Problem-Solution fit canvas 2.0

1. CUSTOMER SEGMENT(S) — CS

Researchers, ecologists, biology students, conservation NGO'S, citizen scientists, and nature enthusiasts

6. CUSTOMER CONSTRAINTS — CC

Limited internet access in field, lack of species knowledge, limited access to butterfly experts, time constraints in research

5. AVAILABLE SOLUTIONS — AS

Printed field guides, online identification forums, manual comparison with online image results, generic image recognition tools

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Focus on J&P, tap into BE, understand

2. JOBS-TO-BE-DONE / PROBLEMS — J&P

Identify butterfly species quickly and accurately from images, support biodiversity tracking, and aid ecological studies

9. PROBLEM ROOT CAUSE — RC

Butterfly species are highly diverse and often visually similar; traditional ID methods are slow, subjective, and require expert input

7. BEHAVIOUR — BE

Take butterfly photos, upload them online or compare manually with images, post on forums asking for help

Focus on J&P, tap into BE, understand

Identify strong TR & EM

3. TRIGGERS — TR

Seeing a butterfly in the field, needing quick identification for research, interest in learning species, image posted on social media

4. EMOTIONS: BEFORE / AFTER — EM

- *Before:* Confused, unsure, overwhelmed with species info
- *After:* Informed, excited, confident in species recognition

10. YOUR SOLUTION — SL

An AI-powered web app using VGG16 model that classifies butterfly species from uploaded images in real-time, offering speed, accuracy, and ease of access for both experts and enthusiasts

8. CHANNELS of BEHAVIOUR — CH

8.1 ONLINE

Use of apps, Kaggle datasets, Flask web tool, Google searches, YouTube tutorials, GitHub

8.2 OFFLINE

Nature walks, printed guides, university labs, biodiversity workshops, field research expeditions

Extract online & offline CH of BE