

Build a online solution for dental chain of multiple clinics.



TECHNOLOGY STACK

Portal: Svelte

Microservices: Golang, Quarkus [Java], Nginx [To Serve Portal], Drupal

Mobile App: Flutter

Cloud: AWS Fargate, AWS EKS, Aws Lambda, Aws Cognito, Aws Sagemaker

Monitoring & Alerting: grafana, prometheus

Pipeline: Github Action [Portal], AWS Code-pipeline [Microservice]

CASE
STUDY



REQUIREMENT

In 2020, a dental chain with multiple clinics across the UK was faced with a major challenge when the Covid-19 pandemic struck. Due to the lockdown, the dental chain had to close its clinics, which heavily relied on its on-premises legacy systems to manage patient appointments, billing, and other crucial tasks. To continue their operations remotely, they had to migrate to the cloud and implement a cost-effective solution that would minimize the impact of the shutdown.

1. Provide solutions in a short span of time: The dental chain needed a quick solution to resume operations and ensure business continuity. Time was a crucial factor, and the solution had to be deployed rapidly.
2. Implement a smooth video consultation platform: With the lockdown in place, the dental chain needed to facilitate remote consultations for their patients. A video consultation platform was needed that would be easy to use and provide a seamless user experience.
3. Migrate existing Doctor's records and patients' medical histories: The dental chain had a vast amount of data stored in its legacy system. It was crucial to migrating this data to the cloud to ensure continuity of care for their patients.
4. Migrate the payroll management system for all the clinics in the network: The dental chain had multiple clinics across the UK, and it was essential to have a centralized payroll management system. It was necessary to migrate the system to the cloud to ensure efficient and cost effective management.

To meet these requirements, the dental chain partnered with Webqsolution consulting services which has a dedicated team having extensive experience in cloud migration and optimization.



THE CHALLENGE

The cloud migration process for the dental chain in the UK presented several challenges, as the company had to ensure that its legacy system could be successfully migrated to the cloud while maintaining high levels of security, cost-efficiency, and data accuracy.

we had to convert the existing desktop application to a user-friendly web and mobile app. This required significant refactoring and redesigning of the application's user interface and backend to ensure a consistent experience across all devices. We also migrated the monolith application to microservices, which required significant architectural changes and a new approach to development. This was necessary to ensure the application's scalability and performance in the cloud environment.

Another significant challenge was data migration, as the dental chain had to migrate a significant amount of patient and doctor records to the cloud while ensuring that all the data was migrated accurately and without any loss. Moreover, cost optimization was a critical factor in the cloud migration process, as the company needed to ensure that the solution was efficient and cost-effective.

Finally, security compliance was a top priority for the dental chain to safeguard patient data and meet the data security and privacy regulations set by the European Union. To overcome these challenges, we leveraged modern cloud technologies and the expertise of our inhouse cloud service provider team. By adopting a comprehensive and strategic approach, the dental chain was able to successfully migrate its legacy system to the cloud and resume its operations online within a short period of time.

THE SOLUTION

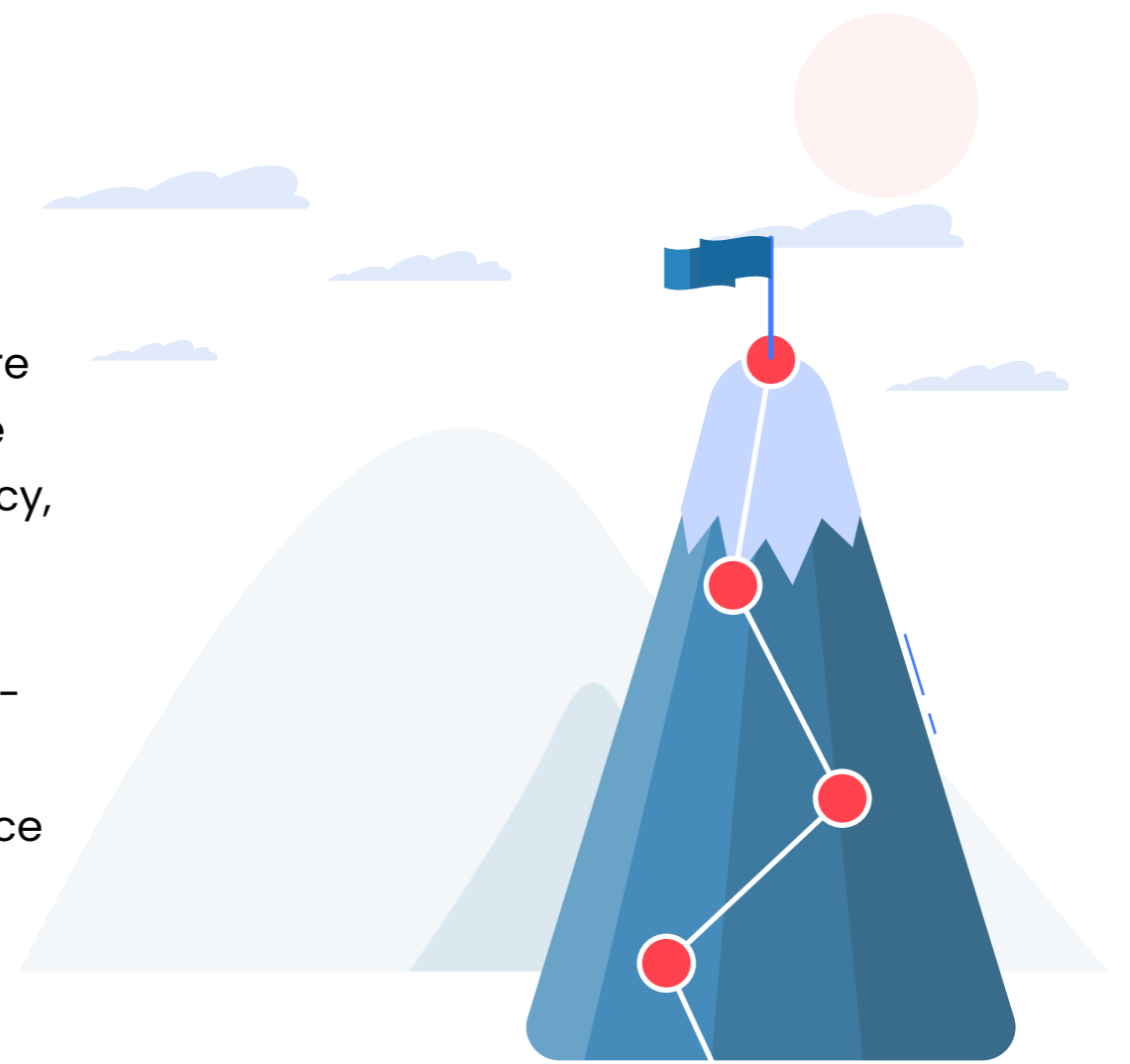
We used managed cloud services such as EKS and Fargate for the project. Our team rewrote the monolith application into microservices using GO and Quarkus and deployed them using Docker and Kubernetes on EKS. The entire infrastructure was developed using Terraform, ensuring that we could quickly and efficiently deploy the necessary resources. We developed separate pipelines for both the microservices and the portal, allowing for parallel development and testing to expedite the process.

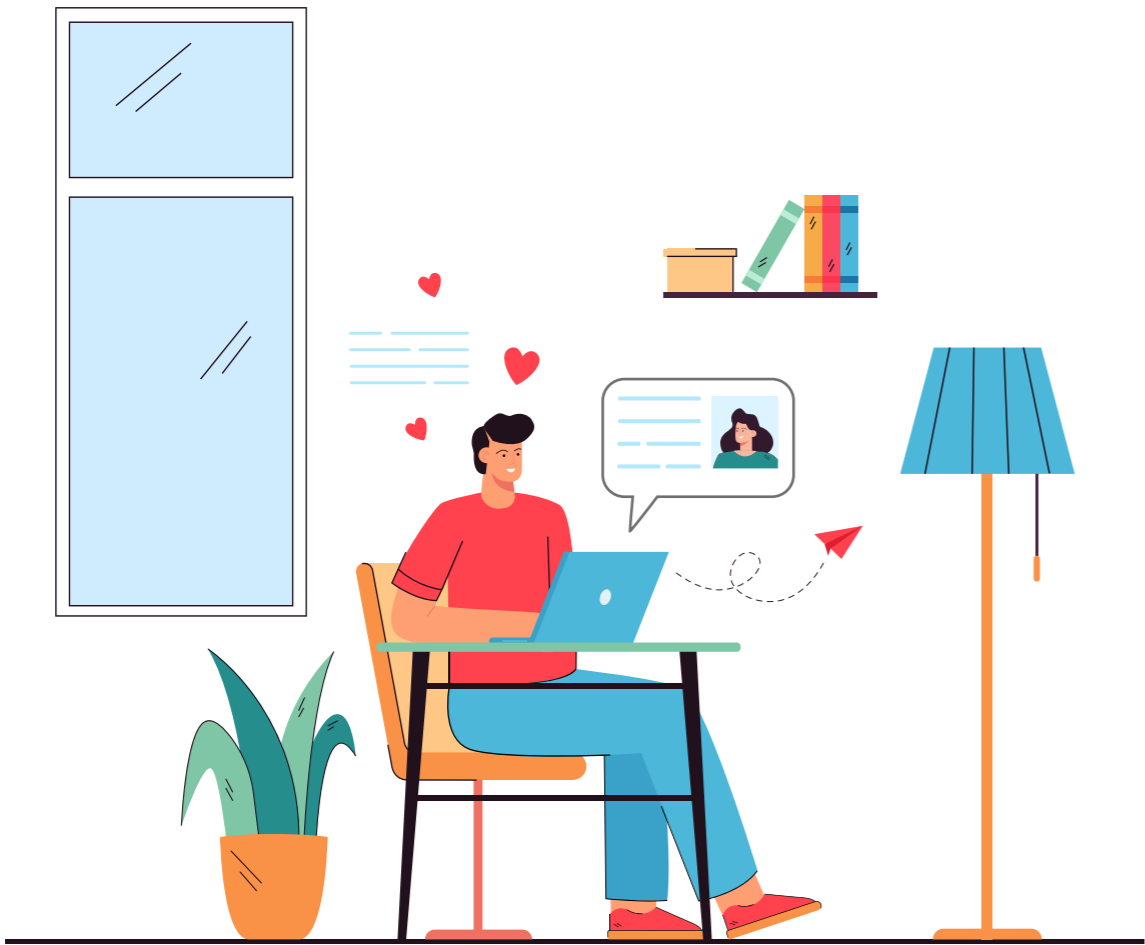
The portal was built using Svelte, which is a lightweight JavaScript framework that allows for fast, performant applications. The mobile app was built using Flutter, which is a UI toolkit that allows for the development of natively compiled applications for mobile, web, and desktop. Both technologies were chosen for their ability to deliver a seamless user experience across devices. We integrated Prometheus and Grafana for monitoring the infrastructure and the application's performance. This allowed us to quickly identify and resolve any issues that arose during the migration process.

We also migrated the payroll and HR management system for all clinics in the network using Drupal. This solution allowed for a flexible and customizable HR management system that met the needs of the dental chain's unique requirements.

In addition to the aforementioned solutions, we also implemented an online payment system that allowed patients to pay fees using various payment methods such as credit cards, debit cards, and net banking. The system was designed to settle daily payments with doctors, and weekly settlements with the network of clinics.

This payment solution not only streamlined the payment process, but it also provided a convenient and secure way for patients to pay their fees without having to visit the clinic in person. Additionally, it helped reduce the workload of the clinic staff who no longer had to handle cash and manually reconcile payments. The payment solution was seamlessly integrated with the existing system, ensuring a hassle-free experience for both patients and doctors.





We followed a strict agile process during the migration. Following the Agile methodology has brought numerous benefits to our team, allowing us to deliver high-quality projects on time, and respond to change quickly. The Agile process of breaking down the project into smaller sprints allowed us to focus on the most critical tasks first, and prioritize work accordingly. This helped us to stay on track and ensured that we met the project's timeline. By working in smaller iterations, the team was able to continuously integrate and test the software, identifying any issues early in the development cycle, and allowing for a swift resolution. This approach ensured that the final product met all the necessary quality standards, and met the customer's requirements.

The Agile methodology also facilitated a collaborative approach to work. The team worked closely together, with each member contributing their unique skill set, to ensure that the project was delivered as efficiently and effectively as possible. The customer was involved throughout the process, and their feedback was regularly incorporated into the project, ensuring that the final product met their needs and expectations. By following the Agile methodology, the team was able to be adaptable, respond to changes quickly, and stay focused on the most critical tasks. Overall, the benefits of Agile include faster time-to-market, better quality software, improved team collaboration, increased customer satisfaction, and the ability to be flexible in the face of change.

PROJECT EXECUTION

- 1

Kick-off
Kick off your execution phase.
- 2

Tackle Tasks
Complete your tasks and deliverables.
- 3

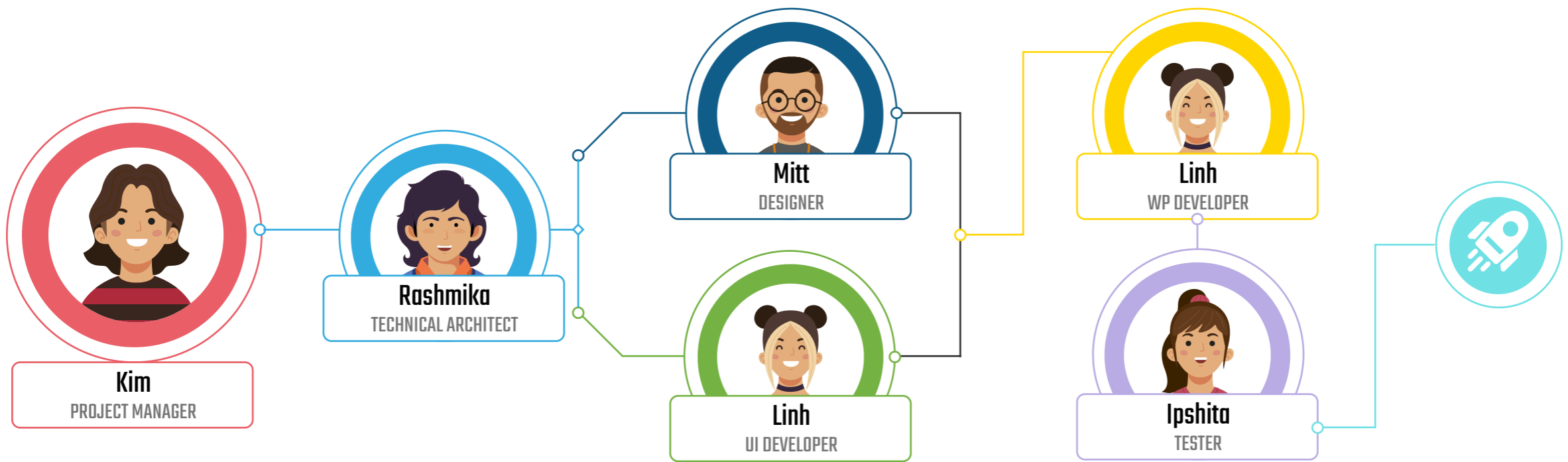
Manage Your Resources
Workload, allocation, & utilization are monitored to avoid conflicts.
- 4

Communicate Often
Internal & external stakeholders are aware of progress.
- 5

Quality Control
Project deliverables meet the required standards.
- 6

Execution Closure
Deliverables are completed & documentation is up to date.

TEAM STRUCTURE



32+
Happy Clients

10+
Hard Workers

421+
Projects Complete

1,063
Hours Of Support