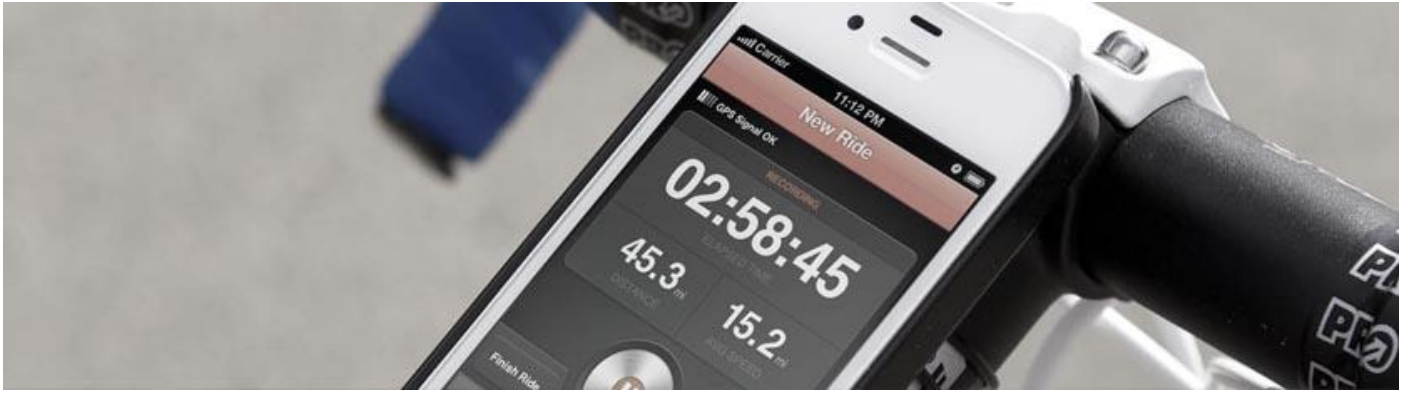


# Case Study

INTERNET OF THINGS – BIKE TRACKING

**ACCEL NORTH AMERICA**  
ACCELERATE INNOVATION



## BUSINESS REQUIREMENTS

Customer wants to migrate their proof of concept to provide a next generation cloud based activity monitor for bikes. They wanted to seamlessly integrate multi sensor device (attached to end user bike) to the cloud, so that user can keep track of their bike location, activity goals and monitor their progress. This should be multi-tenant, accessible from web and smart phone or web browser.

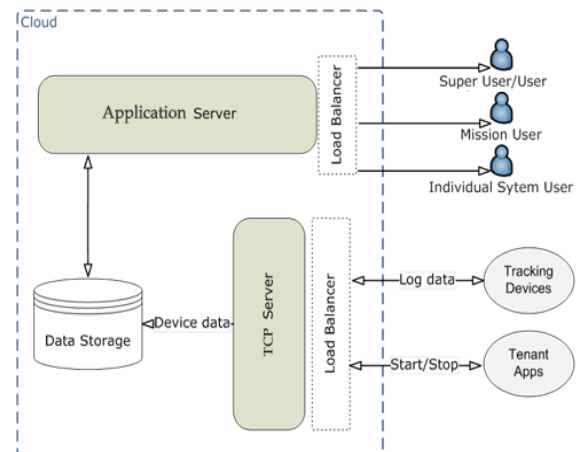


## OUR SOLUTIONS

Provided complete solution including cloud and mobile application with following features

### Cloud

- Highly available and scalable multi-tenant application
- Complex Application Licensing
- Full Fledged Web Services API Management
- Full-fledged Load Balancing.
- Real Time Activity Logging.
- High Level Data Security.
- Heavy GPS Data Management and non-blocking I/O operations.
- Data synchronization over Call Backs.
- Real Time Events/Alarms/Notifications Management



### Mobile Application

- High Level User/Data Security.
- Real Time Activity Tracking/Monitoring.
- Complex User Authorizations/Hierarchy.
- Real Time Events/Alarms/Notifications Management
- Multiple profile handling
- Goal setting and social media integration

### Firmware

- Motion Detection.
- Real-Time Parameter Posting
- Automated Events and alarms notifications

# Case Study

## INTERNET OF THINGS – BIKE TRACKING

- Low power Management
- Over
- The Air Firmware Downloads.
- Remote Debugging of the Device
- Uninterrupted GPS Tracking
- Force Sleep in Critical Conditions
- Multi Image Booting

Industry	Internet Of Things
End users	200,000+ users
Team size	6 people
Duration	14 months



Google Map v2 for Android, Rest API, BLE, Objective C



Ruby-on-Rails, Redis, PostgreSQL, Capistrano, Google Maps for Business v1.0, Soft Layer Cloud Storage



Embedded C, Cellular Modem (GSM,CDMA), GPS, Bluetooth, Accelerometer, Gyroscope, Alarms



Delivered a highly available and scalable multi-tenant bike rental tracking deployed across multiple regions and inspiring health and eco conscious bike riders. The retimed tracked data analytics were used by government authorities for city planning as well.