

# Automatic Drug Identification using Image Processing

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**Abstract-** In today's world, both the doctors and patients are being affected. The reasons could be many. Doctors are considered to be the most important parts of the society. But today doctors are being blamed due to the carelessness of the patients. In many situations, doctors have become helpless. So to overcome these problems this application has been developed. According to this, the patient, who is totally unknown or illiterate, can get all the information of the tablets that is its usage, side effects etc; even if the person is unaware of its name. So that it creates awareness among the people and reduces conflicts. Not only illiterate people but it also helps the educated ones. The person who is confused with doctor's prescription i.e., if he doesn't understand what tablet to take for what problem, this technique is not restricted with only name, even its chemical composition could be enough to tell its details. It builds transparent and fair relation between a doctor and a patient. Using this application people can get information in hand itself. So there would be no blame and disputes. And another most important feature of this system is that people can even check its expiry date. System has been developed, according to this, the patient, who is totally unknown or unaware can get all the information regarding the tablets. By taking the tablet's image, it is aimed for helping people by providing the respective information.

## 1. INTRODUCTION

In our daily lives, many medicines used in hospitals and primary care centers are difficult to identify. And those used may be burdensome to detect on a day-to-day basis unless they are obvious. Medicines are one of the most important health care technologies for improving health and quality of life for the generations. Unfortunately, medications are a double-edged sword. Medications will result the side effects also, drug interactions and other undesired outcomes. Many of these medicine-related problems are predictable and therefore can be prevented. In this paper, the model is proposed for the identification of the tablet strip using some of the image processing techniques.

## 2. LITERATURE REVIEW

2.1 Shilpa and Arun Bhatia (June2016) proposed a method to identify damaged and missing tablets with edge detection method. This method says that finding edges of tablets by taking their Centre. The no of tablets in the vesicle are calculated by edge detection method.

2.2 Ramya.S, Suchitra.J, Nadesh R. proposed some ideas to identify the defective tablets after production using "Detection of Broken Pharmaceutical Drugs using Enhanced Feature Extraction Technique". This method involving many image processing techniques to identify the defective tablets. In the case of tablets they propose a feature extraction technique to find the defective one.

2.3 Dr. H.B. Kekre, Dr. Dhirendra Mishra, proposed methods of image processing for detection of defective tablets and presence of category of defects. This method has taken to detect different possible types of tablet defects i.e., missing, broken, missing and broken and many other possible defects.

2.4 Jesus J Caban, Adrian Rosebrock, propose a model for identifying the prescription of drugs. This paper says a simple but strong classification technique and that can be used to automatically identify the prescriptions of drugs within images. The system uses different image processing techniques. The proposed technique has successfully results with 568 of the most relate tablets in the United States and has shown 91.13% accuracy in automatically identifying the correct medication.

2.5 Author Propose a Voice Based Application System for blind people. In this system, a alarm is set and it tells the user when to take the tablets, as voice output. The pictures of the medicine strip will be taken by the camera of the mobile. The image is

### 3. METHODOLOGY

(STEPS):

Step 1: Input the tablet strip

(Fig: 1)

Step 2: Convert the original image into Gray Image (Fig: 2)

Step 3: Applying Non local mean filter to Gray Image (Fig: 3)

Step 4: Conversion of filtered image to Binary image (Fig: 4)

Step 5: Recognition of the Tablet strip

Using OCR technique (Fig: 5)

Step 6: Connecting to the web/Databases (Matching OCR results to the Web/database)

Step 7: Displaying the tablet usages and the Side effects (Audio message)



Fig: 1 Original image



Fig: 2 Gray image



Fig: 3 Non local mean filter applied image

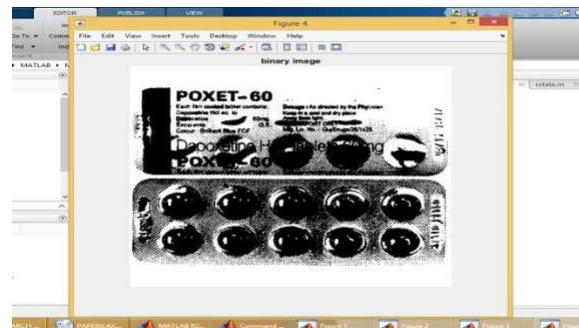
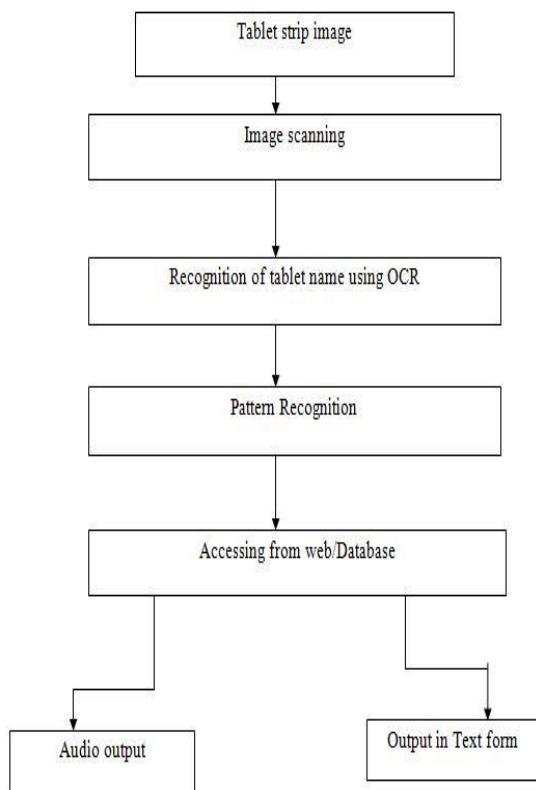


Fig: 4 Binary image

```
results =
  ocrText with properties:
    Text: 'POXET-60 . '
    ...
    CharacterConfidences: [62x1 double]
    CharacterBoundingBoxes: [62x1 single]
    Words: {9x1 cell}
    WordConfidences: [9x1 double]
    WordBoundingBoxes: [9x4 double]
```

Fig: 5 OCR Results

### 3.1. PROPOSED WORK



- [3] Dr. H.B. Kekre, Dr. Dhirendra Mishra, 2014 International Conference on Circuit, Power and Computing.
- [4] Jesus J Caban, Adrian Rosebrock, Terry S Yoo, National Intrepid Center of Excellence (NICoE), Naval Medical Center, University of Maryland, UMBC, National Institutes of Health, Bethesda, MD, 2012 IEEE "Automatic Identification of Prescription Drugs Using Shape"
- [5] P. Elanthiraiyan<sup>1</sup>, Dr. S. Babu<sup>2</sup>, IUG Scholar, IJCSMC, Vol. 4, Issue. 3, March 2015

### 4. CONCLUSIONS

This paper provides the system for identifying the tablet strip, its usage, and side effects for the person who is uneducated or unaware of the tablets or having confusion in the doctor's prescription. This model is implemented by using the image processing technique. The input will be given in the form of image only.

### 5. REFERENCES

- [1] Shilpa Arun Bhatia M. Tech Student Assistant Professor Department of Electronics & communication Engineering Department of Electronics & communication Engineering HEC Jagadhri(YNR), Kurukshetra University(haryana) HEC Jagadhri(YNR), Kurukshetra University(haryana), IJIRST June 2016 ISSN
- [2] Ramya.S\*, Suchitra.J\*, Nadesh R.K<sup>+</sup> School of Information Technology and Engineering VIT University: Vellore, Tamilnadu: India \* P.G.Scholar, Assistant Professor(Senior), "Detection of Broken Pharmaceutical Drugs using Enhanced Feature Extraction Technique" Apr-May 2013 1407 Ramya.S et al.