**\*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:*

An assistant app that leverages Machine Learning to guide the user to navigate the space using the product picture.

The idea behind it is to help the user quickly get the items that he/she search for, as it is not always easy navigating the space when it is too big to explore.

I plan to implement machine learning using TensorFlow Lite as a custom model because the items seem almost similar, so the huge dataset is needed for higher accuracy.

ML Kit for Firebase for object detection and tracking will be used to track the item in the picture snapped by the user.

It could be integrated as a feature in Notes app with a checklist for grocery shopping.

**Check Stock Available In Stores**

Check stock available for the product. If the item is running low, it shows in **Red** wordings, to notify the user. Select the option ’Find me another alternative’ button can provide a suggestion for an alternative

**Use the features with photos**

Ready photos can be used instead, which makes the app more convenient. Shoppers can use the picture of items on the internet to track the position of the aisle(No more hassle to browse each aisle in stores just for a single item!)

**Potential application in other places**

In other places such as school, university or college, it is often that many would confuse for direction to their destination when inside a building. Just camera access with the app can solve it all within seconds!

**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,*
* *(2) a list of the ways you could use Google’s help,*
* *(3) as well as the timeline on how you plan on bringing it to life by May 1, 2020.*

1. *The project is currently in the ideation state, so it does not have any sample code yet.*
2. *a)Assign a Google Mentor for the project*

*b) Provide free plans of service for ML Kit, TensorFlow Lite and Firebase.*

*c)Receives help in building a machine learning model for identifying images for items for almost similar appearance*

*d)Provides big/large amounts of datasets used to build up the model.*

1. *Timeline*

***December 2019***

* *Concepts and ideation phase*
* *Run through documentation, example tutorials provided in official website for TensorFlow Lite, Firebase, ML kit*
* *Start collecting datasets*
* *Start developing an Android app*
* *Trial-and-error phase*

***January 2020***

* *Finalize the idea for the application*
* *Create activities, fragments needed for the app*
* *Build a custom model using TensorFlow Lite*

***February 2020***

* *Development of UI/UX designs*
* *Integration of machine learning model with app*

***March 2020***

* *Testing and produce a beta app*
* *Open for beta testing*

***April 2020***

* *Receive feedback from the user and improve the related services and app experience*
* *Testing and Debugging*
* *Deploy and publish to Google Play Store*

**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.

Hi, I am Tuck Wai. I come from Malaysia, currently doing 3rd  year in Mechatronics Engineering. Learn about Android Development since 2018 and aims to become a full-fledged Android Developer.

Currently, I had not previously done personal projects, since I just found out the Android Development and learning it. Once I saw the Android Developer Challenge is open for submission, I plan to submit an idea as soon as possible when I’m not too occupied with homework and assignments.

I hope I can make an impact in the world by working on an application that can benefit millions of people, improving the lives of many.

Know more about me:

My LinkedIn profile-<https://www.linkedin.com/in/yip-tuck-wai-127238130/>

Github profile-<https://github.com/dragonyip285>

**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)