Skip to Main Content

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Patent Search

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Abstract:

This invention introduces a real-time secure text transmission system using video steganography to embed sensitive text data within video streams for confidential communication. The system leverages video frames to hide information without affecting the video quality, making the presence of hidden data undetectable by conv means. The system supports real-time embedding and extraction of text data, making it suitable for live streaming, video conferencing, and pre-recorded video trans features include high embedding capacity, robustness against video compression and processing, and the integration of encryption for added security, ensuring that hidden data is discovered, it remains protected. The system operates with low computational overhead and can be deployed on various hardware platforms while ma seamless integration with existing video systems like CCTV networks, streaming services, or video conferencing platforms. This invention is ideal for secure communi environments such as military operations, corporate communications, government agencies, and healthcare, where real-time, confidential data exchange is crucial. T offers a scalable, efficient, and stealthy solution for transmitting sensitive information without detection.

Complete Specification

Description:The Palm Print Authentication System in Fig. 1 is a biometric identification technology that captures and analyzes the unique patterns found on an indiv palm to authenticate their identity securely. The system uses a high-resolution scanner to capture an image of the palm, extracting distinct features such as principa ridges, wrinkles, and minutiae points. These features are processed using advanced feature extraction algorithms to create a unique biometric template.
Key Components and Features:
1.   Palm Image Capture:
o   The system uses a high-resolution imaging device to capture the detailed patterns of the user's palm. It may operate in a contactless or low-contact manner, er both hygiene and convenience during the authentication process.
2.   Feature Extraction and Matching:
o   Once the palm print is captured, the system uses image processing algorithms to extract critical features, such as the principal lines and ridges. These extracted features are then compared with pre-enrolled templates in a secure database to verify the individual's identity.
3.   Secure Template Storage:
o   The extracted features are stored as encrypted biometric templates in the system's database, ensuring that the user's sensitive biometric data is protected fror unauthorized access.
4.   Real-Time Authentication:
o   The system offers fast and accurate authentication, making it suitable for environments requiring real-time identity verification, such as access control, banking

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