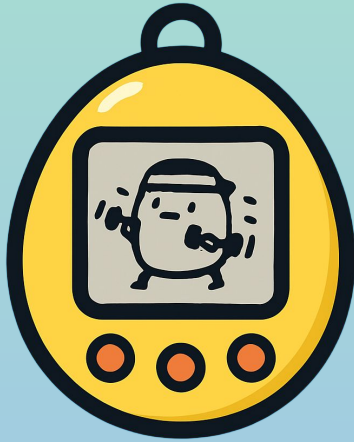


# GoPal: Your Fitness Companion

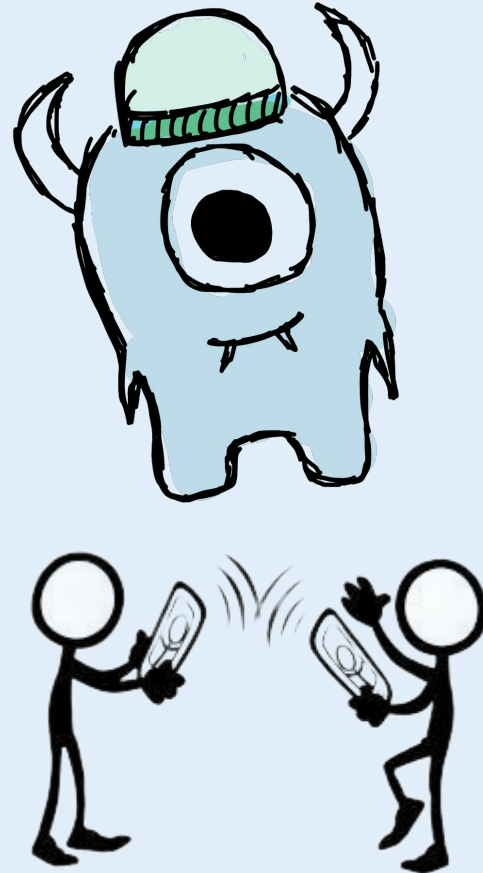


## Team Name: GoPalz

- Ben Atkinson (GitHub: beat2319)
- Rane Gray (GitHub: ranegray)
- Ana Manica (GitHub: anamanica)
- Benjamin Mast (GitHub: Ben-Mast)
- Samuel Ramirez (GitHub: samuelARamirez)
- Aisli Steele (GitHub: aist6825)

# Project Description

- Fitness app with a virtual character linked to your activity data
- Character grows and evolves based on your physical activity
- Safety alerts for outdoor conditions (weather, air quality)
- Social interaction - connect with friends and their characters





## Who is GoPal For?

- People who enjoy virtual pets
- Athletes looking for motivation
- People who want more reasons to get out of the house
- Individuals who want to make exercise more entertaining
- Users who appreciate a blend of fitness tracking with gamification elements

# Our Vision

- Our Vision: "To provide users with fun companions to support their exercise desires. GoPal is an exercise-tracking means to raise and develop a strong companion while improving oneself."
- How We're Different: Unlike apps like Pokemon Go, which emphasizes development of NPCs, GoPal prioritizes user health/activity over all else.



## **Key Features:**

- User account management/customization with secure authentication
- Activity logging with duration, distance, and notes
- Character customization (name, color, hats) and progression
- Weather and air quality alerts
- Journaling and note taking
- Social connection
- Achievement system for motivation

# Hosting Setup

- Hosting on Google Cloud Platform (GCP).
- GCP offers scalability and reliability.
- 5000+ requests from Singapore
- Cronjob to bypass google cloud run cold start.
- Cloudflare for domain registration and dns



# Tech Stack / Tools

- **Frontend:** HTML/JS ★★★★★, Handlebars ★★★, Tailwind ★★★★★
- **Backend:** Node.js/Express ★★★★★
- **Database:** PostgreSQL ★★★★★
- **Version Control:** Git and Github ★★★★★
- **Project Management:** GitHub Projects ★★★★★
- **Testing:** Mocha, Chai ★★★
- **APIs:** OpenWeather, Geolocation, REST Countries ★★★★★
- **Deployment:** Render ★★★, Google Cloud Hosting ★★★★★
- **Containerization:** Docker ★★★★★
- **Hashing:** BcryptJS ★★★★★
- **More Dev Tools:** Nodemon, Concurrently, Express-Session ★★★★★

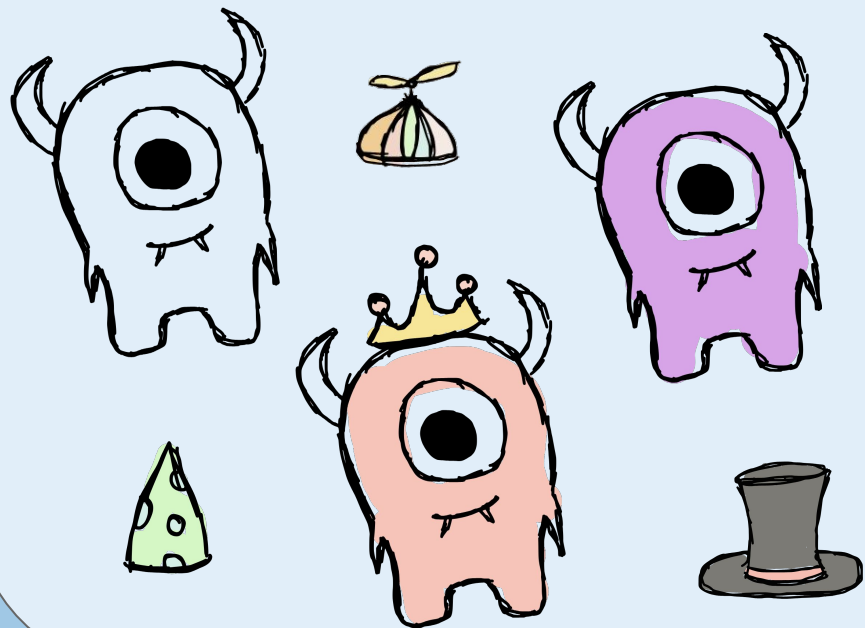
## GoPal Architecture Diagram



# GoPal Architecture

- Client Layer (Browser Interface)
- Presentation Layer (Handlebars, TailwindCSS)
- Application Layer (Node.js, Express)
- Data Layer (PostgreSQL)
- External Services (OpenWeather, Geolocation)





## Overcoming Technical Challenges

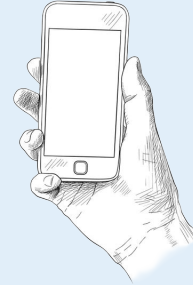
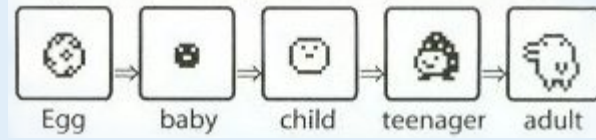
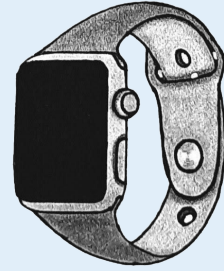
- API Integration: Setting up OpenWeather with proper error handling and caching.
- Character Customization: Creating flexible system for character appearance.
- Activity Tracking: Designing effective data model for various activity types.
- Friend System: Implementing friend connections with status management.
- Session Management: Ensuring secure user authentication and session persistence.

# **Development Process**

- Agile methodology with weekly sprints
- Regular team meetings via Discord
- GitHub project board for task management
- Feature branching workflow for development
- Code reviews before merging (2 Approvals Required)
- Weekly TA meetings for progress updates

# GoPal's Future

- Full Strava API Integration: Connect with Strava for automatic activity tracking
- Advanced Character Evolution: More complex evolution paths based on specific exercise types
- Community Challenges: Compete with friends on fitness goals
- Mobile App Version: Native mobile experience
- Advanced Weather Analysis: Custom recommendations based on air quality and weather conditions



# GoPal Demonstration

- User registration and login (Ben M)
- Account Customization (Ben M)
- Dashboard overview, including weather (Aisli)
- Activity logging (Rane)
- Achievement system (Rane / Ana)
- Character customization/experience (Ana)
- Journal entries (Ben A)
- Friend connections (Sam)

# Open Q&A

- We welcome any questions you may have about our project.
- Please feel free to ask us anything!

GoPal Link: <https://gopal.beatcloud.net>

# Credits & Acknowledgments

- Our TA for weekly guidance
- CSCI 3308 Course Staff
- OpenWeatherMap for API Access
- Tamagotchi for Inspiration



# Img Citations

- [https://tamagotchi.fandom.com/wiki/Tamagotchi\\_Life\\_Cycle](https://tamagotchi.fandom.com/wiki/Tamagotchi_Life_Cycle)
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