

# AUTOMATIC BOOK SCANNER

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# OUTLINE

- ❑ Definition
  - ❑ Motivation
  - ❑ System Diagram
  - ❑ Machine components
  - ❑ Machine running process
- 
- Several white lines of varying lengths and slopes are positioned in the bottom right corner of the slide, creating a modern, abstract graphic element.

# AUTOMATIC BOOK SCANNER

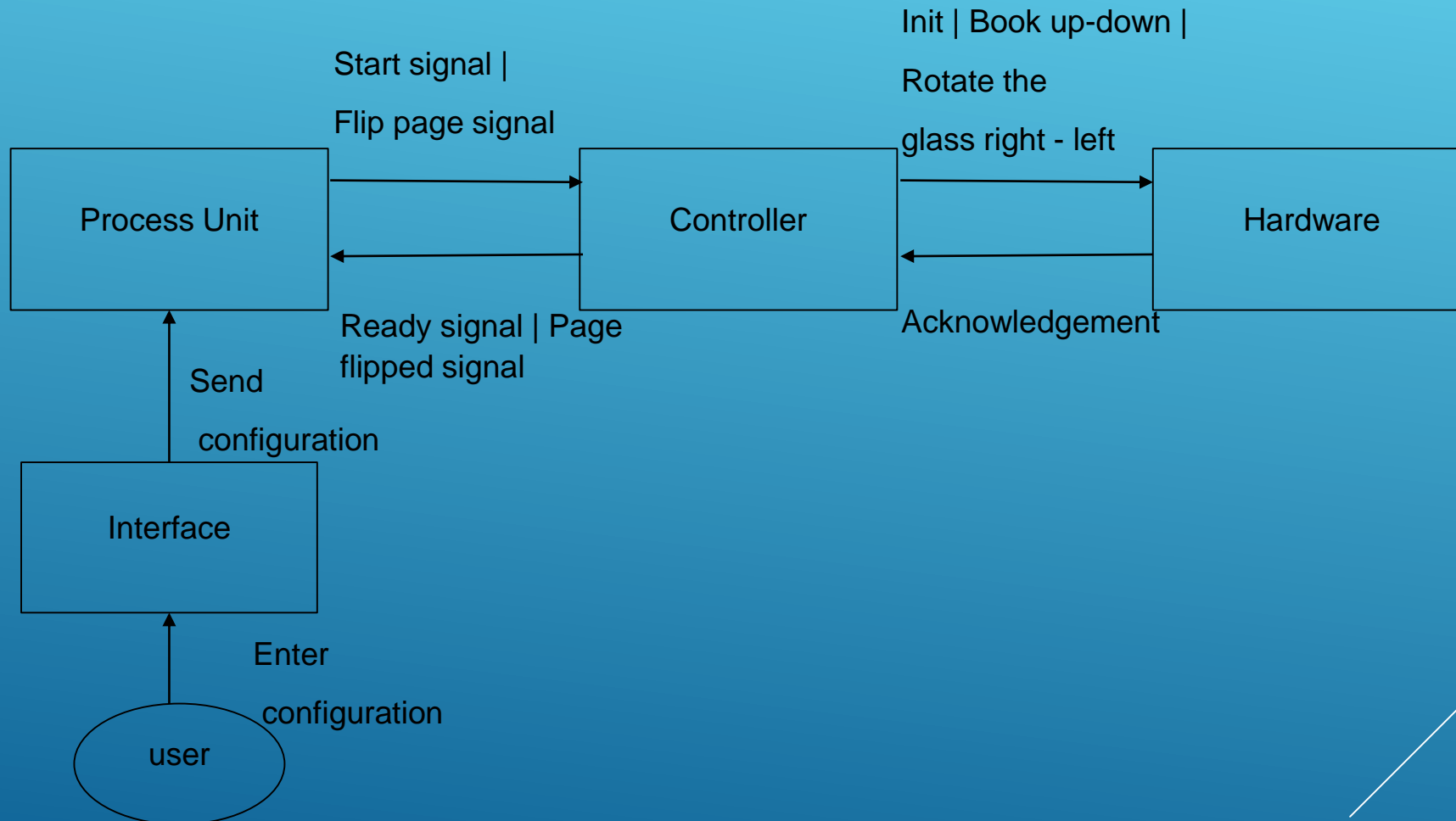
- ❑ Its a machine that's takes a pictures of book pages and convert it into PDF file.
  - ❑ Simply , you just put the book and using a mobile application, the machine will start the scanning process.
  - ❑ It takes the pictures using mobile phone , DSLR camera or web camera.
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- A series of three parallel white diagonal lines are positioned in the bottom right corner of the slide, extending from the right edge towards the center.

# MOTIVATION

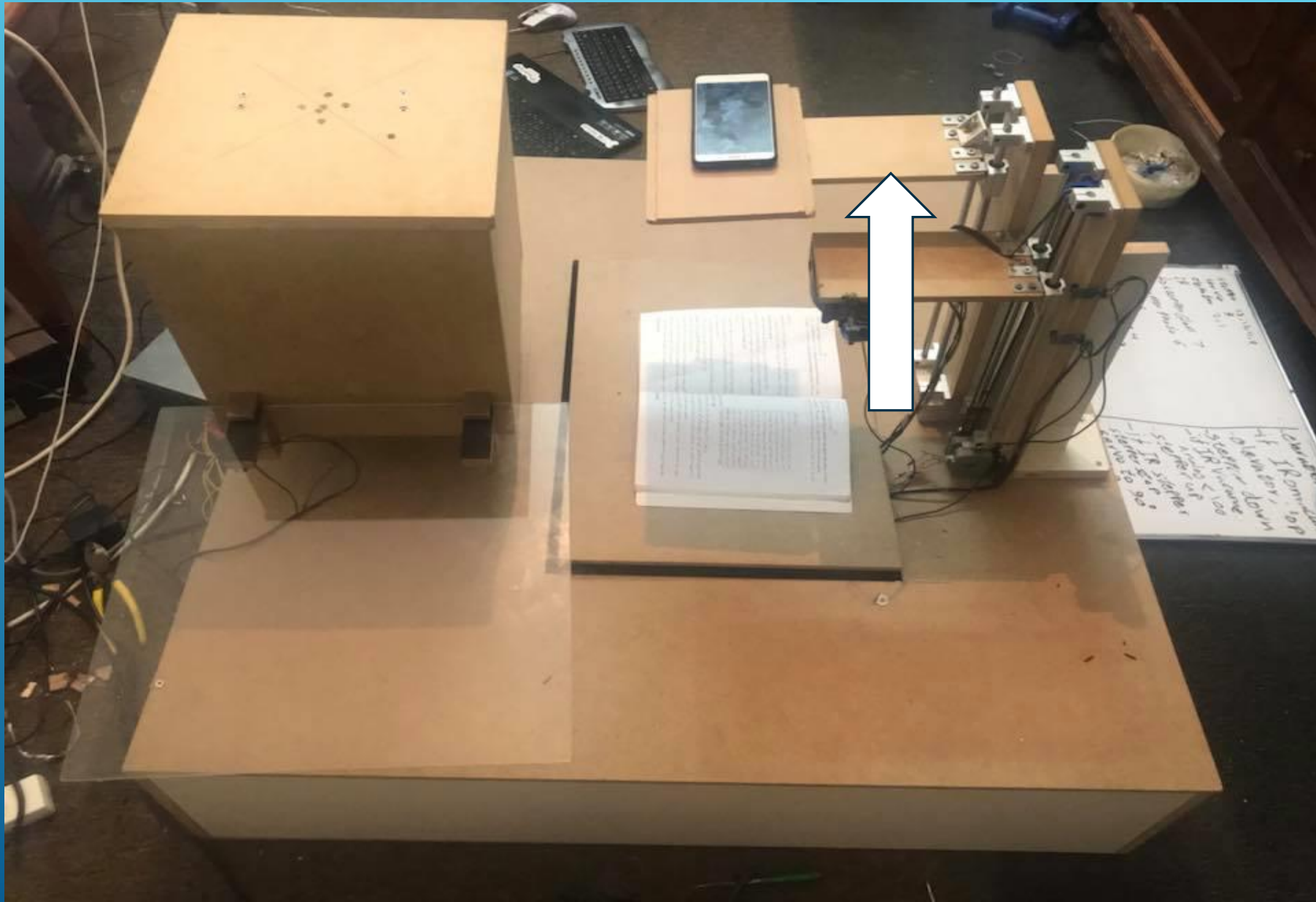
## Why we built this application ?

- Manual Scanning saves effort, so you can do something else in the scanning time.

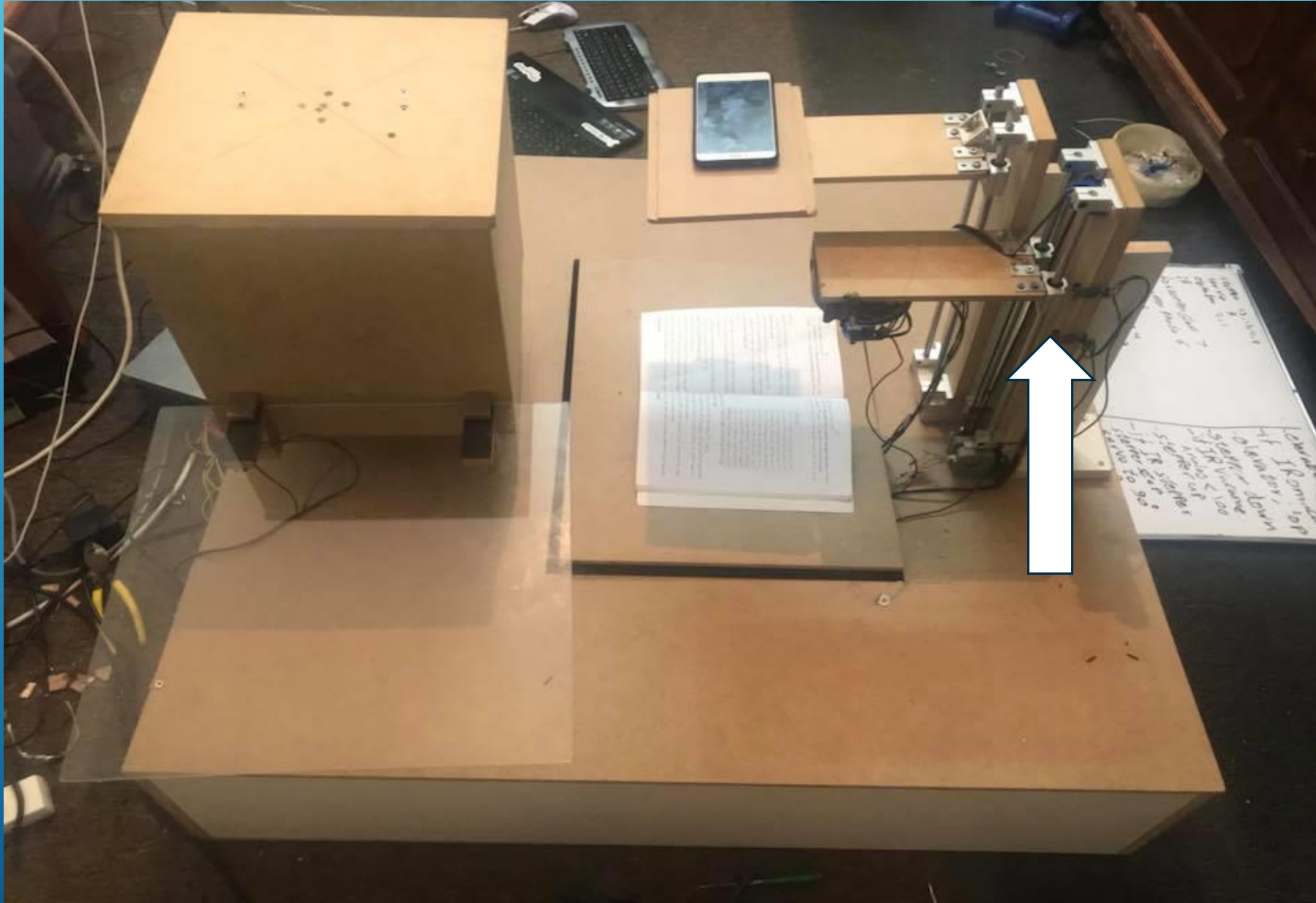
# SYSTEM DIAGRAM



# MACHINE COMPONENTS



# MACHINE COMPONENTS



# MACHINE COMPONENTS: GRABBER ARM

- ❑ The responsibility of this arm is to grab the page up to specific height.
- ❑ It contains a suction fan to grab the page.
- ❑ This arm will move up and down by stepper motor.
- ❑ It contain also 4 IR obstacle module.

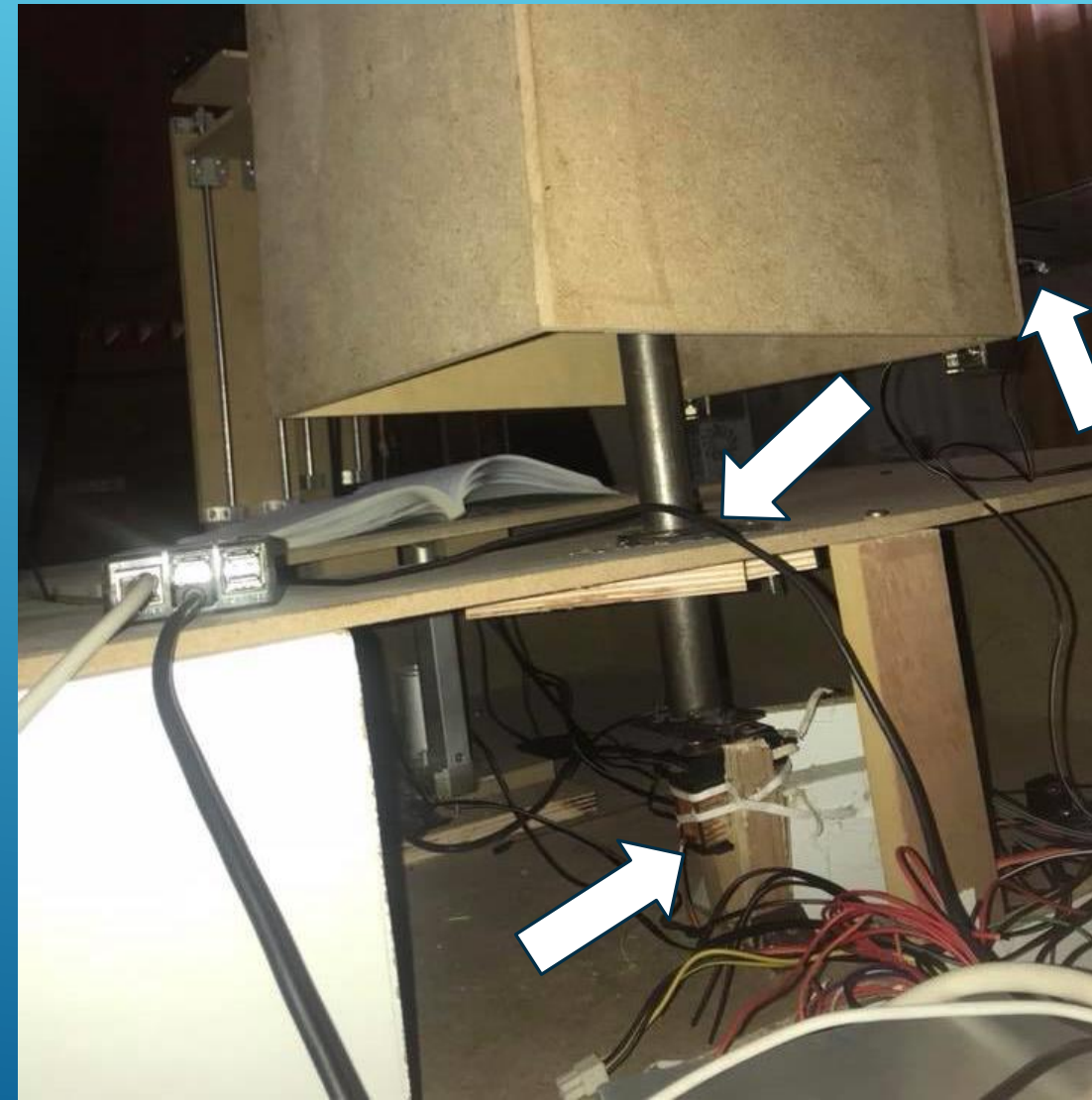
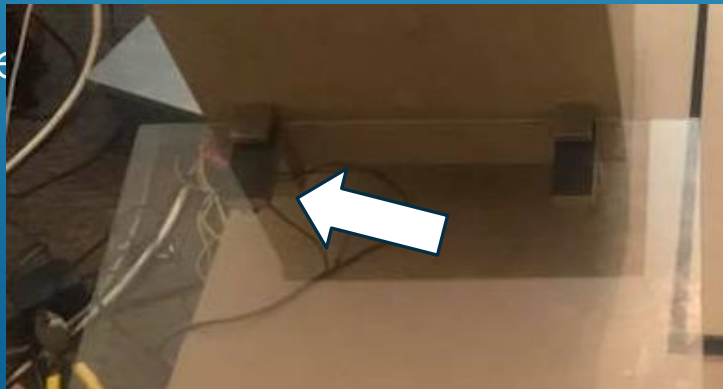


# MACHINE COMPONENTS



# MACHINE COMPONENTS: ROTATOR BOX

- ❑ This rotator box is responsible to flip the pages in the first place
- ❑ The square glass will do this job.
- ❑ Also , it make the pages on the same level before taking the photo.
- ❑ This box contains 1 IR obstacle module
- ❑ The main 2 mechanical parts in this box :
  - ❑ Mechanical bearing
  - ❑ Se



# MACHINE COMPONENTS: ROTATOR BOX

## Servo Motor:

- ❑ The motor is connected to wood base to prevent it from moving when its rotating the box.
- ❑ The servo motor is connected with an iron rod to rotate the box.



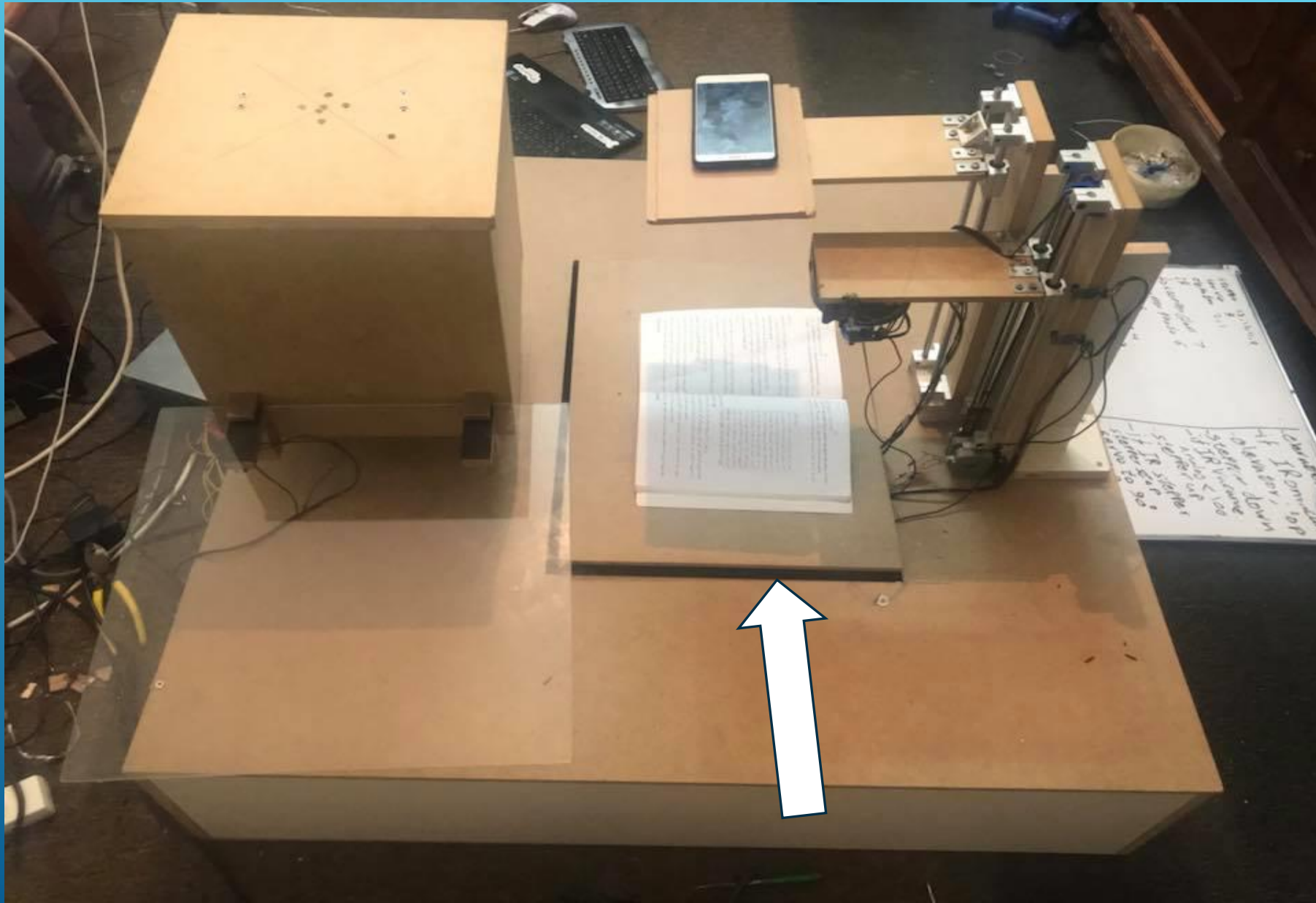
# MACHINE COMPONENTS: MECHANICAL BEARING

## **Mechanical bearing**

- This mechanical part makes the rotation easier by taking all the weight carried by the motor.



# MACHINE COMPONENTS



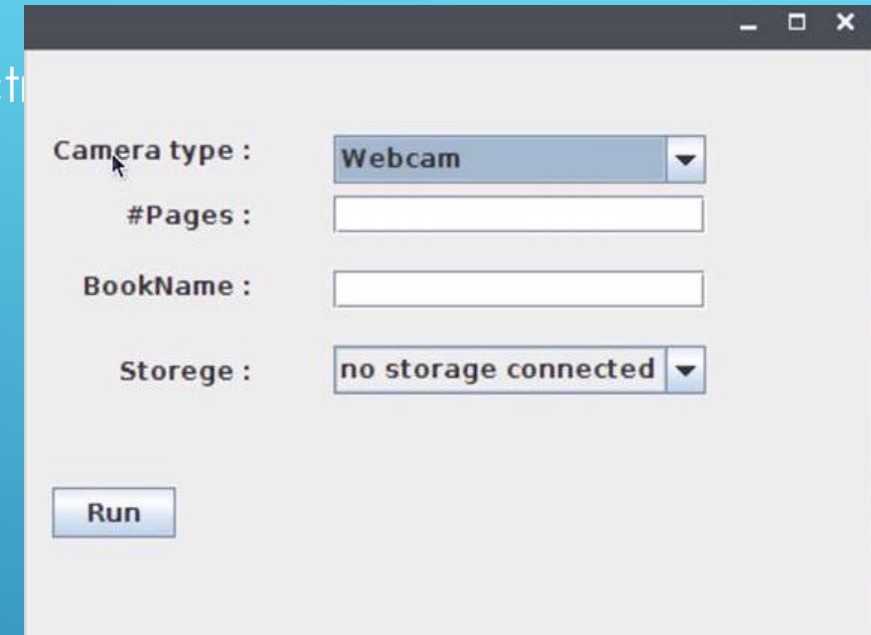
# MACHINE COMPONENTS: BOOK AREA

- ❑ The book will be on the square as the previous image
- ❑ This square will go up and down during the scanning operation.
- ❑ It goes up and down by using electric linear actuator.



# MACHINE RUNNING PROCESS

- ❑ At the beginning connect the machine to the elect
- ❑ On tablet connect to the TP-LINK router
- ❑ On tablet open VNC viewer application
  - Insert the following URL to host 192.168.1.5:1
  - Insert password written on the box
- ❑ After connect to the system connect your USB storage to the machine
- ❑ After that open the BookScanner.sh icon and click on the execute
  - An interface will appear showing 4 fields



The screenshot shows a VNC viewer application window with a light gray background. It contains four configuration fields: 'Camera type' with a dropdown menu set to 'Webcam', '#Pages' with an empty text input, 'BookName' with an empty text input, and 'Storage' with a dropdown menu set to 'no storage connected'. A 'Run' button is located at the bottom left of the form area.

Camera type :	Webcam
#Pages :	
BookName :	
Storage :	no storage connected

Run

# MACHINE RUNNING PROCESS

DEMO TIME :D

Several white diagonal lines of varying lengths and thicknesses are positioned in the bottom right corner of the slide, creating a modern, abstract graphic element.

Thank you

