



Business challenge

No one opens a fashion store because they have a passion for stock control or sales forecasting. Quetzal helps retailers focus on the parts of the job they love by simplifying the parts they don't.

Transformation

Quetzal empowers small fashion retailers with the business tools they need to compete with big-box stores, leveling the playing field through smarter purchasing and customer analytics.



Doug Stewart
CEO
Quetzal

Business benefits:

95%
saving in infrastructure and hosting costs with flexible cloud data services

90%
reduction in issues with offline transactions with seamless cloud mobile sync

3 times
faster integration with other retail systems, enabling quick deployment

Quetzal

Leveling the playing field for boutique fashion retailers with powerful point-of-sale analytics

Quetzal is a point-of-sale solution designed for one specific group of customers: forward-thinking clothing and shoe retailers with a small number of stores. Built around the Apple iPad, Quetzal combines a beautiful user interface with a powerful, engaging and intuitive set of business tools.

"What Quetzal POS does for our customers, Cloudant does for us: it makes the difficult things easy."

Doug Stewart
CEO
Quetzal

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Beating the big-box stores

“A couple of decades ago, something happened in retail that really tipped the balance of power,” says Douglas Stewart, CEO of Quetzal. “Previously, although the big-box stores had an advantage in terms of economies of scale, the small retailer could always fight back by offering a more personal shopping experience and a closer relationship with its customers.

“But then the big chains invested in analytics—and suddenly they could understand their customers on a much deeper level, and make much smarter decisions about purchasing, product mix, inventory management and promotions. For smaller stores, who couldn’t afford to buy or maintain expensive analytics systems, there was no easy way to compete—and in many cities, that’s why the downtown shopping district has declined.”

Quetzal’s aim is to revive the fortunes of smaller retailers in the clothing and shoe retail sector by leveling the playing field. By developing a highly specialized point-of-sale (POS) system that makes it simple for business owners to use powerful analytics and business management tools, Quetzal delivers intuitive insights that help store owners and managers make good operational decisions quickly.

Doug Stewart comments: “Nobody goes into the fashion retail business because they love inventory management—they go into it because they have a passion for fantastic clothes and great shoes. If we can provide user-friendly tools that make it easy for them to deal with complex operational questions, then they can concentrate on the fashion sense and customer service skills that give them such an advantage over larger retailers.”

Rewriting the rulebook

To build its revolutionary new platform, Quetzal realized that it needed to rewrite the rulebook for POS software development. Instead of using traditional custom-built POS hardware, the solution would be designed entirely for use on the Apple iPad. And instead of relying on a traditional relational database to manage its clients’ data, the company decided to use a much more flexible and scalable NoSQL solution: IBM® Cloudant®, a fully managed JSON document store.

Doug Stewart comments: “In our previous careers, we had all worked on building general-purpose POS systems based on relational databases. There was always a lot of complexity, which drove up maintenance and support costs, and made it difficult for smaller retailers to afford anything other than the most basic system.

“With Quetzal, we took the opposite approach: instead of building a solution that tried to do everything for every type of retailer, we built one that is tightly focused on the needs of the clothing and shoe sector. This allows us to offer a much deeper, more relevant set of features without increasing the overall complexity. And from a technical point of view, we took the same approach: the key was to keep everything simple so that we could develop and enhance the functionality quickly without a rigid architecture getting in the way.”

Greg Nacu, Lead Software Developer at Quetzal, explains: “From our perspective, Cloudant has several huge advantages over a relational database. First, the NoSQL approach means we don’t have to plan all our data structures from the start, which makes it much more versatile—so if we need to add something, it doesn’t require a redesign of the whole schema.

“Second, we can use Cloudant Sync to provide a seamless user experience both online and offline—so even if a client doesn’t have great connectivity in every part of their store, it doesn’t matter. The transactions are still all captured safely and stored locally in JSON format by the iPad app. They will then be uploaded to Cloudant as soon as the iPad reconnects to the internet.

“This completely eliminates the complex synchronization issues that cause so many problems with offline transactions in a traditional architecture—and it’s a feature that is not available from many of Cloudant’s competitors in the NoSQL space either.

“Third, the fact that the data is all JSON is also massively helpful from a developer’s perspective. Our client-side code is all in JavaScript, our server-side code is Node.js, and JSON is native to both. Not having to convert between data formats when you are moving data in and out of the database is a huge advantage in terms of simplifying development and maintenance, which helps us considerably reduce time-to-market for new features.”

Doug Stewart adds: “With Cloudant, we also get the enterprise scalability we need. Although each of our individual customers may be relatively small, we need to be able to support thousands of stores in total—so the fact that Cloudant can scale seamlessly just by adding more nodes to the cluster is a big advantage. And having it all hosted and managed by the IBM Cloud Data Services team means that we can focus on application development, not database administration.”

Revitalizing the retail sector

The impact of Quetzal’s new POS system on small retailers’ ability to compete with big-box stores is immediate. Greg Nacu explains: “It’s like the Moneyball effect in baseball: if you give the little guy the data to make smarter decisions, it helps to cancel out the advantage of the big guy being bigger. Our apps give small business owners access to the kind of analytics that until now, only the largest chains have been able to afford.”



For example, Quetzal can analyze the purchase history of regular customers, and instantly generate a word cloud visualization that shows the sales assistant the types, styles, brands, colors and sizes of clothes or shoes that the customer is likely to be interested in.

Doug Stewart says: “Imagine someone comes in to buy some shoes or a belt, but their word cloud emphasizes words like ‘black’, ‘Louis Vuitton’ and ‘handbag.’ That’s a clear opportunity to show them the latest collection of bags—and something a sales assistant would likely miss unless they had served that customer before. For businesses that are looking to expand from one or two stores to five or ten, you can’t rely on knowing or remembering every single customer, so this kind of insight is vital to help maintain personalized service as the business grows.”

Similarly, the size and color matrix that is critical for apparel purchasing and inventory management is built into Quetzal at a fundamental level. With a few taps on their iPad screen, a store manager can see what sizes and colors are selling, how many of each are in stock, how long that stock will last at the current rate of sale, and when a new order needs to be placed. Instead of retailers spending hours tracking inventory and forecasting sales in spreadsheets—or simply relying on guesswork and gut-feeling—Quetzal puts all the data at their fingertips, and presents it in a way that is easy to understand and digest.

Doug Stewart comments: “Quetzal is all about making the hard parts of retail easy for smaller players, automating as much as possible, and giving them more time to focus on what they do best. And what Quetzal does for our customers as retailers, Cloudant does for us as software developers: it takes care of a lot of the difficult back-end work, and lets us concentrate on building richer functionality and an even more beautiful and efficient interface.”

Greg Nacu puts the benefits into numbers: “With Cloudant, we can offer a seamless, reliable offline experience—so our support desk sees about 90 percent fewer issues with transaction synchronization than other POS systems we’ve worked on. And IBM’s cloud hosting and management of the Cloudant environment make it about 95 percent cheaper than hosting our own servers at a data center—which helps us keep our solution affordable for even the smallest retailers.

“Furthermore, the flexibility of the schema-less architecture and the JSON document structure mean that our time-to-market for new features can be accelerated massively. For example, we recently introduced a new connector to integrate Quetzal with a third-party e-commerce system’s size and color matrix, and we developed it three times faster than would have been possible with a relational database.”

Doug Stewart concludes: “With IBM’s help, Quetzal is leveling the playing field for smaller retailers by not only bringing enterprise-class analytics tools within their reach, but also making them intuitive and easy to use. Our simple and beautiful design philosophy is obvious from the interface of our iPad app, but it also extends right through our technical architecture—and Cloudant plays a huge role in keeping our solution flexible, scalable and agile from end to end.”

Solution components

- IBM Cloudant®

Take the next step

To learn more about Quetzal, please visit www.quetzalpos.com

IBM Cloud Data Services offers a complete portfolio of data and analytics services providing unique and seamless product integrations to build apps faster and gain new insights easier with flexible deployment and pricing options. For more information about how IBM Cloud Data Services can help businesses solve tough big data problems rapidly and cost-effectively, please visit ibm.biz/clouddataservices.

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