**EXECUTIVE SUMMARY OF MRP REF. NO. MRP/12th PLAN/14-15/KLCA019, DATED ON 10th December 2014, ENTITILED “SECURE AUTHENTICATION USING IMAGE PROCESSING USING VISUAL CRYPTOGRAPHY”, BY MARY JOLVE. J.**

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| 1. **UGC Approval No. and Date** | : MRP/12th PLAN/14-15/KLCA019, DATED ON 10th December 2014. |
| **TITLE OF THE PROJECT:**  “SECURE AUTHENTICATION USING IMAGE PROCESSING USING VISUAL CRYPTOGRAPHY” | |
| **OBJECTIVES OF THE PROJECT:**   1. Image CAPTCHA Creation and Encryption. (Registration phase) 2. Image CAPTCHA splitting. (Registration phase) 3. Sharing of image CAPTCHA (share 1 is kept with user and share 2 is kept with server). 4. User login with username and share 1 image CAPTCHA. | |
| **WHETHER OBJECTIVES WERE ACHIEVED:**   1. Image CAPTCHA is automatically generated and image is encrypted. 2. Image CAPTCHA is split into two shares in registration phase using split and rotating algorithm. 3. Share of image CAPTCHA is stored in two different locations. (Share 1 with user and share 2 is kept with server. 4. User login with username and combined and decrypted image CAPTCHA | |
| **ACHIEVEMENTS FROM THE PROJECT**  Two research paper published.   1. Secure Authentication using Image Processing through Visual Cryptography, Int. Jou. Of Engineering And Computer Science ISSN:2319-7242, 6 (4)2017, 21188-21191 2. Signature Verification for Banking Sector Based on SIFT, Int. Jou Of Engineering And Computer Science ISSN:2319-7242 6 (4)2017,21192-21195 | |
| **SUMMARY OF THE FINDINGS:**  With the progress in data exchange by electronic system, the need of information security has become a necessity. Due to growth of multimedia application, security becomes an important issue of communication and storage of images. Most of the daily activities such as education, shopping or commerce are being carried out through the Internet. Users are commonly asked to fill out registration forms by entering required information to be able to operate specific tasks on the web sites. However, registration can be done by automated hacking software. Some people commit vandalistic acts such as attacking web sites with computer programs, and even can stop the running of the web site. These programs automatically fill out a form with wrong information to get in the web site. Therefore, web site holders are supposed to take precautions against those attacks for security.  Computer security, also known as cyber security or IT security, is the protection of computer systems from the theft or damage to the hardware, software or the information on them, as well as from disruption or misdirection of the services they provide. Even though there are many protective measurement are taken in order to safe these information, intruders or hackers find their own way to attack or theft identity for financial gain or for some other reasons. The problem is how to save these information in a secured manner. Cryptography is related aspects of information security such as confidentialities, data security, and entity authentication. It is the art of achieving security by encoding messages to make them non-readable. Some cryptography algorithms are very trivial to understand, replicate, and therefore easier to crack. Some others are highly complicated, and difficult to crack.  In the proposed system we use visual cryptography technology. Cryptography in the study of mathematical techniques related aspects of information security such as confidentialities, data security, entity authentication, but it is not only the means of providing information security, rather one of the techniques. Visual cryptography is a new technique which provides information security which uses simple algorithm unlike the complex, computationally intensive algorithms used in other techniques like traditional cryptography. This technique allows visual information like pictures, text etc. to be encrypted in such a way that their decryption can be performed by the human visual system, without any complex cryptographic algorithms.  Here for visual information we use image CAPTCHA. CAPTCHAs are challenge puzzles used to determine whether a user is human or not. It stands for Completely Automated Public Turing Test to Tell Computers and Human Apart, and Public means that the code and the data used should be publicly available. In this proposed system we encrypt the image CAPTCHA and split the image into two shares. These two shares are stored in separate database servers (one with user and one with server) such that the original image CAPTCHA can be revealed only when both are simultaneously available; the individual sheet images do not reveal the identity of the original image CAPTCHA. Once the original CAPTCHA is revealed to the user it can be used as the password. The project is to be carried out in two phases where the Phase I would comprise Registration Phase and, Login Phase would be carried out in Phase II. In the registration phase we go through three main process; image CAPTCHA creation, image CAPTCHA encryption and finally splitting the share. In the login phase we decrypt the image CAPTCHA by overlapping shares from two different location. | |
| **CONTRIBUTION TO THE SOCIETY:**  Two research paper published.   1. Secure Authentication using Image Processing through Visual Cryptography, Int. Jou. Of Engineering And Computer Science ISSN:2319-7242, 6 (4)2017, 21188-21191 2. Signature Verification for Banking Sector Based on SIFT, Int. Jou Of Engineering And Computer Science ISSN:2319-7242 6 (4)2017,21192-21195 | |