About Maccabi

Maccabi is the leading Healthcare Maintenance Organization (HMO) in Israel, serving over 2.3 million beneficiaries (26% of market share). It operates both as an insurer of its members and as their care provider. It is a community-based healthcare provider whose stated mission is to be the leading health organization in a changing environment and to shape the medicine of the future for the sake of their members.

Maccabi Healthcare Transforms Patient Experience Using Couchbase Mobile
NoSQL Database Enables Developers to Continuously Innovate

Healthcare in Israel is fiercely competitive, dominated by three organizations that account for over 92% of the market. Once a provider is chosen, customers rarely switch – meaning brand perception and reputation are really important in order to influence customer decision-making. Patient experience often defines the brand, and in today's world, eHealth services play a critical part in customer satisfaction. The World Health Organization (WHO) defines eHealth as "the cost-effective and secure use of information and communications technologies in support of health and health-related fields, including health-care services, health surveillance, health literature, and health education, knowledge and research." Maccabi is at the forefront of implementing eHealth in Israel

In 2018 Maccabi began a digital transformation project to revolutionize how their customers access and use their services. Maccabi's vision was to have all 2.3 million customers manage their accounts via a single mobile app. Services would include the ability to book appointments, request specialists, fill prescriptions, review examination results, and obtain a "fit note" for absence from work. Previously, these tasks were done using a combination of paper-based forms and in-person appointments. Where mobile and online portals did exist, they were unsophisticated and generally provided a less than satisfying experience. Functionality was limited, and reliability was poor. When it came to innovation, due to the monolithic infrastructure and lack of integration between applications, having the changes deployed was slow with only one or two releases per year. Maccabi soon realized they had to make a choice: continue as they were and risk losing market share or innovate and disrupt the industry by completely re-architecting their infrastructure.

> **The Challenge:** Uplift/Modernize technical infrastructure to provide a robust customer-centric mobile experience

Before building new applications, Maccabi had to first review their existing infrastructure. With over thirty years of technical debt and diversified databases from different generations, the IT team had to decide if they could build on top of the underlying platform or start from scratch. Most systems ran on Microsoft SQL (MSSQL), Oracle, and mainframes databases like AS/400. Legacy mobile applications were running as proxied web applications, which ran on IIS servers, and the integration was via REST calls and XML for multiple systems. Their applications became slower and slower and suffered from many slowdowns and offline periods, especially at the beginning of the week when more people logged into their phones to check prescriptions, schedule doctor visits, and complete general health tasks. Further, their mainframe maintenance was growing more painful and couldn't keep up with increasing demands. Maccabi quickly realized that in order to ensure a great patient experience, the

About Couchbase

Couchbase's mission is to be the database platform that enables a revolution in application innovation. To make this possible, Couchbase created an enterprise-class NoSQL database to help deliver ever-richer and ever more personalized customer and employee experiences. Built with the most powerful NoSQL technology, Couchbase was architected on top of an open source foundation for the massively interactive enterprise. Our geo-distributed database provides unmatched developer agility and manageability, as well as unparalleled performance at any scale, from any cloud to the edge.

Couchbase has become pervasive in our everyday lives; our customers include industry leaders Amadeus, AT&T, BD (Becton, Dickinson and Company), Carrefour, Cisco, Comcast, Disney, DreamWorks Animation, eBay, Marriott, Neiman Marcus, Tesco, Tommy Hilfiger, United, Verizon, Wells Fargo, as well as hundreds of other household names. For more information, visit www.couchbase.com.

technology they chose would need to be reliable, fast, and highly scalable. To complicate matters, with so much functionality moving to mobile applications, the demand on the software development team was expected to increase exponentially. In response, they wanted to move to a DevOps methodology to enable the continuous delivery of fixes and features which meant the platform had to be agile enough to allow the team to deliver releases in a monthly cadence and raise the application rating

The Solution: – Maccabi selected Couchbase to build a flexible and robust modern tech stack

Maccabi decided that in order to deliver their vision they would have to reinvent their architecture with the latest and most innovative technology and processes. Relational databases would not be able to meet the demands of modern applications so they started to explore NoSQL options. The requirement was a database that could perform well at scale, had integrated caching, a mobile offering, and a SQL-like query language. Maccabi chose Couchbase because they met all of these requirements and offered other technologies they could adopt in the future such as full-text search, eventing, an analytics service, and a Kubernetes autonomous operator.

"We wanted a solution that seamlessly works across server and mobile, and that the developers could use without lots of retraining. None of the other solutions came even close to Couchbase's broad enterprise capabilities," said Aviram Agmon, CTO at Maccabi.

A full proof of concept was conducted, which took around four weeks and was followed by a two-month pilot. The DevOps team was then able to run a full-blown beta of their app with syncing capabilities.

The Benefits: 2.3 million customers manage their accounts via a single mobile app

Less than two years after the project began, Maccabi rolled out their mobile app to all 2.3 million customers in Israel. By simplifying the architecture and offloading data from many different systems into Couchbase the mobile application has seen a significant increase speed, ability to scale to accommodate unplanned demand spikes, with fortified availability. The response exceeded customer expectations as evidenced by the profusion of positive feedback on how improved the experience had become. Where the legacy app was rated 1-2 stars, the new app consistently earns ratings between 4-5 stars. Since switching to Couchbase, customers experience zero downtime or slowing of the application. Services like prescription fulfillment no longer require patients to go in-person to collect, and paper processes have been completely removed. In Israel, children older than 16 are able to live on their own, but in the past could not manage their own healthcare without their parent's involvement, now these children are able to book appointments without their parents, and even restrict test results. With the flexibility and features provided by Couchbase, Maccabi sees infinite possibilities for continually innovating and providing the best healthcare to its customers.

Learn more

Visit couchbase.com to learn more about the enterprise-class NoSQL database built for business-critical applications.

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