



Uniquely Yours

Current Situation of Japanese fragmented ID Platforms

*The opinions expressed in this article are the author's own
and do not reflect the view of JCB Co., Ltd.

Agenda

1. Japanese "fragmented" ID Platforms
 - "Fragmented" ID Platforms established by Japanese big companies
 - Lack of Interoperability between platforms
2. Lack of Central Social ID system in Japan
 - Heavily dependent on Driving License for KYC process
 - Failed "My number (Japanese social security and tax number system)" expansion
3. My Opinion
 - Necessity of "loose" ID federation in Japan Market
 - Basic use case

① Japanese "fragmented" ID Platforms

Fragmented ID Platforms established by Japanese big companies

- Japanese Big Companies have tendency to establish their own "Platform".
(E-commerce, SNS, Mobile Carrier, Automotive, Railways, Airlines, Department Store...)



Yahoo Japan
"Yahoo ID"



Rakuten
"My Rakuten"



NTT Docomo
"d Account"



Toyota
"My Toyota"



JR East
(Former National Railway)
"JRE Point"

① Japanese "fragmented" ID Platforms

Fragmented ID Platforms established by Japanese big companies (Cont.)

- Japanese Big Companies often become to diversified “Conglomerate”.
(...and often issue their own credit card as “issuer” and provide “mileage” to their users.)
- This situation is mainly due to “loose” regulation to prohibit other business for Big Companies in Japan.

Ex.1: Railways Company



東急電鉄
Railways

東急百貨店
TOKYU
Department Store

東急不動産
Real Estate
Developer

東急バス
Bus Operator

Tokyu Store
Supermarket

東急建設
Construction
company

仙台国際空港
International
AirPort

TOKYU HOTELS
Hotels

東急パワーサプライ
Electricity

東京都市大学
TOKYO CITY UNIVERSITY
Education
(Univ. etc)

Ex.2: Mobile Carrier



Mobile Carrier

KDDI
KDDI Commerce Forward
E-Commerce

じぶん銀行
Online Banking

WebMoney
E-Money

KDDI
KDDI Financial Service
Retail Financial
service

au損保
Non-life
Insurance

J:COM
Cable TV

LiFENET
LIFE INSURANCE COMPANY
Life Insurance

AEON
英会話イーオン
Education

ENERES
Electricity

① Japanese "fragmented" ID Platforms

Fragmented ID Platforms established by Japanese big companies (Cont.)

- In some area, Japanese local services can compete against Facebook and Amazon today.
- Based on this situation, Japanese "old type" big companies think;
"GAFA is very strong, but Japanese market have not occupied by them."

SNS (Monthly Active Users)



30,000,000

<



76,000,000

E-Commerce (Share of B2C Trading volume)

amazon

20%

≐

Rakuten

20%

① Japanese "fragmented" ID Platforms

Fragmented ID Platforms established by Japanese big companies (Cont.)

- ..as the result, everything become "fragmented" in Japan.
(when they want to tie their customer to their ecosystem, the easiest way is tying their customer to their payment method with their own mileage program.)

Ex.: Payment Method Acceptance (at Seven-Eleven)



(Prepaid)

(Credit Card including Contactless)

..and today, third party QR Payments are additionally joined.

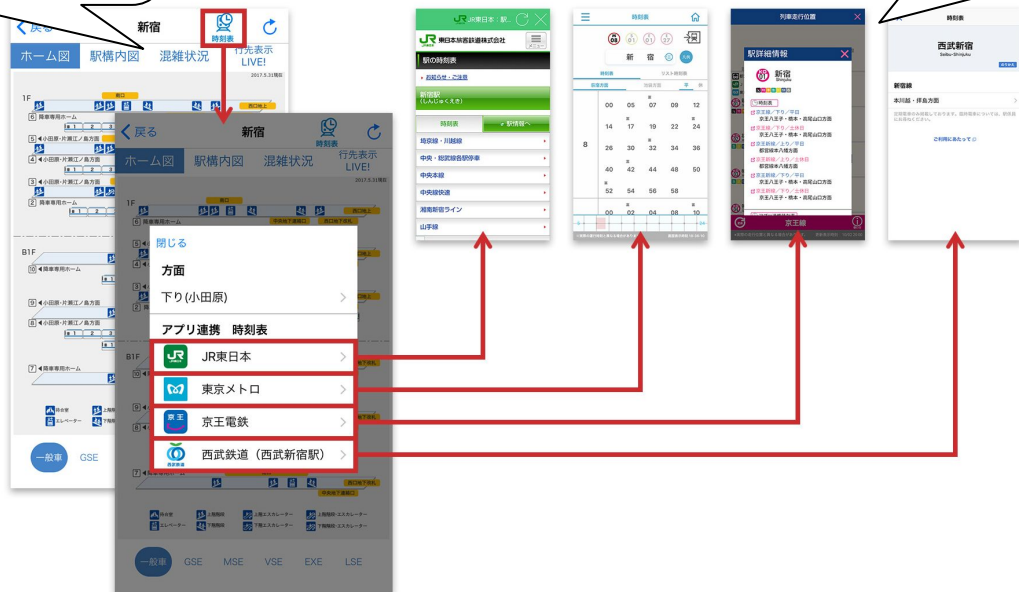
① Japanese "fragmented" ID Platforms

Lack of Interoperability between Platforms

- Japanese Big Companies like to establish their "Original Format" Platform.
- And they want to keep(enclose) their data on their Platform.

Ex: Large Railways said
"we connected our mobile
APP to share time table of
every companies!"

...but just jumped to each
companies' website...



② Lack of Central Social ID system in Japan Heavily dependent on Driving License for KYC process

- Almost of KYC process in Japan, Driving license has taken up dominant position.

Ex: Issuing Credit Card

3.本人確認書類

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裏面に変更情報がある場合は両面ともご用意ください。

運転免許証または運転経歴証明書の交付がない方

| | |
|--------------------------|--|
| パスポート | 写真および現住所のページ |
| 在留カード・特別永住者証明書等 | 裏面に変更情報がある場合は両面とも |
| マイナンバー（個人番号）カード | 表面のみ（マイナンバーの記載がある裏面は不要） ※通知カード（写真なし）は利用不可 |
| 住民票の写し | 発行日から6ヵ月以内のもの、原本でも可（マイナンバーの記載がないもの。記載がある場合は、マイナンバーを油性マジック等の復元できない方法で黒く塗りつぶす） |
| 各種健康保険証+下に記載の現住所が確認できる書類 | ご本人様のお名前・生年月日・現住所記載面（カードタイプの場合は両面とも） ※現住所が確認できる書類については下に記載の内容をご確認ください。 |

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First Priority:
Driving license

If don't have Driving license,
can choose from; passport,
“My Number” card,
residence certificate etc.

② Lack of Central Social ID system in Japan

Failed "My number (Japanese social security and tax number system)" expansion

- Japanese government want to expanding usage of "My Number" card for Japanese Social ID system.
- ...but today, almost of Japanese people don't use "My Number" as Social ID card. (Only 10% of Japanese people have "My number" card.)



Storing Digital Signature that can use Public KYC



...and it can be readable from some of Android devices by using NFC reader.

It is able to request issuing "My number" card from vending photo machine. (It sounds convenient!)



...but it takes about 1.5 months to get "My number" card from local government.

<From Companies Strategy>

- Some companies (I assume NTT docomo, Yahoo Japan and Line) want to take up a dominant position of “Social ID login”. (of course, including Facebook and Google)
- But, I assume Japanese “old type” big companies don’t want to establish “external strongly centralized ID Hub” because **they want to stand directly in front of their customer.**

<From current situation of KYC process in Japan>

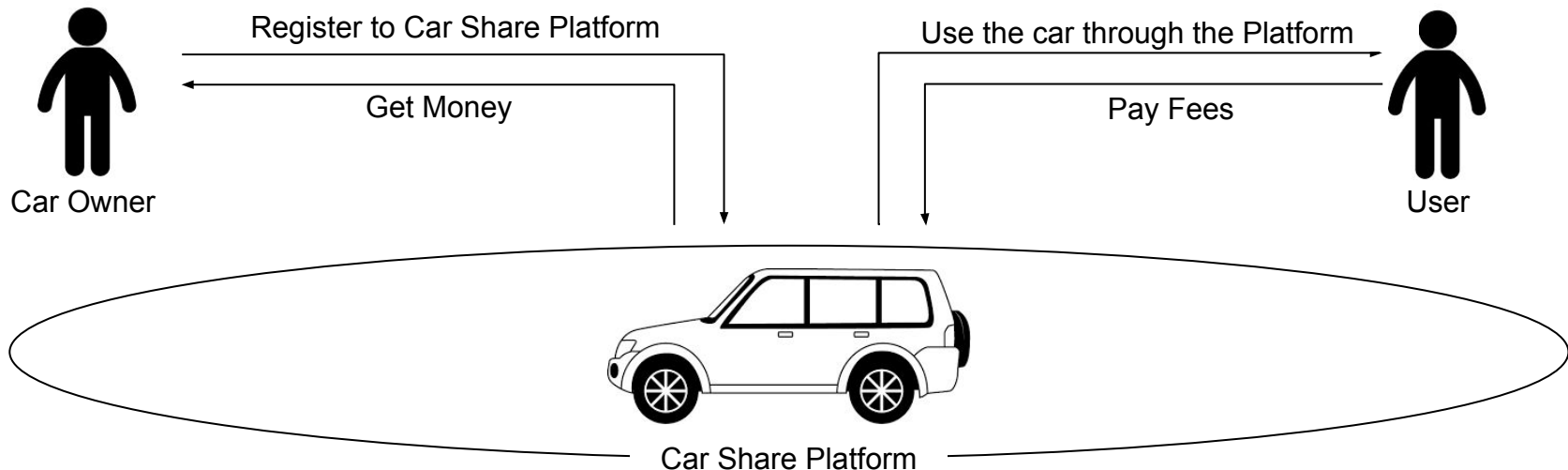
- Japanese KYC Process is heavily depend on drivers license and “verified” (and met AML law regulation) KYC data is stored only at Banks or Credit card Companies in general.
- When the sharing economy is expanding, **I assume AML regulation is critical problem, but most of companies (expecting Financial Institutions) don’t have such data.**



- In Japan, I assume “Loose” ID federation between companies, financial intuitions and governmental bodies is needed.
- To realize this concept, the scheme for DIDs and Self sovereign (especially on consent management) will become Key Module.

③ My Opinion

Basic use case



- Today, Boryokudan (Japanese Mafias) isn't prohibited strictly buying cars from car dealers. (Actually in Japan, Boryokudan member ride cars normally)
- When the scheme described above is worked, Boryokudan can get money by lending their car. (From AML view, this is not permitted)
- I assume Car Share Platform Provider want to get KYC information of Car Owner and User easily.



Uniquely Yours

Thank you for your attention!



Automatic Identification Standards

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UPC

UPC to Product Information

- “323900039629”

Vicks VapoCOOL Medicated Throat Drops - Menthol - 50ct

\$3.99 ☆☆☆☆☆ be the first!

Highlights

- Cooling relief with a powerful rush of Vicks Vapors
- Vaporize your worst sore throat pain
- Powerful Rush of Vicks Vapors
- Soothes Sore Throats
- Oral Anesthetic

Vicks VapoCOOL Medicated Drops contain effective medicines that deliver a powerful rush of Vicks Vapors & soothes your sore throat

Product Warning: Not for children under the age of 12

Product Form: Drops

Suggested Age: 12 Years and Up

Primary Active Ingredient: Menthol

TCIN: 75557582

UPC: 323900039629

Item Number (DPCI): 094-03-0856

<https://www.target.com/p/vicks-vapocool-medicated-throat-drops-menthol-50ct/-/A-75557582>



GS1 Standards

- Identify, Capture, and Share
- **Identify:** Standards for the identification of items, locations, shipments, assets, etc. and its associated data
-
- **Capture:** Standards for encoding and capturing data in physical data carriers
-
- **Share:** Standards for sharing data between parties

https://www.gs1.org/docs/architecture/GS1_System_Landscape.pdf



GS1 Identification Key

- Identify either class or instance
- Unique and unambiguous within their domains
- Domains includes, not limited to:
 - Trade items (i.e., Global Trade Item Number — GTIN)
 - Logistic units (i.e., Serial Shipping Container Code — SSCC)
 - Assets (i.e., Global Individual Asset Identifier — GIAI)
 - Locations (i.e., Global Location Number — GLN)

GS1 Identification Key

- Trade items (i.e., Global Trade Item Number – GTIN)

`urn:epc:id:sgtin:CompanyPrefix.IndicatorPlusItemReference.SerialReference`

- Logistic units (i.e., Serial Shipping Container Code – SSCC)

`urn:epc:id:sscc:CompanyPrefix.ExtensionPlusSerialReference`

- Assets (i.e., Global Individual Asset Identifier – GIAI)

`urn:epc:id:giai:CompanyPrefix.Individual AssetReference`

- Locations (i.e., Global Location Number – GLN)

`urn:epc:id:sgln:CompanyPrefix.LocationReference.Extension`



Physical Representation

- Barcode
- RFID



Application: Authenticity Verification

- New, soon-to-be-standard:
“GS1 Lightweight Messaging Standard for Verification”
- REST-like query interface,
results in JSON (new in GS1 Standards),
GS1 Keys embedded in URL
- Resolver resolve the results
- Use case: US Drug Supply Chain Security Act (DSCSA)
compliance



Difficulty on Resolving Services

- Object Naming System (ONS)
 - DNS Based (part of) GS1 Key to server mapping service
 - Not used other than research purpose
- Discovery Services
 - Centralized service to provide GS1 Key to servers mapping service
 - Design work suspended until there is a well-defined demands from industry
- But.. Lately, there is renewed interest in mapping between identifiers and associated data, together with verification of identifiers



Difficulty and Possibility

- GS1 is the standard on product and business entity identification
- DID focuses on digital identity
- We need cyber-physical link other than human

- Allow to use broader range of IDs (including GS1 Keys) in “id” fields makes DID related standards more interesting
- There is a good intersection between both of the works
 - i.e., Product authenticity proof without accessing servers

