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Efficient Retrieval of Pin Numbers from Recharge Cards by OCR Mechanism for Mobile Recharge

K. Santhosh Pradhan*

Computer Science and Engineering, Saveetha School of Engineering, Saveetha University, Chennai, India

E-mail: pradhan.santhosh@gmail.com

Abstract: The main aim of this paper is to detect pin number portion from mobile recharge cards by image processing technique. It works with the Mechanism of OCR (Optical character recognition) for recharge processes. After the detection, it extracts the OCRed text that is given within the recharge card as number and it sends request to the individual mobile operators for the desired recharge. So our main idea is to build an android based application which can be a worthy for a real life experience. This app will replace the typing of pin numbers with a few seconds snap-shot recharge.

Keywords: OCR based snapshot recharge; Recharge cards; Mobile recharge

I. INTRODUCTION

Perpetually changing innovations have made its interest on the planet. Individuals like to utilize their advanced mobile phones as minicomputer and anxious to do all most everything if conceivable. OCR application is an alluring application, particularly since the advanced cells nowadays accompany top notch camera which can be utilized to check the record or picture and printed content into machines coded content. Portable revive cards are extremely crucial for us due to developing number of versatile clients. Energize card is dependable than different methods. This is difficult to dial the right stick number while anybody is strolling or occupied in work. The vast majority of them face challenges dialling the pin number effectively at one time. A large portion of us have presbyopia and the more established individuals are regularly the casualties of it. So, we have gone to an answer of that issue by doing OCR on scratch card pin numbers. This is vastly improved and effective approach to sagaciously revive cell telephone equalization.

II. OPTICAL CHARACTER RECOGNITION

Optical character acknowledgment, generally truncated to OCR, is the mechanical or electronic interpretation of examined pictures of written by hand, typewritten, or printed content into machines coded content. Envision we have a paper archive - for instance, magazine article or PDF contract your accomplice sent to you by email. Clearly, a scanner is insufficient to make this data accessible for altering, say in Microsoft Word. Every one of the scanners can do is making a picture or a preview of the archive that is just a gathering of highly contrasting or shading dabs, known as a raster picture. Keeping in mind the end goal to remove and repurpose information from filtered archives, camera pictures or picture just PDFs, you require OCR programming that would single out letters on the picture, articulate them Page 12 of 54 and afterward - words into sentences, accordingly empowering you to get to and alter the substance of the first record. To start with, the system examines the structure of record picture. It partitions the page into components, for example, squares of writings, tables, pictures, and so on. The lines are separated into words and after that - into characters. Once the characters have been singled out, the project contrasts them and an arrangement of example pictures. It progresses various speculations about what this character is. Based on the speculations the project dissects diverse variations of breaking of lines into words and then those words into characters. In the wake of handling immense number of such probabilistic speculations, the system at long last takes the choice, introducing client the perceived content [1].

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III. OCR ON SMARTPHONES

Our advantage is in empowering OCR on cellular telephones. Cellular telephones are a standout amongst the most ordinarily utilized electronic gadgets today. Thing cell telephones with capable microchips (above 500MHz), high determination cameras (above 2 megapixels), and an assortment of installed sensors (accelerometers, compass, GPS) are broadly sent and getting to be universal. By completely misusing these points of interest, cellular telephones are turning out to be effective versatile figuring stages, and accordingly can handle registering serious projects continuously. In this paper, we investigate the likelihood to fabricate an OCR-construct application in light of cellular telephones [2]. We trust this portable answer for concentrate data from physical world is a decent match for future pattern. In any case, camera-caught records have a few downsides. They experience the ill effects of centre misfortune, uneven record lighting, and geometrical contortions, for example, content skew, terrible introduction, and content misalignment.

Figure 1: OCR in smartphones.

Additionally, since the framework is running on a cell telephone, constant reaction is likewise a basic test. It uses inserted sensors (introduction sensor, camera) consolidated with picture pre-processing suite to address those issues specified previously. What's more, we have assessed our separated content by executing an application called Mobile Scratch Card Recharge in view of this OCR operation. Our trial results show plausibility for building genuine OCR-based portable applications (Figure 1).

IV. SCANNING TEXT WITH YOUR SMARTPHONE

What's to come arrives, yet not all data has gone computerized. There are a lot of circumstances where you require a simple approach to catch print content and change over it to an electronic document:

- At a meeting, you need to record notes from the whiteboard.
- You need to spare essential focuses from a meeting blurb session without hauling around a huge amount of paper freebees.
- Browsing a magazine, you go over an article you'd adoration to allude to later.
- A companion approaches you for your unbelievable brownie formula.

V. AUGMENTED REALITY ON OCR

Enlarged reality (AR) is front line innovation that takes into consideration a digitally upgraded perspective of this present reality, interfacing you with more significant substance in your regular life. Using the camera and sensors of a Smartphone or a tablet, AR includes layers of advanced data – recordings, photographs, sounds – straightforwardly on top of things in our general surroundings. Equipment like Google Glass and Atheer Labs 3D Augmented Reality glasses are all extraordinary items, obviously. However, the information is the uncommon sauce that makes these instruments work for us [3].

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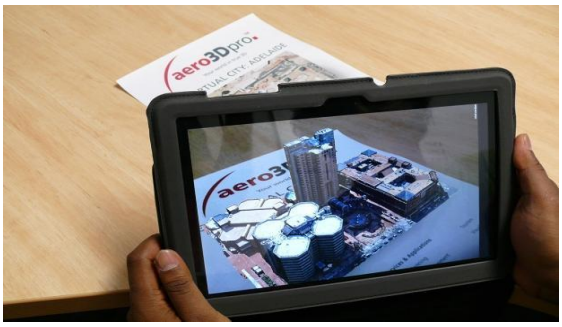

Figure 2: Augmented reality.

Increased the truth is changing the way we see the world - or if nothing else the way its clients see the world. Imagine it strolling or driving down the road. With expanded reality shows, which will in the long run look much like an ordinary pair of glasses, useful illustrations will show up in our field of perspective and sound will correspond with whatever we see. These improvements will be revived persistently to mirror the developments of our head. OCR does not consider what the thing is that is being examined, just the content [4]. To advance develop this innovation, we were as of late requested that consolidate optical character acknowledgment and enlarged reality together and present an answer that gave a much more grounded use case for the end client (Figure 2).

VI. MISSION

Scratch card revive needs an endorser prefix and the mystery pin to energize the telephone. For the individuals who need power glass for understanding it is troublesome for them on the off chance that they don't have their glass outside home. In addition, reviving while strolling or voyaging is likewise troublesome. More often than not they enter wrong codes which make them to re-enter the pin alongside the supporter prefix. On the off chance that a man enters wrong stick three times successively he or she won't have the capacity to revive that day. Besides, finding a revive shop open around evening time is troublesome as well as outlandish then energize card is the best way to energize. As of late online revive choice has been benefit for the portable clients yet that is not safe by any means. Android based simple versatile revive application gives cell telephone clients to energize their telephone utilizing the camera. They simply need to scratch the card, open the application then set the camera before the card and the application will do the rest. The application will have simple to utilize client interface, supporter picking alternative, affirmation message after revive is fruitful. The application just needs an android telephone which is presently accessible for each of the portable clients at less expensive rate. Clients having eye issue needn't bother with their glass for energizing reason [5].

VII. RISKS AND REWARDS

There is a potential clash in our application whether the clients acknowledge it sincerely or reject it. We can just succeed if clients discover the application engaging, and portable administrators think that it’s deserving of making more income. We as of now have a configuration personality a top priority that will address this danger and we will audit it not so distant future. There are critical specialized challenges in building the application. In spite of the fact that our group has involvement with the applicable instruments and advances, we will positively commit a few errors which might destroy the entire undertaking [6]. The calendar for this task is brief time of 12 months. As we are just 3 individuals on our venture, it will be hard to conform it. We will deal with this by arranging a conservatively Page 30 of 54 checked practical center and arrangement of useful improvements that can be separately slipped to later discharges if necessary.

VIII. TARGET AUDIENCE

Advanced mobile phone clients having android OS are the intended interest group. All sorts of individuals will have some good times by utilizing the application. Particularly individuals having vision issue or presbyopia will glory in the wake of utilizing this. Besides, ladies who feel perilous with reviving from energize stores as they need to give their telephone number to the store for revive reason [7].

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IX. BENEFITS TO CUSTOMERS

The customer of the project will be the old-aged people, the people who find it difficult to recharge from pre-paid card and who want to keep their number safe from unwanted people.

X. PROPOSED SYSTEM

We have taken a shot at Ubuntu 12.04 LTS working framework. We build up the application for android stage and introduce a Java programming environment called Eclipse [8]. We utilize Eclipse as a feature of the Google Android Developer Tools (ADT) group (Figure 3).

ADT set up ON UBUNTU

a) Start a terminal and unfasten the downloaded record.
b) To begin Eclipse, execute in a terminal.
c) Download the ADT plug-in in the Eclipse.
d) Add "ADT plug-in" in the Name.
e) Add "https://dlssl.google.com/android/eclipse/" in the Location.
f) Then we install the ndk-plugin.

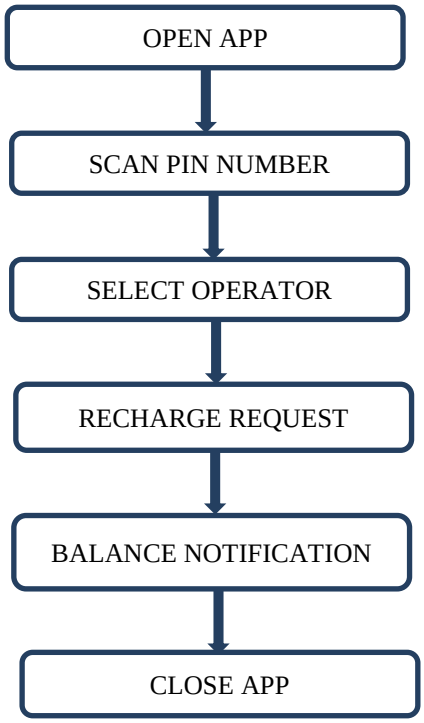

Figure 3: Work flow diagram of project.

XI. OPERATIONS OF PROPOSED SYSTEM

Step-1: Scratch the mobile recharge card.

Step-2: After starting the application select the mobile desired operator.

Step-3: Camera Activity starts the OCR Operation.

Step-3: Scan the pin number when OCR is successful.

Step-4: Select confirm for recharge.

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Step-5: Get recharges notification.

XII. CONCLUSION

This application makes the reviving of cell phones simple and time efficient.it can be utilized anyplace as a part of the world with no establishment issues. Likewise it has the ability of running in any OS stage. It gives precision of 75% than energizing in normal way. The primary issue we found that the OCR shows sudden characters on the off chance that it identifies the vicinity of obscure substance on the scratch card.

XIII. FUTURE WORK

Our future work will be expanding our application's precision rate by no less than 15% with the goal that it shows signs of improvement client reaction. At present we have fabricated our application just for android telephones however in future we will assembled the application for iOS and windows telephone.

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