

TRACK MY THINGS

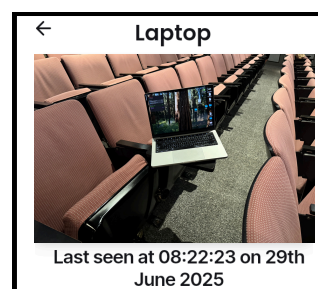
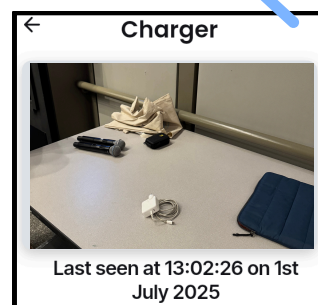
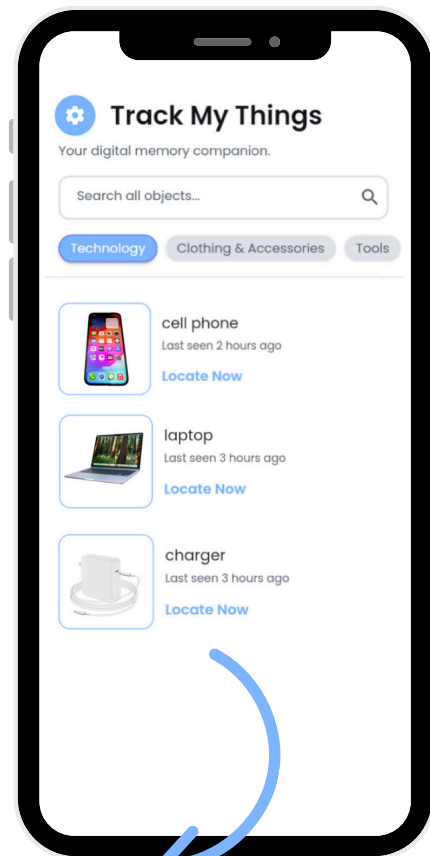
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PROBLEM STATEMENT

The average person loses nine items each day causing significant time loss, frustration, and decreased productivity. This is especially true for individuals with neurodivergent conditions, or elderly citizens. TrackMyThings (TMT) addresses this widespread issue by offering a reliable, AI-driven solution by helping users quickly locate their belongings.

HOME PAGE



FIREBASE

detected_objects

Schema

Field Name	Data Type
confidence	Double
last_seen_image	Image Path
object_image	Image Path
object_name	String
object_id	String
room_name	String
track_id	Integer
similarity_score	Double
last_seen_timestamp	String

CONTACTS



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METHODOLOGY

RESEARCH



Reviewed other solutions in the market eg. AirTags & their limitations. Explored computer vision techniques suited to similar use cases.

DATASET SELECTION & TRAINING

Evaluated several datasets online and chose the Google Open Images V7 dataset and used a YOLOv8 model which was pre-trained.



MODEL & FRONTEND DEVELOPMENT



Created a video-detection model using YOLO + ByteTrack + Re-ID methods. Integrated FireBase to store the data. Developed the UI using FlutterFlow.

TESTING

Tested the system with diverse videos to verify consistent object detection, reliable re-identification and correct room matching.



FEATURES

- Ability to search through a database for a particular object.
- Access to image of object where it was last seen and timestamp.
- Ability to identify rooms based on their features.

RESULTS

- Built a working prototype to detect, track & identify objects.
- Implemented Re-ID to distinguish similar objects.
- Integrated room identification with a ResNet50 feature extractor to identify the current room.
- Developed a mobile app on FlutterFlow.

BUSINESS MODEL

- The hardware will be a one-time purchase of approximately \$200 for detecting 600 objects
- Competitive products like AirTags usually cost approximately \$30 per product.

REFERENCES

<https://www.mdpi.com/2076-3417/10/21/7834#B6-applsci-10-07834>
<https://www.mdpi.com/1424-8220/23/15/6887>
<https://arxiv.org/pdf/2506.13457>

