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A Survey on Steganography with 3D Password Security

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ABSTRACT: Authentication of any system means providing a security to that system. There are number of authentication techniques like textual, biometrics etc. This type of textual password commonly follows an encryption algorithm to provide security. This new authentication technique, known as 3D Password, is multi-factor and multi-factor authentication technique.We propose a novel technique for steganography using a texture and also security using 3D password authentication. We contrive the texture synthesis process into steganography to hide secret messages. In comparison to using an existing cover image to hide messages, our algorithm hides the source texture image and embeds secret messages through the process of stenography. This helps us to extract secret messages i.e. the source texture from a stego texture image. Also we work on 3D password authentication i.e. combination of textual authentication and user thumb image authentication offline. 3D password is more secure technique of authentication in comparison to other techniques because it is difficult to break and simple to use. The advantage of the 3D password is that combine the authentication of existing system and providing high security to user.

KEYWORDS :3D Password, stenography, texture synthesis, texture.

I. INTRODUCTION

In most of the image steganographic methods, uses the existing image as their cover medium. This leads to two drawbacks. Since the size of the cover image is fixed, embedding a large secret message will results in the distortion of the image. Thus a compromise should be made between the size of the image and the embedding capacity to improve the quality of the cover image.

Current Authentication suffers from much weakness. Textual password are commonly used, users do not follow their requirements. Users tend to choose meaningful words from dictionaries, which makes the textual passwords easy to break and vulnerable to dictionary or brute force attacks. In the most years no of advances have been made in the range of computerized media, and much more concern has developed with respect to steganography for computerized media. Steganography is a solitary system for data hiding strategies. It implants messages into a host medium keeping in mind the end aim to cover secrete messages so as not to excite doubt by a meddler. A normal steganographic technique incorporates secretive correspondences between two gatherings whose presence is unclear to a conceivable attacker and whose achievement based on upon identifying the presence of this correspondence. When all is said in done, the host medium applied as a part of steganography include significant advanced media, for example, computerized pictures, content, sound, video, 3D models etc. Countless steganographic calculations have been researched with the expanding reputation and utilization of advanced images. Most image steganographic calculations receive a current image as a spread medium. The cost of installing secrete messages into this spread image is the image bending experienced in the stego image. Review that image steganalysis is methodologies used to distinguish secrete messages covered up in the stego image. A stego image includes some twisting, and paying little respect to how minute it is, this will meddle with the regular elements of the spread image. This helps the second disadvantage on the grounds that it is still reasonable that an image steganalytic calculation can crush the image steganography and in this way uncover a secrete message is being passed on in a stego image.

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II. GOALS AND OBJECTIVES

These are all the various methodology to embed the data to image message embedding procedure reduces the deduction of message. Our system improves the solution space and also reduces the computational complexity.

Our objective is to build a texture synthesis has received a lot of attention recently in computer vision and computer graphics. The most recent work has focused on texture synthesis by example, in which a source texture image is re-sampled using either pixel-based or patch-based algorithms to produce a new synthesized texture image with similar local appearance and arbitrary size.

III. REVIEW OF LITERATURE

The work consolidating information coding with pixel-based texture synthesis in that, secret messages to be hidden are encoded into hued spotted examples and they are straightforwardly painted on a blank image. A pixel-based algorithm coats whatever is left of the pixels utilizing the pixel-based texture synthesis strategy, in this manner disguising the presence of spotted examples.

Glue patches from a source composition rather than a pixel to synthesize textures. This methodology of Cohen et al. also, Xu et al. enhances the picture nature of pixel-based engineered surfaces in light of the fact that composition structures inside the patches are kept up. Then again, since patches are stuck with a little covered district amid the manufactured procedure, one necessities to try to guarantee that the patches concur with their neighbors.

Presented the patch-based sampling methodology and utilized the feathering methodology for the covered ranges of nearby patches.

Present a patch sewing methodology called "image quilting". For each new patch to be blended and sewed, the calculation first inquiries the source composition and picks one applicant fix that fulfills the pre-characterized blunder resistance regarding neighbors along the covered district. Next, a dynamic programming strategy is adopted to uncover the minimum error path way through the covered region.

Present an efficient algorithm for realistic texture synthesis. The algorithm is easy to use and requires only a sample texture as input. It generates textures with perceived quality equal to or better than those produced by previous techniques, but runs two orders of magnitude faster. This permits us to apply texture synthesis to problems where it has traditionally been considered impractical. In particular, we have applied it to constrained synthesis for image editing and temporal texture generation.

Proposed approach investigates the employment of native prediction in distinction enlargement reversible watermarking. For every pixel, a least square predictor is computed on a block focused on the pixel and also the corresponding prediction error is distended. An equivalent predictor is recovered at detection with none further data. The projected native prediction is general and it applies in spite of the predictor order or the prediction context. For the actual cases of least square predictors with identical context because the median edge detector, gradient-adjusted predictor or the easy parallelogram neighborhood, the native prediction-based reversible watermarking clearly outperforms the progressive schemes supported the classical counterparts. Experimental results area unit provided.

Steganographyusing a reversible texture synthesis that isthe texture synthesis processre-samples a smaller texture image which synthesizes a newtexture image with a similar local appearance and arbitrary size.We weave the texture synthesis process into steganography toconceal secret messages. In contrast to using an existing coverimage to hide messages, our algorithm conceals the source textureimage and embeds secret messages through the process of texturesynthesis. This allows us to extract secret messages and the sourcetexture from a stego synthetic texture.

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Texture images of iterative patterns as a type of image code. We directly paint colored dotted patterns to be robustly detected from a photographed image. Then, we synthesize texture images to conceal the patterns while preserving their colors. This method can embed more information than existing technologies, and its algorithm for texture image generation ensures the synthesized images' quality.

IV. SYSTEM ARCHITECTURE

We have worked to facilitate the data security in getting secure transmission of data over social media which maintain the data hiding inside texture image. Hence this system is suitable for maintaining high level security for data transmission or image preservation in the network.

In proposed work, stenography is used to hide the secret message in imageand also extract the secret message from texture image. The distortion of image is very low in our proposed system. Reducing distortion is the crucial issue in existing method this will overcome by our system.

These are all the various methodology to embed the data to cover image message embedding procedure reduces the deduction of message. Our system improves the solution space and also reduces the computational complexity. The message and image is loaded by using GUI format. Then for the message and image binary conversion will be performed. Finally secret message will extract by receiver. Proposed methodology uses stenography for hiding data inside the image which input the texture image pattern for hiding text in the data.

Also we work on 3D password authentication. I.e. combination of textual authentication and user thumb image authentication offline.

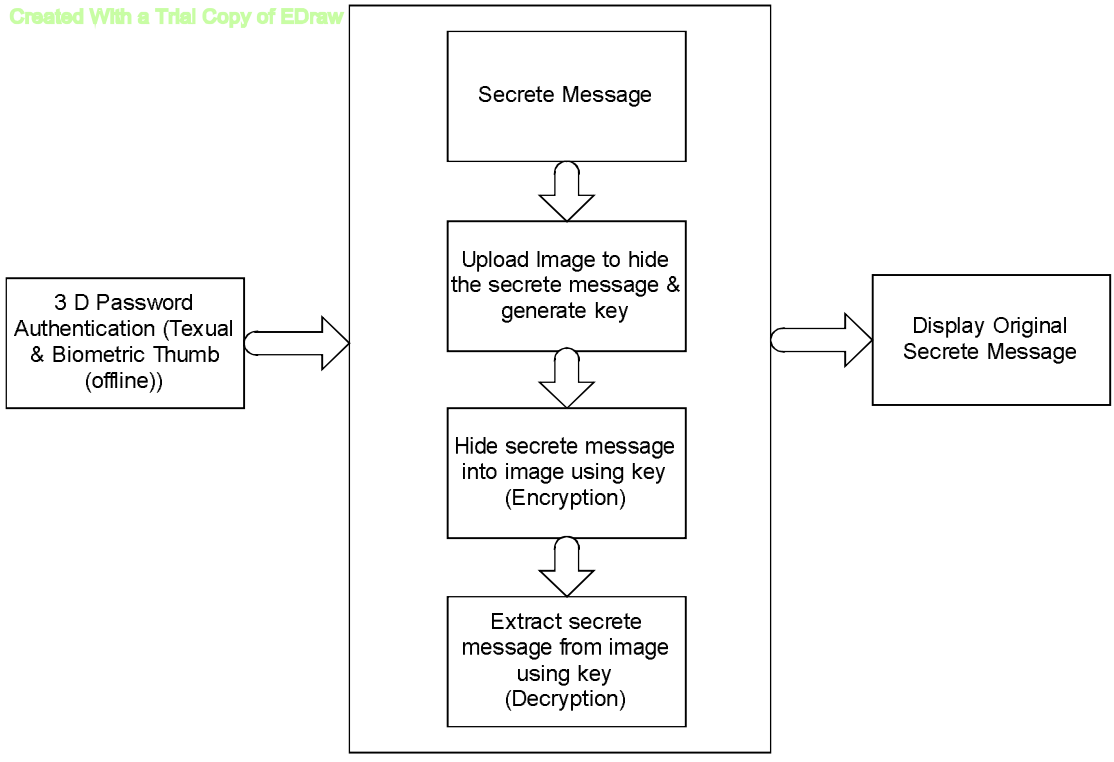

Fig. Proposed System Architecture

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V. ADVANTAGES OF PROPOSED SYSTEM

1. In our proposed system, security is more by using 3D password.
2. The recovered source texture image is exactly the same as the original source texture, so no loss of pixels in this process.
3. Reducing distortion is the crucial issue in existing method this will overcome by our system.

VI. CONCLUSION

The distortion of image is very low in our proposed system which is the major advantage. Our system improves the solution space and also reduces the computational complexity. The message and image is loaded by using GUI format. Stenography process is used to hide the secret message in imageand also extract the secret message from texture image in our system. Secret message will extract by receiver. Proposed methodology uses stenography for hiding data inside the image which input the texture image pattern for hiding text in the data.
Also we work on 3D password authentication, i.e. combination of textual authentication and user thumb image authentication offline.

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