

Hyacinth Scan





Team Members



Team Members

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Water Hyacinth



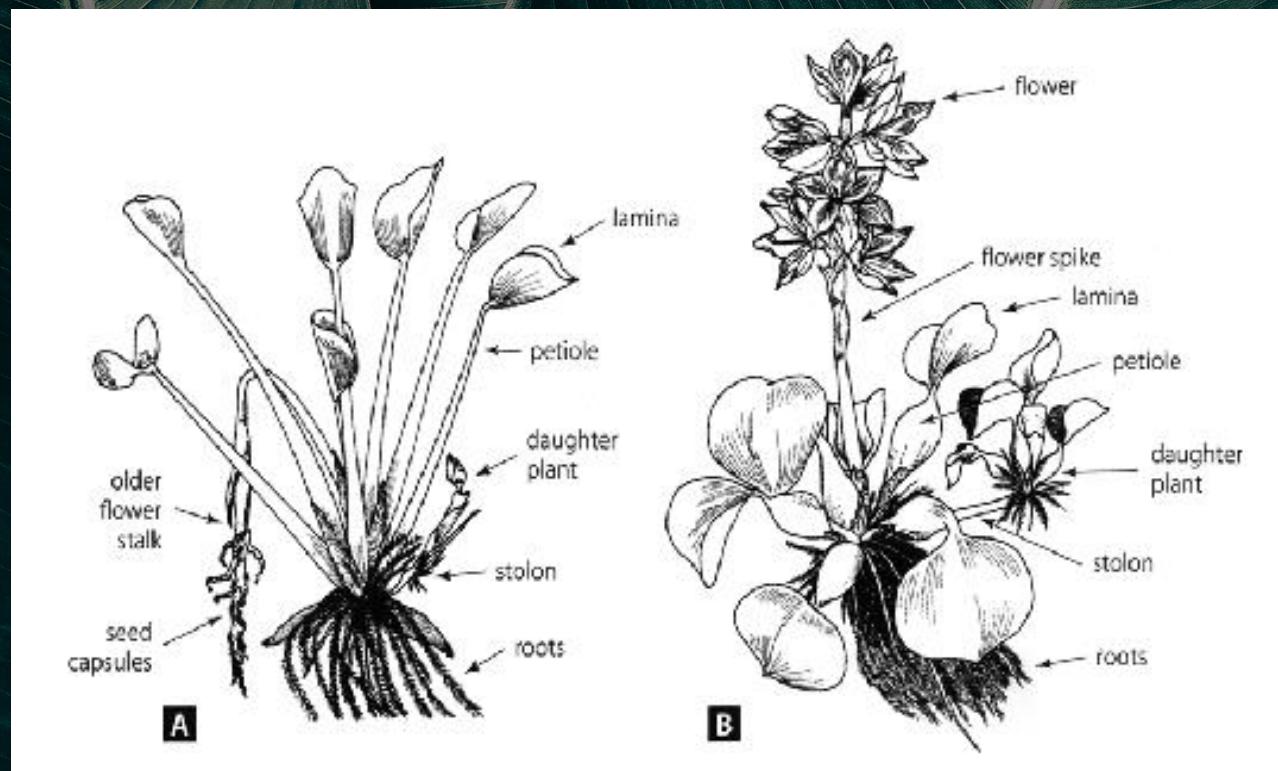
Water Hyacinth

- This plant is an invasive species originating from tropical regions of South America. It's seen as invasive, because of it's detrimental effects on aquatic ecosystems, and high cost of eradication.
- This project focuses on the use of a specific insect (*Megamellus scutellaris*) to control / eradicate the invasive plant.
- The purpose of this project is to automate the tracking and recording of the damage (scarring) done by the insect.
- A calibration cube is used to calculate the size and scale of the leaf.
- The main goal is to do calculations focusing on the lamina & scars found on the lamina.



Water Hyacinth

Water Hyacinth Plant Diagram



Water Hyacinth with scars





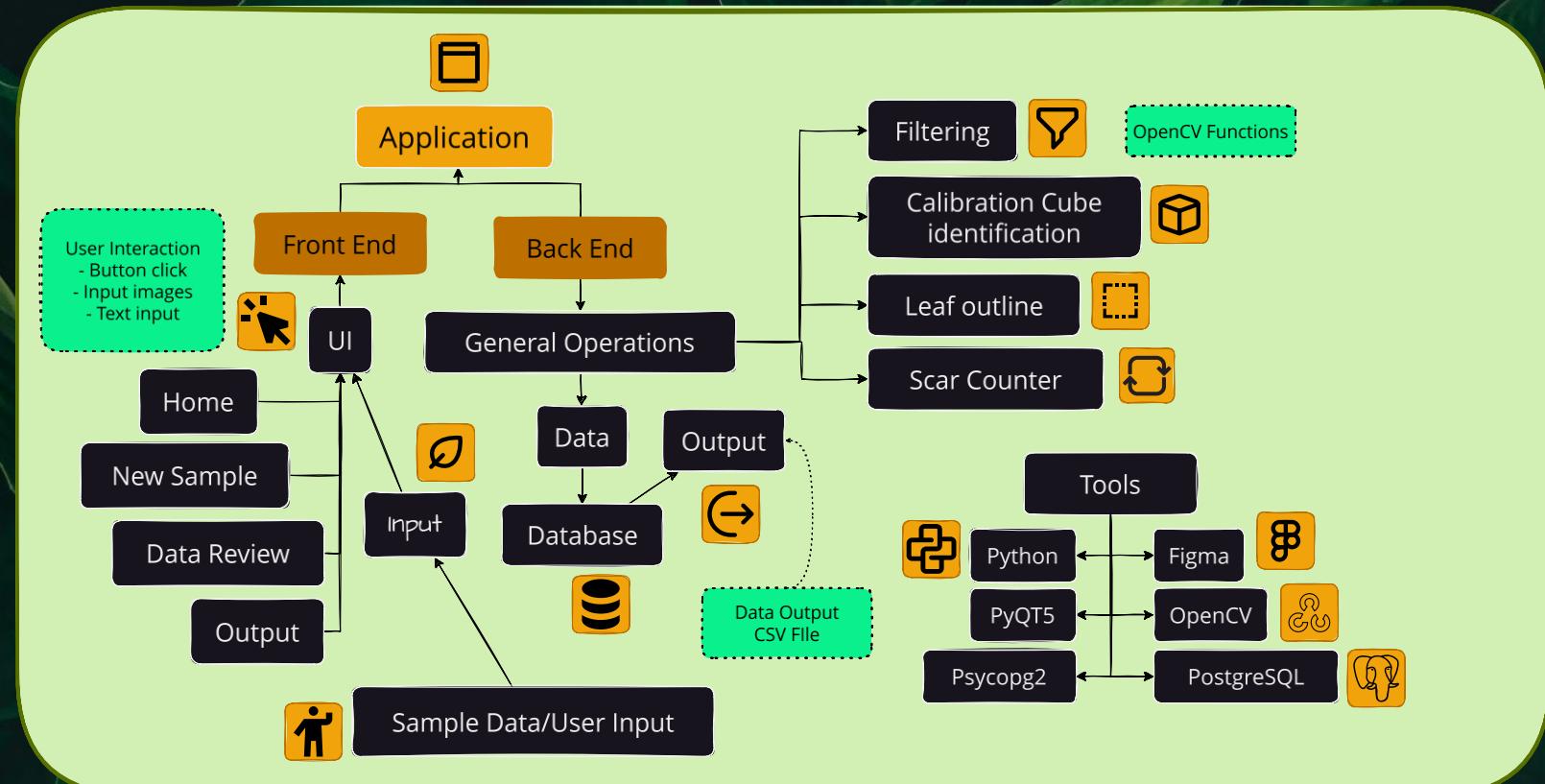
Details about application



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Tools Used:

- Python
- PyQt5
- PostgreSQL & psycopg2
- OpenCV
- Numpy
- Matplotlib
- Blender
- Figma





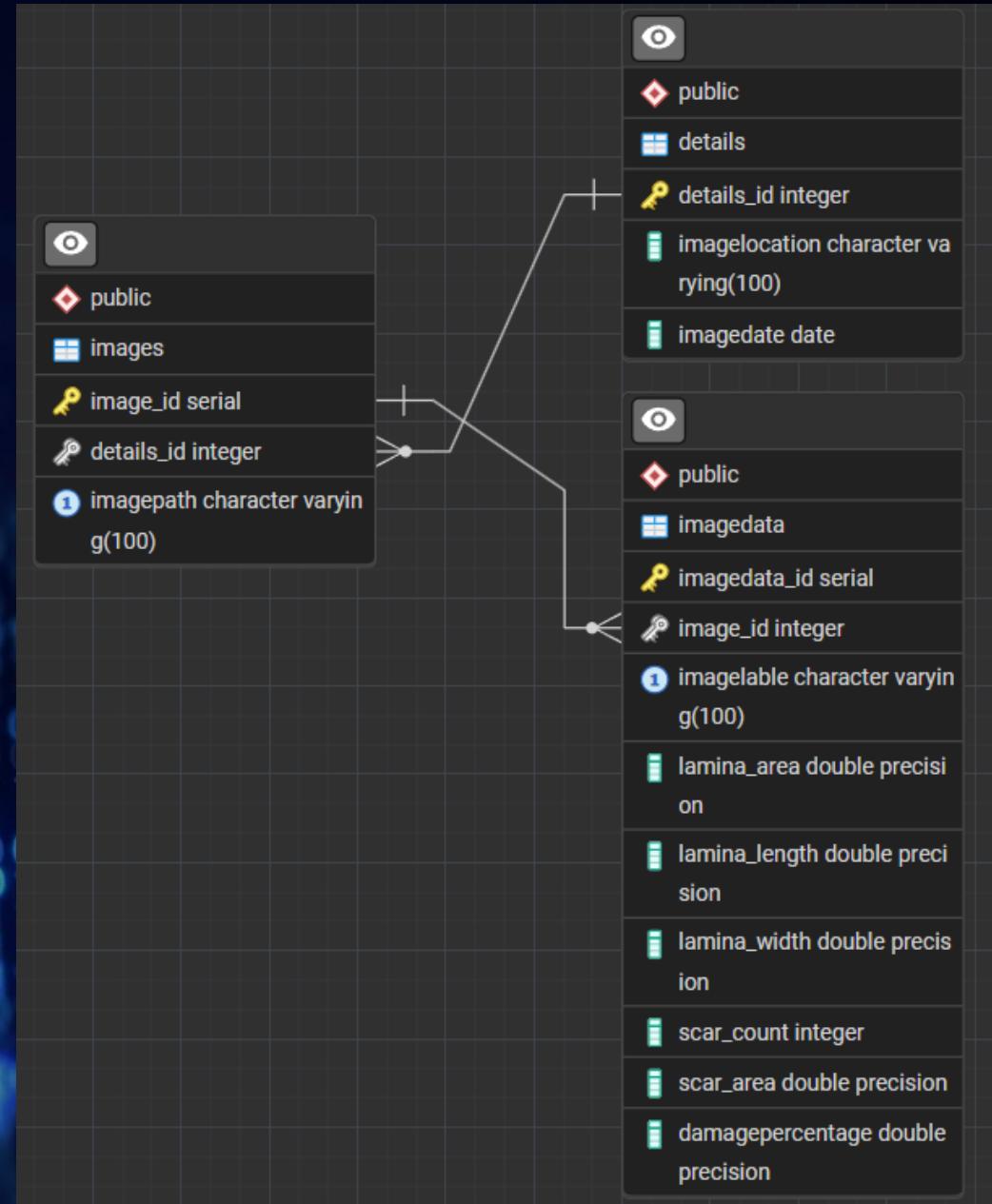
Database

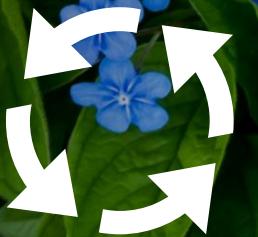


Database

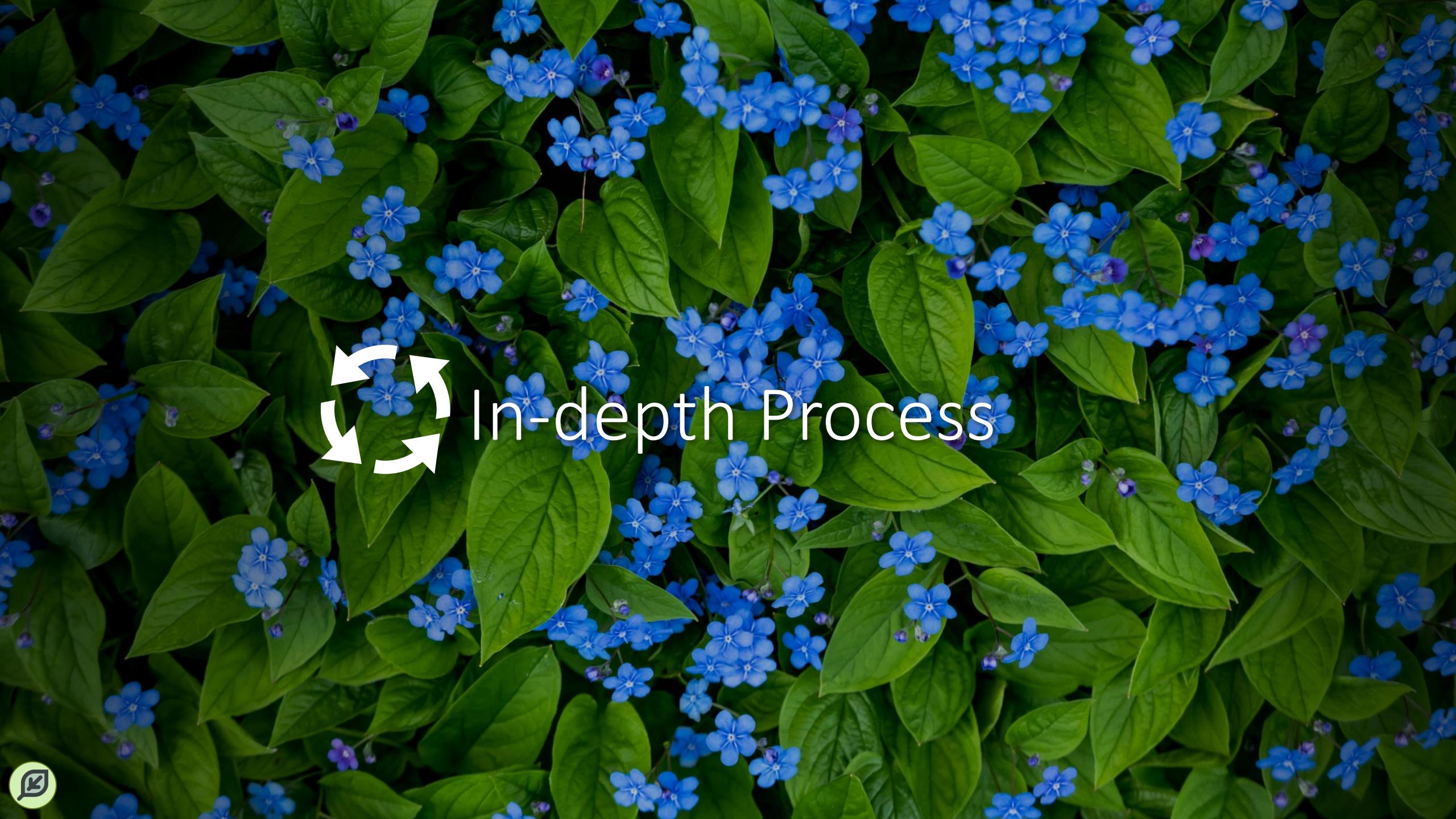
ERD of database

This is to give an indication of what data is being saved, what relationships currently exists inside the database and what the program is specifically focusing on





In-depth Process



Original Image

In-depth Process

Below are images of the image recognition process

This is to give an indication of how the program filters & processes the images, step by step

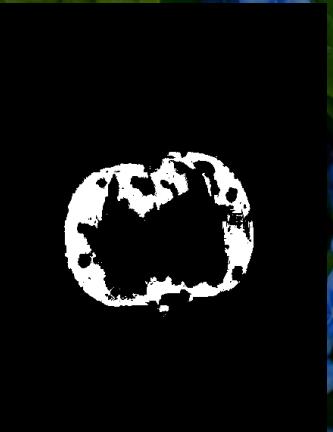
Yellow Mask



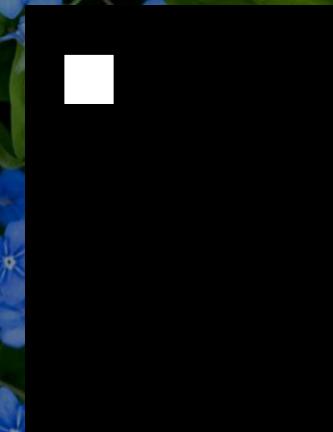
Brown Mask



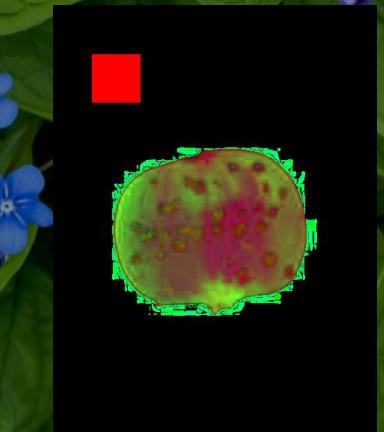
Green Mask



Cube Mask



HSV Filter



Leaf Mask





Live Demonstration

