Where's My Pie?

A Lost and Found Web Application by

Team TreeNoPie

412850181 陳品妤 412850041 李采真 412850066 鄭昀婕 412850249鄭子筠 412850306曾冰雁

Project Overview

- Designed for campus communities

- Two-way verification for found and lost items

- Accessible, user-friendly interface

Core Features

- User account management with secure authentication

- Found item reporting with photo upload

- Advanced item search and filtering by categories

- Secure claim request system with evidence upload

- Private messaging after successful claims

- Customizable contact visibility settings

- User profile management

- Dashboard for managing items and claims

System Architecture

- Frontend: HTML5, CSS3, JavaScript (no frameworks)
- Backend: PHP 7.4+
- Database: MariaDB 10.3+
- Web Server: Apache2
- Platform: Raspberry Pi Zero 2W

Database Design- User

Column	Type	Key
user_id	INT, AUTO PK	PK
username	VARCHAR(50)	UNIQUE
password	VARCHAR(255)	
email	VARCHAR(100)	UNIQUE
phone	VARCHAR(20)	
profile_photo	VARCHAR(255)	
contact_visibility	VARCHAR(10)	
created_at	TIMESTAMP	

Database Design- Item

Column	Type	Key
item_id	INT, AUTO PK	PK
title	VARCHAR(100)	
description	TEXT	
category	VARCHAR(50)	
location	VARCHAR(100)	
date_found	DATE	
photo_path	VARCHAR(255)	
status	ENUM	available, claimed
user_id	INT	FK → User
created_at	TIMESTAMP	

Database Design- Claim

Column	Type	Key
claim_id	INT, AUTO PK	PK
item_id	INT	FK → Item
user_id	INT	FK → User
description	TEXT	
evidence_img	VARCHAR(255)	
status	ENUM	pending, approved,rejected
created_at	TIMESTAMP	

Database Design- ChatMessage

Column	Type	Key
message_id	INT, AUTO PK	PK
claim_id	INT	FK → Claim
user_id	INT	FK → User
content	TEXT	
created_at	TIMESTAMP	

Key Relationships

- **User-Item (1:M) :** A user (finder) can submit multiple items.

- **User-Claim (1:M) :** A user (claimer) can make multiple claims.

- **Item-Claim (1:M) :** One item can have multiple claims, but only one can be approved.

- **Claim-ChatMessage (1:M) :** Each approved claim enables a chat thread.

- **User-ChatMessage (1:M) :** Users send messages in chat threads.

Usage Workflows

- Found Item Reporting: Login → Report → Upload → Submit

- Lost Item Claiming: Search → Claim → Wait → Chat

Quick Setup Requirements

- Raspberry Pi Zero 2W
- 16GB microSD card
- DietPi
- Internet connection

Project Structure

```
WheresMyPie/
├── public_html/           # Web root directory
│   ├── auth/              # Authentication (login, register, reset password)
│   ├── items/             # Item management and search
│   ├── claims/            # Claim request and review
│   ├── user/              # Profile management and dashboard
│   ├── chat/              # Private messaging system
│   ├── errors/            # Error pages
│   ├── assets/            # Static resources
│   │   ├── css/           # Stylesheets
│   │   ├── js/            # JavaScript files
│   │   └── images/        # Image resources
│   ├── uploads/           # User uploaded files
│   │   ├── items/         # Item photos
│   │   ├── evidence/      # Claim evidence
│   │   └── profiles/      # Profile photos
│   └── includes/          # Core PHP components
├── sql/                   # Database schema and migrations
├── private/               # Server-side only files
│   └── logs/              # Application logs
└── doc/                   # Documentation files
```

Security Features

- Password hashing using password_hash()

- SQL injection prevention via PDO prepared statements

- Input sanitization & output escaping for XSS protection

- Secure file uploads with type and size validation

- User privacy controls with visibility settings

- Session-based authentication system

- Protected upload directories and custom error handling

Links

- https://github.com/1renemicooo/WheresMyPie

- https://youtu.be/egZ7b74k1uw?si=uzfh9NVGE0thsROG

Thank You!

- Team TreeNoPie
- Where's My Pie? 😖 - Your Campus Lost & Found Solution