

Existing solutions for recognizing handwritten text

- Abto Software

- ❖ Universal recognition algorithm

Our solution tackles all challenges of handwritten text detection like separating characters from background, separating merged symbols, text written in nonlinear rows.

- ❖ Zero language dependency

Unlike similar application on the market, ours detects characters of any language, be it Chinese, or Italian.

- ❖ Works on poor quality texts images

The algorithm is able to detect handwritten text by processing even blurry, grainy and low resolution images.

- ❖ Solution for document-heavy businesses

The prototype can be used for processing all kinds of paper documents in any industry, starting from the surveys, document forms, handwritten invoices.

- tries to detect text lines, but doesn't cope well with angled text
 - for angled text the software seems to misplace characters' positions
 - it only offers a free trial

- ABBYY FineReader Online

- ❖ Convert PDFs and image files into editable formats, such as Microsoft® Word or Excel®, for editing and re-use.

- ❖ Recognize texts on scans and photos in more than 190 languages.

- ❖ Documents are stored for 14 days in a cloud, ready for download and sharing.

- it doesn't offer any free services

- Online OCR

- ❖ Recognize text and characters from PDF scanned documents (including multipage files), photographs and digital camera captured images.
- ❖ Convert text and Images from your scanned PDF document into the editable DOC format. Converted documents look exactly like the original - tables, columns and graphics.
- ❖ OnlineOCR.net is a free OCR service in a "Guest mode" (without registration) that allows you to convert 15 files per hour (and 15 pages into multipage files). Registration will give you ability to convert multipage PDF documents and other features.
- doesn't seem to recognize handwritten text

Overview of technologies

❖ React

Using React for the front-end guarantees that the user is receiving a fully modular and easy to upgrade SPA. React is really good at keeping and updating data (if you're writing code without any loops - not like me) and can be easily adaptable to mobile. Converting projects from React to React Native is relatively easy so the users will be able to install the Cleanly app ASAP. Also the npm packages are an infinite source of anything you can imagine. You need to show where a course was uploaded? react-native-maps has got you covered without needing to pay for Google Maps. You want custom animations - react-lottie or react-animation or any number of infinite custom packages got you covered.

❖ Azure App Service

We're using Azure for our server-less architecture because of its reliability and scalability. It's relatively easy to expand as our app grabs more and more lazy students into its convenience. Also Azure allows us to easily integrate features with Microsoft's suite of apps - like being able to save to your personal Office account all of the courses that you missed! Also, a key advantage is you'll never have to deal with slow and boring deployment

❖ File Storage

Not needing to pay a dime for a large database when just starting out small business? You can't find a deal better than this. With Azure File Storage we're able to save 100GB of free images. After all, there will only be one guy posting the 10-20mb of photos/course anyway so there is no worries in that regard. More than enough to start-up Cleanly into the viral-

sphere of the internet. Jokes aside, using Azure storage solution is relatively easy to use and it's not a pain to setup.

❖ Azure Auth

Want to use the new Apple Login System that is really secure and you don't wanna touch a Mac device or ever need to pay the "devil"? Azure Auth has got your back. Using Azure Auth is the new cool kid on the block. Or in the house, reporting to the unusual times that we live in. Expandability is the key word here. Having access to every login system and having a custom one if you really need to keep that sweet user data flowing so you can sell it for Ads has never been easier. We're using at the moment Google Login for our application but we're planning to expand to infinity and beyond.

❖ Azure Functions

What's a server? As a very famous and controversial commercial portrayed, we're going full-in on the server-less craze. Less thinking about how to program complex API's and more about how to develop our app, we're gonna use Azure functions for the sharing mechanism.

Since we can't physically go to courses nowadays we're planning to upgrade Cleanly to work with videos. Don't wanna wake up at 8am for that boring course? Just kindly ask a classmate to record the class and our platform will extract audio to text and will transform every frame of text into a fully-fledged course that you will DEFINITELY read. This won't work with maths at first but using this for history or a language-based class. This will come as a paid DLC later this summer.