**\*Please make a copy of this document and include this in your GitHub repository for your submission, using the tag #AndroidDevChallenge\***

**Tell us what your idea is.**

*Describe in 250 words what the feature or service will do and how you’ll use Machine Learning to push the bar:*

UnoDogs will be a mobile application for weight and general health management of dogs. We want to use ML to empower each dog owner to accurately judge their dog’s general health and work on it.

Globally we love our dogs but overweight and obesity has become an epidemic in dogs these days. In the US alone, 54% of the dogs are overweight with >30% in obese category. Dogs lose crucial 2-3 years of their life and suffer from painful lifestyle issues due to this negligence. Comparing it human terms means we losing 20-30 years in our life or spending those years in pain.

Our mission is to empower each dog owner with information to keep their pet in good health and spirit.

We want to start with few features which come together well for weight management and general health of any dog.

|  |
| --- |
| **Benchmark dog’s Body Condition Score (BCS)** - Train ML model which can process dog’s photo of top and side view and get [BCS score](https://vcahospitals.com/know-your-pet/body-condition-scores) of dog from 1-9 |
| **Dog’s teeth, paws health -** Judge the health of dog’s teeth and paws by allowing user to take pictures and analyze the status. |
| **Dog’s body variation from breed standard** - We want to use mobile vision and other sensors to check dog’s variation from its [breed standard](http://images.akc.org/pdf/breeds/standards/GoldenRetriever.pdf) |
| **Weight management progress and plan change -** Use ML models to customize the solution and change if their is any deviation. Enough real time analysis and stats to keep people on track |

**Tell us how you plan on bringing it to life.**

*Describe where your project is, how you could use Google’s help in the endeavor, and how you plan on using On-Device ML technology to bring the concept to life. The best submissions have a great idea combined with a concrete path of where you plan on going, which should include:*

* ***(1) any potential sample code you’ve already written****,* - We have not written any code as such. We are two people who have done all research regarding the problem and solution we are proposing. We have got access to Fitbark Api which is a famous dog activity monitor. We are currently analysing the data we get from fitbark for each dog and how we can make use of activity data of dog in our weight management and general fitness application. We are also analysing what data analysis and ML tools we can use to make sense of all the data we have and how to bind it together in a meaningful solution. We also have rough sketch ready for our application design and how things should look.
* ***(2) a list of the ways you could use Google’s help****,* - We are exploring GCP not only for ML models and related services but also as a complete platform to build and maintain our application. I and my partner are new to some technologies like ML which we want to use in our application and we would love to use Google’s help in guiding us through.
  + Some of it will be:
    - The features I mentioned in the above section around vision ML - we want to know how to model them correctly and also ensure we do not make our application so heavy that we lose performance
    - We would like Google help to get access to Cloud vision APIs and some guidance on if we are using the right tools for the problem we want to solve
    - We intend to use - Cloud ML, AutoML vision edge and TensorFlow lite mainly
* ***(3) as well as the timeline on how you plan on bringing it to life by May 1, 2020****.* We intend to start coding from start of January. Buy then we will have our solution ready and understand the data we have and what inference we would like to make out of it. Jan to Mar should go in building our MVP and then we would like to test it on our beta customers in April and do a soft launch by the end of April 2020.

**Tell us about you.**

A great idea is just one part of the equation; we also want to learn a bit more about you. Share with us some of your other projects so we can get an idea of how we can assist you with your project.

My name is Chinmay Mishra and I am a 34 year old male from New Delhi, India. I have a Bachelors of Technology degree in Computer Science and a full time 2 years MBA. I have around 10 years of experience out of which I have done formal coding for three years in technologies like C#, SQL and C++. Recently I have done a few online courses on ML, general cloud models and application development. Since last 5 years I have been more towards the business side of things in my job but coding is something I never left. I am also making myself with Kotlin which I want to use in my android app development.

I also have a friend who assist me in coding and he has 10 years of experience in web application development and data analysis.

**Next steps.**

* Be sure to include this cover letter in your GitHub repository
* Your GitHub repository should be tagged #AndroidDevChallenge
* Don’t forget to include other items in your GitHub repository to help us evaluate your submission; you can include prior projects you've worked on, sample code you've already built for this project, or anything else you think could be helpful in evaluating your concept and your ability to build it
* [**The final step is to fill out this form to officially submit your proposal.**](https://docs.google.com/forms/d/e/1FAIpQLSe43koQL33IzgxXQl29Ex3AhFuqd4hQzxLiXREqwRkDGtx1vA/viewform?usp=sf_link)