

# AUTOMATED READING TO ASSESS THE SUSTAINABILITY OF SEAFOOD

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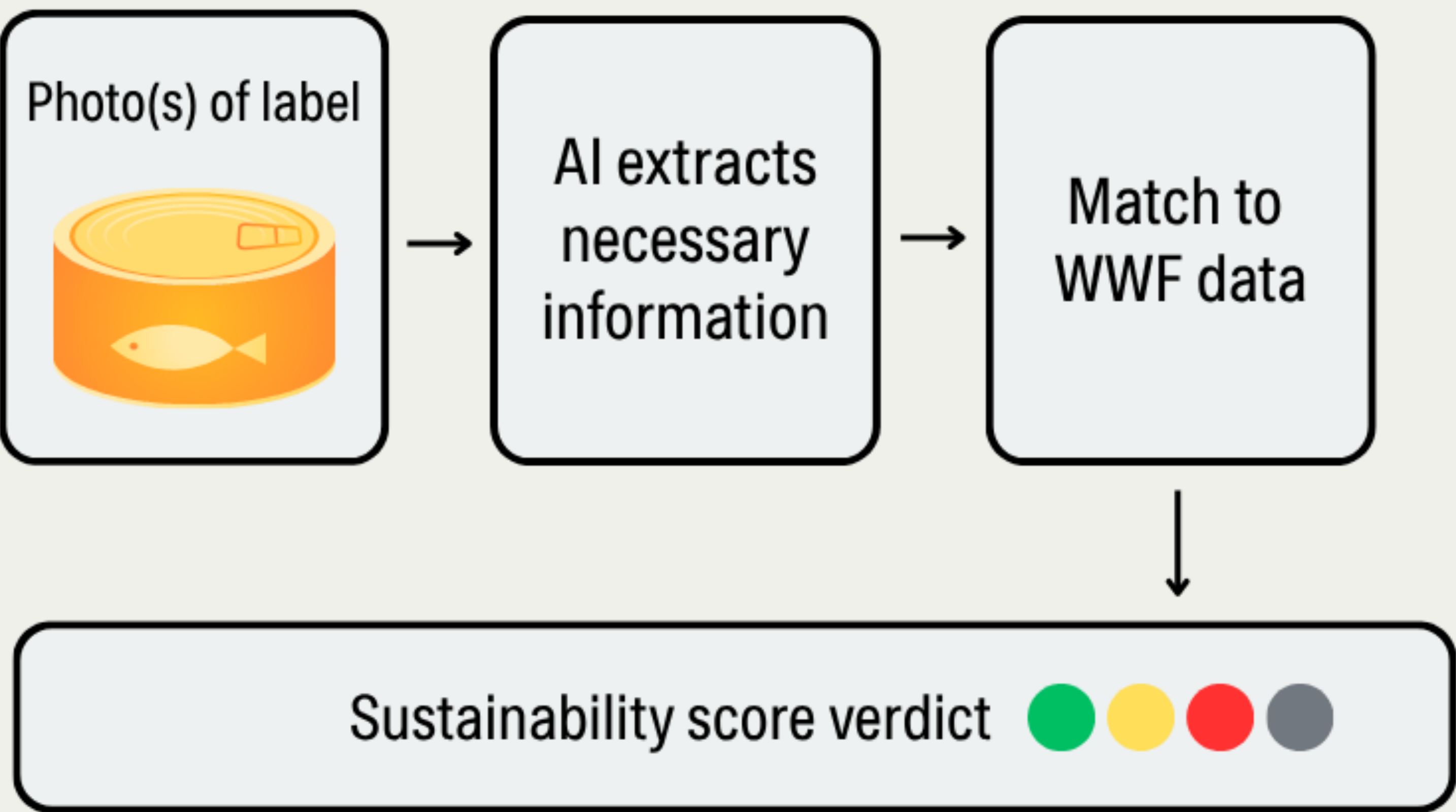
## THE PROBLEM

- The existing app only returns a sustainability score if the shopper manually types in the species, and searches manually the catch area and fishing or farming method themselves.
- Typing all of that in by hand at the point of purchase is slow, easy to get wrong, and assumes the shopper already knows terms most people have never heard of.

## THE GOAL

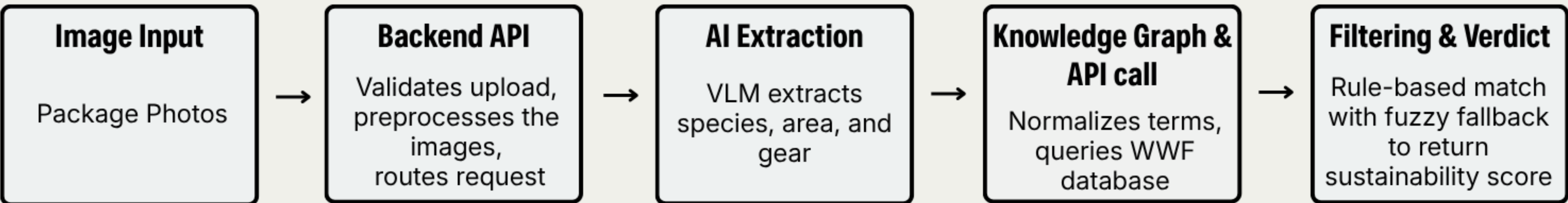
Let the shopper simply photograph the relevant information on the product package. The app reads the details on its own and returns an immediate, trustworthy green, yellow, or red verdict, with no typing required.

## HOW IT WORKS?



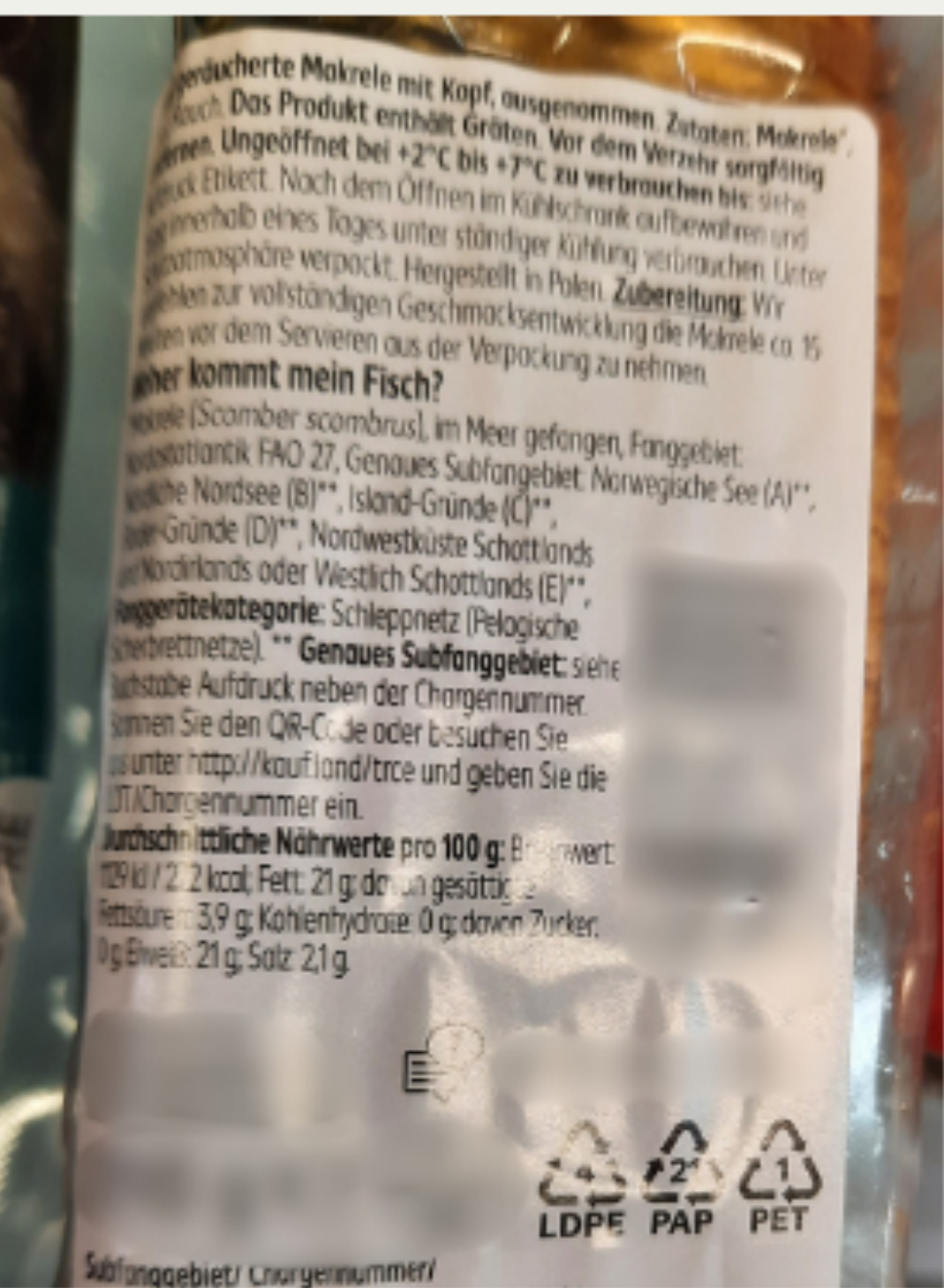
## SYSTEM ARCHITECTURE

Five stages carry a photo from customer's phone to a rating traced back to WWF's records



Built using Python on FastAPI for Backend and a live connection to WWF's Seafood Database

## WHAT THE CUSTOMER SEES



## UNDER THE HOOD

- No manual typing of species, area, or gear
- Verdict is traceable, built from the exact label details extracted
- Fast enough for point-of-purchase use, right in the aisle

```
species_common: Mackerel
species_latin: Scomber scombrus
area: FAO 27, Norwegian Sea
gear: Midwater otter trawls
verdict: Red (Better not)
```

## MAIN CHALLENGES ENCOUNTERED

- Extracting package data: Evaluating the trade-offs between OCR and LLM approaches
- Structuring knowledge graphs: Designing internal logic and rule engines
- Minimizing latency: Optimizing the overall workflow execution speed
- Evaluating the results: Constructing comprehensive test sets for accurate assessment

## FUTURE WORKS

- Improvement of the classification pipeline's latency and accuracy.
- Implementing confidence scores for model outputs.
- Expanding the system to support live-camera seafood sustainability assessments.