**Research**

Our project is about optical character recognition. We are going to make web site, but if we have time we are planning to make mobile app. Firstly, you should sign in, after that upload image, it will return you text in the image which you uploaded. For optical character recognition it is necessary to make text detection within contours of letters and text recognition with the classifier algorithm as SVM, KNN or neural networks. In the new page within text would be textbox with translation, you may also save it as a document to your computer, and you text will be added to your own users’ page.

Scanner & Translator app extracts texts from any document types and translates it to 90 languages. It will recognize 79 languages, firstly you should choose the language. You may edit and listen text, you may also share text on Facebook, Twitter, VKontakte or send as SMS or by email. All the texts are saved in history and can be later recovered. This app was developed by Datacom Group Limited, this company was started in New Zealand, but has been expanded to operate in Australia, Malaysia, Vietnam, the Philippines, the USA and the UK. People in these countries are using this app.

Camera Translator - Translate Picture Scanner PDF app which was created by INDOTALK company. Translate text from photos and documents in any format. It is similar as another apps, but in this app, user can modify fonts of texts. They have five million installations, but because of the many ads and you should pay for the translations most users are have different opinions.

Camera Translator app scans and translates word by camera, support many languages. Word snap and translation, Camera Translator is your handy dictionary. Extract word text from the camera of mobile phone and provide online translation. Simply aim the camera lens at the word, the translated result will instantly show on screen. Network is needed for translation. Fast and simple camera translator, and free. Created by Fancy Tech, Hongkong company. Installs 5,000,000 - 10,000,000, now 32,147. " "Network is unreachable - cannot download language data." And this is NOT because I do not have a data connection. ", users are disappointed.

Prizmo: app can translate, scan, and voice your scanned documents. Prizmo can scan text documents, process business cards or images using your iPhone or iPad. Take a picture, choose the document type, and use the powerful image cleaning and enhancement features (like cropping and perspective correction, text readability...) to improve the picture. Prizmo supports multipage documents, so that you can add as many pages as you want in a single document. Move or reshape a region and watch as OCR magically updates the text. Correct or edit the recognized text, then export the document. Prizmo includes state-of-the-art Optical Character Recognition (OCR). Easily recognize the text in 40+ languages. Prizmo not only understands many languages, it can speak many as well. 73 high-quality male and female voices are available in 21 languages (developed by the speech specialists of Acapela Group). You can save your documents like a PDF and JPEG files. Small Belgian software development company created this app. Prizmo was designed from the ground up to be used by everyone. Mostly used in Belgium. It has a 95 percent of accuracy.

ABBYY TextGrabber easily and quickly digitizes fragments of printed text, reads QR codes and turns the recognized result into actions: call, write, translate into 100+ languages, search in the Internet or on maps, create events on the calendar, edit, voice and share in any convenient way.  
When you point a camera at printed text, TextGrabber instantly captures information and recognizes it without connecting to the Internet. A unique real-time recognition mode extracts information in 60+ languages not only from documents, but from any surfaces. Translation is available as a separate in-app purchase. TextGrabber app was created by ABBYY company, located in Moscow, Russia. Minus of these app that you should purchase every time when you need to translate.

In conclusion, in our project we can download text which is extracted from the image, also translated text. Our mobile app would work offline, but all these projects are working online. After finishing our research, we recognized that we should also make voice button, which will read your text. We won’t add 90 languages as these projects to character recognition, but we going to make English character recognition with the classifier and algorithms, not using ready tesseract optical recognition as most of these apps did, this ready algorithm mostly gives wrong character, accuracy is slow. Every user in our project will have their own page where they can see previous texts which they are extracted from image. From these app we learned that we should make crop an image function to make better text recognition.