

Consent as a Service

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Uber



Introduction



Engin Bozdag

Sr. Privacy Architect

Sr. Researcher

Member ISO/PC 317

PhD in Ethics of Technology
(Algorithmic Bias in Personalization)



Sridhar Maddireddy

Sr. Software Engineer

Software Engineer



Why do you need a consent service?

Goal: Recording, displaying, analyzing consents by supporting multiple languages and jurisdictions

Standardization

- Base requirements
- UI and backend
- Auditing and analyzing
- Consent fatigue

Regulatory Landscape

- New laws
- Different requirements

Non-functional Requirements

- Scalability
- Security
- Availability

Consent - Legal Requirements



No bundling



Clear
affirmative
action



Specific,
informed,
unambiguous



Granular



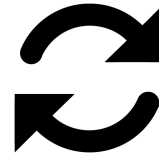
Easy to
withdraw



Demonstrable



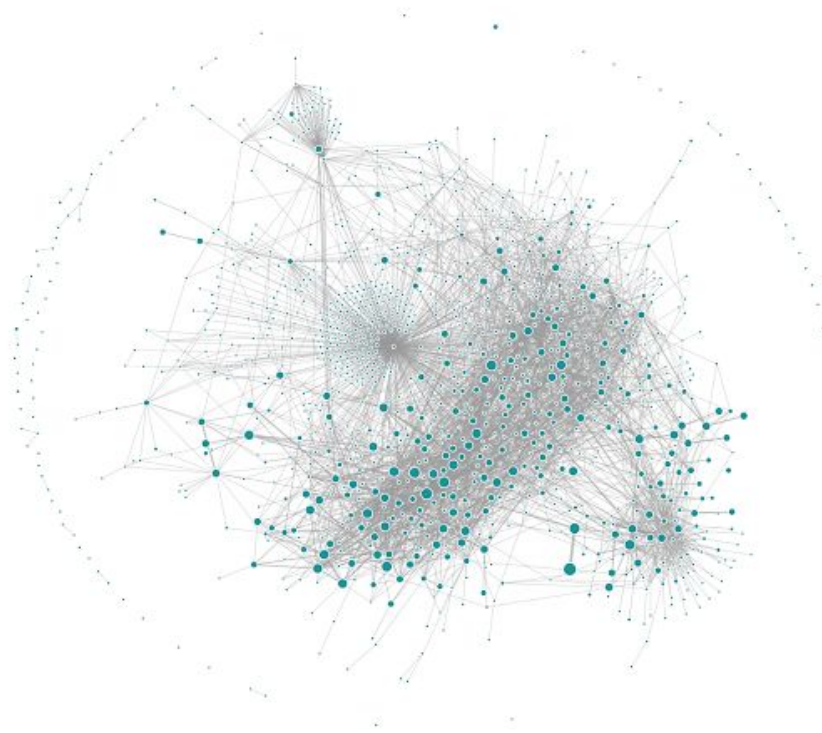
Minor consent



Refreshed

Uber Architecture and Some Numbers

- Complexity
 - 4000+ Microservices
 - 50+ Apps
 - 101 Million users
 - 71 countries
- Micro Service Architecture
 - Reliable
 - Ownership
 - Developer Velocity
- API calls



Functionalities (1/2)



API Suite



Seamless Onboarding



**On-device consent
record**



No tampering

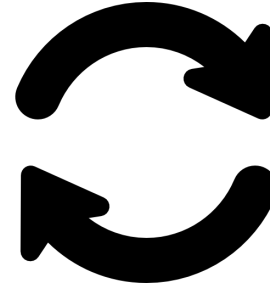
Functionalities (2/2)



**Flexible Deployment
(Regions)**



Translation of the text

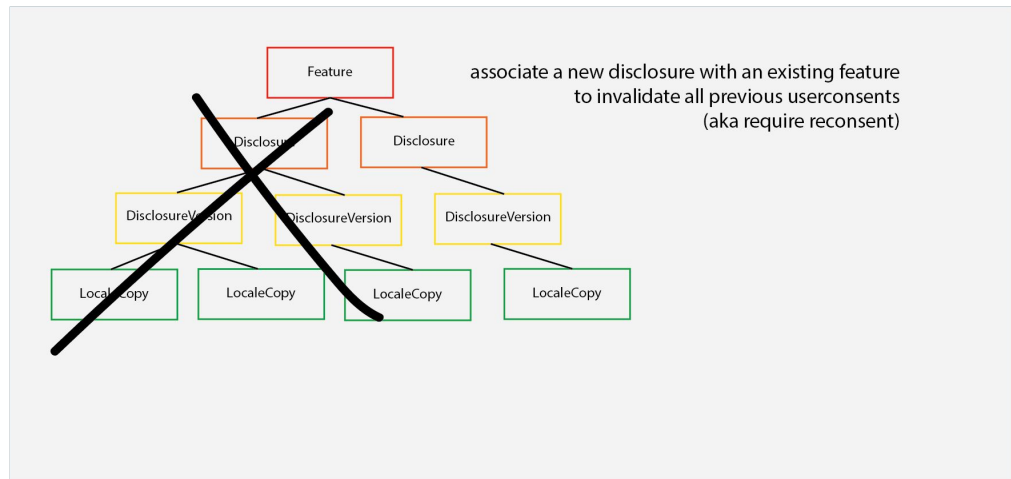
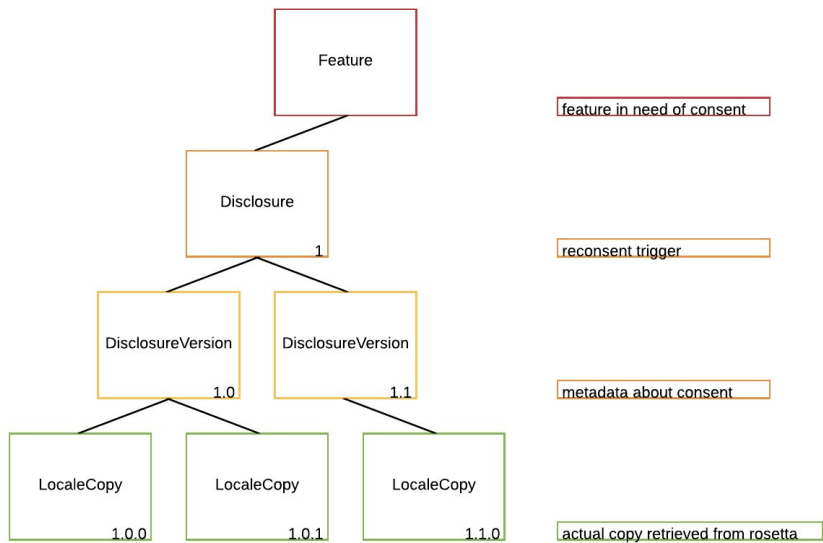


Refreshable



Anonymized Analytics

Re-Consent (Consent Refresh)



Examples (UI)

11:24

×

Your Cart

Not now

\$1


\$2

\$3

Other

Your tip is sent to the courier 1 hour after delivery. You can adjust the amount until then.

Subtotal	\$14.95
Tax	\$1.33
Service Fee	\$2.24
Delivery Fee	\$0.49
Tip	\$2.00
Total	\$21.01

 0824

Switch

☐

Sign up to receive email offers and news from Starbucks®


Privacy notice: By checking the box, you agree to share your name, email, and order history with this restaurant to receive personalized marketing emails. Stop sharing at any time in the app or unsubscribe using the link in emails from the restaurant.

Place Order

\$21.01

9:41

×



We need to verify your credit card

To keep your account safe, you need to verify your **Visa-1234**.

01

2 temporary authorization charges will be sent to your credit card. Your card won't actually be charged.

02

Sign in to your bank's app or website to find the 2 authorization charges between \$1-2.

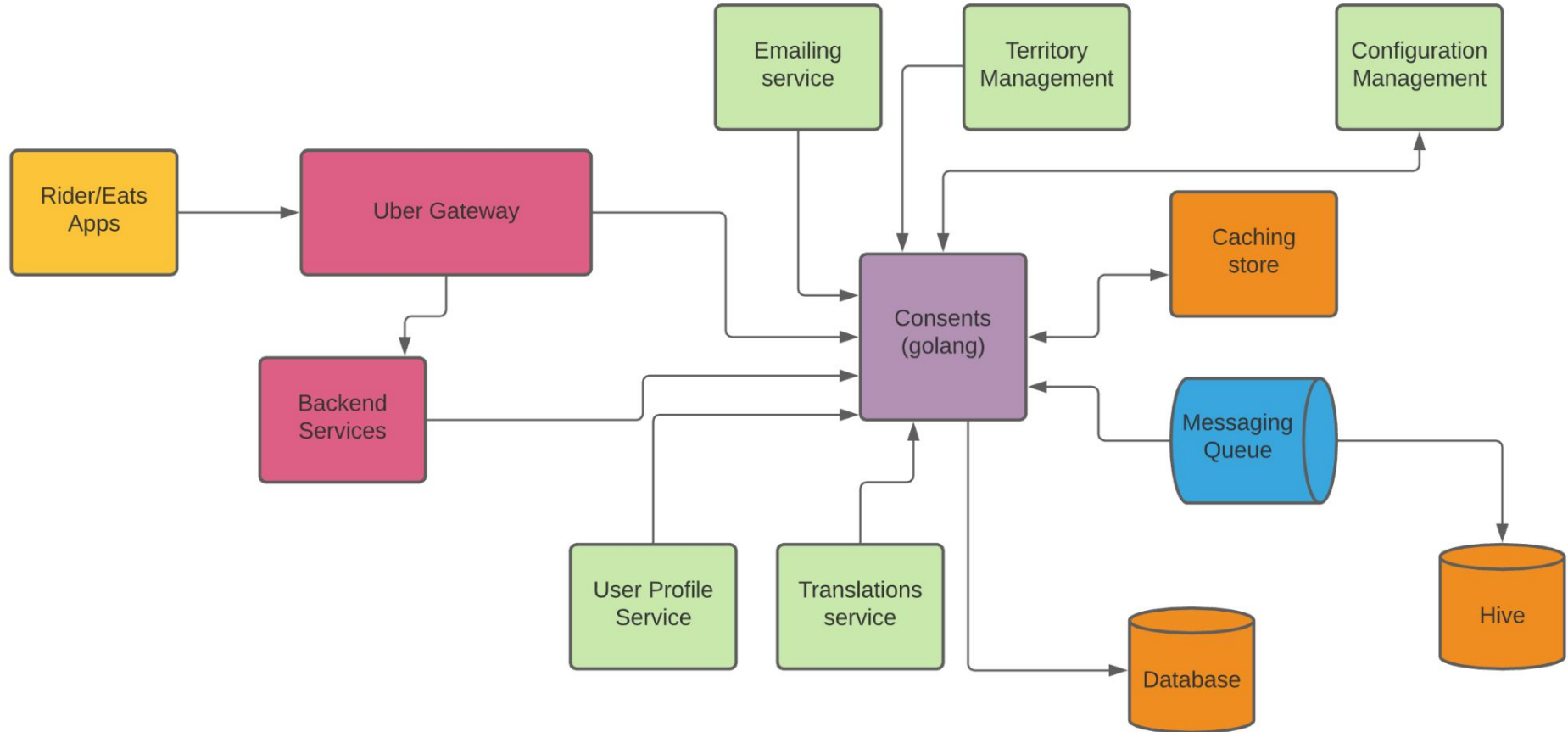
03

Enter the exact amounts of the 2 authorizations to continue using it with Uber.

By continuing, I agree to the [Credit Card Verification Terms & Conditions](#)

Continue

Consents platform



Metrics and Capabilities

99.99%

Availability

2200

Requests per second

35

Latency (ms)

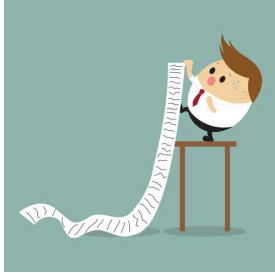
2.20

Error rate per second

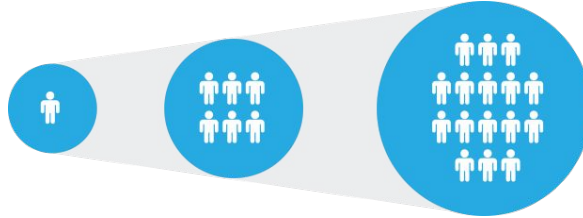
SLA

- Tier of service (e.g. Tier 1) and SLA's. Examples:
 - Max latency (e.g. 400ms)
 - Min availability (e.g. 99.99%)

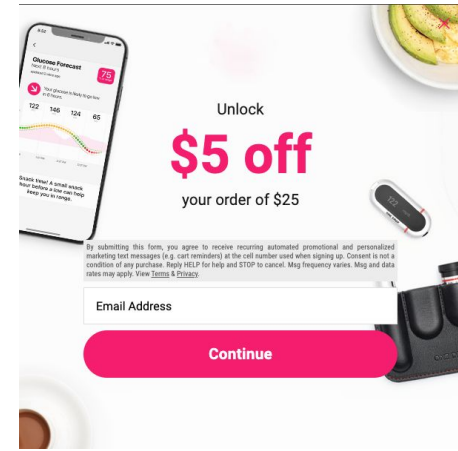
After you Implement



Measure and improve adoption



Anticipate the future load



Think about security

Last Week	Objective	Weekly Results
99.999 %	≥ 99.99	
35 ms	≤ 400	
Last Week	Objective	Weekly Results
1,483,226 req/s	-	
99.999 %	≥ 99.95	
30 ms	≤ 600	

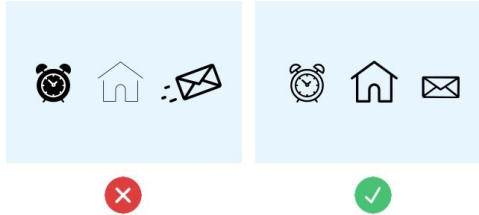


Self-serve onboarding and health check status

Ongoing Work



Privacy Center



Standardize Front-end Experience



**Audit Services for
Consent Action**