

Smart Notes

1. Problem Statement:

One of the problems with the conventional way of writing class notes on a notebook is that they are not portable. It is not possible to have them with you at all times and they occupy a lot of space.

One of the ways to remedy this is by capturing images of the notes and storing them on the phone. However, it often so happens that they are either a little blurred or require zooming to clearly identify the text. Images also occupy a lot of storage space on your device.

Our solution not only helps in reducing storage requirements of notes for our users but also captures the essence of hand-written notes. Our application will be able to identify text, diagrams, underlined text and font size and will be able to convert them in convenient format of DOC and PDF. Due to recognition of underlined statements, our application will be able to identify the importance of the statement and rightfully display it on the final document. The convenience of downloading the file as DOC will allow the students to modify the text however they please.

Our solution will be able to help students not rely on notebooks or distorted images for the notes but clean documents which will also fulfill the essence of handwritten notes.

2. Technologies:

2.1 Python:

Despite being slow it is really popular. These are reasons for that.

- Python is more productive
- Companies can optimize their most expensive resource: employees
- Enable competitiveness improvement by fast innovation
- Rich set of libraries and frameworks
- Large community

2.1.1 Python Libraries which are useful for this task:

1. Scikit-image
2. OpenCV
3. Matplotlib
4. Pillow
5. pytesseract

3. Solution Overview

- First user will select image which they want to convert. It can be done by select button given in UI.
- It will let use select file from file system.
- User can select from two options : word document or pdf.
- Then that image will be sent to server.
- That server will first extract text and images(diagrams) from that image.
- Then it will distinguish between stuff like heading and normal text. It will also check whether new paragraph is starting.
- After detecting that it will start putting that into digital print in same pattern.
- Once it is done it will send that document back to user.