SURVEY ON SECURING MEDICAL RECORD USING DYNAMIC WATERMARK GENERATOR SEQUENCE AND SELECTIVE ACCESS CONTROL

1Megha Trivedi, 2Dishant Soni,
1Student, 2Assistant Professor
1 Sankalchand patel College of Engineering Gujarat,India
2 Sankalchand patel College of Engineering Gujarat, India

Abstract—Information security is process to encrypt and decrypt the information. Patients supply information to medical application provider hoping that the information supplied will not be used anywhere. If these applications are compromised due to attack patient’s medical information may be revealed.

Index Terms—health information, encryption, medical images, AES, random generator

I. INTRODUCTION

With advances in healthcare informatics, one can provide better means to process patient records and therefore speed up the treatment, which in turn reduces the overall cost. Many tools exist for facilitating patient record processing: from assisting data entry to manipulating records, from generating output in required form to transferring it to other physicians for further examination, or to save it digitally for future use. The significance of relies on the fact that we bring a software engineering oriented systematic approach to design and develop an electronic health record system (EHR). Our scheme is fundamentally a computer based patient record (CPR) system. In particular, this work extends a CPR system by incorporating a software engineering approach during development, and incorporates many aspects from database design, web deployment, and security.[1] Advancement in health information systems with emphasis on tele-medical procedures, remote healthcare services and health cloud storage infrastructure with medical imaging data as key component in ensuring effective health delivery. The importance and urgency nature of health care services delivery has led to the creation of opportunities in the software development sector.[2] In encryption key sharing using AES key and ecc use for securing key its use in digital signature.[1] Cryptographic algorithm is the mathematical function used for encrypting and decrypting process, this mechanism leads to encrypt the original data using different combination of a key a word, number, or expression. The encrypted data security is completely reliant on two important aspects; the key confidentiality and the cryptographic algorithm strength. A cryptosystem is designate due to the presence of cryptographic algorithm, along with all the working protocols and all potential keys.[5] Medical image[2] information is a central part of the diagnostics in health information system. Health information[2] system is part of the information technology infrastructure due to nature of the data processed with treatment history, medical records etc. Digital watermarking[12] is the act of hiding information in multimedia data, for the purposes of content protection or authentication. In ordinary digital watermarking, the secret information is embedded into the multimedia data with minimum distortion of the cover data. Due to these watermarking techniques the watermark image is almost negligible visible.

II. RELATED WORK


JETIR1712108 Journal of Emerging Technologies and Innovative Research (JETIR) www.jetir.org 591
### III. COMPARISION

<table>
<thead>
<tr>
<th>Paper Title</th>
<th>Domain</th>
<th>Technologies</th>
<th>Limitations</th>
<th>Future Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>An Image Encryption Scheme Based on Elliptic Curve Pseudo Random and Advanced Encryption System</td>
<td>Image Encryption</td>
<td>ECC, AES, Random Generator</td>
<td>Random coordinates technique is unique way to the generate method.</td>
<td>Generate the new key method combining multiple encryption methods with the proposed method.</td>
</tr>
<tr>
<td>A Cryptographic Technique for Security of Medical Images in Health Information Systems</td>
<td>Health Information</td>
<td>Cryptographic and Watermarking Technique</td>
<td>There was a change in pixel value during the watermarking process</td>
<td></td>
</tr>
<tr>
<td>A Novel pseudo random sequence generator for image-cryptographic applications</td>
<td>Pseudo random sequence</td>
<td>Cryptographic</td>
<td>[64*64] bits required to proposed method</td>
<td>PRNG Combined with the Proposed method with image encryption</td>
</tr>
<tr>
<td>Pseudo random number generator based on the generalized Lorenz chaotic system</td>
<td>Pseudo random sequence</td>
<td>Chaos, Random number Generator</td>
<td>In this proposed attacks on the cryptosystems based on weakness of the binary sequence which are generated by PRNG</td>
<td></td>
</tr>
<tr>
<td>A Survey and taxonomy of the authentication schemes in Telecare Medicine Information System</td>
<td>Medical Information</td>
<td>Password, Biometric</td>
<td>Patients privacy over insecure communications and control the access remote medical databases a critical challenges.</td>
<td></td>
</tr>
<tr>
<td>Color image encryption based on hybrid hyper-chaotic system and cellular automata</td>
<td>Image Encryption</td>
<td>Chen system, Logistic map</td>
<td>cellular automata in cryptography include limited number of reversal rules and inability to produce long sequences of states by these rules</td>
<td>the effect of hybrid clustering-based image encryption and hyper chaotic functions on the encryption performance.</td>
</tr>
</tbody>
</table>

### IV. CONCLUSION

In recent era medical domain use the various advanced technology. In medical images, authentication and authorized is required. There for, we need batter technique that can provide batter security of medical data such as medical images and its information. We in this paper reviewed various techniques to secure the medical information, we observed that image watermarking with information found to be a batter solution for the problem. This technique is having some limitations like reproducibility of watermark image. Hence research has to be made in this direction to secure the watermark information and other information.

### REFERENCES

5. Rim Zahmoul,Ridha Ejabali,Mourad Zaied “Image encryption based on new Beta chaotic maps” optics and lasers in engineering 96(2017)39-49
8. Mohmmad Masdari,Safiyyeh Ahmadzadeh ”A Survey and taxonomy of the authentication schemes in Telecare Medicine Information System”/http://dx.doi.org/10.1016/j.jnca.2017.03.003