

Requirement

1. High I/O (50,000 - 1,000,000 / Minute)
 - a. Data
 - i. mileage data
 - ii. warning data
 - iii. GPS location data
 - iv. Tier info and status
 - v. Energy in percent
 - vi. battery life (Max charge can drive how many mile)
 - vii. Current weight
2. Share vehical information (Require Authen)
 - a. Info
 - b. Username and authen (OAuth?)
 - c. car info (according to list approved by user)
3. Alert when see warning to mobile
4. Data visualization (User/Partner/Management)
 - a. User
 - i. info
 1. Tier info and status
 2. Electric power and / battery life
 3. Current weight / Maximum
 4. How many mile
 5. average mile
 - ii. activity
 1. See tesla partner that user allow
 2. able to disallow user
 3. (same idea with facebook login)
 - b. Partner
 - i. same with user (require authen)
 - ii. the information
 - iii. send confirmation to user first
5. can scale systems for support long term data volume at least 3 years

Possible databases

- BigTable by Google
- DynamoDB by Amazon
- Hbase
- Cassandra

Time limit project

- Employee Skill (Language)
- Current Budget
- Current technology resources

Stack:

- Database: Cassandra, MongoDB
- Backend: NodeJS Kafka
- Frontend: Quasar, VueJS, React
- Mobile: Cordova, Capacitor

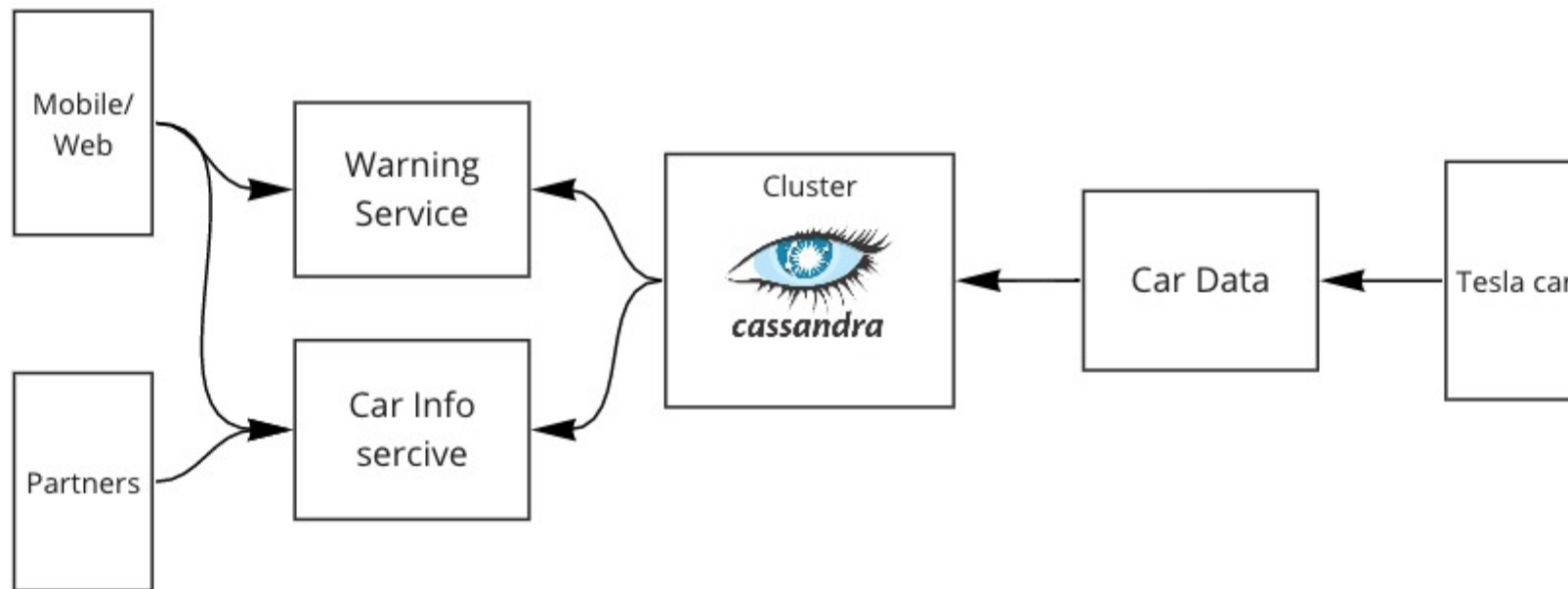
More time with enough budget

- Find a suitable technologies
- Learn new language (if need to)
- Test out selected technologies

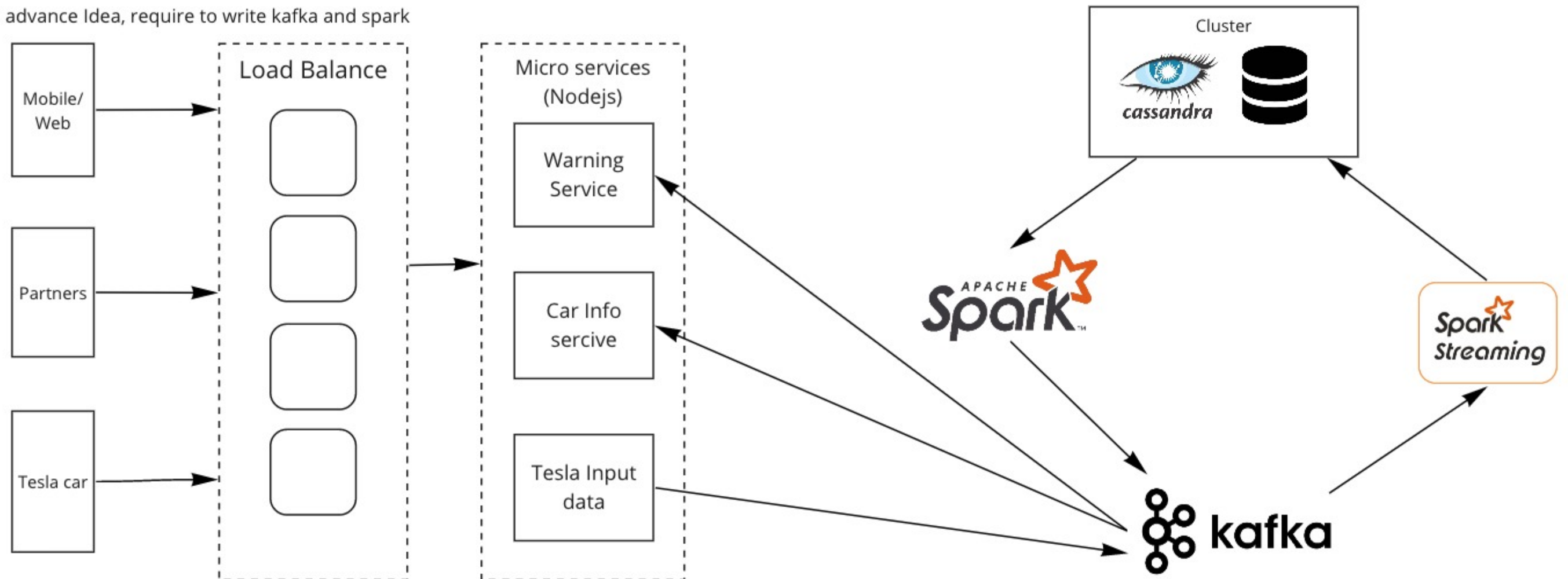
Stack

- Database: Google BigTable
- Backend: Golang ??
- Frontend: Quasar, VueJS, React (Web only?)
- Mobile: Kotlin, Swift

Simple Idea



More advance Idea, require to write kafka and spark



Data structure

car_logs

car_id
timestamp
mile
longitude
latitude
etc.

car_info

ID
user_ID
time_stamp
etc.

user_Info

ID
username
password
name
etc.

partner_car

partner_id
car_id
is_allowed

partner

token
ID
name
date_created