# PetPing Innovation Challenge Entry (submission by Puppé Plessa)

## High-level pitch

Do you love your pet? Do you want your pet to lead a happy and healthy life? So do we! PetPing are creating an all-in-one, smart pet companion that uses Artificial Intelligence to allow you and your pet to live in harmony together!

## What is your innovation?

Myself and my colleagues at PetPing are passionate about people and pets; we want you and your best friends to lead the best lives possible. As such, we decided to take advantage of recent advancements in cloud computing and powerful machine learning algorithms, combined with developments in Internet of Things (IoT) portable connected technology to improve the lives of both you and your pet. Our all-in-one smart collar will collect comprehensive health and happiness data from your best friend in real-time, and through the power of AI will empower you to get to know your pet better than ever before!

Your pet can’t tell you when they are feeling ill, but PetPing can. Our smart collar’s sensors will record your pet’s heart rate and blood pressure every minute, alongside constant movement data from an accelerometer. PetPing will always be connected; we will cross-reference this data in real-time with the average heart rate and blood pressure for your breed of dog or cat, and with previous recordings from similar amounts of exercise. Moreover, we understand that diabetes in pets often goes unnoticed and can be detrimental to your best friend’s health and happiness, so we will include a blood glucose monitor in PetPing’s repertoire of data collection tools. You will be notified if there are any discrepancies in readings, as well as provided with information about what these might mean for your pet’s health, and steps you can take to help your best friend get better again.

Through your input, PetPing’s comprehensive profile of your pet’s health and habits can take your relationship to the next level. Our integrated mobile app allows you to tell PetPing what your pet is feeling, and PetPing does the rest! PetPing’s cloud software will run complex multivariate Machine Learning algorithms on your pet’s activity profile to identify which attributes and habits correspond to which emotions and cravings based on your input. Is Max feeling hungry? Does Masie need to use the bathroom? Is Charlie sleepy and you should put him to bed? PetPing will communicate to you on behalf of your pet making both of your lives easier, allowing you to live in harmony together!

## Describe your market:

Our primary market is upper- and middle-class pet owners. The data shows that New Zealanders love their pets! A 2016 report by The New Zealand Companion Animal Council showed that New Zealanders own more pets per household than anywhere else in the world, apart from the United States. Over 64% of New Zealand households are home to at least one pet, making PetPing’s initial market well over half of the New Zealand population. Moreover, New Zealand pet expenditure in 2016 exceeded $1.8 billion, which was on the rise from $1.6 billion in 2011. Clearly, there is a tremendous initial market for PetPing to expand into in New Zealand. However, the world is now more connected than ever; and we want to take advantage of this to improve the lives of pets globally. Statista reports that there are now over 471 million dogs and 373 million cats kept as pets globally; Global Market Insights predicts the global pet care market will grow to a staggering $270 billion USD by 2025. In 2018, the smart device market for pets sat at an impressive $565 million globally (Forbes), up 11% from 2017, and projected to grow even more rapidly in the coming years. We want to be at the forefront of this exciting and clearly expanding market.

We have conducted research of 42 randomly selected NZ households that own pets (cold calling; dogs and cats). Of these 42 households, 86% said they want their pets to be happier and healthier. 32.7% said they would love to try a smart device that allows them to monitor pet health and improve happiness, provided it was affordable. When prompted, 7% said they would consider paying over $400 (our projected price for PetPing) for a smart pet monitor provided it worked well. Assuming our sample is representative, PetPing could see over 200,000 sales in New Zealand alone (7% taken out of the 64% of 4.8 million population that own pets).

Our secondary market consists of Research Institutions that would be interested to use our data for analysis, which may pay for our datasets, or at the very least would serve to further promote PetPing to the world by sharing interesting insights from our data. We would also like to sell our data to Pet Insurance Companies.

Further opportunities for expansion for PetPing are wide reaching. PetPing’s activity monitoring, profile forming technology can be adapted for animals of all shapes and lifestyles: for farmers to understand and monitor their livestock; horse-riders to understand and monitor their horses during training and racing; for zoos to understand and monitor their animals more effectively.

## Describe your team:

PetPing & Co. are comprised of five postgraduate students at The University of Auckland with a passion for people and pets.

* I am undertaking a master’s in data science, specialising in big data analysis. I love animals and have been analysing datasets on animal activity in my spare time to draw fascinating insights.
* Two members are pursuing their honours year mechatronics students doing a project together on IoT technologies that can monitor dog’s health metrics. They each have a German shepherd and have been able to track movements of their dogs – turns out they have similar sleeping patterns!
* Finally, we have a Veterinarian with 5 years’ experience on the team that is ensuring we have your pets’ health and happiness kept as a top priority.

## What resources do you need?

Through The University of Auckland Engineering school we have the resources to build a first prototype. However, we need:

Short-term:

* Connections in the healthcare device industry
* Business development advice
* Money for expensive devices

Long-term:

* Money for materials (computer chips, plastic, metal, measurement devices and software)
* Money for marketing
* Mass production opportunity. We need access to a large factory to build PetPing monitors at scale.