# Car Sharing Service Hits the Fast Track with Google App Engine

## At a Glance

### What they wanted to do
- Build an innovative, web-based car sharing service
- Avoid costly investments in hardware
- Use a flexible platform that would allow for continual improvements and scale automatically

### What they did
- Chose Google App Engine to build the service quickly
- Relied on App Engine features such as the High-Replication Datastore and the MapReduce API to provide secure, scalable data storage and to generate reports
- Added new features easily through one-command deployment

### What they accomplished
- Innovated quickly without worrying about infrastructure challenges
- Avoided hiring two additional staff members to maintain servers
- Won the 2011 TechCrunch Disrupt New York competition for startups

## Organization

The car sharing service Getaround used Google App Engine to build an innovative online marketplace that links people in need of rental cars with others looking to loan their cars out to help offset the cost of ownership. Speed was Getaround founder Elliot Kroo's top priority in choosing a platform to develop the app. App Engine allowed the San Francisco startup, whose investors include actor Ashton Kutcher and Yahoo! CEO Marissa Mayer, to build and deploy the service quickly, improve it continually and add new users effortlessly.

## Challenge

Kroo wanted a platform that would allow Getaround to get up and running rapidly. He envisioned expanding the service across the country, so he needed a highly scalable solution that was easy to update. Kroo also hoped to avoid investing heavily in infrastructure, since he knew configuring and managing hardware would take valuable time away from improving the service.

## Solution

Kroo learned about Google App Engine while working on Google's Street View team. He saw its power firsthand in 2009, when he built a prototype of the Getaround app in less than two hours. Later, when it was time to move from prototype to production, there was no need to purchase more servers or provision extra capacity. App Engine scaled effortlessly with their engineering efforts.

"App Engine gave us many of the standard things we would have otherwise needed to start development," says Kroo, who is also Getaround's director of engineering. "When you're in the early stages of a company, not having to spend time setting up machines and making sure they're working properly makes a huge difference."

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*—Elliot Kroo, founder and director of engineering, Getaround*

Kroo's team uses several App Engine features to improve the Getaround application, including:

- **Front-end and back-end "instances,"** or App Engine computing units, for scaling the application, supporting its search infrastructure and processing log data

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- The **MapReduce API** to process event and car rental data and generate monthly earnings reports
- The **High-Replication Datastore** to provide secure, scalable storage for application data by replicating it across multiple data centers

App Engine makes refining the service a breeze. Kroo and his team can deploy new versions with a single command and switch back to a previous version if needed. Over time, they have added complex capabilities, such as powerful search filters and fraud detection tools to screen new renters.

"Being able to add new features so quickly has been a huge benefit to our service," Kroo says. "It ultimately means we're able to serve our customers better."

## Results

Buzz about the Getaround service has grown quickly since its 2011 launch. The company won the 2011 TechCrunch Disrupt New York competition for startups, where it signed up 1,600 cars in 24 hours. App Engine handled the surge effortlessly, giving Kroo confidence it will continue supporting the service as it expands beyond its current bases in San Francisco, Austin, Portland and San Diego.

"Knowing we won't have to re-architect for scale gives us peace of mind," he says. "It means we'll be able to stay focused on improving the service."

Using Google App Engine has also allowed the startup to avoid adding unnecessary hardware and staff. Kroo estimates he would have needed at least two additional engineers to maintain servers in-house. With no infrastructure challenges to worry about, he and his team have been able to innovate quickly.

"App Engine has allowed us to do many things that would have been difficult otherwise," Kroo says. "For startups that are looking to stay lean and move quickly, App Engine should be the top choice."