

# 3 Level Security System

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**Abstract**— Increasing security has always been a matter of apprehension since Internet and Web Development came into subsistence. In today's world, text based passwords are not enough to provide full security to the system, which is also an outdated approach now. So we need something more secure along with being more user forthcoming. 3 Level Security System is easy-to-use user affable software. 3 Level security system provides security in all possible ways by using image based authentication and also a onetime password system which is been sent to the registered email together with the conventional method of text based authentication.

**Keywords**— Authentication, Image based authentication, onetime password, Security, Text based authentication

## INTRODUCTION

Authentication and security are two terms which are inter-related. Authentication is the act of confirming the exactness of an attribute of a distinct piece of data (datum) or entity. It is actually the process of confirming the identity. Authentication often involves verifying the legitimacy of at least one form of identification. Security is the capability of a system to protect information and system resources with respect to confidentiality and integrity.

The 3 level security system aims to guarantee more security through its three levels—Through Text Password; Through Image based Password, and Through One-Time Automated Password.

The 3 level security system is a security system which provides full security for those users who have been registered in this system. This system can be used as a doorway of security to any type of sites, as well as it can also be used as a safety system for desktop applications too. The registered users can also update the data they used while registration. Hence this is a system which provides more security than the conventional systems. It is an application that is generally intended for providing security for any type of applications, sites, etc. In this system, users can first register in the system and after the registration process; the users can login to the system using the same details they provided during the registration. As this system has 3 levels of security, any intruder will not be able to hack the details of the users.

## SYSTEM ARCHITECTURE

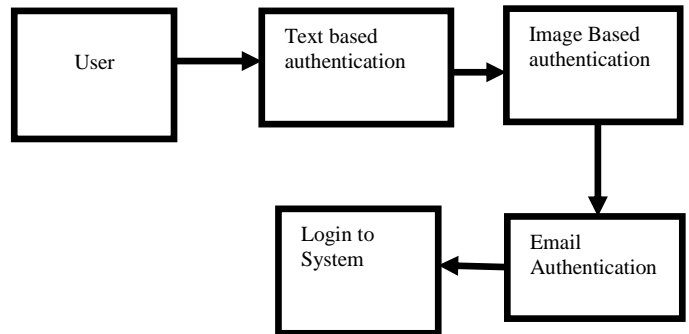
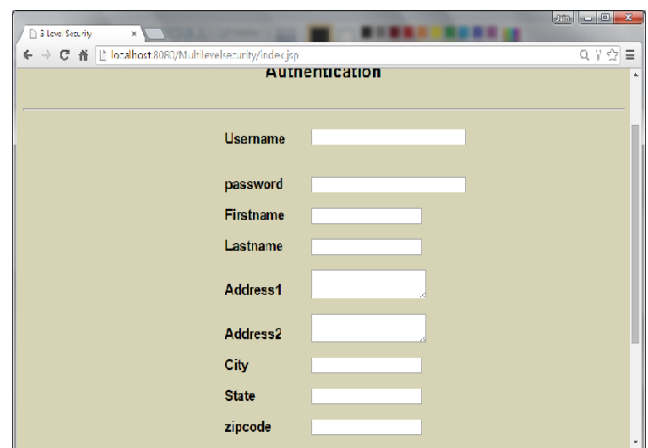


Figure 1. System Architecture

In this Security System, User enters by registering in the system. While registering into the system they have to go through the following levels -

- Firstly, the user has to fill their details and along with that they can choose a text based username and a password which will be used while logging into the system as the first step.



- Second, the user has to choose 3 images from 3 grids which will use as the second step of logging in.

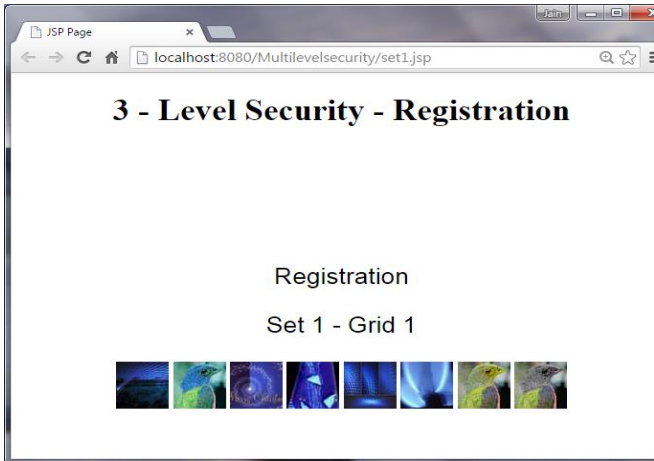


Figure 3. Image Selection

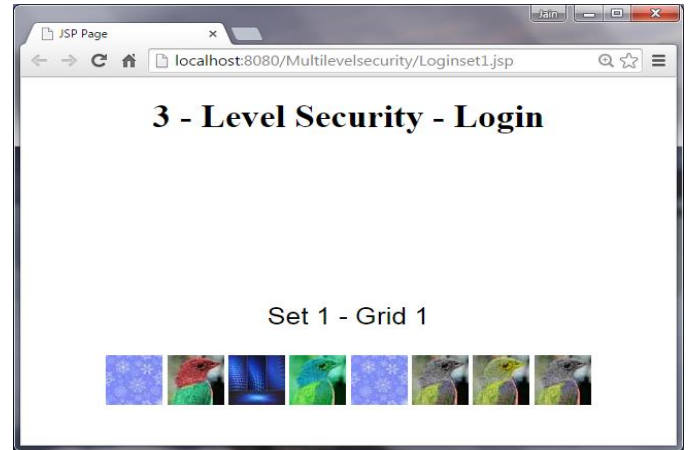


Figure 5. Image Based Authentication

The registration gets completed there. While logging into the system the user has to through 3 levels -

- First, they have to enter the username and password they have given while registering in the system.

- Thirdly, an OTP (onetime password) will be send to the email id they had given while registering on successful completion of the first 2 levels. The user has to enter that OTP in the system; if the given OTP is correct then the user can successfully login to the system.

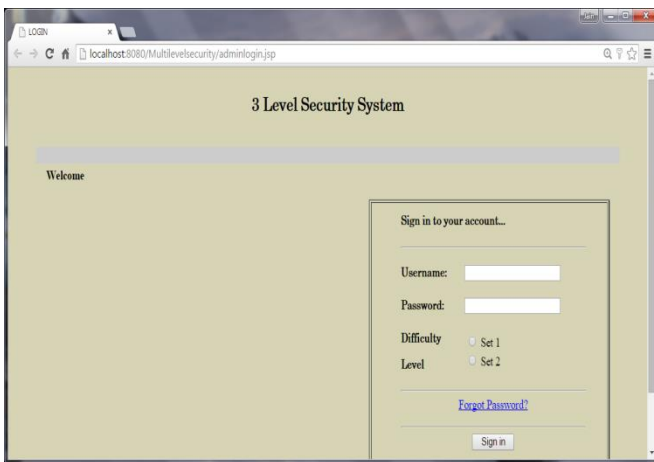


Figure 4. Text Based Authentication

- Secondly, they have to choose the same 3 images from 3 grids that they had already chosen while registering

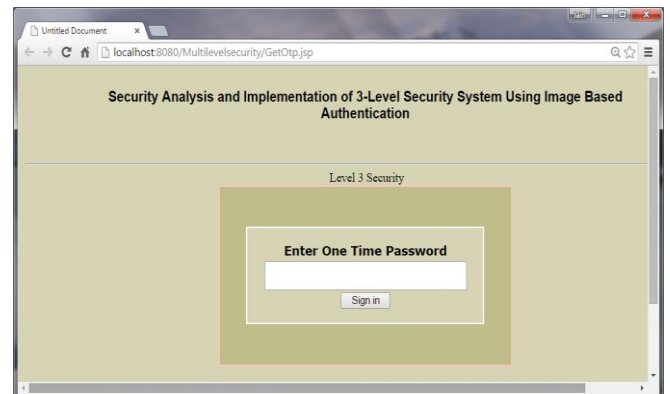


Figure 5. One time password

### CONCLUSION

This is software which provides better security as there are 3 security levels used together as well as features like, sending automated OTP to user’s email-id ensures the best security. The software provides a very efficient and secure system. The work is mainly intended for providing security for any type of applications, sites, etc. This System is designed for the use of people who want to secure their data more efficiently, so that no one can hack it.

The 3 level security approach applied on the above system makes it highly secure along with being more user affable. This system will definitely help thwarting Shoulder attack, Tempest attack and brute-force attack at the client side. 3-Level Security system is definitely a time overwhelming approach, as the user has to traverse through the three levels of security, and will need to refer to his e-mail for the generated one-time automated password. This system cannot be a suitable solution for general security purposes, where time complexity will be an issue. But will definitely be

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a boon in areas where high security is the main issue, and time complexity is secondary. As an example we can take the case of a firm where this system will be accessible only to some higher designation holding people, who need to store and maintain their crucial and confidential data secure. In near future not only we will add more features but also will make our system customizable..

## FUTURE SCOPE

The world is being mechanized and all the offices and institutions are being computerized. So the use and need for this software will not decline. Also man always like to see all works getting more secure. Since we are living in a world of smart technologies like smart phones, tablets, notebooks etc, it would be a future scope to use the GSM features to send the automated onetime password to the user's registered mobile number as text message instead of OTP being sent to email. It's also an option to choose the instant messaging services like Whatsapp, Wechat etc as another alternatives for sending OTP.

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