

Securing patient data through a comprehensive encryption solution



Our client is a leading healthcare provider from Australia. They had a tough time securing their patient data and ensuring compliance with healthcare regulations.



As the healthcare sector experiences increasing cybersecurity threats & stringent regulatory requirements, staying updated with robust encryption measures was getting tough for our clients.

So, we enhanced their data security with our tailored solutions and expertise.



Our solution “SecureMed” has 7 modules:



User Authentication
& Access Control



Data Encryption
& Decryption



Audit Logging
& Monitoring



Compliance
Management



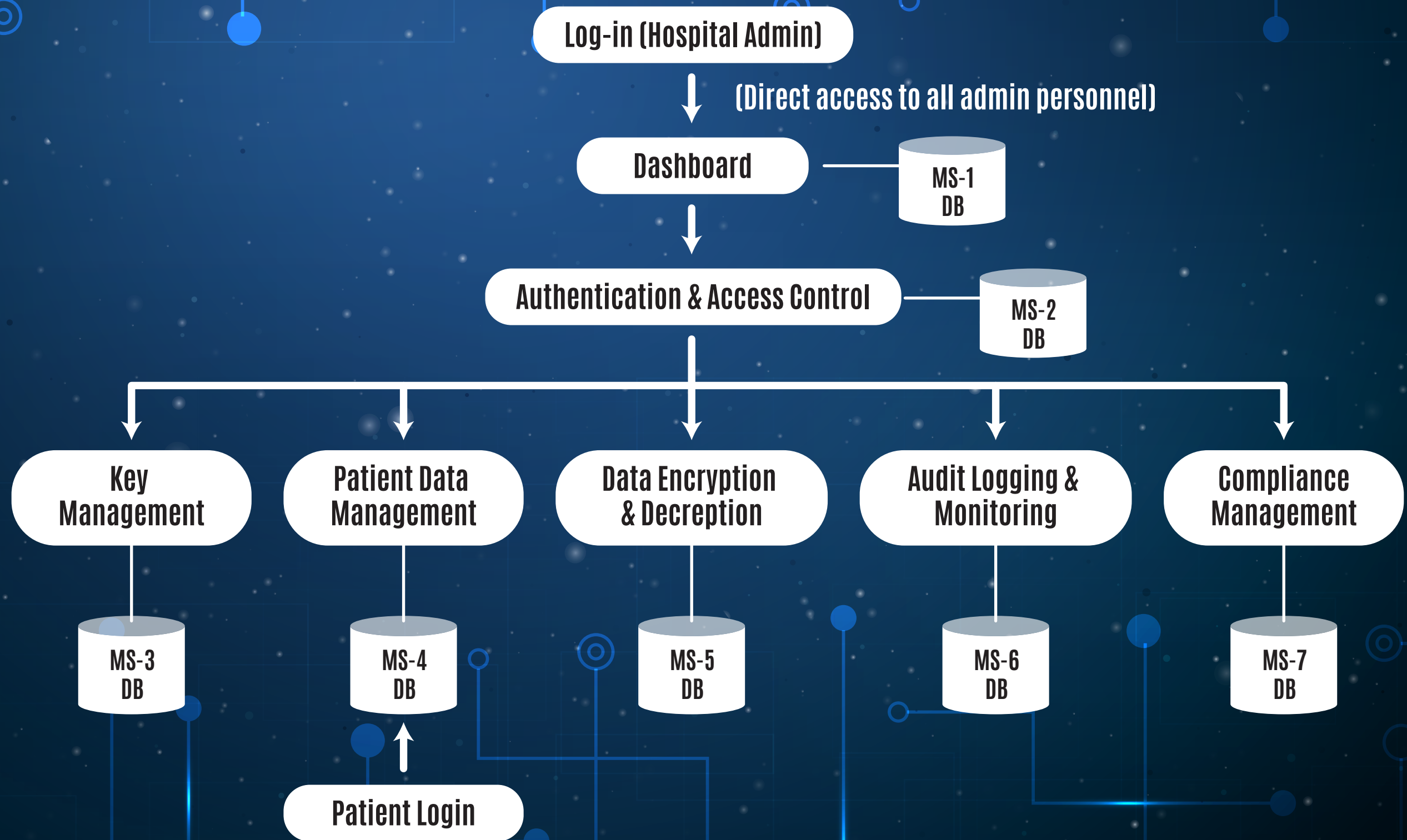
Key
Management



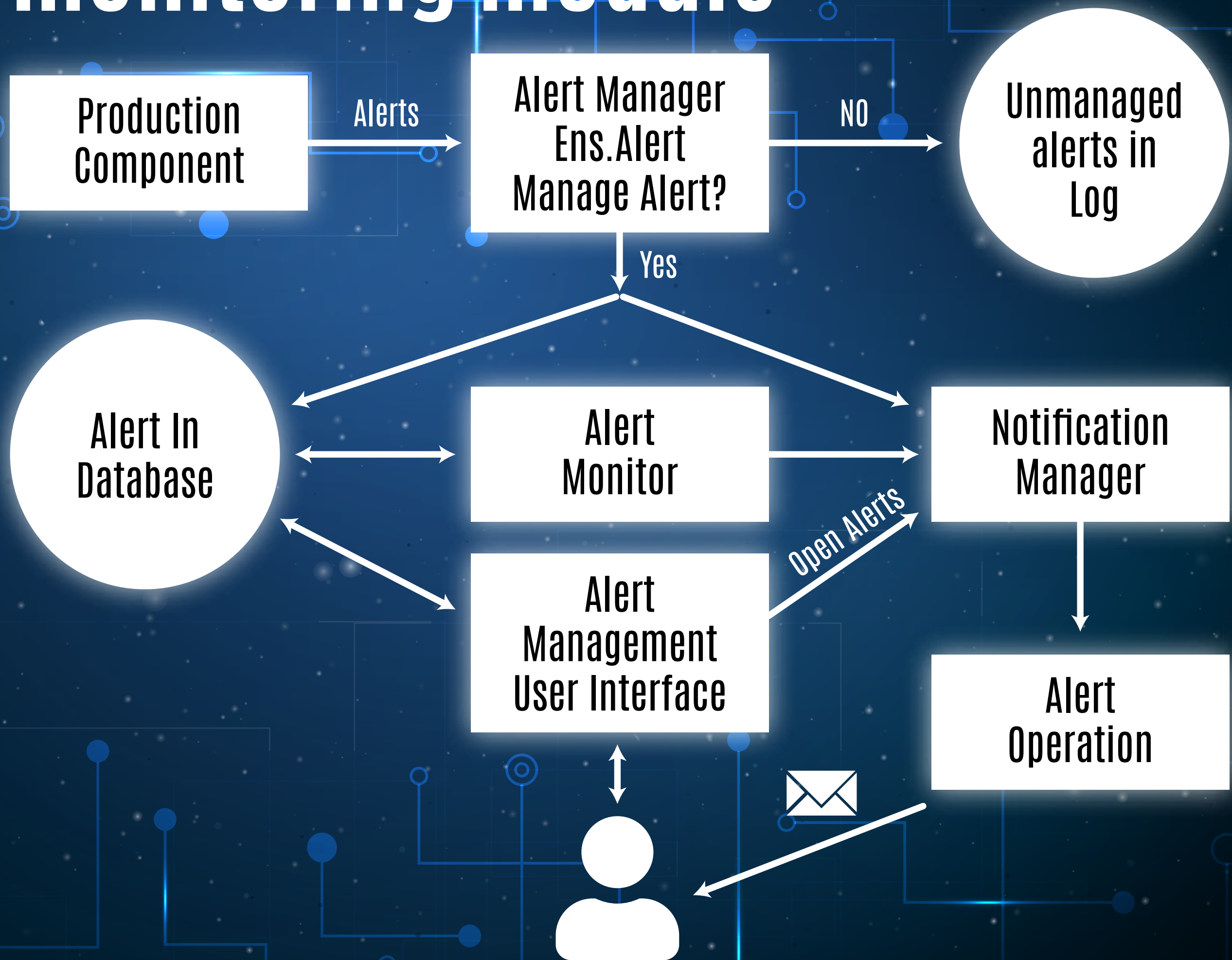
Monitoring
& Alerts

Architecture:

Our solution has a microservices architecture. We developed all these 7 modules independently. Each module serves a specific function.



A sample flow of the alert and monitoring module



User Interface Tech Stack



Frontend framework:
React.js



UI component library:
Material UI



State Management:
Redux



Routing:
React Router



Authentication:
JSON Web Tokens (JWT)



Styling:
CSS modules



API Integration:
Fetch API



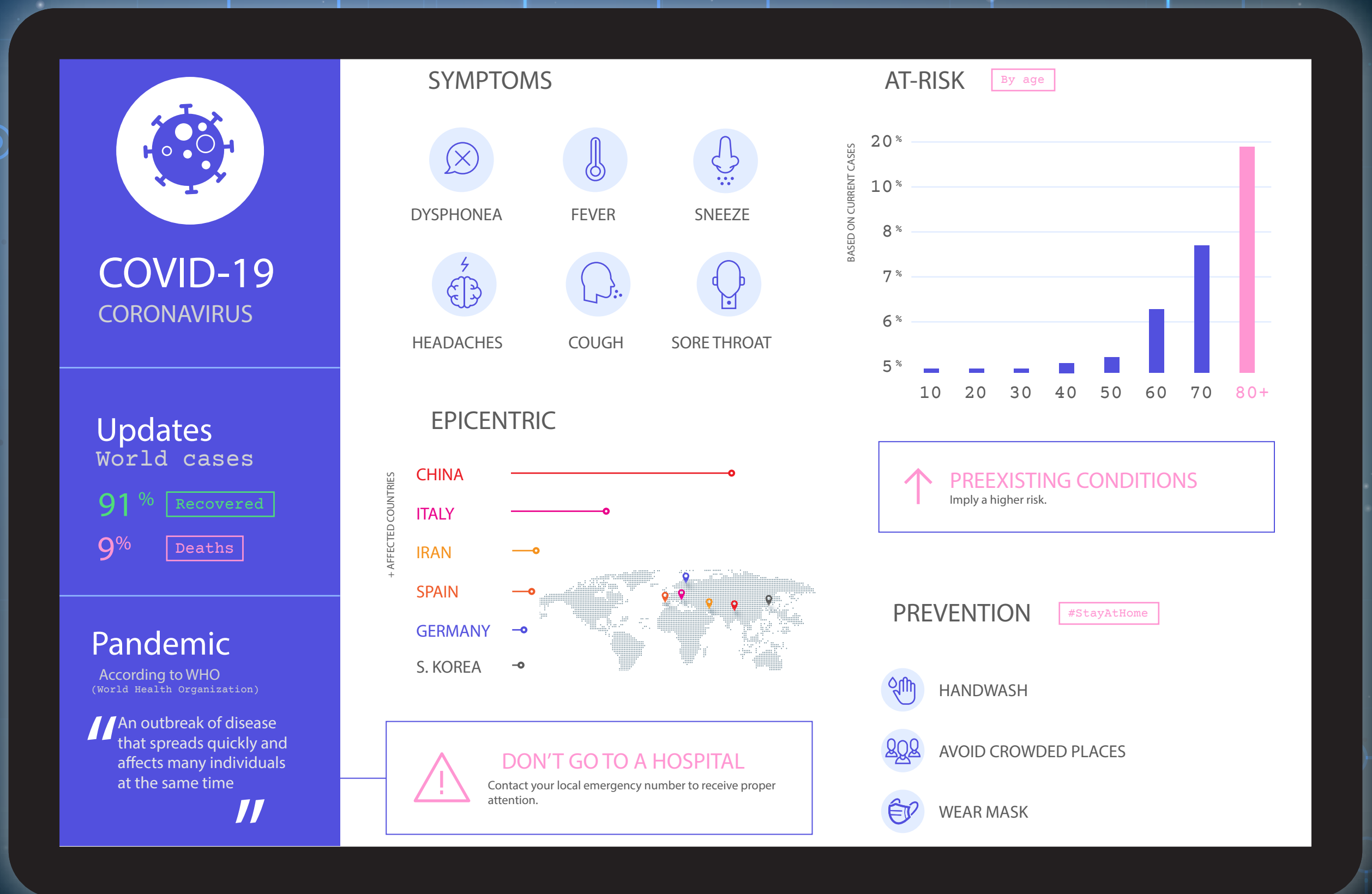
Testing: JEST & React
Testing library



The UI consisted of the following

Dashboard

A centralized view of the system activities and security alerts.



The UI consisted of the following

Authentication & access control

Enables user to login securely. This also enforces role-based access.

Key management

Users can generate new keys, rotate keys periodically, and revoke compromised keys for better data security.

Patient data management

Allows healthcare professionals to search, view, and manage patient data securely. They can add new records, update the existing ones, and retrieve information as per the search criteria.

Data encryption & decryption

The users can encrypt, and decrypt data as needed. This module will provide options to select an algorithm to encrypt, manage their encryption keys, and monitor encryption status.

Audit logging & monitoring

This displays audit logs and monitors security incidents in real-time. The users can generate compliance reports as well.

Compliance management

Here, the users can conduct compliance checks, manage audit trails, and address issues proactively.

Backend tech stack

Programming language

 Node.js

Web framework

 Express.js

Database

 MongoDB

Authentication & Authorization

 Passport.js

Encryption

 Crypto.js

Logging & monitoring

 Winston

Compliance management

 HIPAA Compliance toolkit



Our clients got

1. Enhanced data security up to 70%
2. 80% compliance with healthcare regulations and reduced risk of non-compliance and associated penalties.
3. Up to 40% efficient operations in patient data management and workflow.
4. Enhanced patient care outcomes by 30%
5. Reduced data breaches and compliance violations by 60%
6. Minimized costly security incidents and reputational damage



**Do you want to witness this
transformative solution for
your healthcare data?**



Well, every organization is unique & so its requirements. So, let's explore your needs & the best-fit solution addressing those needs.





**Improve data security and
streamline patient care today.**



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