

Pharma Image Information Extraction Using Image Processing

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Abstract: In order to obtain better recovery and avoid any side effects it is critical that the patient should take correct medicine for the illness they are suffering with. It is important that the medicine that is taken should produce the maximum benefit for the person. This is the very important aspect of medication but we are finding many cases wherein the erroneous information about the drug might create bad affects on the people and tend to extend many problems instead of reducing the ailment. The main reason for this, is lack of information about the drug to the patient and some being illiterate or mind belief on the drugs. So as to overcome this issue Pharma Image Information Extraction using Image Processing is a medication application which helps you to view the medicine based on the symptoms to which the medicine is to be used at anytime, anywhere through your phone. It helps you to get the information of the medicine by just sitting at your house and taking the picture of the medicine. This paper mainly focuses on extracting the text on the tablet strip and offer correct information about the tablet and vice versa which helps the illiterates not to get cheated with the dubious medicines mapping to the symptoms he/she is suffering with.

Keywords : *Image processing , Pharma, extraction and medicine.*

I. INTRODUCTION

Taking correct medicines is really a very critical for the patient who is suffering from illness for a speedy recovery. It is important that the medicine that is taken should produce the maximum benefit for the person. The main reason for this is lack of information about the drug to the patient and some are so illiterate and ignorant about it.

Pharma Image Information is an Image Processing technique and application. It helps in viewing the medicine content and its relation to the symptoms that would be mapped for testing through cell phone picture processing [2][3]. Its chief focus is on extracting the text on the tablet strip. It provides correct information about the tablet and vice versa which helps the illiterates the facts about the genuine medicines.

It can also furnish the name of the medicine to be used based on the symptoms. The present systems are mainly computer based which is hard to use when a patient move from one place to another. At times browsing for a correct medicine and verification is laborious task all together. And it even becomes very difficult to sit at a place and search. Some of them are even being handled manually. Even there are many flaws or drawbacks in such systems.

Optical Character Recognition

Optical character recognition is a part of image processing where the text is extracted from the image that is captured or printed or written by the human to machine encoded text [4] [5]. In this the text that is scanned is taken character by character and is printed on the screen and this can also be used for other languages like Telugu, Hindi, Spanish, Japanese etc. The extracted text can be also converted from one language to other based on the requirement. It is a

method of converting the letters that are present on the image to a computer generated letters, so that they can be edited, searched, store more compactly and can be used in processing like machine translation, text to speech. OCR is being used for research in patten recognition, computer vision and artificial intelligence also[1][2].

Following are the drawbacks of the existing system

- Scope for redundancy.
- Time Delay.
- No accuracy.
- Tablets information retrieving may become difficult.

Firebase System

The proposed system using FIREBASE cloud where the data is being stored [8] [9]. The Firebase cloud is a freeware which is one of the most effective platforms provided by googlemakes-taskeasy with a greater efficiency. The robustness of the FIREBASE is too high. In this the updating and maintenance of the profiles becomes very easy. These are some of the major merits, which lead to develop this “PHARMA IMAGE INFORMATION EXTRACTION USING IMAGE PROCESSING” project[3][6].

II. IMPLEMENTATION

The implementation stage of this project is a correct display of the defining moments that make a project a success or a failure. The implementation stage is defined as the system or system modifications being installed and made operational in a production environment. The phase is initiated after the system has been tested and accepted by the user. This phase continues until the system is operating in production in accordance with the defined user requirements. In the

implementation phase of this project android studio is being used so that the user can interact easily with the system through their smart phones[6][7].

III. ALGORITHM USED

Algorithm of Pharma Image Information Extraction Using Image Processing

Algorithm:

- Step1 : Start
- Step 2 : if input is picture then
- Step 3 : press convert button to take the picture
- Step 4 : the converted text appears on the text field
- Step 5 : press the search button
- Step 6: The data corresponding to the required search is obtained in the next activity.
- Step 7 : else
- Step 8 :If the tablet name entered then
- Step 9 : press the search button
- Step 10: the data corresponding to the required search is obtained in the next activity
- Step 11 : else
- Step 12: entered details are symptoms so press search button
- Step 13: the data corresponding to the required search is obtained in the next activity
- Step 14 : Stop

IV. RESULTS OF THE EXPERIMENT

In this experiment every page is considered to be an activity and each activity has a certain set of actions to be performed. In the description of each activity is shown along with functions relating to the corresponding activity. The usage and interaction with each activity to obtain the required information pertaining to the tablet is available that can be used to map the symptoms of the suffering.



Figure 1: First Activity

From the above Figure1 shows the first activity of the application.

By swiping the screen, it goes to the next activity shown below in the Figure 2.

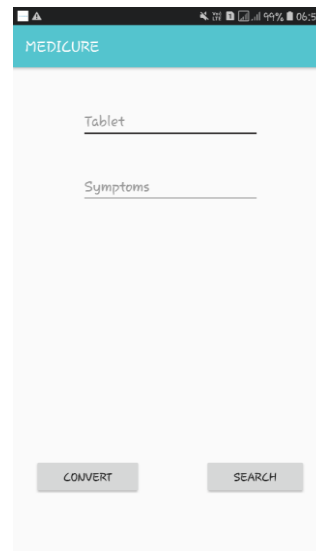


Figure 2: Second Activity

The Figure 2 displays two text fields one for entering the tablet name and the other is for entering the symptoms. There are two buttons used to take the picture using camera and a convert button to convert the text present in the picture[8][9]. The converted text is been shown in the tablets text field.

The search button is used to search in database for the data entered in the text fields. After the process is completed, it goes to the next activity to show the data related to the text fields[5].



Figure 3: Capturing a picture of tablet

Figure 3, depicts that entry of the symptoms into the text field of symptoms.

When the search button is being pressed the present activity goes to the next activity where the tablets related to the search are displayed as shown in the Figure 4.



Figure 4: Displaying the Results of Tablet

From the above figure, it is evident that the final activity of the project displays the data of either the tablets for symptoms or for the symptoms for which the tablet can be used.

In combiflam is used for pain relief and it is suggested for child a that to use a quarter tablet and for a adult full tablet.



Figure 5: Searching symptoms

The above figure 5, shows the example of symptoms in the text field.

When the search button is being applied the present activity goes to the next activity where the tablets related to the search are shown which is mentioned in the Figure 6.



Figure 6: Showing the results of symptoms

The above figure represents the final activity of the task which displays the data of either the tablets for symptoms or for the symptoms for which the tablet can be used i.e. dolo650 is used for fever i.e. half for child and full tablet for an adult.

V. CONCLUSION

Pharma Image Information Extraction Using Image Processing is easy to use. It gives information about the tablets and for a specified symptoms. It is used by just taking the picture of the tablet you can get the total information. It is very useful in the time of emergency. It can be used in the time of first aid at emergency cases and instant relief. Images can be compared with the large set of data present and gives the related images. This application uses feature extraction and matching. Further we can even put translator to it to get information in any language we want to. Cloud is being used in this for storing of data and to make data accessing easy.

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