
***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.

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

Taking care of a baby is hard work. There are a bevy of products designed to help parents and caregivers take care of their little ones. Some of these baby products are 'smart.' These 'smart' products pair some sort of a sensor and modulate its output or notifies the caregiver based on the input from the sensor. There are smart bassinets, thermometers, baby monitors, and strollers that all makes raising a baby slightly easier.

There are, however, no 'smart' white noise makers and apps on the market today. The existing white noise makers and apps do not modulate the noise based on the baby's needs, and they also require the caregiver to stop the noise manually or input a set stop time.

My idea is to create a smart white noise app for babies. It will use the microphone and/or the camera to sense whether the baby is sleeping or fussing, and either lower of turn up the volume and change the type of white noise. If the baby is still crying after some preset time, or if the app detects that the baby needs attention, the app can notify a caregiver on another device.

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

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*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 sample code is in this repo: https://github.com/cliveleehere/SmartHush


It's currently just reading the audio from the microphone and playing it back on the speakers.

(2) I would appreciate Google's help in obtaining the data to train a model. I am planning to train a custom model that's part of the ML Kit, but I could use Google's guidance on whether or not there's another ML product I should use instead. Also, there doesn't seem to be too many resources available on training models based on audio, so if Google has any additional resources for classifying audio, that would be great!

(3) Rough timeline:

November & December - Create sample app with pluggable interfaces for input and output. Take some online courses on machine learning.

January & February - Obtain data & train model

March - Integrate model to the app & iterate on model!

April - Polish! Add better UI!

## Tell us about you.

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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.

I'm an android engineer by day. I work at Wayfair, and I work on the augmented reality / 3d team, and work with ARCore / Sceneform. I also work on my personal apps by night. My personal website is at https://cliveleehere.github.io/ , which lists some of my apps.

Play store apps I've built: https://play.google.com/store/apps/developer?id=Right+From+Left

## Next steps.

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- 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.**