A Flexible Web Content Adaption System With Rule Based Approach Using Idea Algorithm

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Abstract- *The proliferation of the publicly available services on the Web is a boon for the community at large.Authentication is the process to establish the identity of a communication partner. It is an essential security component of today's many Internet applications. The security weaknesses of using text based passwords for user authentication are well known but most systems still rely heavily on this simple and low cost solution. There is a significant body of recent research exploring the feasibility of alternative approaches to provide a more secure and usable authentication solution. One promising alternative is graphical passwords. Based on studies showing that human brain is better at recalling images than text, these unconventional methods aim to solve memory burden and low entropy problems of classical passwords.*

Click based graphical passwords that use background images suffer from hotspot problem. Previous graphical password schemes based on recognition of images do not have a sufficiently large password space suited for most Internet applications. In this project, a novel graphical password method is proposed based on recognition of images to solve the hotspot problem. In click-based graphical password schemes, users click a sequence of points on a pictorial background to create and use passwords.

If user forgets the click area or wrongly enter password for more than 3 attempts, then the login will be temporarily blocked. User can retrieve OTP to mobile based on request, through that user can login and do transactions. In this application for sending encrypted SMS messages using cryptographic methods based on the IDEA Algorithm. The encryption algorithm is characterized by a secret key. International Data Encryption Algorithm (IDEA) is very secure; IDEA operates on 64 bit blocks using a 128 bit key

Keywords*- GUI , IDEA, Click based Passwords , OTP*

I. INTRODUCTION

Authentication is the process to establish the identity of a communication partner. It is an essential security component of today's many Internet applications. The security weaknesses of using text based passwords for user authentication are well known but most systems still rely heavily on this simple and low cost solution. There is a significant body of recent research exploring the feasibility of alternative approaches to provide a more secure and usable authentication solution. One promising alternative is graphical passwords. Based on studies showing that human brain is better at recalling images than text, these unconventional methods aim to solve memory burden and low entropy problems of classical passwords.

Click based graphical passwords that use background images suffer from hotspot problem. Previous graphical password schemes based on recognition of images do not have a sufficiently large password space suited for most Internet applications. In this paper, a novel graphical password method is proposed based on recognition of images to solve the hotspot problem. In click-based graphical password schemes, users click a sequence of points on a pictorial background to create and use passwords.

II. PROBLEM DEFINITION

Graphical password schemes can be grouped into three general categories based on the type of cognitive activity required to remember the password: recognition, recall, and cued recall. Recognition is the easiest for human memory whereas pure recall is most difficult since the information must be accessed from memory with no triggers. Cued recall falls somewhere between these two as it offers a cue which should establish context and trigger the stored memory. Among existing graphical passwords, CCP most closely resembles aspects of Pass faces, Story, and Pass Points. Therefore these graphical password schemes are presented in more detail. Conceptually, CCP is a blend of the three; in terms of implementation, it is most similar to Pass Points. It also avoids the complex user training requirements found in a number of graphical password proposals.

Pass faces is a graphical password scheme based primarily on recognizing human faces. During password

creation, users select a number of images from a larger set. To log in, users must identify one of their pre-selected images from amongst several decoys. Users must correctly respond to a number of these challenges for each login. Story, that used everyday images instead of faces and required that users select their images in the correct order. Users were encouraged to create a story as a memory aid. It fared somewhat worse than Faces to remember, but user choices were much less predictable. Pass Points could be composed of several (e.g., 5) points anywhere on an image.

The general purpose content adaptation systems have been developed like Web Clipping. Web Clipping is one of the methods that researchers are still working on it. Web Clipping is a technique where the system extracts and represents some parts of html document for mobile web browsing. An annotation or parser declares a particular portion of a target document. The system annotates some parts of a web page, and it provides the annotation contents to the content adaptation engine. The Web Clipping methods modify the html structure and break the page into small parts, make them a new separate page and add title and header. Sometimes it removes unnecessary objects from the html. The Web Clipping method read the web page, tags some parts of the page and regenerates the web page for mobile web browsing. Some researchers use Vision Based Page Segmentation (VIPS) algorithm that manages a web page structure, find the interesting objects and restructure a web page in to blocks. The VIPS identifies the interesting contents, change the format of the web page and also represent the information according to the user's interest. User preferences are used by Page Segmentation and Pattern Matching methods to make the information interesting for every user. Researches use Web Clipping and VIPS to identify the objects and adapt the contents. Sometimes users browse the contents but fail to reach the target content because of information overloading. Still, it is a great challenge to achieve satisfactory precision for web page segmentation, which is based on html element analysis.

III. MODULE DESCRIPTION

MODULES

The modules identified in this project are:
1. Cued click points
2. Discretization method

CUED CLICK POINTS

In Cued Click Points (CCP), users select a particular area on each of c = 2 images rather than on five points on one

image. It offers cued-recall and introduces visual cues that instantly alert valid users if they have made a mistake when entering their latest click-point.

In this user selects their own preferred area on each of the images rather than more hotspots on one image. It makes attacks based on hotspot analysis and offer cued-recall and introduces visual cues that instantly alert valid users if they have made a mistake when entering their latest click point.

DISCRETIZATION METHOD

User cannot be able to remember the exact Cued Click Points in an image. To avoid the difficulty in remembering the exact Cued Click Points, discretization method was introduced. A discretization method is used to determine a click-point's tolerance square and corresponding grid. For each click-point in a subsequent login attempt, this grid is retrieved and used to determine whether the click-point falls within tolerance of the original point.

IV. SYSTEM IMPLEMENTATION

IMPLEMENTATION

The implementation process begins with preparing a plan for the implementation of the system. According to the plan, the activities has to be carried out, discussion has been made regarding the equipment, resources and how to test the activities**.**

The coding step translates a detail design representation into a programming language realization. The coding should have some characteristics:
- Ease of design to code translation
- Code efficiency
- Memory efficiency
- Maintainability

Before implementing the system requirements of users, functional requirements, technical requirements should be achieved.
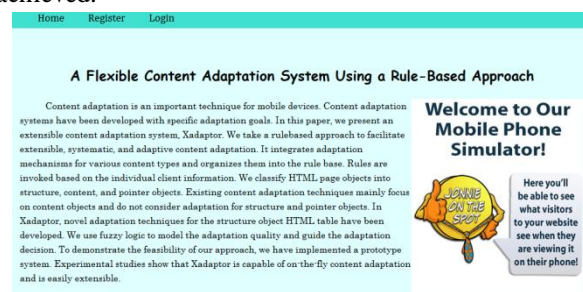

Figure 1. Welcome Page

V. USER REQUIREMENT

The user requirement(s) document (URD) or user requirement(s) specification is a document usually used in software engineering that specifies the requirements the user expects from software to be constructed in a software project. Requirements of user in this system are:

- Categorization of images
- If any user account is attacked by attackers, the respected user account will be blocked. To unblock the account, respected user has to submit security number, security question and security answer to admin.
- Delivery of detailed training material/ manual for end users covering all modules and related applications
- Image storage space should be reduced

In existing system the images are stored in databases so it requires lots of space to store each user image password.

Figure 2. Registration form

VI. FUNCTIONAL REQUIRENT

Functional requirements may be calculations, technical details, data manipulation processing and other specific functionality that define what a system is supposed to accomplish. Functional requirements are as follows:

- Image comparison
  Selected image area will be compared with stored image area to authenticate user.
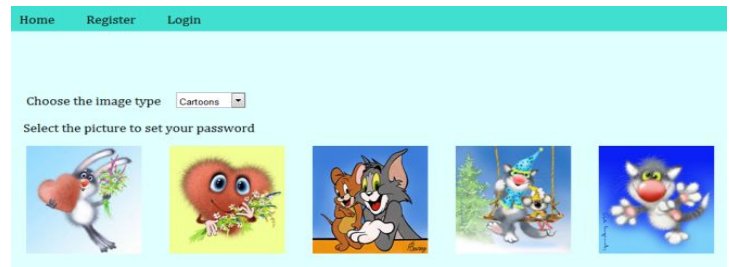- Generating random security number to secure user accounts

Figure 3. Image Selection Page

VII. NON-FUNCTIONAL REQUIREMENT OR TECHNICAL REQUIREMENT

A non-functional requirement is a requirement that specifies criteria that can be used to judge the operation of a system, rather than specific behaviors. This should be contrasted with functional requirements that define specific behavior or functions. The plan for implementing functional requirements is detailed in the system design. The plan for implementing non-functional requirements is detailed in the system architecture. The non-functional or technical requirements are as follows:

- Random selection of images for each user and each time while login
  Every user gets different images to set the graphical password.
- Displaying unique images for user
  The duplicated images should be eliminated while displaying images to the user.

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Figure 4. Image Area Selection Page

This system is used by users who are working in the organization for logging into the system. Only registered user can login to their respective profile. The content adaptation system adapts the web page for the user given mobile type. The main advantage of this system is it increases the complexity for attackers by using the graphical password.
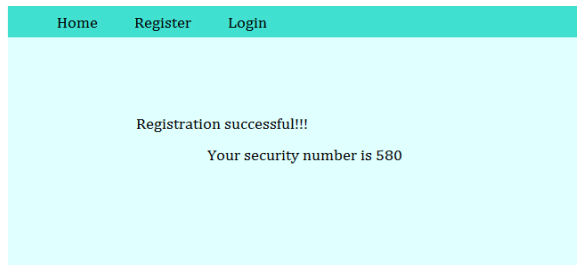
Figure 5. Random Security number for User

VIII. WEB CONTENT ADAPTATION

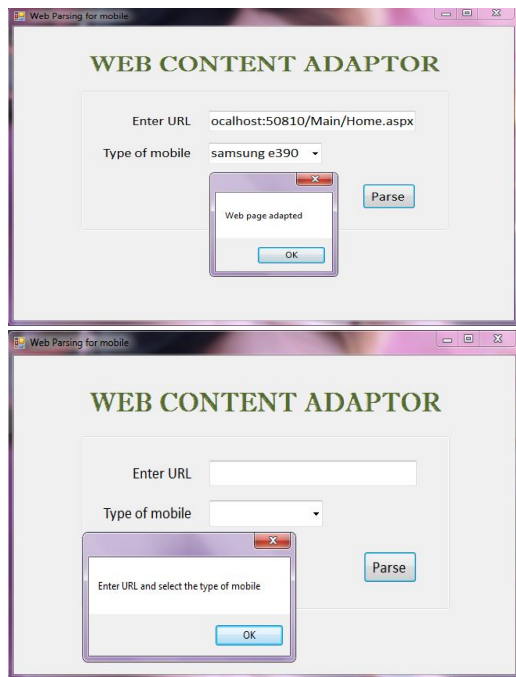Web content adaptor adapts the web page for the chosen mobile type by the user.

Figure 6. Web content Adapter Validation Page

IX. CONCLUSION

Authentication process has been successfully designed, tested and implemented in a systematic manner. In existing system the cropped images are stored in the database and it requires lots of space to store each user password image. In this project instead of storing images in the database, image co-ordinates are stored. Thus it reduces the storage space and cropped images are not stored in the file.

Graphical password provides high authentication for user accounts and the web pages can be easily adapted for the requested website by using content adaptor. The user of the system easily understands how to access and control the system. It is also found that the project reduces the time

consumption for creating web site and increases the complexity for attackers.

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