**\*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:*

My idea is based on file size reduction up to more than 50-90% of the original space, using On-Device ML technology. The app would use some of the concepts of solving common puzzles such as sudoku, Rubik’s cube and many others. Solving these ‘puzzles’ is where machine learning would come in. Using machine learning, the app can accept a .wat file (this is the file that is generated after using an algorithm, together with machine learning, which is now the reduced file size of the original file) and then use machine learning to ‘solve’ the ‘puzzle’. The result of solving the puzzle leads to a full retrieval of the original file. This can be equated to a sudoku puzzle where a few numbers are provided to the player.

Using the numbers and rules of the game puzzle, one obtains the solution which is a unique arrangement of numbers that only occurs once and would produce a different result if one of the numbers initially was changed. With this example, it is evident that using the same principle and many others in file reduction would be possible because the results are unique and fully dependant on the .wat file data.

The .wat file is obtained by grouping the original file’s binary data and ‘solving’ each individually using different types of loops to ensure the file is reduced to its smallest possible size that can be increased at the end-point. This app can really help people using limited data bundles especially here in Africa and other remote places where unlimited wifi connections is a problem. The software can also be used by other platforms such as YouTube, Instagram, Netflix, online TV etc through an API to target more people especially the ones who mostly use limited internet data plans. I hope you consider my idea and help me in its execution. Thank you.

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

*Describe where your project is, how you could use Google’s help in the endeavour, 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.*

The project is still in its post-infancy stage though I have done a lot of research to ensure the project is something that can be brought to life.

**Ways Google would help**

**1.**   Access to enough resources to work with.

**2.**   Providing mentors for advice and help during the development process

**3.**   Providing a skilled team that would help me in development.

**4.**   Help in reaching out to many users as possible.

I plan on using On-Device ML technology to design the core of the app’s functionality. Machine learning would help in reducing the file size to a .wat file and also the increasing of the .wat  file size to its original size.

I plan to bring the app to life before May 1, 2020, because I have done adequate research to be convinced enough that it can be created.

**Timeline**

**December 2019 – January 2020**

Design the core functionality code that uses ML

**February 2020**

Testing and perfecting the core code

**March 2020 – April 2020**

App development and UI/UX designs

**May 2020 :**

Testing the app

Beta release

**Tell us about you.**

 My name is Brian Maina from Nairobi, Kenya. I am 19 years old and really passionate about android technology. I have intermediate android development skills, thanks to the Google Android Associate Developer scholarship with Pluralsight. This scholarship has helped me grasp android programming concepts. I have designed small but stable apps in the course of the time such as SalesTrack which is a simple application that helps manage a small business and also a simple parking finder app called ParkIT. I have had the proposed idea for a long time now since I was 16 years old. I have been closely following it up, doing research on it. What limited me was the number of resources I had access to. But I believe with Google’s help I can finally make it a reality.

**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)