Current: Preparing teenagers for financial responsibility

Current uses Google Kubernetes Engine
Google Cloud to improve time to marke
for app development by 400% while
eliminating downtime for users of its de
card app.

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About Current

Current

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Google Cloud results

- **Improves time to market for app development by 400%**
- **Eliminates downtime for customers**
- **Enables deployment of new services in hours versus days**
- **Reduces total cloud hosting costs by 60%**

80% reduction
error resolutio
time

Current is a financial technology company that offers a debit card and app made for teenagers. The app and card give teens hands-on learning with modern financial tools, and connects them with the people, brands, and experiences they value.

Industries: Financial Services & Insurance

Location: United States

When it comes to developing good financial habits, it pays to start early. T
to teens about money and monitoring how they spend it helps set them up
more financially sound future and can have long-term implications for the
their lives.

Instead of handing teens cash, many parents are using Current (https://current.com/), a Visa chip debit card and smartphone app that helps
learn how to budget money. Teens can set savings goals, check their bala
earn money by completing chores, and even give to charity. Parents can s
automated allowance, create and approve chores, and easily track their
children's spending with real-time alerts.

(https://cloud.google.com/container-registry/),
Compute Engine (https://cloud.google.com/compute/)
Operations
Kubernetes Engine (https://cloud.google.com/kubernetes-engine/)
(https://workspace.google.com/) Gmail
Container Registry (https://cloud.google.com/container-registry/)
Docs
Cloud Storage (https://cloud.google.com/storage/)
)
, Sheets

To grow, Current must keep its app secure, reliable, and high performing. A
startup, the company started by developing and hosting its app on a simp
infrastructure, managing virtual machines with manual processes. As its u
base surpassed 25,000 daily active customers, Current began to notice
performance bottlenecks, particularly with the Neo4j graph database it uses to
store and expose relationships among users, family members, and their d
cards and connected banks. Running the database on a shared applicatio
server made it difficult to measure the cost of the required CPU time and
memory footprint. Current also lacked a robust way to log and profile the
database.

Current considered using a hosted Neo4j solution, but worried that it would limit
its ability to deploy in different availability zones as the company grew. Cur
was also concerned that a hosted solution would drastically increase costs

Operations
(https://cloud.google.com/products/operations)

Google Workspace
(https://workspace.google.com/)

Gmail
(https://workspace.google.com/products/gmail/)

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Docs
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Slides
(https://workspace.google.com/products/slides/)

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>
> *—Trevor Marshall, CTO, Current*

After a short stint with another cloud provider, Current decided to build its own graph database cluster on Google Cloud (https://cloud.google.com/). The highly available implementation—including a monitoring agent and backup agent—came in at half the cost of a hosted solution or alternative cloud provider according to Trevor Marshall, Chief Technology Officer at Current. Once the engineering team saw the power and reliability of Google Cloud, Current began exploring deeper integration with Google Cloud services.

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for our services," says Trevor. "We've also received a lot of collaboration and support from Google, which we weren't getting from other cloud providers."

Accelerating time-to-market

Current now hosts most of its applications in Docker containers, including its business-critical GraphQL API, using Google Kubernetes Engine (https://cloud.google.com/kubernetes-engine/) to automate cluster deployment and management of containerized applications while keeping applications available. Container images are stored on Google Container Registry (https://cloud.google.com/container-registry/) for fast, scalable retrieval. Integrated logging with Google Stackdriver (https://cloud.google.com/stackdriver/) makes it easy to identify issues, and Current can scale up or down as needed to keep performance high and costs low, with zero downtime for users.

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for app development by 400%. We can iterate quickly, find issues, and redeploy. There’s no reason whatsoever to run Kubernetes outside of Google Cloud, because Google does such a good job.”

—Trevor Marshall, CTO, Current

With a fully managed environment for containerized applications, Current can deploy new services in hours instead of days while keeping its staffing footprint small. When the company does add team members, they can focus on app development instead of managing and troubleshooting infrastructure.

“Moving to Google Cloud reduced our error resolution times by 80% and improved our time to market for app development by 400%,” says Trevor. “We can iterate quickly, find issues, and redeploy. There’s no reason whatsoever to run Kubernetes outside of Google Cloud, because Google does such a good job.”

Current has released a variety of compelling new features since moving to Google Cloud, including a referral program to recruit more customers and an improved notification feed to inspire more conversations about finances between parents and teens. It also restructured its app to highlight users' favorite features, including a dedicated allowance section and improved chore management. The new app also communicates with Current's Kubernetes Engine hosted GraphQL API. Current's use of GraphQL greatly improves performance by minimizing the data that is sent between the app and the backend, and enables Current's front-end engineers to share code, increasing developer efficiency.

Improving data and network security

As a financial technology company, Current is always focused on providing the highest levels of security for its customers. Google Cloud facilitates the use of encryption to help protect customer data at rest and in transit to help ensure that customer data is safe when outside the physical boundaries not controlled by Google or on behalf of Google.

For publicly accessible applications, Current configures an ingress resource on Kubernetes clusters to make context-aware load balancing decisions. This ingress also provides a reverse proxy function between users and Current's private network. This helps ensure that no external entity can reach Current's

Google Compute Engine (https://cloud.google.com/compute/) instance fleet directly. Google Cloud also provides Current with the means to forward traffic outside of its private without exposing instances to the public Internet. This gives Current the means to utilize other managed services such MongoDB Atlas, while maintaining a trusted platform.

“Security is one of the biggest benefits of Google Cloud and Kubernetes Engine,” says Trevor. “It was easy for us to configure our environment so that we avoid exposing any public IP addresses for our clusters. When we deploy a new service, we have a recipe that observes security best practices.”

> “Google Cloud has allowed us to be highly available, scalable, and cost-efficient, helping us grow from an ambitious startup into a financial technology innovator. We’ve built trust with the families we serve

because we've been able to offer a great experience."

—Trevor Marshall, CTO, Current

Powering a digital workforce

When Current was founded in 2015, the company standardized on Google Workspace (https://workspace.google.com/) for communication and collaboration, using tools such as Gmail (https://workspace.google.com/products/gmail/) and Google Docs (https://workspace.google.com/products/docs/), Sheets (https://workspace.google.com/products/sheets/), and Slides (https://workspace.google.com/products/slides/) to keep productivity high. Google Workspace administration is so easy that Trevor still handles it all, in addition to leading the company's tech strategy as CTO.

"Our business depends on Google Workspace," he says. "It's simple to use, yet feature-rich and very cost effective. Adding new employees takes a couple of minutes, and they can get to work right away. I can't imagine using anything else."

Shaping financial futures

By making it easy for teens and parents to manage and talk about money, Current is preparing a new generation to navigate one of the most challenging aspects of adulthood: financial responsibility. The company's user base is growing by 20% every month with no signs of slowing, and its Android app (https://play.google.com/store/apps/details?id=com.current.app&hl=en_US) just began trending on Google Play. Current is also learning to better manage its own finances. "By avoiding the cost of a hosted Neo4j solution and optimizing resource utilization with Kubernetes Engine, we reduced total cloud hosting costs by 60%," adds Trevor.

"Google Cloud has allowed us to be highly available, scalable, and cost-efficient, helping us grow from an ambitious startup into a financial technology innovator," says Trevor. "We've built trust with the families we serve because we've been able to offer a great experience."