Tell us what your idea is.

HelpVision is an android application gets a picture of images with texts (either through an upload of an existing photo or the camera application of the user), recognizes the texts and converts those texts to sound/speech.

Machine learning will help me push the bar through Google's ML Kit Vision API. This API will enable me to recognize the texts from the images. Also through the help of NLP, a model can be built that will convert the text to sound. This model can then be deployed with Tensorflow Lite. I am very passionate about this project because it will really help blind students with their education, because they will be able to take pictures of school notes and use it for revision during exams, tests, quizzes, etc.

The android application will utilize an implicit intent in order to make use of the phone camera application of the user. Once the camera is accessed, a picture of the text document is taken. The user can then listen to the texts in the picture by clicking on the sound icon at the top. The user will also be able to save the scanned documents in order to use it at a later date.

Tell us how you plan on bringing it to life.

Where the project is at currently :
Currently, I have only been able to create the welcome and picture screens using Android Navigation Components. I have also been able to create implicit intents that will enable the user to either take a photo with an existing camera application, or upload a photo from the gallery. Here's the code on github: https://github.com/Rita-Okonkwo/AndroidDevChallenge

List of ways Google can help:

1) **Mentorship:** A mentor that can keep me accountable and encourage me to keep going when things get tough will be greatly appreciated. I must admit that I am still learning the ropes of android development and I am liable to get stuck along the way. Having a mentor to help me and push me to keep going will really go a long way.
2) **Vision API and Tensorflow Lite:** I could use Google's help by getting datasets that I can work

with in order to train the model that converts text to speech. The Vision API which is part of the ML kit will enable me to convert the writings on the images to texts.

Timeline for the project:

1) December 2019:
    - Learn Tensorflow by working on projects and learn how to deploy models with Tensorflow Lite
    - Look for a UI/UX designer to make a user friendly design for the application.
2) January 2019
    - Designs are ready
    - Work on the application User Interface using material design guidelines, navigation components, animations, etc.
    - Data acquiring, cleaning and working on the tensorflow model.
3) February - April 2019
    - Attend Google's technical expertise bootcamp, network with participants and engineers, gain valuable knowledge that will help in making the project a success.
    - Start working on integrating the Vision API functionalities .
    - Train the tensorflow model with more data
    - Testing and deployment.
4) May 1st 2019
    - Would have successfully completed the project, Given hope to blind people, and made myself, Google and my assigned mentor proud.

Tell us about you.

Hello!

My name is Rita Okonkwo. I am an undergraduate student of Computer Engineering at the University of Benin, Edo state, Nigeria and currently in my 4th(penultimate) year. I have a passion for learning and that is why I love reading good books especially good non-fictional novels because there is always something valuable to learn in every good book. I have also taken quite a few courses on leadership and participated in the Young African Leaders(YALI) Emerging Leaders Program where I learnt the importance of empathy and being empathetic.

I love learning new skills and I believe the future belongs to those who are open to change. I have a determined spirit and I never give up when challenges suffice. I have a penchant for coding and I was selected for the Google Africa scholarship in partnership with Andela and Udacity out of 100+

applicants. During the program, I got to learn the basics of android development using Java as the core programming language and I earned an Android Basics Nanodegree from Udacity. Currently in the process of learning, unlearning and relearning the concepts of software development and engineering.

I love giving back to the community by participating in community development service programs, contributing to open source and writing articles on android development via my medium blog. I am an Hacktoberfest Finalist and a GirlScript summer of code finalist. I love these two programmes because I am given a chance to contribute to open source.

Here are some of the Android projects I have worked on:

GO FOODIE ANDROID APPLICATION (Team Project):

- Worked in a team of eight (8) to build an E-commerce application for a restaurant
- Acted as the team lead and collaborated with my team members to ensure that the right design patterns are used
- Built the complete sign up and sign in authentication with email and password using Firebase email and password authentication feature
- Github link: https://github.com/Rita-Okonkwo/Go-Foodie

PONTUS GOAL TRACKER ANDROID APPLICATION (Team Project): Collaborated with a team of nine (9) to build a long-term TO-DO list application that enables users to keep track of their goals.

- Github link: https://github.com/Rita-Okonkwo/Pontus-Goal-Tracker-App

Here is the link to my blog on medium: https://medium.com/@ritaokonkwo6

I aspire to use "being empathetic " and my love for technology and humanity to build better products that can help all humans irrespective of race, gender and disability.