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## Enhancing Healthcare Through Application Modernisation



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Technology integration in healthcare is pivotal in improving patient care and operational efficiency. However, many healthcare organisations struggle with outdated or inefficient applications, leading to redundancy and inefficiencies. Application modernisation emerges as a crucial process in addressing these challenges, offering a pathway to optimise both front-end and back-end systems. This article explores the need for application modernisation in healthcare, the key factors driving its adoption, and the essential phases involved in the modernisation journey.

### The Imperative for Modernization in Healthcare

Healthcare organisations depend on various digital services, including electronic health records (EHR), telehealth platforms, and various administrative tools. These applications vary significantly in their age and state of maintenance, with some running on decades-old mainframe systems. The reliance on outdated systems poses significant challenges, including high maintenance costs, difficulties finding skilled personnel, and compliance issues with modern regulations. The urgency for modernisation becomes clear not only to streamline operations but also to meet the growing demand for seamless data sharing and improved patient engagement.

One of the primary drivers for modernization is the increasing demand for streamlined and integrated healthcare services. Patients and healthcare providers alike seek efficient, data-driven interactions, which legacy systems often fail to support. Additionally, regulatory requirements necessitate data-sharing capabilities that are challenging for older systems to implement. Thus, the modernization of healthcare applications is not just a technological upgrade but a necessity for meeting regulatory standards and patient expectations.

### Phases of Application Modernisation

Application modernization in healthcare follows a structured process, which can be broadly categorised into four key phases: assessment, migration, updating, and optimisation. Each phase, from the initial assessment to the final optimisation, plays a crucial role in the modernization journey, ensuring that the process is thorough and effective.

- The first step involves assessing the existing applications against modernisation goals, including identifying which ones should be updated or replaced. This phase is critical for setting expectations and developing a roadmap that outlines the modernisation timeline and resource allocation.
- The migration phase typically involves moving applications to the cloud, which offers benefits such as improved security, scalability, and ease of maintenance. Cloud migration is particularly advantageous for healthcare organisations, as it allows for the integration of new features and technologies, such as microservices, which enable faster development and deployment cycles.
- Updating applications with modern technologies is the next crucial step. This may include adopting containers for more flexible deployment, integrating machine learning and artificial intelligence for data analysis, and implementing automation for continuous monitoring and updates. These updates not only enhance the functionality of healthcare applications but also ensure they can adapt to future technological advancements.
- The final phase, optimisation, involves continuously refining applications to meet the organisation's evolving needs. This includes employing tools like AI for IT operations (AIOps) to monitor performance, using software-defined networking to improve application availability, and fostering collaboration between software development and IT operations through DevOps practices. Continuous optimisation ensures that healthcare applications remain efficient, secure, and aligned with the organisation's goals.

Application modernisation is not just about upgrading technology but transforming how healthcare organisations operate and deliver care. Modernising outdated systems allows healthcare providers to improve patient outcomes, streamline operations, and comply with regulatory standards. Modernisation involves careful planning and execution across multiple phases, from assessment and migration to updating and optimisation. As healthcare continues to evolve, the importance of a robust, modernised IT infrastructure cannot be overstated, making it a critical

investment for the future of healthcare.

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