



Google Developer Group  
On Campus

# TechSprint



Leveraging the power of AI



## Team Details

**Team name:** Nooglers

**Team leader name:** Aditya Kumar

**Problem Statement:** Stop Losing Things and Stop Wasting Them



# Problem Statement

---

Every year, billions are lost due to misplaced items, unclaimed belongings, and unused resources resulting in:

- Economic Loss
- Time Inefficiency
- Environmental Strain
- Operational Friction
- Theft & Non Verified users
- Disorganized Storage



# Global Lost & Found Problem

## Real Numbers

- Lost & Found market valued at **\$7 billion+** worldwide and growing
- Airline baggage issues cost the industry roughly **\$2 billion+** annually worldwide

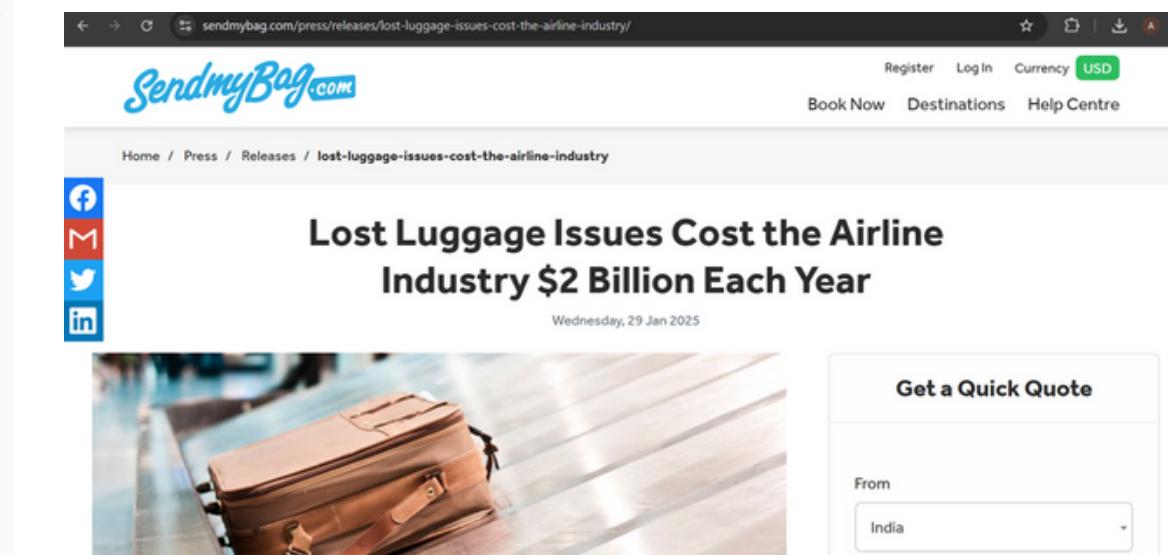


### Example: Travel-Related Loss (Global Impact)

Airline baggage issues globally cost the industry roughly **\$2 billion+** annually, with millions of bags lost or mishandled worldwide.

## Lost and Found Statistics

- According to lost and found statistics and a recently conducted survey, 60% of Americans have lost a personal item in the past year.
- The most commonly lost items are cell phones, followed by keys, wallets, and sunglasses.-
- The average person spends 2.5 days a year looking for lost items, according to the survey.
- 33% of lost items are never recovered, according to a study conducted by Kensington, a computer accessories company.
- The busiest time of year for lost and found departments is during the holiday season, with a 25% increase in lost items compared to the rest of the year.
- According to the Transportation Security Administration (TSA), in 2019, travelers left behind \$926,030.44 in loose change at airport security checkpoints in the United States.
- The most common items left on public transportation are umbrellas, followed by phones, keys, and wallets.
- In the United Kingdom, the most commonly lost item reported to the police is a set of keys, followed by a wallet/purse and a mobile phone, according to a study conducted by Churchill Home Insurance.
- The National Park Service reports an average of 1,200 lost hikers per year, with 98% of those hikers being found within 24 hours.
- In Japan, the most commonly lost item is an umbrella, with over 5 million umbrellas left behind each year.



sendmybag.com/press/releases/lost-luggage-issues-cost-the-airline-industry/

SendmyBag.com

Register Log In Currency USD

Book Now Destinations Help Centre

Home / Press / Releases / lost-luggage-issues-cost-the-airline-industry

Lost Luggage Issues Cost the Airline Industry \$2 Billion Each Year

Wednesday, 29 Jan 2025

Get a Quick Quote

From India





# Proposed AI-Based Solution

## LLM-based Semantic Matching

LLM based search matches items based on the meaning rather than just keywords

## Blockchain-Verified Handover Proof

Provides secure and verifiable confirmation of item handover.

## Threshold-Based Confidence Filtering

Only matches greater than the threshold are revealed which reduces false positives.

## Multimodal AI Matching (Image + Text)

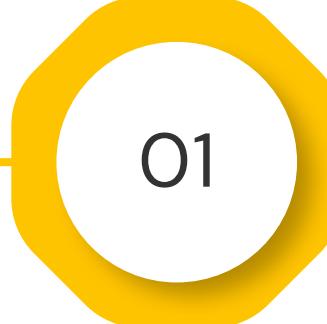
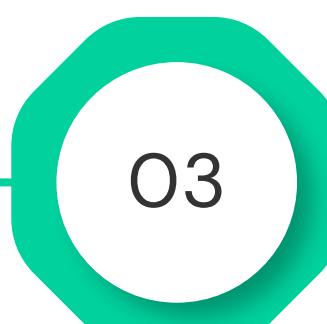
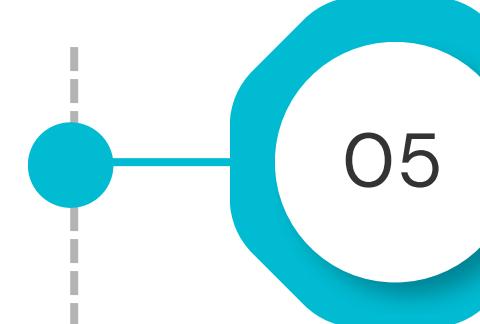
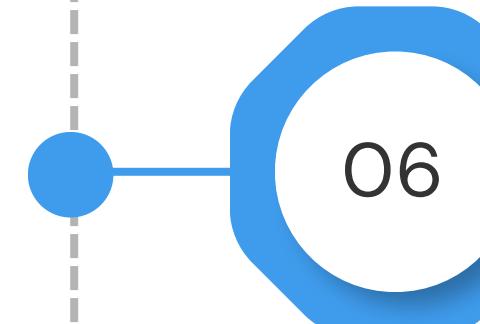
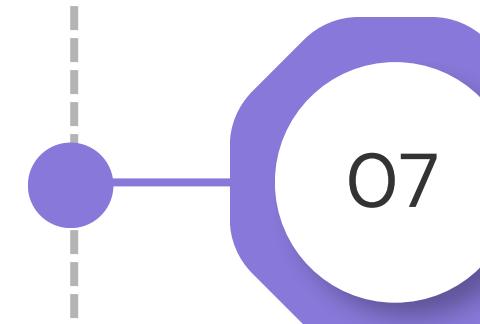
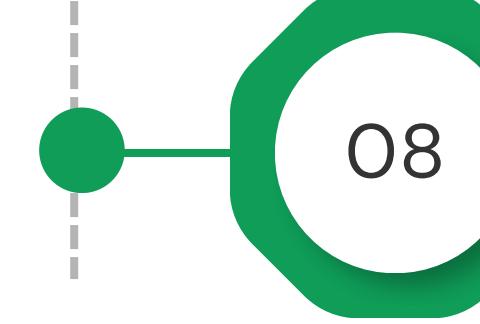
The system supports cross-modal retrieval and enables participation even when users lack item photos.

## How is it different from existing solutions ?

- **AI-Powered Item Recognition**
- **Interactive Geolocation Mapping**
- **LLM Vector-based Semantic Matching**
- **CCTV footage to detect lost items**
- **Credits System**
- **High-Risk Zone Heatmap**
- **Real-Time Analytics Dashboard**



# Key Features

-  **AI-Powered Item Recognition**  
Upload images and let AI identify and describe items
-  **Vector-based Semantic Matching**  
Search which matches items based on meaning rather than just keywords
-  **Interactive Geolocation Mapping**  
Allows precise pinpointing of where items were lost or found
-  **Blockchain-Verified Handover Proof**  
Provides secure and verifiable confirmation of item handover.
-  **Real-Time Analytics Dashboard**  
Monitor live metrics and active matches in real-time.
-  **Credits System**  
Encourages user participation through a reward mechanism.
-  **High-Risk Zone Heatmap**  
Visualize high-risk zones with real-time geospatial heatmap.
-  **AI CCTV Item Detection**  
Enables automatic detection of lost items from CCTV footage.





# Use of Google Technologies



## Cloud Infrastructure Layer

Google Cloud Platform (GCP) – Hosts the overall backend infrastructure and APIs.



## AI models (Gemini)

State of the Art Gemini models for Text and Image



## Data Storage Layer

Firebase Storage – stores images securely & Firestore – Manages item metadata and claim states.



## Location Context

Google Maps – enables basic location tagging and proximity-based ranking.



## Gmail

Gmail for notifications and Handover claims portal link and code



## Security & Identity Layer

Firebase – Authentication verifies users & Cloud IAM manages role-based access control.



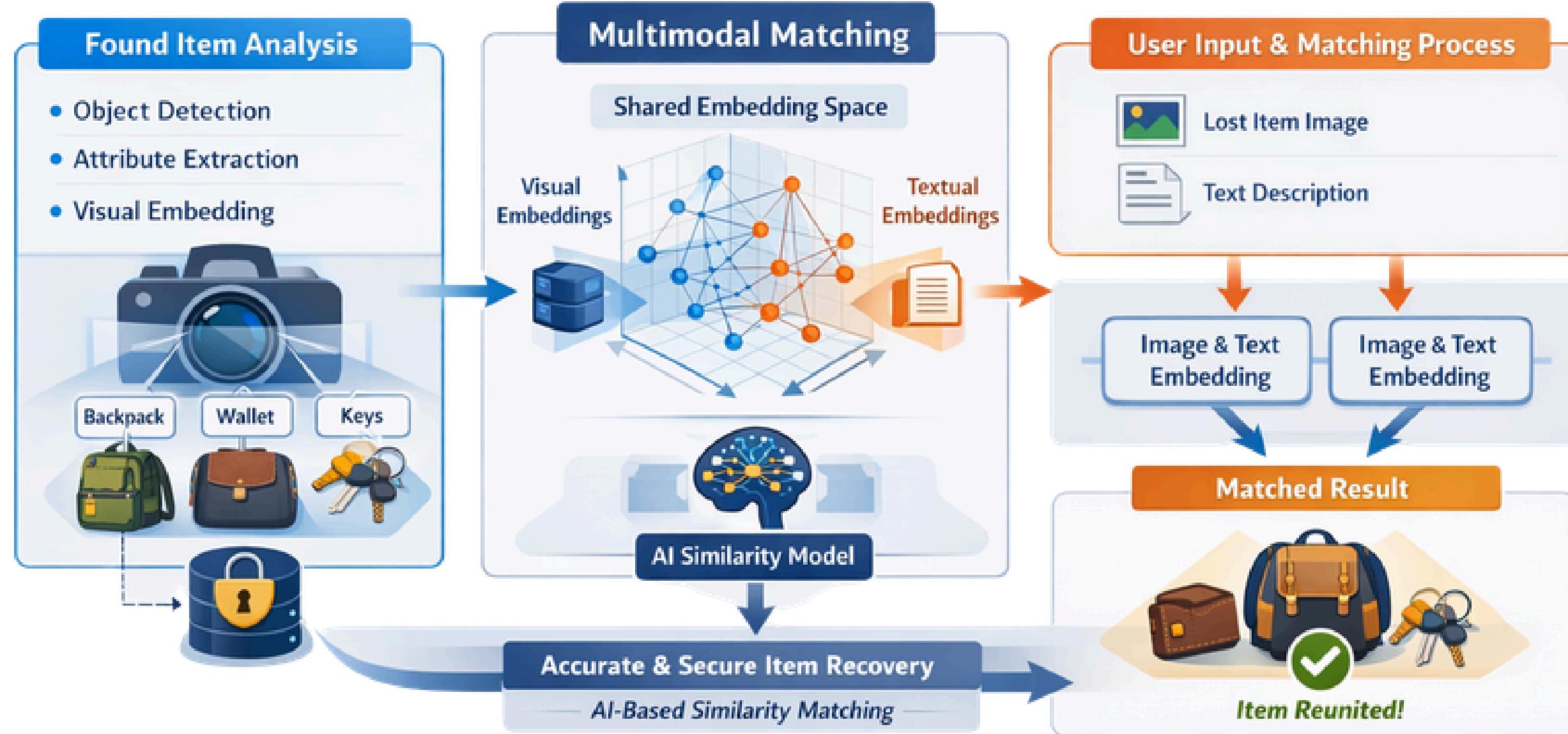


# Process Flow Diagram





# Proposed AI Architecture



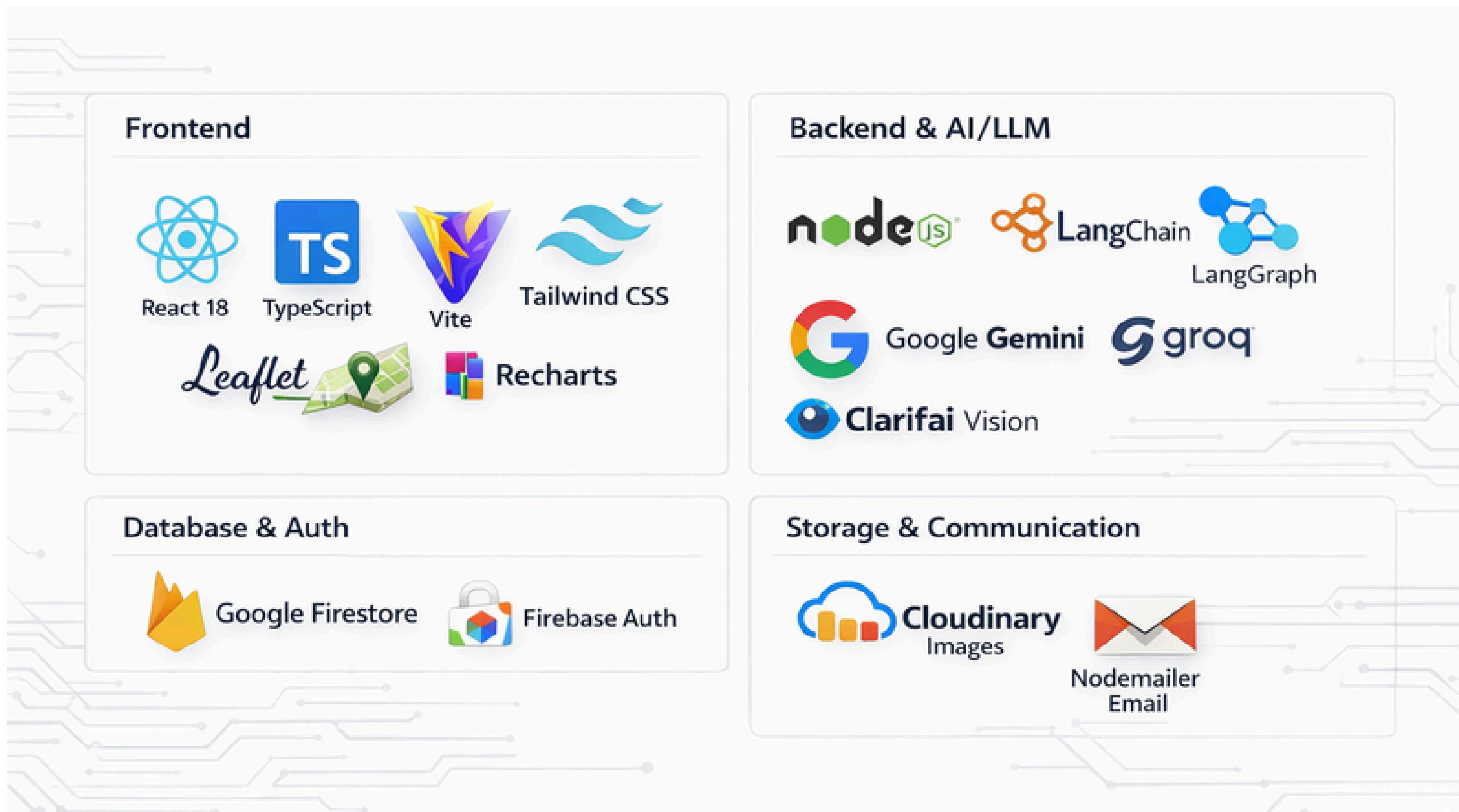
We propose a privacy-preserving, AI-driven Lost & Found system that leverages computer vision, multimodal embeddings, and semantic similarity matching to reconnect lost items with their rightful owners while preventing fraudulent claims.

**AI-Powered Lost & Found System**  
Privacy-Preserving & Fraud-Resistant





# Tech Stack





# Snapshots of the MVP

 ReClaim AI

Features   How it Works   About

Sign In

Get Started

 Powered by Google Gemini AI

## Reunite with Your **Lost** **Items**

ReClaim AI uses advanced image recognition and natural language understanding to match lost items with found reports. Finding what you've lost has never been easier.

Report Lost Item 

Report Found Item 





# Snapshots of the MVP

ReClaim ADMIN WS

OVERVIEW

- Dashboard Last updated: 5:35:12 PM ↻
- All Items 7
- Matches 1

MANAGEMENT

- CCTV Intelligence
- Handovers
- Users

ADMIN

- Pending Approvals 1
- Settings

## Dashboard Overview

AI-powered insights for your lost & found system.

7  
Total Items  
Lost + Found Items

1  
Active Lost  
Awaiting match

3  
Total Matches  
AI matches found

4  
Claimed  
Successfully handed over

1  
Pending Review  
Items to process

86%  
Match Rate  
Overall efficiency

### Match Score Distribution

Score Range	Count
0-30%	0
31-50%	0
51-70%	1
71-100%	2

● 0-30% ● 31-50% ● 51-70% ● 71-100%

### Matches Over Time

Day	Matches
Tue	0.0
Wed	0.0
Thu	0.0
Fri	0.0
Sat	0.0
Sun	0.0
Mon	2.8



# Snapshots of the MVP

Complete record of verified item exchanges

Search by ID, item name...

ReClaim ADMIN

OVERVIEW

- Dashboard
- All Items
- Matches

MANAGEMENT

- CCTV Intelligence
- Handovers
- Users

ADMIN

- Pending Approvals
- Settings

# 4at4gbMMcaRI... 84% Match Jan 19, 2026, 03:49 PM Completed

Lost Item Details

Name: Arctic Fox Gaming Mouse

Description: The Arctic Fox Gaming Mouse is a red wired computer mouse with a sleek design and ergonomic shape. It features a white logo of a fox on...

Location: R. V. College of Engineering, Global Village Road, Sattva Global City, Bengaluru - 560059, KA, India

Date: Jan 16, 2026, 03:57 PM

Color: Red



Reporter

vineys.btech23@rvu.edu.in  
Vinay S

Found Item Details

Name: Arctic Fox Gaming Mouse

Description: A red computer mouse with a white logo of a fox's head and the text 'ARCTIC FOX' on the side. The mouse has a black scroll wheel and blue...

Location: RV University, Way to admission office, Dubasari Palya, Bengaluru - 560059, KA, India

Date: Jan 16, 2026, 03:48 PM

Color: Red



Finder

nightcodervms.007@gmail.com  
Night Coder

HANDOVER ID: 4at4gbMMcaRIY1C0CnER MATCH ID: c6HtH22x15ah18wEXZ0I MATCH CREATED: Jan 19, 2026, 03:49 PM CLAIMED AT: Jan 19, 2026, 03:49 PM

Lost Item ID: 7pb52dFz110q1MuWfH7Dv Found Item ID: DrPjH0zucoMyU7koC06X View on EtherScan





# Snapshots of the MVP

**Report Lost Item**



**Item Name \***  
Silver Car Key Fob

**Description**  
The item is a car key fob with a sleek, silver design and a black face featuring several buttons. It has a metal key attached and a keyring at the top, likely for

**Tags**  
silver × car key × key fob × black buttons ×  
metal key × keyring ×

Add more tags (press Enter)

**Report Found Item**



**Item Name \***  
Black Anker Soundcore Space Q45 Wireless Headphones

**Description**  
The item is a pair of black over-ear wireless headphones with a sturdy headband and foldable design. The ear cups are circular and have a smooth

**Tags**  
black × Anker × Soundcore × wireless ×  
headphones × over-ear × foldable ×  
good condition ×

Add more tags (press Enter)





Google Developer Group  
On Campus

# TechSprint



Leveraging the power of AI



# Thank you!

