**Educational app**

**To begin**: simple app that when you first open it asks for 10 handwritten lines of ‘[The quick brown fox jumps over the lazy dog](https://en.wikipedia.org/wiki/The_quick_brown_fox_jumps_over_the_lazy_dog)’. It then analyses each letter of the sentence, put into some machine learning thing so that if the user writes another sentence, it will be able to interpret it. Each user/profile will have to do this step at the beginning (before being able to use the app), while it is being analysed, a loading screen appears. Also on the initial prompt page, there will be the instructions and a camera icon for them to take a picture and upload their 10 lines.

Using the app: user can upload a piece of writing buy pressing the camera icon or upload/ submit button. Or they can type it up, lets give both options since if someone only has a phone, they wont type their whole essay on the phone, but people who have laptops etc can type if they cant be bothered to write... The tech will take their writing and using what it already knows about how they write their letters, will compile their piece into plain text (as it has been written, with all punctuation etc). Then it will send this piece through more tech (similar to grammarly etc) to pick up spelling errors, missing punctuation etc.. it can also look for certain things eg ‘how many times has ‘and’ been used?’ or (by analysing each sentence from one full stop to another) ‘have they used a simile or a metaphor?’ or for verbs, adjectives, sentence length etc.... All this will be used to provide a feedback report with pros and cons on the users’ piece of writing. Also it will return the plain text with red squiggly underline for wrong spellings like word does.

This is this initial tech that we need to code in order to get a working product.

**Other features:**

We could also do a similar thing with maths, first get them to write 1-10 and + and – and = (and whatever else we need). Then analyse it, use machine learning to remember each users handwriting.... then maybe get them to scan the barcode of whatever book they are using? Or give our own questions.... they can take a picture of their working out/answer, our tech will compare it line by line to our answer/ the solution from the book they are using... then generate a feedback form from that.

In the long run, we can have a fully functional app with a big kid, little kids section. We can have writing prompts each day and analyse the results of those. I also really like the idea of having an interactive ‘speaking’ game, not really a good name but basically lets say its a math game, the app has “(speaker icon) what is 4 +4?” and if the kid clicks on the icon it will speak and say “what is 4 +4?” and the kid can either type the reply or press their own mic icon and say “8” or “the answer is 8” or “4 + 4 is 8” and the computer will pick up the number if it is present so if “eight” was heard anywhere in the sentence then they would get a tick or something, i think thats kinda fun for younger kids and a bit interactive and engaging. Also we’d want to make it accessible to the deaf/blind—im not sure how screen readers work or if there is Braille scanning thing? But thats something to think about too

Other ideas for scaling the tech would be to get a wider range of languages it recognises, and other supporting things like what kind of mistakes it picks up, grammatical errors, complex structural things etc...

**Use cases:**

If you think about it, maybe this technology could also be used by teachers in schools? Instead of having to hand mark all the hw they get? Or long essays? They could put all their students (lets say English hw for now) work through this and get a report which they could scan quickly, stamp (of approval) and hand back to students. It would save them A LOT of time and mean they could have more time preparing lessons materials etc... ALSO it would make the tech reach more people because, as you brought up before, not every individual has a device on which to use the app/tech so if we make it something a school as well as an individual could use, then all the people at the school will benefit and only the school will need at least 1 device on which they utilize the technology rather than all the students (and that is certainly more achievable than getting it to individuals in some places).

Obviously older kids who are writing essays and things get feedback and that helps them learn, practice for exams, etc.. especially if we’re finding similes and metaphors and other detailed writing things

Younger kids can use it for handwriting practice, spelling and punctuation

**In terms of UN goals:**

**4.A**Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, nonviolent, inclusive and effective learning environments for all

**4.6**By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy

Education enables upward socioeconomic mobility and is a key to escaping poverty

* [One in ten](https://www.un.org/sites/un2.un.org/files/sg_policy_brief_on_persons_with_disabilities_final.pdf)children is a child with a disability.

**10.2**By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status

**The problem:**

During covid kids aren’t going to school. Parents might not be at home/busy and cant sit with the kid to go through their work. Kids falling behind in learning. Some kids don’t have good access to resources, tech, to their teachers etc.. they have less ways to get feedback on any work they do actually do. Also, teachers spend too much time marking/ too much marking to do, so less time for other things—thus reducing quality of education (marking may be rushed? Not any feedback/detailed feedback eg pros and cons).

**Potential competition??**

<http://emarkingassistant.com/grading-software-marking-software-teachers/>

<https://www.businessnewsdaily.com/10467-best-handwriting-recognition-apps.html>

<https://omnipapers.com/essay-apps-in-2017/>

<https://phys.org/news/2008-01-software-grades-handwritten-essays-boost.html>

<https://www.teachthought.com/literacy/41-resources-tools-and-apps-to-improve-writing-skills/>

<https://www.fastcompany.com/90371011/these-5-free-apps-make-it-easy-to-improve-your-writing>