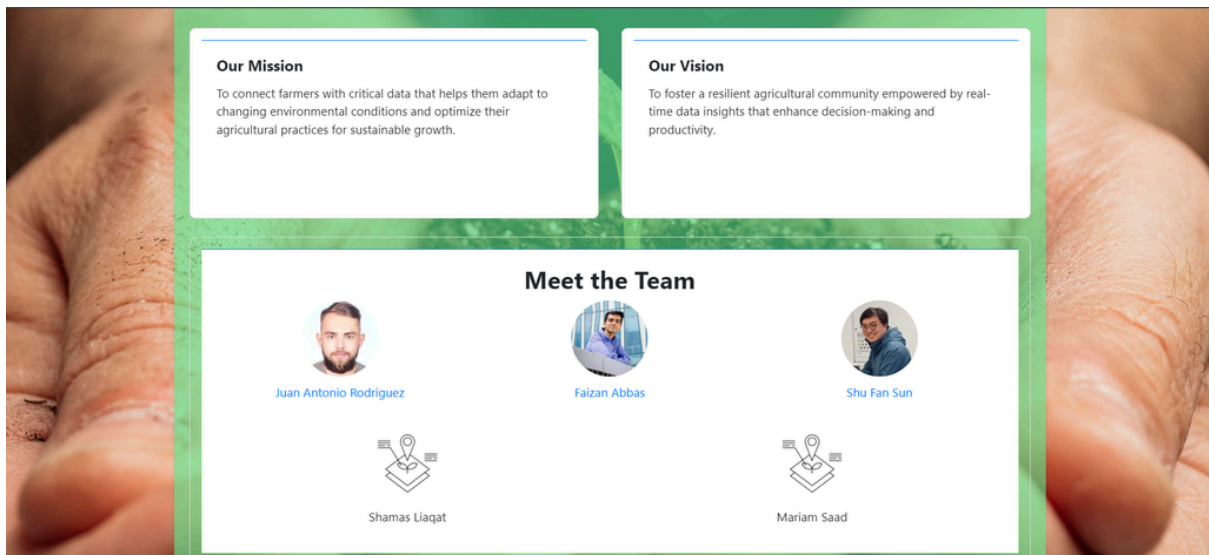
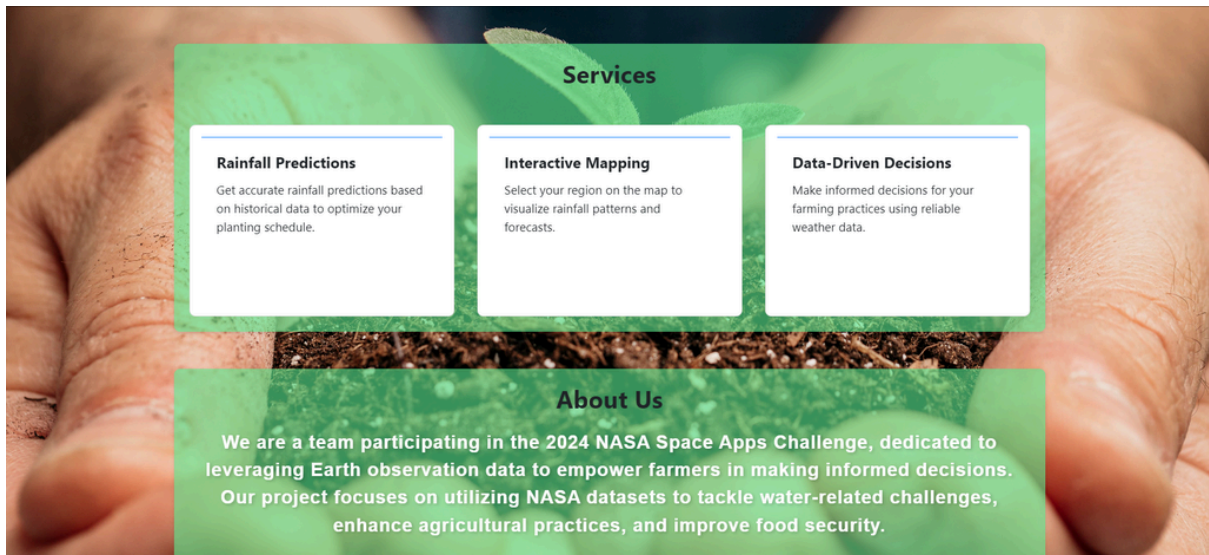
Project Details



We developed a website called Agri Men using Python and Django Framework. Agri Men offers a comprehensive and user-friendly interface for farmers to check the rainfall probability of thier local areas on a specfic date.

WELCOME PAGE

Once the user loads into the website, they will be greeted by the welcome **home** page:



This is one of our approaches to create a friendly atmosphere. The welcome page includes the description of the service, aiming to provide the user an insight of what they can do with the website, and what they can expect to gain with it. Scrolling down to the bottom of the page, we included a small section introducing the development team, the insight of our mission and vision.

Below this section, the user can easily spot the contact information of our team members, providing the user a straightforward contact to seek for help in case they encounter any problems while navigating through the website.

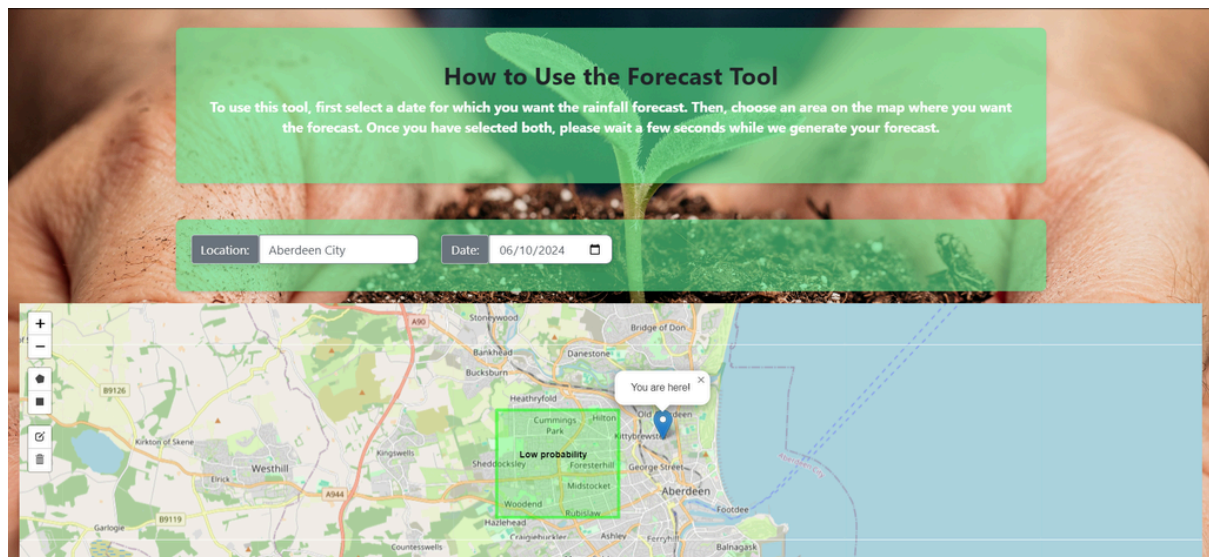
On the very top of the page, there is the **navigation bar** of the entire website.



The **help** tab leads the user to a dedicated help page with FAQs for easy troubleshooting; the **dashboard** tab leads the user to the page where the main functionality of Agri Men is present and the **home** tab will navigate the user back to the welcome page.

FORCAST TOOL

When the user loads into **dashboard**, they will be prompted a message by their browser to ask their permission for using location service data. Agri Men will **NOT** function properly if the user refuses to provide their location information. The location information is a crucial factor for Agri Men to process the data.



After accessing the user's location data, the integrated map will automatically display the map of the surrounding areas of the user. This is the reason Agri Men would like to take the user's location info: to provide a fast and simple experience for the user to locate themselves on the integrated map without scrolling through the entire world map.

As the guide suggests on top of the page, to access the forecast tool the user needs to use the drawing tool to draw a square or a polygon on the map to select a specific area they are interested in, along with the date they want to inquire. After this data is specified, Agri Men will send the data remotely to the server of ClimateSERV via their API to extract the corresponding rainfall data.

The rainfall data extracted from the remote dataset will include two days prior the selected date and two days after the selected date, from the previous two years.

For example:

If the user choose **7th October 2024**, Agri Men will ask the rainfall data of the following two period of time:

- **5th October 2022 to 9th October 2022**
- **5th October 2023 to 9th October 2023**

With this data, Agri Men will check the rainfall condition of the past two years for the region, and return a simple forecast of the rainfall probability of the user-desired date.

Finally, the result will be displayed as colour directly on the shape drawn by the user. A **RED** colour indicates high probability to rain; a **YELLOW** colour indicates average probability to rain and a **GREEN** coloured shape shows the user that there is hardly a chance to see the rain.

ADVANTAGES

With the help of Agri Men, farmers can easily predict the rainfall probability of their own region, and the result will be relatively trustworthy thanks to the mass datasets from the external sources. The flexibility of area choosing is also a feature of Agri Men. With the highly interactive map provided in the forecast tool, the user can easily adjust the shape of the area and the size of the area according to their interest. Lastly, with the colour coded shapes Agri Men provides informative but yet enough comprehensive results for the user.

FUTURE VISION

Currently Agri Men is still in its developing stage. In our vision we state that being able to provide a tool that can further enhance the agricultural community with all different kinds of data they need. Not only rainfall, extreme weather including heat waves and storms, pests and human interference are all important factors for the farmers. Fortunately, data is already available for many of these factors. The current Agri Men functions as a template for all the developers around the world to participate in this fantastic idea: providing a simple and straightforward user experience for normal people to have a chance to access those vast possibilities of data science.

TOOLS and LANGUAGES USED

Visual Studio Code

Django - Python 3.12

HTML

CSS

JavaScript

Visit our [GITHUB REPOSITORY](#) for more information.

Use of Artificial Intelligence

Throughout the development we use the following AI tools to enhance the speed and quality of our work:

1. ChatGPT
2. Google Gemini
3. Microsoft Copilot
4. GitHub Copilot

Space Agency Data

- [ClimateSERV](#)
- [AppEEARS](#)

References

- [Freepik](#)