Finance Tracker Using Mobile Application

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Abstract-Finance Tracker is an android application for the receipts which is helpful to keep the information from the scanned receipts. Here storing the information is done automatically by the application which convert the text into machine readable language. This application can be made easy to the user to store the information of the receipts in the mobile itself.
In previous systems the received data details are inserted manually into the database.It will long time to process the data. It may also lead error.Now, there are some Application Programming Interface (API) available online which helps to recognize the data on the receipts at the backend and makes easy to automatically store into the database. So with the help of these API's the information in the receipts are recognized and stores into the database.
As such, the proposed product to be created is an Android application that will automatically extract relevant information, such as date, time and amount purchased from images of receipts using Google vision cloud API. This API extracts the information from the receipts and also it provides the information about various features like font of the text, color of text , location of the text etc., firstly it tries to identify the text part from the total image that is being scanned by the user.
After retrieving the information from the receipts, it stores the attributes time, place and total cost or price or amount. It also notifies the user when the amount exceeds the threshold value. Here we will set a threshold value that is checked against the value or the amount we are spending. We can set the threshold for montly expenditure or for month depending on the requirement of the user.

Keywords: Amount, Date, Location, Place, Price.

INTRODUCTION

Why Android Application?

An Android app is a software application running on the Android platform. Because the Android platform is built for mobile devices, a typical Android app is designed for a smartphone or a tablet PC running on the Android OS. Although an Android app can be made available by developers through their websites, most Android apps are uploaded and published on the Android Market, an online store dedicated to these applications. The Android Market features both free and priced apps.

Android software development is the process by which new applications are created for devices running the Android operating system. Officially, apps can be written using Java, C++ or Kotlin using the Android software development kit. Third party tools, development environments and language support have also continued to evolve and expand since the initial SDK.A mobile app is a software application developed specifically for use on small, wireless computing devices, such as smartphones and tablets, rather than desktop or laptop computers.

Mobile apps are designed with consideration for the demands and constraints of the devices and also to take advantage of any specialized capabilities they have. A gamingapp, for example, might take advantage of the iPhone's accelerometer.

Node JS:

Node.js is a very powerful JavaScript-based framework/platform built on Google Chrome's JavaScript V8 Engine. It is used to develop I/O intensive web applications like video streaming sites, single-page applications, and other web applications. Node.js is open source, completely free, and used by thousands of developers around the world.

Node.js is an open source, cross-platform runtime environment for developing server-side and networking applications. Node.js applications are written in JavaScript, and can be run within the Node.js runtime on OS X, Microsoft Windows, and Linux.

Node.js also provides a rich library of various JavaScript modules which simplifies the development of web applications using Node.js to a great extent.

MYSQL Database:

MySQL is a relational database management system based on **SQL** - **S**tructured **Q**uery **L**anguage. It is a database system that runs on a server which is ideal for both small and large applications. It is very fast reliable, and easy to use and uses standard SQL The application is used for a wide range of purposes, including data warehousing, e-commerce, and logging applications most common use for MYSQL however is for the purpose of a web database. It can be used to store anything from a single record of information to an entire inventory of available products for an online store.

Google Vision Cloud API

Cloud Vision allows you to do very powerful image processing. You can recognize objects, landmarks, faces,

detect inappropriate content, perform image sentiment analysis and extract text.As of now, the Google vision cloud API can only recognize the information from the computerized receipts.The image processing for the hand written bills cannot be supported.The research is going on to recognize even for the hand written bills.

At the backened of this API's the machine learning algoritms are implemented to recognize text from the receipts.

ADVANTAGE:
This application acts as proof for the expenditure and reminds with the notification if expenses have exceeded.

DISADVANTAGE:
It doesn't works for the hand written receipts as the API's are designed to recognize only for computerized receipts.

FEASABILITY ASSESSMENT:
To recognize for the hand written bills the research is still going on. It becomes difficult for the API's to identify the font size and text which are written manually. To train "algorithms" it is necessary to give numerous training examples.

There are number of mobile applications already released particularly for the receipt recognition, it will definitely be possible to create such an feature to this application.Though the accuracy will still need to be analyzed.

RESULT
We built an application which takes image as the input that is scanned by the user through gallery or by capturing the image through camera and identifies the attributes date, place, amount from the receipts and stores those values in the mysql database. We can also view the data of receipts stored and also the user notifies if his monthly expenditure exceeds or not.
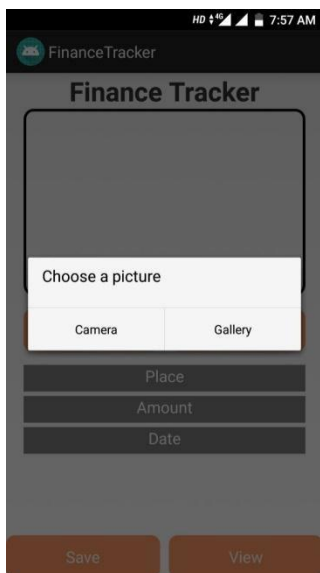
7. CONCLUSION
Our application was able to store the expenses of the user instead of storing all the printed receipts. It stores the attributes like time, place, and the total utilized. Here there be predefined format for accepting the receipts that are scanned by the user. It can also retrieve the information that is stored in order to know where the expenses have been made. The android application also notifies the user if it exceeds the threshold value that is set by the user.

8. FUTURE WORK

This application can be made to scan the medical strips or the products that contain manufacturing and expiry dates.

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