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IT342-<G02>

**PROJECT PROPOSAL**

Proponents:

<Name> – Project Manager/Developer

<Name> – Developer

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Louis Drey F. Castaneto

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Date: September 25, 2025

## Project Proposal

**Project Title:** *HappyTails*  
**Proponent(s):** *Animal Lovers*

## 1. Executive Summary

This project aims to develop **Happy Tails**, a web and mobile platform designed to create positive outcomes in the pet adoption process. By connecting animal shelters with potential adopters through a centralized, user-friendly interface, the system will simplify the search for a new pet. Leveraging detailed animal profiles, advanced filtering, and a clear application workflow, **Happy Tails** will increase visibility for shelter animals, improve the adopter's experience, and ultimately boost adoption rates.

## 2. Background / Problem Statement

To create more "happy tails," we must first address the significant challenges in the current pet adoption landscape.

Animal shelters and rescue organizations are often overwhelmed with animals in need of homes. Simultaneously, many prospective adopters find the process of finding a suitable pet to be fragmented and time-consuming. They are forced to navigate dozens of separate, often outdated websites, with no centralized way to filter animals based on critical criteria like breed, age, size, or temperament. This disconnect creates a significant barrier, leading to prolonged shelter stays for animals, increased operational costs for rescue organizations, and frustration for potential adopters.

## 3. Project Objectives

List measurable, specific objectives. Use **SMART criteria** (Specific, Measurable, Achievable, Relevant, Time-bound).

We will adhere to SMART criteria to guide our development and measure success.

* **(Specific)** Develop and deploy the core **Happy Tails** platform, including the Spring Boot backend, React web application, and Android mobile app with all minimum required features, by the **end of Q1 2026**.
* **(Measurable)** Ensure the backend API achieves an average response time of **under 400ms** for core read operations (e.g., fetching pet lists) to provide a smooth user experience.
* **(Achievable)** Onboard a pilot group of at least **5 partner animal shelters** from the Cebu area to populate the platform with live data within one month of deployment.
* **(Relevant)** Facilitate the submission of at least **100 unique adoption applications** through the platform within the first three months post-launch, directly contributing to the goal of rehoming animals.
* **(Time-bound)** Achieve a **90% uptime** for the API and database services, measured quarterly, starting from the official launch in Q1 2026.

## 4. Scope of Work

**In-Scope:**

* Mobile app development (Android & iOS).
* GPS integration with transport fleet.
* Real-time data dashboard for operators.

**Out-of-Scope:**

* Hardware procurement for buses.
* Payment gateway integration.

## 5. Methodology / Approach

We will adopt an **Agile (Scrum)** framework to execute this project. This iterative approach will allow for flexibility, continuous feedback, and regular delivery of working software components. The project will be broken down into the following five distinct phases:

#### **I. Initiation**

This initial phase focuses on establishing a solid foundation for the project.

* **Requirement Finalization:** We will formalize the functional and non-functional requirements detailed in this proposal, including the minimum feature set, user roles, and technical specifications.
* **Stakeholder Consultation:** We will conduct meetings with the project supervisor to confirm expectations. We will also aim to consult with a local animal shelter here in Cebu to gather real-world insights into the adoption process, ensuring our solution is practical and valuable.
* **Technology & Tooling Setup:** Finalize and set up the development environments, including IDEs, databases, and version control repositories on GitHub.

#### **II. Planning**

In this phase, we will create a detailed project roadmap.

* **Timeline & Sprint Planning:** The project will be divided into two-week "sprints." Each sprint will have a specific goal (e.g., "Implement User Authentication API"). A high-level timeline will be mapped out using a project management tool like Trello or Jira to track tasks from "To-Do" to "Done."
* **Resource Allocation:** The primary resource is development time, which will be allocated across backend, web, and mobile development tasks according to the sprint plan.
* **Risk Assessment:** We will identify potential risks (e.g., technical challenges with third-party APIs, scope creep, integration delays) and establish mitigation strategies. For instance, to mitigate integration delays, we will use a predefined OpenAPI specification as a contract between the frontend and backend teams.

#### **III. Execution**

This is the development phase where the platform is built.

* **Development:** Following the Agile methodology, each sprint will involve designing, building, and testing a specific set of features. We will use a Git feature-branching workflow to manage code contributions effectively.
* **Integration:** The React frontend and Android mobile app will be continuously integrated with the Spring Boot backend API. We will use tools like Postman and Swagger UI for API testing and validation throughout the development cycle.
* **Testing:** A multi-layered testing strategy will be implemented:
  + **Unit Tests (JUnit/Mockito):** To verify individual backend functions and logic.
  + **Component Tests:** To test individual React components in isolation.
  + **End-to-End (E2E) Manual Testing:** To validate complete user flows, such as a user successfully searching for a pet and submitting an application.

#### **IV. Monitoring**

Continuous oversight will ensure the project remains on track.

* **Regular Progress Reviews:** We will hold weekly meetings to review progress against the sprint goals, address any roadblocks, and plan for the next steps.
* **Sprint Demos:** At the end of each sprint, we will conduct a demonstration of the working software to the project supervisor to showcase progress and gather feedback.
* **Code Reviews:** All code will be peer-reviewed before being merged into the main development branch to ensure quality, consistency, and adherence to best practices.

#### **V. Closure**

This final phase involves delivering the finished project.

* **Deployment:** The Spring Boot backend will be containerized using Docker and deployed to a cloud platform (e.g., AWS or Heroku). The React web app will be deployed to a static hosting service (e.g., Netlify). The Android application will be packaged into a signed APK, ready for submission to the Google Play Store or for direct demonstration.
* **Documentation:** We will deliver comprehensive project documentation, including a finalized OpenAPI specification for the API, user guides for both adopters and shelter staff, and a final technical report detailing the system architecture and design choices.
* **Project Handover:** A final presentation and demonstration of the live **Happy Tails** platform will be conducted to formally conclude the project.

## 6. Deliverables

* Mobile application (Android)
* Backend server with API endpoints
* Admin dashboard for operators
* User manual & training materials

## 7. Timeline (Gantt Chart or Milestones)

| **Phase** | **Duration** | **Target Completion** |
| --- | --- | --- |
| Requirements | 2 weeks | MM/DD/YYYY |
| Design & Prototyping | 4 weeks | MM/DD/YYYY |
| Development | 8 weeks | MM/DD/YYYY |
| Testing | 3 weeks | MM/DD/YYYY |
| Deployment | 1 week | MM/DD/YYYY |

## 8. Budget Estimate

| **Item/Category** | **Cost (USD)** |
| --- | --- |
| Development | $XX,XXX |
| Testing | $X,XXX |
| Marketing | $X,XXX |
| Contingency (10%) | $X,XXX |
| **Total** | **$XX,XXX** |

## 9. Risk Assessment & Mitigation

| **Risk** | **Likelihood** | **Impact** | **Mitigation Strategy** |
| --- | --- | --- | --- |
| GPS signal loss | Medium | High | Use hybrid location tracking |
| Budget overrun | Low | High | Strict change control |
| User adoption lag | Medium | Medium | Marketing campaign & onboarding |

## 10. Stakeholders

* **Project Manager:** [Name]
* **Development Team:** Software engineers, AI engineers, UI/UX designers
* **End Users:** Job seekers, students, professionals

## 11. Expected Benefits / ROI

* Reduced commuter waiting times by 30%.
* Increased customer satisfaction.
* Potential for advertising revenue in the app.

## 12. Approval

| **Name & Role** | **Signature** | **Date** |
| --- | --- | --- |
| Frederick Revilleza, IT342 Instructor |  |  |
|  |  |  |

# Sample:

## Project Proposal

**Project Title:** *Coach Bot: AI-Powered Interview Coaching Mobile Application*  
**Proponent(s):** *[Your Name / Team Name]*  
**Date:** *August 13, 2025*

## 1. Executive Summary

Coach Bot is a mobile application designed to help job seekers, students, and professionals prepare for interviews through AI-driven simulations, personalized feedback, and performance analytics. Using Natural Language Processing (NLP), Speech-to-Text, and Machine Learning evaluation models, Coach Bot simulates realistic interview sessions and provides instant scoring, strengths and weaknesses analysis, and improvement suggestions. The app aims to improve user confidence, communication skills, and readiness for real-world interviews.

## 2. Background / Problem Statement

Many fresh graduates and job seekers lack access to effective and affordable interview coaching.

* **Current Challenges:**
  + Limited access to professional career coaching services.
  + High cost of physical interview training.
  + Lack of real-time, personalized feedback.
* **Opportunity:**  
  With the rise of AI and mobile technologies, it is now possible to simulate professional interviews, analyze responses in real-time, and provide targeted improvement tips at scale.

## 3. Project Objectives

* **Primary Objective:** Develop and launch an AI-driven interview coaching app that helps users improve their interview performance.
* **Specific Objectives:**
  1. Integrate AI-based question generation and scoring system by Q1 2026.
  2. Implement voice recognition with at least 95% speech-to-text accuracy.
  3. Deliver real-time feedback covering strengths, weaknesses, and suggested improvements.
  4. Launch on both Android and iOS within 8 months of project initiation.

## 4. Scope of Work

**In-Scope:**

* Mobile app (Android & iOS) with AI-powered interview simulations.
* Voice-based interaction using Speech-to-Text and Text-to-Speech.
* AI evaluation system for response quality.
* Analytics dashboard for user progress tracking.

**Out-of-Scope:**

* Job placement or recruitment services.
* Resume/CV creation services.

## 5. Methodology / Approach

1. **Initiation** – Market research, requirement gathering, competitor analysis.
2. **Planning** – Define app architecture, development stack, and project timeline.
3. **Execution** –
   * Develop AI backend using Python Flask + OpenAI/Hugging Face models.
   * Build mobile frontend using React Native.
   * Integrate Firebase for authentication and cloud storage.
4. **Testing** – Unit tests, integration tests, and beta testing with target users.
5. **Deployment** – App Store and Google Play release.
6. **Post-Launch** – Continuous improvement based on user feedback.

## 6. Deliverables

* Fully functional Coach Bot mobile application (Android & iOS).
* AI backend API with interview scoring logic.
* Admin panel for managing interview question sets.
* User guide and onboarding materials.

## 7. Timeline

| **Phase** | **Duration** | **Target Completion** |
| --- | --- | --- |
| Requirements | 3 weeks | Sep 2025 |
| Design & Prototyping | 4 weeks | Oct 2025 |
| Development | 12 weeks | Jan 2026 |
| Testing & QA | 4 weeks | Feb 2026 |
| Deployment | 1 week | Mar 2026 |

## 8. Budget Estimate

| **Item/Category** | **Cost (USD)** |
| --- | --- |
| Development | $20,000 |
| AI Model & API | $3,000 |
| Cloud Hosting | $1,500 |
| Testing & QA | $2,000 |
| Marketing | $3,000 |
| Contingency (10%) | $2,950 |
| **Total** | **$32,450** |

## 9. Risk Assessment & Mitigation

| **Risk** | **Likelihood** | **Impact** | **Mitigation Strategy** |
| --- | --- | --- | --- |
| AI accuracy below expectation | Medium | High | Fine-tune models with more datasets |
| High API costs | Medium | Medium | Optimize model usage and caching |
| Low initial user adoption | Medium | High | Launch marketing campaigns & partnerships |

## 10. Stakeholders

* **Product Owner:** [Name]
* **Business Analyst:** [Name]
* **Scrum Master:** [Name]
* **Development Team:** Software engineers, AI engineers, UI/UX designers
* **End Users:** Job seekers, students, professionals

## 11. Expected Benefits / ROI

* Improves job readiness for users.
* Generates recurring revenue via subscription plans.
* Positions the company as an innovator in AI-powered career tools.

## 12. Approval

| **Name & Role** | **Signature** | **Date** |
| --- | --- | --- |
| Frederick Revilleza, CSIT327 Instructor |  |  |