

Medicine Identification Using Open Cv

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Abstract

For everyone, health is a very important thing in life more than anything. If people are healthy, they will do anything in their life. But now days due to pollution, climate change, environment changes etc. peoples are suffering from some small health issues. But people ignore and public are not aware of how to cure that problem. Generally, peoples are having some general medicines which are useful but they have no knowledge of those medicines so avoid using those medicines when they are needed, but people need to know the basic knowledge of the medicines for our sake. In this project medicine identification by using open-cv. By uploading the photo of the tablet box is helpful to find the details of medicine like medicine name, disease name, dosage of that medicine, etc. They will get the knowledge of a particular medicine which is available with them.

Keywords: Medicine identification, medicine, tablets, disease name, medicine names.

I. INTRODUCTION

Usually, people buy medicine for many reasons but they forget why they bought that medicine and for which disease need to take that medicine. And when it's needed after a long time it will become difficult to find out which tablet, they need to take and which will cure their health problems[6][7]. Generally elder people have many health problems but they don't remember the tablet names and which tablet they need to take for their health problems[9][11]. So, by this medicine identification they will get to know the use of that particular tablet so that it would be very helpful to normal people who have zero knowledge of that medicine[8]. Old people will easily take their medicine which is needed for them instead of wrong medication which leads to severe problems sometimes[12]. In this project medicine identification, by uploading the photo of the tablet box it will give the basic details of that medicine like medicine name, which disease it will cure, dosage of that medicine for adults and children, etc[14][13].

II. PROBLEM STATEMENT

Generally, citizens buy medicine for many reasons but they forget why they bought that medicine and for which disease they need to take that medicine[15]. And when it's needed after a long time it will become difficult for them to find out which tablet, they need to take and which will cure their health problems. In this project medicine identification, by uploading the photo of the tablet box it will give the basic details of that medicine like medicine name, which disease it will cure, dosage of that medicine for adults and children, etc[17][19].

III. LITERATURE SURVEY

MEDIDEN: Automatic Medicine Identification Using a Deep Convolutional Neural Network by [1][20]. MEDIDEN include the classification of medicine packages, a reminded function that can be set in detail and integrates with the mobile OS's notification system, and news feeds for medication-related articles. Drug Discovery and Drug Identification using AI [2][21]. The paper deals with identifying and creating new drugs using AI technique. With this detection it we can identify the reactant which are added as drugs and automates the entire flow. An Automated System for Identification of the Medicinal Leaf using MKSVM [3][22]. This paper comes up with a robotic system for the classification in the medical field, which is towards

restricting manual classification, which is based on medicinal plant identification. Medicine identification system on mobile devices for elderly [4][23-25]. This application helps the elderly to identify medicine from a mobile image to reduce confusion in taking medication, and thus reduce the rate of medication errors[26]. The data used in this research are collected from medicine blisters pack images for image classification model training[27][28].

Pill detection model for medicine inspection based on deep learning [5]. This paper proposes a deep learning algorithm that can improve pill identification performance using limited training data. In general, when individual pills are detected in multiple pill images, the algorithm uses multiple pill images from the learning stage[29][30]. However, when there's an increase in the number of pill types to be identified, the pill combinations in an image increase exponentially. To detect individual pills in an image that contains multiple pills, we first propose an effective database expansion method for a single pill. Every application we have studied is different from each other. We too have a different thought if doing medicine identification through image processing which is helpful for everyone who has no knowledge about medicines. Medicine identification and medicine detection there are many websites and apps to identify the medicines. They developed the applications to identify drug names, medicine id, etc. And some other applications use the pill detection that means by using the pill they are going to find out the pill names, and other details. Some pills have same color which makes it difficult to identify the medicine name. Drug detectors are not useful for all people because normal people don't need drug names.

IV. METHODOLOGY

Firstly, the user uploads the image. Then using pytesseract extract the text from image. And using OCR and pytesseract the text will be extracted from medicine box. From the extracted text the medicine name will be taken from the image. And database will be created for medicines details. From the database it will match the medicine name and print the details of the medicine to the user. If the text is not matches from the database, then it will print as not found and we need to reupload the picture.

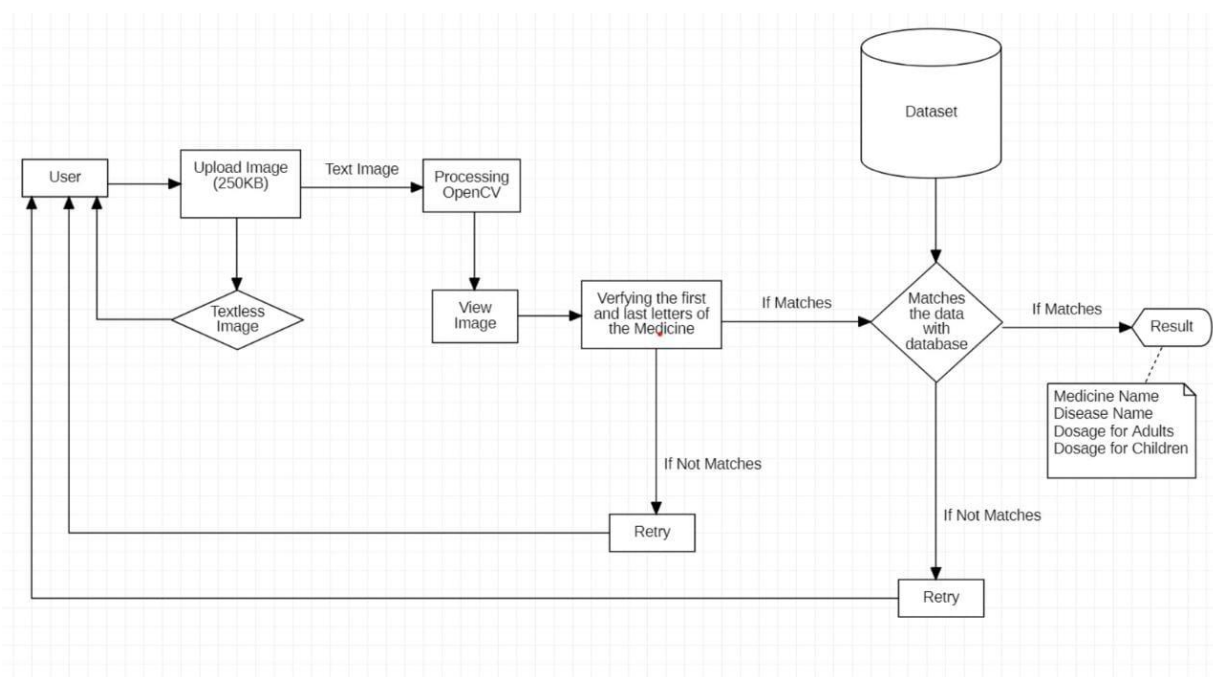


Fig 1: System Architecture

V. IMPLEMENTATION

Medicine identification, it will identify the medicine names, disease names which is the medicine used for, and dosage of that medicine by uploading the photo of the tablet box by using Open-CV image reading techniques. It will be easy for everyone to know the use of every tablet. It also gives the dosage of the tablet for adults and children separately.

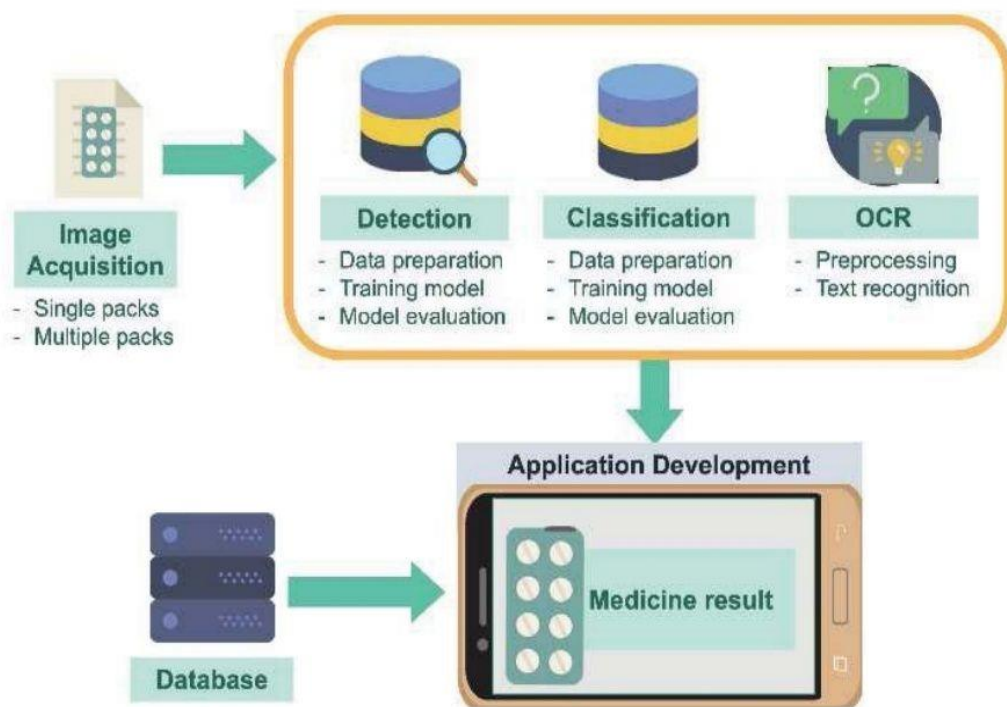


Fig 2: Working Flow Process

Medicine analysis algorithm:

```

Import modules
INPUT users input the image of tablet box with 250 kb size
  If image is with text
    Processes image
  Else
    Retake the image
Creating database for medicine details
Image processes and views the image
Checking the medicine names on sheet with database
  If any name matches exactly
    Prints the details of that medicine
  Elif matches the first and last letters from database
    If matches
      Prints the details of the medicine
    Else
      Need to retake the pictures
Else
  No matches found retake the picture
  
```

VI. RESULTS

Imported all the required libraries which are required for this project. After uploading pytesseract extracted text from image. It matches the medicine name from database and find out the details. If medicine name found, it will print the details of the medicine. If the medicine name is not matches then it will show the result as not found.

Upload an image



Extracted Information

Medicine Name: Augmentin

Disease Name: treatment for bacterial diseases

Dosage for Adults: 500mg tablet for every 12 hours

Dosage for Children: 30mg/kg/day divided every 12 hours

Extract text

Fig 3: Augmentin Output

Upload an image

Paracetamol, Propyphenazone and Caffeine Tablets

dart[®]

ANALGESIC TABLETS

Extracted Information

Medicine Name: dart

Disease Name: headache, tooth pain

Dosage for Adults: 300mg, 1 tablet per day

Dosage for Children: 150 mg, half tablet per day

Extract text

Fig 4: Output for Dart

VII. CONCLUSION

From this project we working on it can be concluded that python programming language and open-CV library can be used for medicine identification with very good results. Nowadays health problems are increasing due to climate change and pollution. People brought medicines to cure the problems after they were cured; they forgot the tablet is used for which disease. So, we thought that this idea is very useful nowadays. So, by using this medicine identification they can identify the basic details of the medicine just by uploading the picture of the medicine box. We have some ideas for future enhancement of this project. Due to the pollution and unpredictable climate change, people need to suffer with some diseases. So, the use of this application is very helpful in future also. Generally, doctors say some medicine to take morning time, some to take night time, and some without breakfast like this some timings and some conditions will be there to take medicines. So, to avoid confusion we will update the database with timings of that medicine like when they need to take that medicine. We think it's difficult to predict the expiry date by just uploading sheet cover but we can try that also because it is most important thing, because technology is growing. So, in future it may possible and very helpful to people. In this project only developed for allopathy in future will try for Ayurveda and etc.

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