



Cat Health and Activity Tracker

Welcome to this presentation on the Cat Health and Activity Tracker, a web-based application designed to help cat owners understand and improve their feline companions' well-being.



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Introduction

1 Project Overview

This project aims to develop an interactive web application that helps cat owners track their cats' health, activity levels, and routines.

2 Purpose

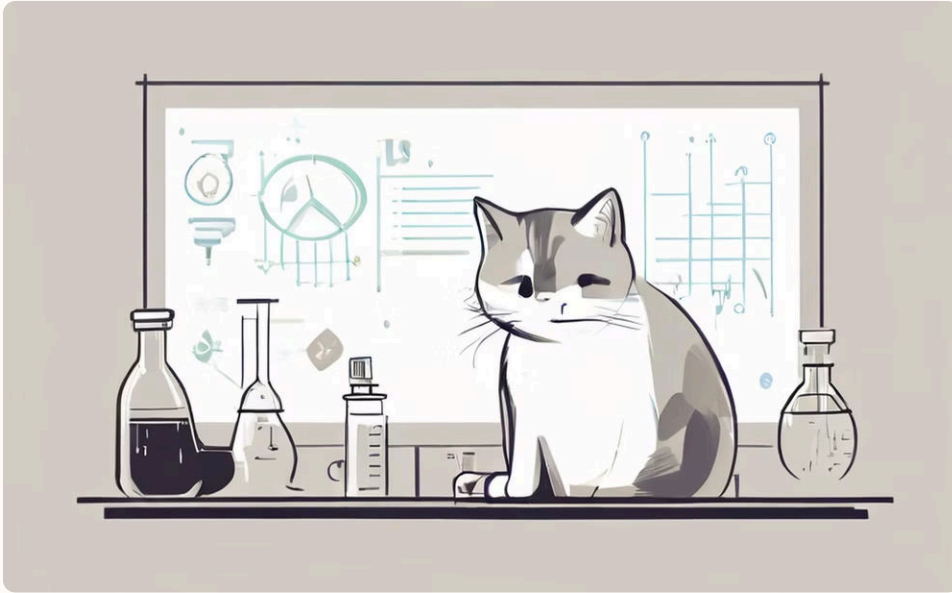
The application will provide valuable insights into cat wellness, suggest activities and diets, schedule vaccinations and treatments, track grooming and dental care, and help optimize cat energy levels and sleep routines.

3 Motivation

Our motivation is to improve cat health and provide valuable insights to cat owners, empowering them to make informed decisions about their feline companions' well-being.



Research Questions and Hypotheses



Research Questions

Exploring factors that contribute to cat health and wellness, including activity levels, diets, feeding schedules, and routine care.



Hypotheses

Increased activity, optimized diets, regular health tracking, and proper routines can lead to improved cat wellness and energy levels.

Project Timeline

1

Data Collection

User-contributed data via surveys and forms. Collect data points such as daily activity levels, diet and nutrition information, health metrics, routine care, and sleep patterns.

2

Data Cleaning

Standardize data formats, handle missing values, and verify data accuracy.

3

Data Analysis

Perform exploratory data analysis (EDA), comparative analysis, correlation analysis, and hypothesis testing. Use tools like pandas, numpy, scipy, matplotlib, and seaborn for analysis and visualization.

4

Data Visualization with Tableau

Create interactive dashboards to visualize key metrics and trends.

5

Develop Final Product

Web-based Cat Health and Activity Tracker App



The numbers:

Correlation Sleep Quality and Activity Duration:

0.20807551253204676

T-Test Sleep Quality vs. Feeding Schedule:

{'t_stat': 2.105046495477469, 'p_val': 0.03784476145830083}

Chi-Square Test Grooming vs. Sleep Quality:

{'chi2_stat': 5.181623931623931, 'p_val': 0.7379992792838526}

Chi-Square Test Feeding Schedule vs.

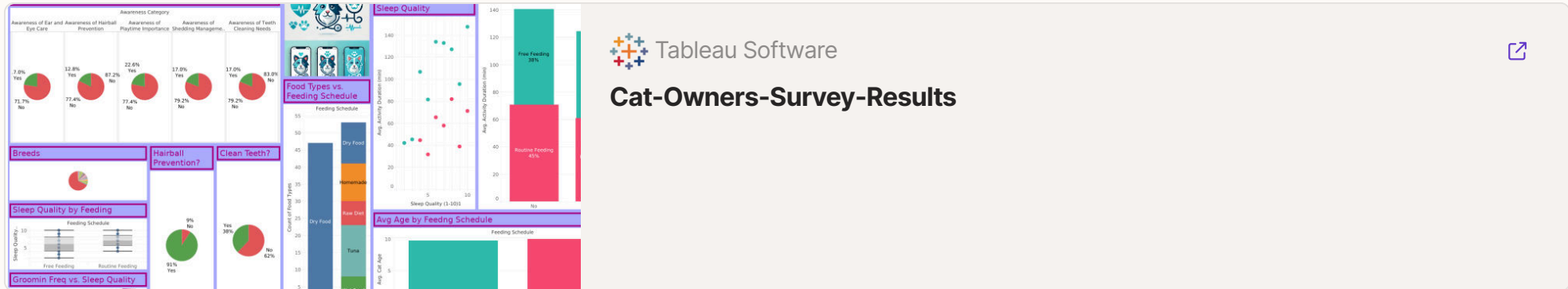
Zoomies:

{'chi2_stat': 0.2533916846130464, 'p_val': 0.6146969486187426}



Data Visualization with Tableau

Explore the interactive Tableau dashboard to visualize key findings and trends from our analysis.



Key Findings from Analysis

1 Increased Activity

Increased activity levels correlate with improved health metrics in cats.

2 Optimized Diets

Optimized diets show positive impacts on cat wellness.

3 Regular Tracking

Regular health tracking helps in early detection of potential health issues.

4 Routine Care

Routine care practices significantly contribute to overall cat wellness.

5 Feeding & Activity

Proper feeding routines and activity levels help regulate cat energy levels and improve sleep patterns.



Final Product

1 Description

The web application developed allows cat owners to input and track their cats' health, activity, diet, and routines.

2 Backend

Developed using Django, PostgreSQL for database management.

3 Frontend

Developed using React, providing an interactive user interface.

4 Features

Data input forms for health, activity, and diet. Interactive visualizations for tracking wellness metrics. Personalized recommendations for cat care. Notifications for upcoming vaccinations and treatments.

Live Demo

We will now perform a live demonstration of the application, showcasing key features such as adding cat profiles, recording feeding schedules, and viewing personalized recommendations.

[CLICK HERE!](#)



Difficulties and Obstacles overcome:

- **Visual Representation:** Creating visually appealing and informative dashboards and graphics that accurately represent the data, especially when dealing with complex data sets.
- **User Interface Design:** Designing an intuitive and user-friendly interface that cat owners can easily navigate to input and retrieve information about their pets.
- **Data Privacy and Security:** Ensuring that the data collected from users is stored securely and adheres to privacy laws, which can be complex when dealing with personal pet information.
- **Technical Challenges:** Overcoming technical issues such as ensuring the application performs well under load, is scalable, and integrates smoothly with existing systems or technologies.
- **User Engagement:** Encouraging ongoing user engagement and ensuring the application provides real value to cat owners, prompting them to regularly use and rely on the platform.
- **Feedback and Iteration:** Gathering user feedback effectively and iterating on the product design and functionality based on this feedback, which can be time-consuming and requires careful analysis.

Unresolved Challenges:

- **Finding Appropriate APIs:** Difficulty in locating APIs that provide comprehensive and reliable cat health and wellness data.
- **Data Integration:** Challenges in merging data from different sources, including manually scraped data, to maintain consistency and reliability across the dataset.

The Next Generation Cat Health App

Real-time Notifications

Implement a feature for real-time notifications and reminders for upcoming events, vaccinations, and treatments using WebSockets or third-party services like Firebase.

Integrate APIs

Integrate APIs for comprehensive health and nutrition information, such as veterinary services or specialized pet health advice.

Mobile App

Develop a mobile version of the application for easier data input and tracking on the go.

1

2

3

4

5

Expanded Metrics

Track additional health metrics and activities, such as hydration levels, litter box usage, and more detailed behavioral patterns.

User Interface Enhancements

Improve the user interface with more intuitive design elements, better accessibility features, and enhanced mobile responsiveness.

Acknowledgments

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