



QR Code Scanner

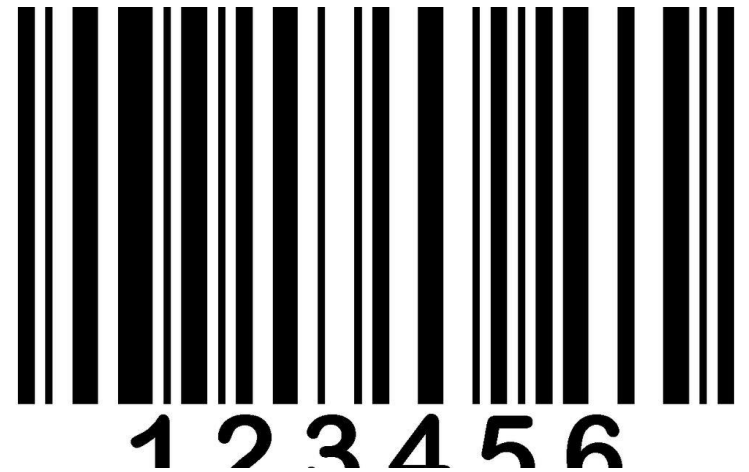
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What is QR and Bar code-?

Barcode provides us with the way to store numbers in a computer understandable format. This is used to store information in a 1D or 2D format can be scanned for data retrieval. It is used by stores back off sweaters for keeping track of the patients just in case of rental car services to track where the car is in cases of airline luggage.

QR codes are a way of storing data in the form of computer understandable format, that can be scanned by using QR code scanner to retrieve the data. These are widely used nowadays for cashless and UPI payment services. They can be used in case of identifications and are also used for sharing photos, videos and other files.

How they
look...?



Flow of Project

- Recognizing and decoding the barcode/QR code that we will be showing to the camera.
- Adding the stored information as a text on the recognized barcode/QR code.
- And lastly, exporting the stored information as a text document.

Library used in project

- Pillow
- OpenCV
- Pyzbar

OUTPUT

The image shows a Visual Studio Code editor window with a Python script named `baarcode.py` and its output. The script is designed to read barcodes from a video feed and save the recognized barcode to a file named `result.txt`.

```
baarcode.py > read_barcode
1  #import libraries
2
3  import cv2
4  from pyzbar import pyzbar
5
6  def read_barcode(frame):
7      barcodes = pyzbar.decode(frame)
8      for barcode in barcodes:
9          x, y, w, h = barcode.rect
10         #1
11         barcode_info = barcode.data.decode('utf-8')
12         cv2.rectangle(frame, (x, y), (x+w, y+h), (0, 255, 0), 2)
13
14         #2
15         font = cv2.FONT_HERSHEY_DUPLEX
16         cv2.putText(frame, barcode_info, (x + 6, y - 6), font, 2.0, (0, 0, 0))
17
18         #3
19         with open("result.txt", mode='w') as file:
20             file.write("Recognized Barcode:" + barcode_info)
21     return frame
22
23 def main():
24     #1
25     camera = cv2.VideoCapture(0)
26     ret, frame = camera.read()
```

The output of the script is shown in the `result.txt` file:

```
1  Recognized Barcode:9781911223139
```

A separate window titled "Barcode/QR code reader" displays a video feed of a hand holding a barcode. The barcode is highlighted with a green rectangle, and the recognized barcode number "9781911223139" is overlaid on the image.

The bottom status bar of the editor shows the following information:

- Python 3.7.4 64-bit
- 7 0
- Ln 17, Col 11
- Spaces: 4
- UTF-8
- CRLF
- Python

OUTPUT

The image shows a Visual Studio Code editor window with a Python script named `baarcoder.py` and its output. The script uses `pyzbar` to decode a QR code from a video frame and displays the result "GO BACK" on the frame. The output window shows the recognized barcode as "GO BACK".

```
baarcoder.py > read_barcode
1  #import libraries
2
3  import cv2
4  from pyzbar import pyzbar
5
6  def read_barcode(frame):
7      barcodes = pyzbar.decode(frame)
8      for barcode in barcodes:
9          x, y, w, h = barcode.rect
10         #1
11         barcode_info = barcode.data.decode('utf-8')
12         cv2.rectangle(frame, (x, y), (x+w, y+h), (0, 255, 0), 2)
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14         #2
15         font = cv2.FONT_HERSHEY_DUPLEX
16         cv2.putText(frame, barcode_info, (x + 6, y - 6), font, 2, (0, 255, 0))
17
18         #3
19         with open("result.txt", mode='w') as file:
20             file.write("Recognized Barcode:" + barcode_info)
21     return frame
22
23 def main():
24     #1
25     camera = cv2.VideoCapture(0)
26     ret, frame = camera.read()
```

result.txt

```
1  Recognized Barcode:GO BACK
```

Barcode/QR code reader

GO BACK

PROBLEMS 7 OUTPUT DEBUG CONSOLE TERMINAL

```
dir=0 sig=2c841 k=0 g0=b76 g1=ffffff g2=322 buf[0000]=
WARNING: .\zbar\decoder\pdf417.c:89: <unknown>: Assertion "g[0] >= 0 && g[1] >= 0 && g[2] >= 0" failed.
dir=0 sig=2c841 k=0 g0=b76 g1=ffffff g2=322 buf[0000]=
WARNING: .\zbar\decoder\pdf417.c:89: <unknown>: Assertion "g[0] >= 0 && g[1] >= 0 && g[2] >= 0" failed.
dir=0 sig=2c841 k=0 g0=b76 g1=ffffff g2=322 buf[0000]=
WARNING: .\zbar\decoder\pdf417.c:89: <unknown>: Assertion "g[0] >= 0 && g[1] >= 0 && g[2] >= 0" failed.
dir=0 sig=2c841 k=0 g0=b76 g1=ffffff g2=322 buf[0000]=
```

Python 3.7.4 64-bit 7 0 Ln 17, Col 11 Spaces: 4 UTF-8 CRLF Python



Future Scope

- We can use this system in many robot specific application.
- Also this system can be used in heritage places to book tickets.