ScreenLiveTranslator

Tell us what your idea is.

Working as a location independent developer, I'm travelling a lot in countries where I don't speak the local language. While visiting and coming across some written foreign language, you already have a lot of great tools to help you, like Google Translate and it's camera scan. But one area where I'm missing something, is when the content I want to translate is already on my smartphone. A few examples I have in mind, but there might be other situations:

- Lots of local businesses promote their events on their Facebook page via a picture with text in it. You could try to save the picture, and then import it in Google Translate to translate it, but it's really not practical
- On Google Maps you can often find a photo of a local restaurant's menu, but it's usually not in your language
- Most food delivery apps are not translating their contents, so it's hard to understand what any meal is made of

To help us in theses situations, this app would use a combination of on-device ML Kit Vision, the questionable SYSTEM_ALERT_WINDOW permission, and maybe Accessibility service, to be able to translate the content on the screen completely live and offline.

Some of the challenges will be to have a user friendly experience, good performances, and find a better app name!

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._

Right now the project is still in its early phase.

I only have a really basic APK which allows me to pick or take a picture, and then use ML Kit on-device Vision to detect the text, and ML Kit on-device Translation to translate it and then log it.

I'm also taking some time to get familiar with Accessibility Services and the SYSTEM_ALERT_WINDOW permission, to be able to get the best user experience and performance possible.

I could use Google's help to have a better understanding of the SDK for Accessibility and the draw over feature, and especially how it's probably going to evolve in the coming Android versions. Technically everything about this app idea is possible, and that's what's great about the Android platform. But I understand that there are a lot of abuses regarding these two concepts, and so some use case could now infrange the recent or future guidelines.

If this project is picked up for the AndroidDevChallenge, I will be able to dedicate a lot more time on it, and so the timeline isn't a problem at all for me.

By February 15th, I could have a proper APK that allows the user to start and stop the app, uses ML Kit vision to detect the text on screen, ML Kit Translate to translate it, and a simple overlay to display some loading indicators and the translated texts.

Until the end of March, I would then focus on performance by exploring several ideas like a memory cache of translated texts, an accessibility service to detect scrolls and other content changes to reduce the number of calls to ML Kit Vision.

The next month will then be dedicated on the final steps regarding the project, like proper beta testing, some minor UI improvements, and everything related to the Play Store listing.

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.

I've started developing for Android in 2010, while I was doing a work/study program, alternating between my last year studies at my engineer school in France, and an Android developer post in a local web agency there. During that year I had the opportunity to develop a lot of android apps on my own or with colleagues. Despite all the difficulties you had to overcome to build a decent app in this Donut/Eclair/Froyo period, I really enjoyed it, and so I've been a full time Android developer since then. First as an employee in a french startup, and now as a location independent freelance developer.
I've worked on more than a dozen published application, some for my clients, like the app Navily recently. And some just for me, like the app LoLMemento, who had around 1.5 million downloads and 150k daily users when I unpublished it from the store because I was lacking the time to maintain it.

This new app could be a fun small project for me, where I could apply all the latests tech and guidelines to build an app that I would actually use every weeks.

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.**