



FORM 3: Methodology

1. Team No: 13

2. Title: Enhancing Healthcare - Seamless Integration of Computer-Based Medical Data.

3. Proposed Method:

With the old models not being as efficient for the population of India, we came up with the modifications proposing our model which focuses on easy access to the records through our web application. We used the React framework to build our fast and efficient application. To store the data of the records we used SQLite database and flask to create efficient APIs. We also used NLP to summarize the records for easy access and faster treatment in emergency cases. The main focus is on the encryption and the compression of data so that it is safe from any kind of vulnerabilities.

4. Proposed Illustration:

Our project is centered around integrating existing CPR (Computer-based Patient Record) systems from various hospitals, aiming to establish a unified platform for effortless data sharing and collaboration. The objective is to create a common ground that simplifies the exchange of patient information across different healthcare institutions.

From a user standpoint, our application offers several features. Users can access their personal information, health data, and hospital-specific reports. This empowers individuals to stay informed about their medical history and make well-informed choices regarding their health. Additionally, the benefits extend to hospitals. Medical institutions can gain comprehensive insights into a patient's medical journey across different hospitals. This holistic view can significantly impact future treatments and overall patient care.

The main focus is on the encryption, compression, and summary of data which helps protect the data from any threats and the summarization of the records can be easily understood by the patient as well as the doctors. These additional features in our application will help the treatments, especially in emergency cases to be done faster and the patient records are not vulnerable to any kind of attacks that allow only the patients and the doctors to access the records.

The primary emphasis lies in the meticulous implementation of encryption, compression, and data summarization protocols, fortifying the security and accessibility of sensitive information within our application. These enhanced features are strategically designed to shield data from potential threats, ensuring that patient records remain impervious to unauthorized access and malicious attacks.

The amalgamation of robust encryption mechanisms guarantees the confidentiality of patient data, while compression techniques optimize storage efficiency without compromising data integrity. Concurrently, the implementation of effective data summarization facilitates seamless comprehension for both patients and medical professionals, thereby expediting treatment procedures, particularly in critical emergency scenarios.

With encryption and compression of data the functionality of two-factor authentication so that unauthorized users can not login even if the password is breached or compromised. This ensures that there is no bypass to one's account and no records or documents are accessed by unauthorized people.

By prioritizing these advanced functionalities, our application not only upholds the highest standards of data protection but also streamlines the communication and understanding of medical records. This comprehensive approach not only enhances the efficiency of medical treatments but also ensures that only authorized personnel, namely patients and doctors, have rightful access to the pertinent records, fortifying the overall security architecture of our platform.

Signature Supervisor |