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Program: Data Analysis and Visualization with Power BI

**Project summary**

You work as a business intelligence analyst for Waggle, a company that makes smart devices for pets. Waggle has recently experienced a huge boost with the success of their new Lapdog device, a smart collar that allows owners to measure their dog's activity, alerts them when it's time for a walk and even repels fleas! The feedback has been fantastic, sales are growing and, best of all, the product actually works!

This success has prompted Waggle's CEO to push for a feline version, but there are doubts about its viability. So the product team distributed 1,000 Lapcat prototypes for field testing. Now, after months of data collection, you have been commissioned to produce a Power BI report to present to the board that tells the comparative story of the Lapcat data versus the findings of the Lapdog dog collar device. You are excited about the idea because your work will be presented at the highest levels of the company and will help convince the CEO that Lapcat will either be the breakthrough or, conversely, a costly mistake to avoid.



**Specific questions:**

The CEO is curious about the following questions:

Has the average number of daily steps of the cats wearing the device increased as much as the average number of daily steps of the dogs?

Are Lapcat device owners as satisfied with the product as Lapdog owners?

The marketing manager wants your report to be "customised", including only colours from the Waggle colour palette, the Waggle logo and other approved company logos and icons.

The product team trusts you to incorporate other visual objects and perspectives as you see fit, but they are most interested in demographic comparisons between dogs and cats using Waggle devices, as well as any information about pet-owning families. They would also like data segmentations to help them filter and explore on their own.

**Resources and basic requirements:**

You have already been provided with a data model in the Power BI file, as well as a variety of Waggle marketing images and brand guidelines. The report should demonstrate best practice in terms of clarity of design and use of colour, use at least 7 different Power BI visualisations, include buttons for navigation between pages and/or bookmarks, and satisfy the specific issues outlined above.



**Project steps**

Review the included data model and business questions and identify which fields can be used to design metrics that answer the CEO's questions. (That's it, all that's left is to understand the data!)

Develop one or more visualisations that specifically address the CEO's questions regarding whether there were differences in average daily steps over time between the two devices and how Lapcat owners rated their device compared to Lapdog owners.

Address the product team's request for demographic information, using each of the following visual objects at least once: bar chart, line chart, ring chart, table/matrix, scatter plot, bubble map and card.

Place your data visualisations and design an appropriate layout that highlights the most important findings first, with answers to the CEO's questions on the first page, data on the differences between dogs and cats on the second page, and data on pet-owning households on the third page.

In the data visualisations, incorporate the brand elements requested by the marketing manager.

Includes at least five data segmentations on each page with at least one example of drop-down data, at least one slider, at least one hierarchical, at least one with "Select All" enabled, and one with the search box enabled.

Create at least two bookmark functions. One should allow users to dynamically change one visual object to a different one, and one should reset all filters applied on the page.

Create buttons to help users navigate the report. Buttons should respond when users mouse over them by changing colour or size (or both!).

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