



ReHome



# IGP TEAM 10

CONNECTING DONORS WITH CHARITIES

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August 2024



# INTRODUCTION TO REHOME

## VISION

To connect donors and charities seamlessly, we aim to turn reusable household items into meaningful support for those in need, reducing waste and amplifying generosity.

## MISSION

ReHome's mission is to empower donors with personalized charity connections using data and machine learning to match their values and interests.

# PROBLEMS

WE WILL SOLVE THE PROBLEMS



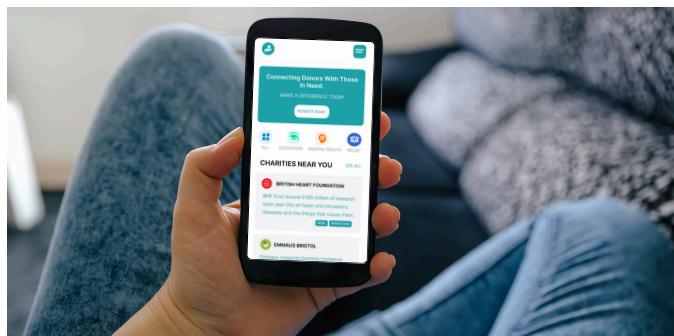
- 01 Waste of Reusable Household Items

- 02 Overwhelming Number of Charity Options



# SOLUTIONS

## PROJECT OBJECTIVES



01

Create a Donor-Charity Connect Platform

02

Build a Recommendation System to Match Potential Donors to Charities

# METHODOLOGY



## Data Collection

- Data Sources:
  - Donor data was generated using Fakery for generating fake data
  - Charity data was collected from UK Charity Commission, and CharityBase website

## Prototyping and UI Design

Figma: We utilized Figma for designing and prototyping the app interface



## Data Cleaning & Transformation

- Pandas:  
Data Cleaning,  
Transformation
- Google API: Extraction of geopoint from postcode



## Recommendation system Building:

- Haversine formula for geolocation-based recommendations.
- Cosine similarity Content-Based Recommendation to match donor preferences with charity causes.

# PROTOTYPE UI DEMO



# USER JOURNEY

## VISUALIZING THE JOURNEY

### Recommendation Storage

- Store Results as Key-Value Pairs → Quick Retrieval

### Account Creation

- User Sign-Up → POST user data to Database → Capture Interests and Location

### Charity Recommendations

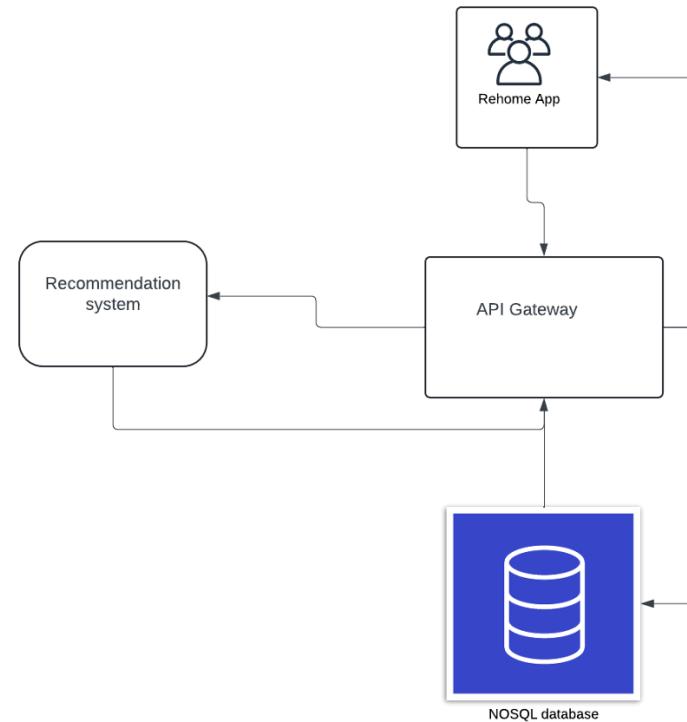
- Database → GET Charity Profiles → Display to User

### Ongoing Preferences Update

- Recommendation Algorithm Update → Process Data → Refine Recommendations

### User Interaction and Feedback

- User Actions → Update Recommendations → Enhanced User Experience



# DEMO - RECOMMENDATION SYSTEM



ReHome

HOME

LOGOUT

## Rehome Recommendation System

### Scenario Descriptions

- **Scenario 1:** donor wants the closest charities.
- **Scenario 2:** donor wants charities of his preference.
- **Scenario 3:** donor wants a mix of both charities which represent causes they support and charities close to them.

Enter Donor ID:

0

- +

Select Scenario:

1

▼

Select Radius for Nearby Charity Search (miles):

1

1

100

Get Recommendations

# CONCLUSION



## KEY BENEFITS OF REHOME

- 01** Optimized Resource Allocation
- 02** Enhanced Waste Reduction
- 03** Extends the lifecycle of household items and supports sustainability

## RECOMMENDATIONS:

- Develop the Complete ReHome Platform Application
- Deploy Recommendation System: Implement and launch.
- Add Features: Update based on feedback and needs.