

# Booklet Lifting Machine For Scanning The Internal Assessment Marks

By,  
Abhishek U (1SI18EC006)  
Ananya S J (1SI18EC011)  
Deeksha B J (1SI18EC029)  
Mohammed Rafi (1SI18EC056)



Under the guidance of,  
Dr. V M Aparanji  
Assistant Professor  
Department of ECE, SIT

## INTRODUCTION

With reference to the college academics, digitalization of marks in the answer booklets, marks card is very much needed in order to reduce the human efforts. Scanning creates much simpler electronic version of the documents which can be used for assessment purpose using automated lifting and scanning machine.

## OBJECTIVE

- To design a model which can automatically lift, scan the marks and place the answer booklets with less human effort.
- To scan the front sheet of the answer booklet and storing the image in the system for future use.
- To send “no booklet” signal to the microcontroller through the IR sensor once the process is completed

## SYSTEM OVERVIEW

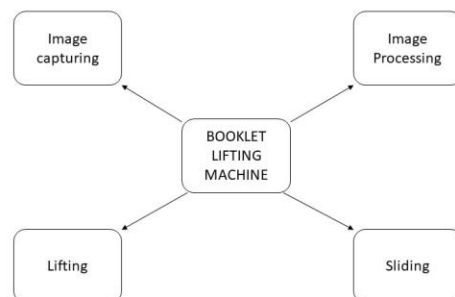


Image Capturing: Front sheet of the internal booklets are captured using camera.

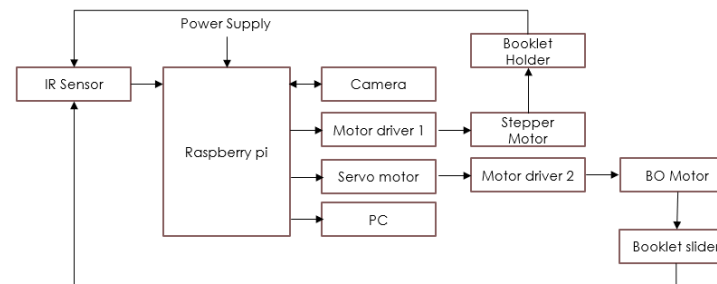
Image Processing: Captured images are processed in required format.

Lifting: Booklet holder is lifting in increment to have a clear capturing of image.

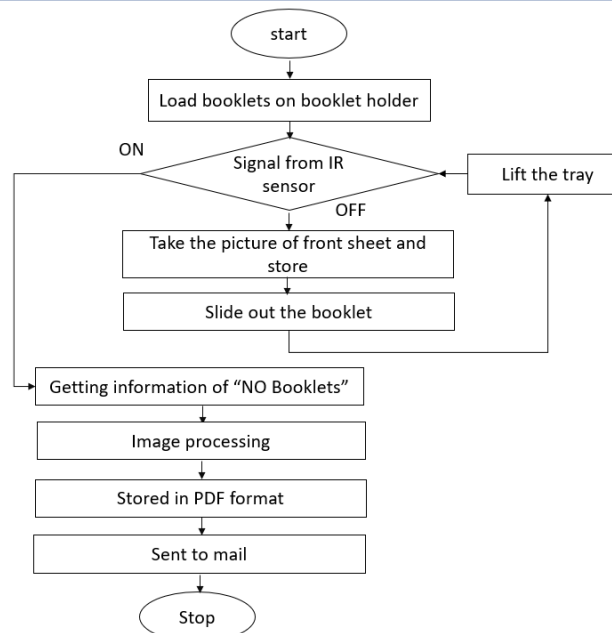
Sliding: After each booklet is scanned, it is pushed out from the tray.

## METHODOLOGY

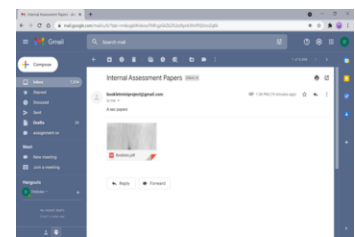
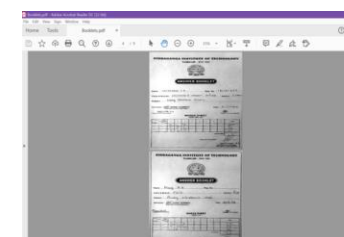
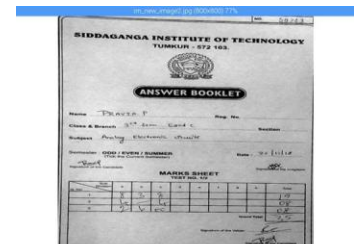
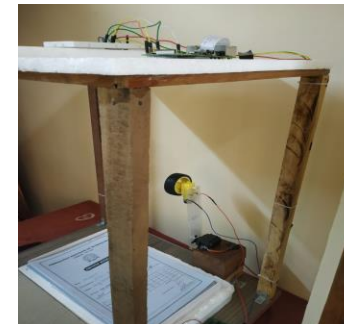
The booklets are loaded on a booklet holder then IR sensor detects the holder has booklets and send signals to raspberry pi. If the signal sent from the detector is OFF then camera takes the picture later slides out the booklet and booklet holder is lifted. If the signal from the detector is ON then it sends NO booklets information then later pictures stored in the raspberry pi will be taken for image processing and cropped. Then processed images are stored in the database.



## FLOWCHART



## RESULTS



- 1,2) Booklet lifting machine
- 3) Captured image before Image Processing
- 4) Captured image after Image Processing
- 5,6) Converted PDF and sent Mail

## CONCLUSION

Booklet lifting machine is thus able to:

- Scan the front sheet of the internal papers.
- Automatically slide out the booklets with less human effort.
- Save the processed images in jpg and pdf form.
- Send the pdf to the mail ids.