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# ROTATIONAL AUTHENTICATION SCHEME FOR SECURING INFORMATION

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**Abstract—** ***CAPTCHA or Captcha (pronounce as cap-ch-uh) which stands for Completely Automated Public Turing test to tell Computers and Human Apart is a type of challenge-response test to ensure that the response is only generate by human and not by a computer. In simple word, CAPTCHA is the word verification test that you will come across the end of a sign-up form while sign in up for Gmail or Yahoo account. The following image shows the typical samples of CAPTCHA.CAPTCHA is mainly use to prevent automatic software (bots) from performing actions on behalf of actual human. For example, while sign in up for a new email account, you will come across a CAPTCHA at the end of the sign-up form so as to ensure that the form is fill out only by a legitimate human and not by any of the automated software or a computer bot. The principle point of CAPTCHA is to advance a test which is basic and straightforward forward for any human to answer however for a PC, it is practically difficult to comprehend. One of the problems with CAPTCHA is that sometimes the characters are so distorted that they can't even be recognized by people with good vision, let alone visually handicapped individuals.***

***In this system we will implement such authentication method which will be capable to prevent the boat and spammers. Here in this system we will implement dart like system for secure password verification which contains different colors as well as alphabets and special symbols. When user enters the password, each alphabet, digit, character will be checked for color code assigned then only accepted. After that password***

***will be verified with set password then only access is granted.***

**Keywords—** ***(Merged CAPTCHA, Composite segmentation algorithm, Improved drop-falling algorithm, BP neural network)***

## 1. INTRODUCTION

Online administrations, for example, webmail, social networking, distributed storage, record sharing, and substance creation stages are frequently manhandled by bots. Sites are utilizing CAPTCHAs (Totally Automated Public Turing test to distinguish Computers and Humans One from the other) as one of their principle protection systems against such bots. CAPTCHAs are difficulties sent to clients and authorization is allowed just to those that can comprehend them accurately inside a specific time span. Challenges incorporate acknowledgment of contorted words, distinguishing proof of the connection of a picture, rationale questions, numerical inquiries and comprehension discourse. A decent hopeful errand is one with the end goal that difficulties can be naturally created there is an expansive (in a perfect world unbounded) pool of difficulties people (even guileless clients) perform it effortlessly bots perform the errand inadequately or just with considerable asset overheads A CAPTCHA is secure in the event that, over the long haul, the aggregate cost of computerized assaults is higher than their normal pick up. It was recommended that if more than 0.01% of the difficulties can be effectively tackled by a PC program then the plan is broken , however in the writing a limit of 1% is all the more generally received.

The principle point of this paper was to check whether ordinarily utilized CAPTCHA conspires still experience the ill effects of known vulnerabilities and can be traded off by direct assaults utilizing varieties of known procedures. Also we actualized two novel assaults against reCAPTCHA and Bot Detect's Wavy chess. A noteworthy accomplishment of this paper is that we exhibit that an aggressor who actualizes an application with assaults reported in the writing can generally effortlessly create assaults against new plans by utilizing blends and modifications of those calculations. We show moderately clear strategies that make progress rates that as of now make a potential assault profoundly gainful.

We concentrated for the most part on the division part of the calculations and we utilized a nonexclusive character recognizer that has been beforehand tried in the writing . While this is not an ideal best in class calculation, it offers the huge focal points of effortlessness, power, and a capacity of preparing a satisfactory arrangement of classifiers in a sufficiently little day and age to permit us to check diverse varieties of the division calculation against the approval test.

## 2. EASE OF USE

### 2.1 Background implementation

A proposes a division calculation taking into account nearby minuscule esteem and least projective value. As to web CAPTCHA with interweaved consolidated characters the shading grouping is proposed by joining with the vertical projection to accomplish the motivation behind segmentation. It utilizes the convolution neural system to prepare and perceive them reaching a high acknowledgment rate. [1]

CAPTCHAs are utilized as a part of endeavors to avoid computerized programming from performing activities which debase the nature of administration of a given system. CAPTCHAs are additionally used to minimize computerized postings to different destinations. [2]Two new segmentation techniques called projection and middle axis point separation are proposed for CAPTCHAs with line cluttering and character warping. Experimental results show the propos techniques can achieve segmentation rates of about 75%. [3]

Judges combined characters by the perspective proportion of associated segment removing from the pictures. Furthermore, the division focuses are looked for by the vertical projection essentials of associated parts, and after that these focuses are utilized as beginning stage of the enhanced calculation to section associated characters. At long last, BP neural system classifier is connected to choose the best isolating line mixes. Exploratory results demonstrate that this strategy can viably take care of the issue of combined characters division. [4]
It is conceivable to improve the security of a current content CAPTCHA by deliberately including commotion and contortion, and orchestrating characters more tightly. These measures, be that as it may, would likewise make the characters harder for people to perceive, bringing about a higher blunder rate. There is a breaking point to the contortion also, commotion that people can endure in a test of a content CAPTCHA. Ease of use is dependably a critical issue in planning a CAPTCHA. It is conceivable to upgrade the security of a current content CAPTCHA.

### 2.2 Motivation

Online administrations, for example, webmail, web-based social networking, distributed storage, record sharing, and substance creation stages are frequently manhandled by bots. Sites are utilizing CAPTCHAs (Completely Automated Public Turing test to tell Computers and Humans Apart) as one of their principle safeguard systems against such bots. CAPTCHAs are difficulties sent to clients and consent is allowed just to those that can illuminate them effectively inside a specific time period. So by analyzing all these problems, we got motivated to

this project in order to cure all above real time problems.

A noteworthy accomplishment of this paper is that we show that an attacker who actualizes an application with attacks archived in the writing can easy to develop attacks against new plans by utilizing blends and modifications of those calculations. It was out of the extent of our venture to devise calculations that would accomplish the most ideal precision against the CAPTCHA plans. We exhibit generally clear procedures that make progress rates that as of now make a potential attack highly profitable.

## 3. SYSTEM ARCHITECTURE

Here in this system we will implement dart like system for secure password verification which contains different colors as well as alphabets and special symbols. When user enters the password, each alphabet, digit, character will be checked for color code assigned then only accepted. After that password will be verified with set password then only access is granted.

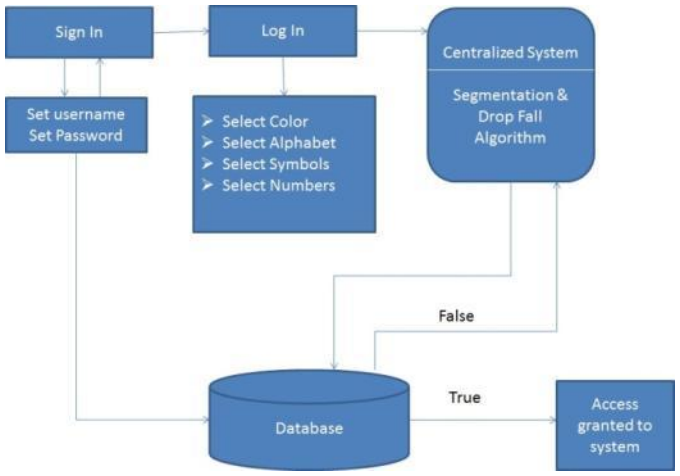



***Figure 2.2 System Architecture***

## 4. PROPOSED DESIGN

Since from the last few decades, the main concern of human has been about energy consumption. People utilizes more power than what they actually need which results in huge loss of energy. Thus we are preparing a prepaid electricity billing system so that people can buy only that much of units which they are really in need of. Continued electric service is completely dependent on prepaying of service on timely basis. The warning message for next electricity recharge is send to customers E-mail ID after reaching nearer to limit or as well as exceeding the due date.

If you're current balance falls below the disconnection units criteria, your services will get disconnected until next recharge.

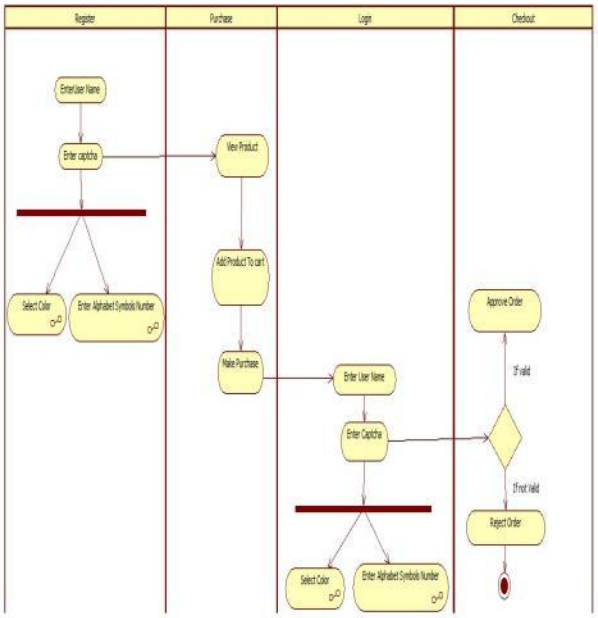



**Figure 4.1.** Control flow of proposed system

## 5. IMPLEMENTATION DETAILS

System is applicable for social sites and E-Commerce sites. We will implement dart like system for secure password verification which contains different colors as well as alphabets and special symbols. When user enters the password, each alphabet, digit, character will be checked for color code assigned then only accepted. After that password will be verified with set password then only access is granted. In our system we use Segmentation and Drop-falling algorithm. In Segmentation the image is segmented where the letters are extracted from the word.

## 6. ALGORITHM

**Segmentation:**

Here the image is segmented where the letters are extracted from the word. For each segmented character, it is thinned and scaled to a uniform size of 60*40. In EZGimpy CAPTCHA all the characters are distant so it is not very difficult to segment them. Checking continuous black pixels separates characters. Once the program checks black pixels it is made red so that program can understand that the specific character is already separated.

**Drop-falling algorithm:**

Drop-falling algorithm owns the advantages in segmenting connected characters based on contour characteristics. After obtaining the starting points positions, the algorithm segments the connected characters by simulating the falling process described the relationship between adjacent pixels. Starting point and moving rules play an important role for drop-falling algorithm. In traditional drop-falling algorithm, the initial point is marked by scanning the horizontal line from left to right to detect the first white * satisfying its left neighbor pixel is white and its right neighbor pixel is black.

## 7. TECHNOLOGY OVERVIEW

### *7.1* Microsoft Visual Studio 2012 (For Web Services):

It is an (IDE) from Microsoft. Visual Basic Express 2012 has lots of new features than earlier version of VB. It is useful to develop the computer program, web application, web sites, web pages, web services and mobile apps. It support for new project templates for building Metro UI apps for multiple devices.

### 7.2 Windows Server 2008 R2 (For Database):

The back end technology will be SQL server 2008 R2. It is a server operating system produced by Microsoft. It can supports up to 64 physical processors or up to 256 logical processors per system. SQL Server Management Studio is an integrated environment for accessing, configuring, managing, and administering all components of SQL Server. Microsoft SQL Server 2008 R2 will provide support for geospatial visualization including mapping, routing, and custom shapes. SQL Server 2008 R2 provides lot many new features and capabilities for Business Intelligence users which can be leveraged by many organizations around the world.

## 8. MATHEMATICAL MODEL

**System Description:**

Credit card fraud and personal information security are major concerns for customers and banks specifically in the case of CNP (Card Not Present).

1. Let S be a system that describes Payment Gateway System S =::

2. Identify input asI S = I; :: Let I = i1; i2; i3; :: id

The input will be Account Number and Password

3. Identify output asOS = I;O; O =CA will Sending the Confirmation after User Authorization.

4. Identify the processes as PS = I;O;P; :: P = E;D

E = parameter, userid, Captchaid

D = parameter, userauth, Captcha verification SYNOPSIS

5. Identify failure cases as FS = I;O;P;F; : F =Failure occurs when the CA is Verified unauthorized user.

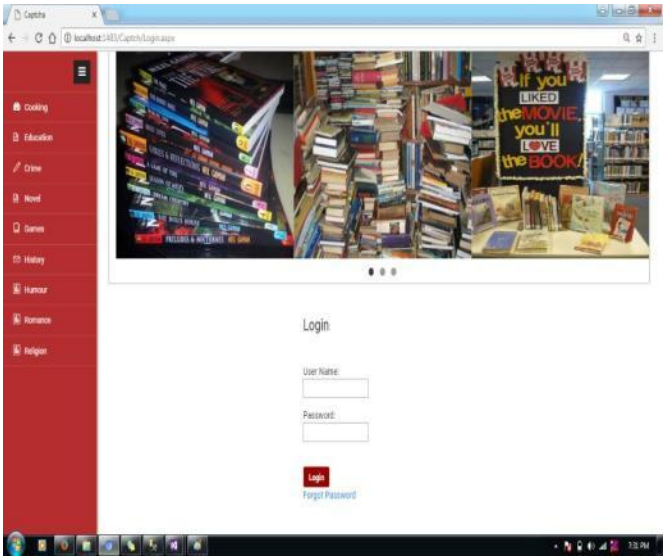
6. Identify success as s. S = I;O;P;F; s;

s =When CA is Verified by authorized user.

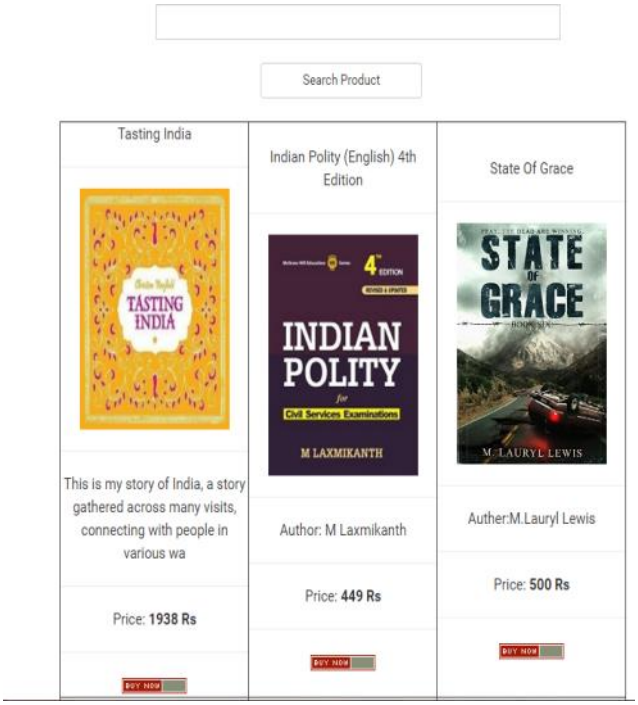
7. Identify the initial condition asIc S = I;O;P;F; s; Ic; EIc =Captcha Must be required for Transaction Completed

## 9. RESULT

### 9.1 Login result:

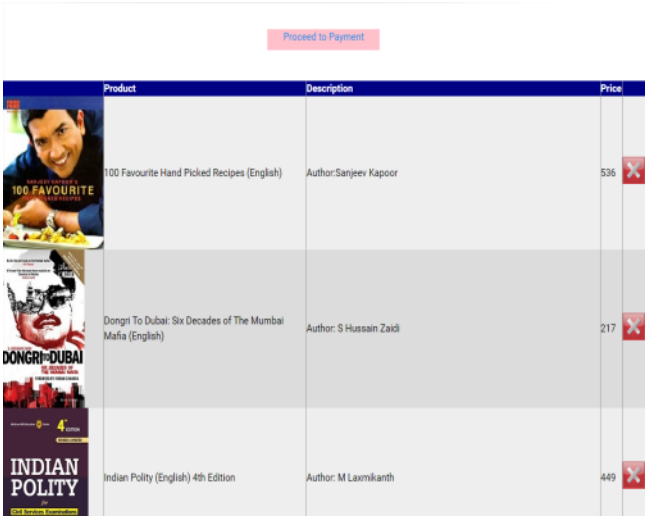



### 9.2 Homepage:

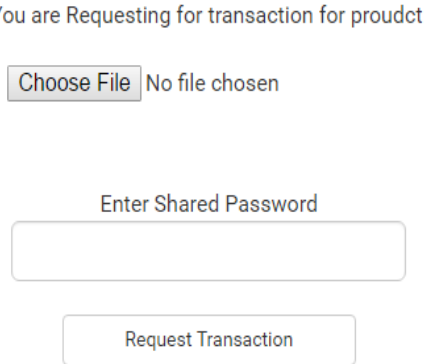



### 9.3 purchase description:


### 9.4 Purchase Description:



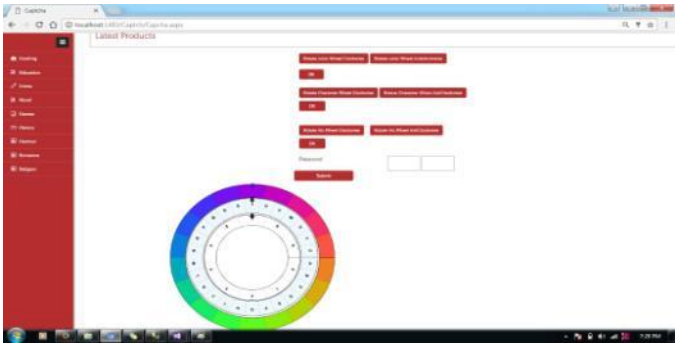

### 9.5: View Cart:



**9.6 Add New Item:**


**9.7 Admin Add New Item:**


**9.8 Captcha:**



## 10. APPLICATIONS

- E-commerce
- Banking
- Preventing comment spam
- Protecting Web Registration
- Online Polls
- Search engine bots
- Preventing Dictionary Attacks
- Email spam
- E-Ticketing

## 11. CONCLUSION

In this paper, the system acts as product recommender. System is applicable for social sites and E-Commerce sites. This system can help to increase your profit by providing a different new way of marketing. We have studied a novel problem, cross-site cold-start product recommendation, i.e., recommending products from ecommerce websites to micro blogging users without historical purchase records. Our main idea is that on the e-commerce websites, users and products can be represented in the same latent feature space through feature learning with the recurrent neural networks. Using a set of linked users across both e-commerce websites and social networking sites as a bridge, we can learn feature mapping functions using a modified gradient boosting trees method, which maps users attributes extracted from social networking sites onto feature representations learned from e-commerce websites. The mapped user features can be effectively incorporated into a feature-based matrix factorization approach for cold-start product recommendation. We

have constructed a large dataset. The results show that our proposed framework is indeed effective in addressing the cross-site cold-start product recommendation problem. Currently, only simple neutral network architecture has been employed for user and product embedding learning. In the future, more advanced deep learning models such as Convolution Neural Networks13 can be explored for feature learning. We will also consider improving the current feature mapping method through ideas in transferring learning.

## REFERENCES

[1] ang Lu and Zhang Rong, Breaking visual CAPTCHA of merged characters, Computer Engineering and Applications, vol. 47, no. 28, 2011.

[2] Habibur Rahman, Senjuti Basu Roy, Saravanan Thirumuruganathan, SihemAmer-Yahia, Gautam Das. Task Assignment Optimization in Collaborative Crowdsourcing. In 2015 IEEE.

[3] zad K J, CAPTCHA: Attacks and Weaknesses against OCR technology, Global Journal of Computer Science and Technology, vol. 48, no. 3, 2013

[4] uang S Y, Lee Y K and Bell G, et al, An efficient segmentation algorithm for CAPTCHAs with line cluttering and character warping, Multimedia Tools &Applications, vol. 48, no. 2, pp. 1101-1112, 2015.

[5] i XingGuo and GaoWei, Segmentation method for merged characters inCAPTCHA based on drop fall algorithm, Computer Engineering and Applications,vol. 50, no. 1, 2014.

[6] ang QingHai, Lu Bo and Yan ZiYe, Touched String Segmentation Algorithm based on Markov Random Field, Computer Engineering, vol. 39, no. 4, pp.258-2622, 2013

[7] rudya P, Gopika N G, Prabaharan Poornachandran Amrita Center for Cyber Security, Amrita Forepart based captcha segmentation and recognition usingDFT,Vishwa Vidyapeetham, Amritapuri, Kollam-690525,Kerala,INDIA 2013

[8] amya T1, Jayasree M2, Captcha Recognition and Robustness Measurement using Image Processing IOSR Technique Journal of Computer Engineering(IOSR-JCE) e-ISSN: 2278-0661, p-ISSN: 2278-8727Volume 13, Issue 1 (Jul.- Aug. 2013), PP 67-72 www.iosrjournals.org

[9] Jiqiang Song , Zuo Li, Michael R. Lyu Shijie Cai Recognition of Merged Characters Based on Forepart Prediction, Necessity- Sufficiency Matching, and Character-Adaptive Masking IEEE Transactions On Systems, Man, And Cybernetics Part B: Cybernetics, Vol. 35, No. 1, February 2015.

[10] lie Bursztein, Romain Bauxis, Hristo Paskov, Daniele Perito, Celine Fabry, and John C. Mitchell. The failure of noise-based non-continuous audio captchas.

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