

# Brainstorming, Idea Generation & Prioritization

## Project: *Pollen's Profiling: Automated Classification of Pollen Grains*

**Document Type:** Brainstorming, Idea Generation & Prioritization

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## 1. Idea Generation

Idea Description	Rationale
<b>Automated Pollen Classification Web App</b>	A Flask-based web UI to upload images and display CNN model predictions.
<b>Microscopic Image Enhancement Module</b>	Improve image quality to support better feature extraction.

Idea Description	Rationale
<b>Mobile Microscope Extension</b>	Attachable lens for smartphone cameras to capture pollen samples on the go.
<b>Pollen Allergy Dashboard</b>	Visualizes classified pollen types per region and severity info.
<b>Research API for Dataset Access</b>	Allows other labs to use and contribute to the pollen dataset.

## 2. Prioritization Matrix

Idea	Impact	Effort	Priority	Status	Comments / Justification
Automated Pollen Classification App	High	Medium	High	Selected	Core output of project: Enables realtime classification.
Microscopic Image Enhancement	Medium	Medium	Medium	Backlog	Useful but secondary. Added in future for improved preprocessing.
Mobile Microscope Extension	Medium	High	Medium	Deferred	Involves hardware. Suitable for future exploration.
Pollen Allergy Dashboard	High	Medium	High	Selected	Helps allergists and environmental monitoring agencies.
Research API for Dataset Access	Low	Medium	Low	Backlog	Enhances collaboration. Useful in longterm academic outreach.

### 3. Brainstorm, Idea Listing, and Grouping

Grouped into 3 main themes:

- **User-Centric Tools:** App, Dashboard, Mobile Microscope **Data &**
  - **Analysis:** Image Enhancement, Allergy Trends **Collaborative Tools:**
  - Dataset API, Visualizations for researchers
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### 4. Decision & Next Steps

#### ✓ Selected Ideas for Immediate Development:

?? Automated Classification Web App

?? Pollen Allergy Dashboard ✂

#### Next Steps:

?? Finalize UI/UX layout and deploy initial version of web app using Flask.

?? Build the allergy dashboard using prediction logs and classification metadata.

?? Document backlog ideas and consider in project iteration planning.

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