DEVELOPMENT TREND IN CHINA MARKET FOR VEHICULAR MULTIMEDIA DOMAIN

Xiaofeng Yi

Sector Member : TIAA

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Xiaofeng Yi *(易晓峰) (Kimberly)*

- *Co-Founder of the IOV department of AutoHome*
- *Domestic secretary General of China counterpart to FGVM (Focus Group of Vehicular Multimedia) of Study Group-16 of ITU-T*
- *"Invited Researcher" of think tank of "Chinese Vehicular Internet Industry Alliance*

Email-address:

xiaofengyieki@gmail.com

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OUTLINE

- *Impacts on vehicular Entertainment brought by Internet Ecological Prosperity*
- *Differences between In-vehicular Scenario and Mobile Scenario*
- *Real Entrance to Mini Programs—Forecast on future High-Frequency Demands*
- *From “users’ seeking for services” to “services’ coming for users”*
- *Technical basement for unified multiple-end-user-experience*
- *Future Trend on In-vehicular Services Business Model*
- *Available but Invisible Data-Merging*

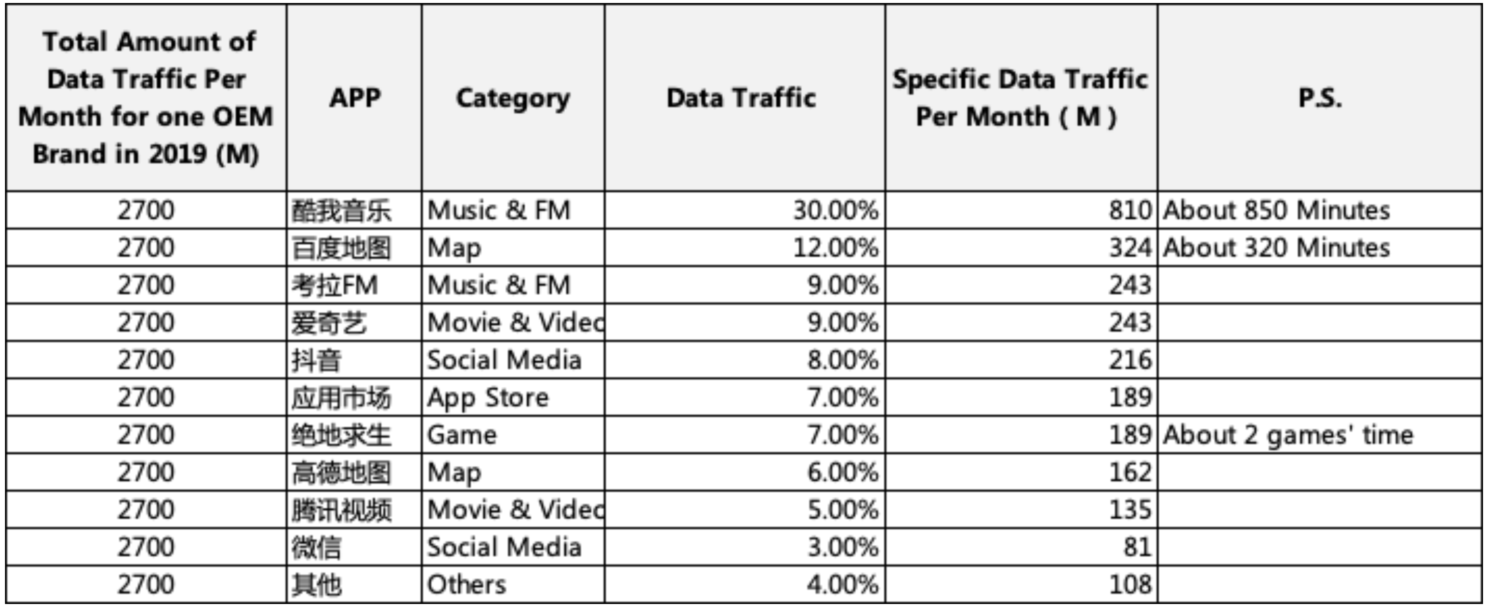
IMPACTS ON VEHICULAR ENTERTAINMENT

BROUGHT BY INTERNET ECOLOGICAL PROSPERITY

- Wechat
- Tiktok
- Xiaohongshu

- Baidu Map
- AutoNavi Map

- QQ Music
- Ximalaya FM



Total Amount of Data Traffic Per Month for one OEM Brand in 2019 (M)	APP	Category	Data Traffic	Specific Data Traffic Per Month (M)	P.S.
2700	酷我音乐	Music & FM	30.00%	810	About 850 Minutes
2700	百度地图	Map	12.00%	324	About 320 Minutes
2700	考拉FM	Music & FM	9.00%	243	
2700	爱奇艺	Movie & Vide	9.00%	243	
2700	抖音	Social Media	8.00%	216	
2700	应用市场	App Store	7.00%	189	
2700	绝地求生	Game	7.00%	189	About 2 games' time
2700	高德地图	Map	6.00%	162	
2700	腾讯视频	Movie & Vide	5.00%	135	
2700	微信	Social Media	3.00%	81	
2700	其他	Others	4.00%	108	

Alibaba Group

- T-Mall
- TAOBAO

- DingDing

- MaoYan Film Tickets

- Youku

INTERESTING CHANGES

- Oligopoly Effect: BAT
- Fragmentation of time
- Top 2:Music and Navigation
- Average Online music time: 850 minutes/per month *(offline part not included)*
- Average Online Navigation time: 320 minutes/per month*(offline part not included)*
- Social Media moves from mobile phone to vehicular multimedia-domain
- Benefits from Unified-ID within one Group：Intelligent reminder across mobile-IVI system

  Example--Alibaba’s movie ticket purchase APP
- Passenger Feeling—Game, Movie, Mobile Officing

  New Demands will explode after Autonomous Driving realized

DIFFERENCES

BETWEEN VEHICULAR SCENARIO & MOBILE SCENARIO

Vehicular Scenario

- *Time Length： short*
- *Priority : Safety*
- *Different Function: Notification*
- *HMI : Voice Control + Steering Control*
- *Fragment : Low frequency for each demand*
- *Passenger Entertainment-- Game/Movie/Office*

Are these real demands in Car?

How to win mobile screen?

Is it necessary to win mobile screen?

Bigger Screen + Better Acoustic Enjoy

Private Space

10:20
LEGEND
APPLE
APPLE

REAL ENTRANCE TO MINI PROGRAMS

FORECAST ON FUTURE HIGH-FREQUENCY DEMANDS

OS : Android Based OS PK Self-developed OS with Linux Kernal-(Tesla/Ali OS/vw.OS)

Vehicular App Store VS Mini Programs

Apps (under Android Based Vehicular OS) → ***Mini Programs***

Pros:

1. Based on GMS(Google Mobile Service)
2. Abundant Application Developers

Cons:

1. Without Unified UI
2. Without Unified Notification Push
3. Weaker Vehicular Payment Capability(compared with Mobile)
4. DAU Amount-User Traffic Distribution
5. Without Unified service API (example: steering control)

Pros:

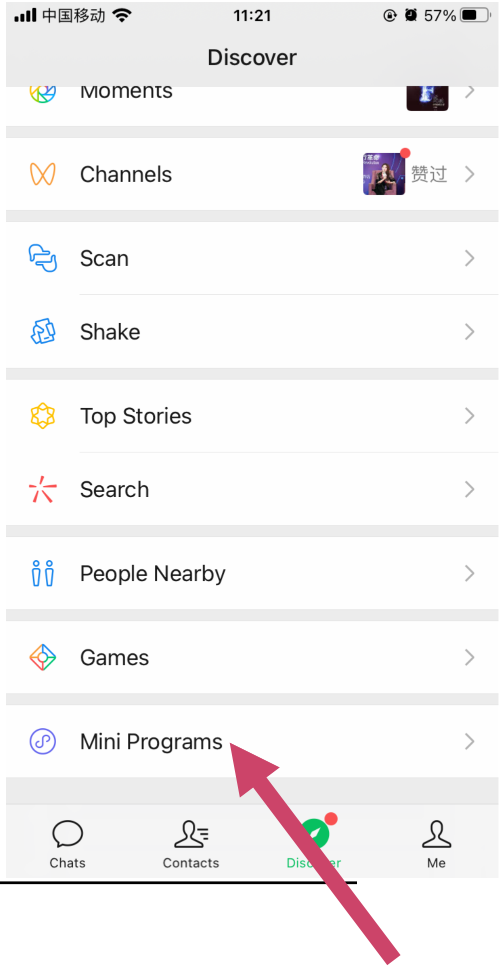
1.Lower Adaption Cost

2.Fast Implementation from Mobile App

3. Relatively uniform container-
   developer-friendly
   easily be implanted cross different OS

4 . Slight-----
   Convenient for low-frequency services
   Easy to realize "services' coming to users

5.Better for cloud-fusion to unify multiple-end-user-experience



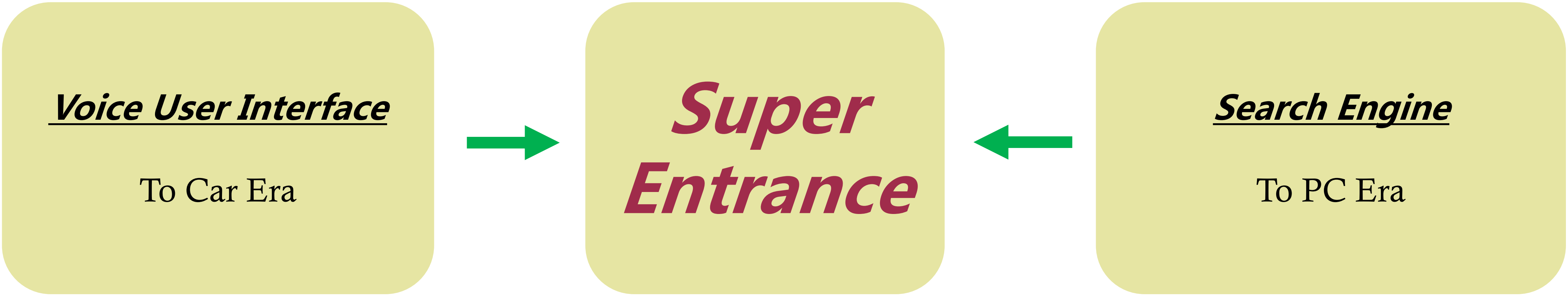
中国移动
11:21
57%
Discover
Moments
Channels
赞过
Scan
Shake
Top Stories
Search
People Nearby
Games
Mini Programs
Chats
Contacts
Discover
Me

HOWEVER, MINI PROGRAMS MUST RELY ON HUGER PLATFORM , OR SO CALLED “ENTRANCE”
--HIGH FREQUENCY DEMANDS

- Baidu:Map based Mini Programs ?
- Tencent: Wechat based Mini Programs ?
- Alibaba: Payment based Mini Programs ?

High Frequency Demands in Car

- Control => tool feature
- Navigation => tool feature
- Entertainment => limited HMI in Car



Voice User Interface

To Car Era

Super Entrance

Search Engine

To PC Era

FROM “USERS’SEEKING FOR SERVICES” TO “SERVICES’COMING FOR USERS”

Q :How to build a services-pushing-engine?

A :To define scenarios using fusion-data

Car Status Data

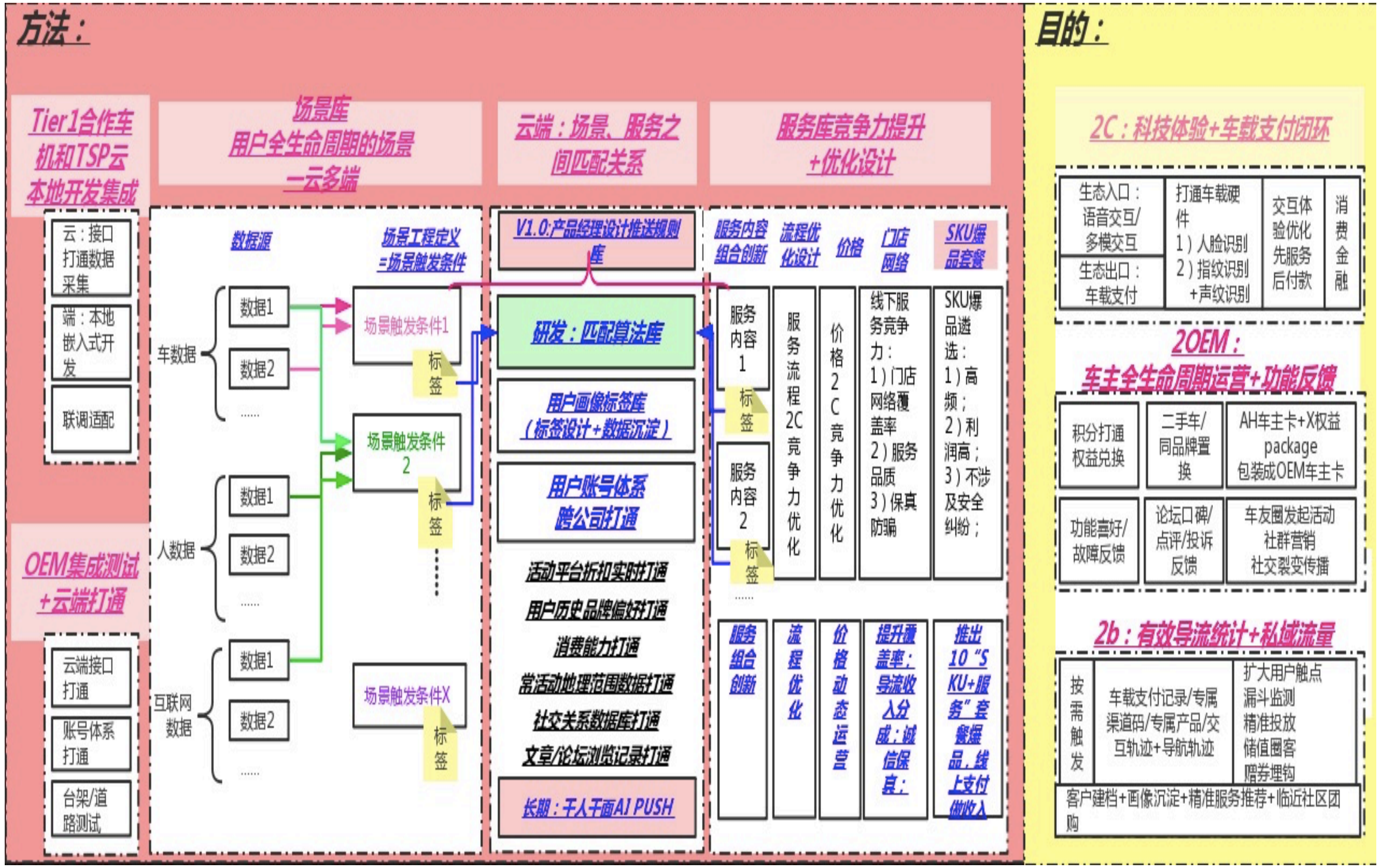
—collected by OEM

User Preference Data

— Collected by Application Developer

External Environment Data

— Collected by 3rd party Internet company/Government


方法：
Tier1合作车机和TSP云本地开发集成
云：接口打通数据采集
端：本地嵌入式开发
联调适配
OEM集成测试+云端打通
云端接口打通
账号体系打通
台架/道路测试
场景库
用户全生命周期的场景
一云多端
数据源
场景工程定义=场景触发条件
车数据
人数据
互联网数据
数据1
数据2
……
场景触发条件1
场景触发条件2
场景触发条件X
标签
云端：场景、服务之间匹配关系
V1.0:产品经理设计推送规则库
研发：匹配算法库
用户画像标签库（标签设计+数据沉淀）
用户账号体系跨公司打通
活动平台折扣实时打通
用户历史品牌偏好打通
消费能力打通
常活动地理范围数据打通
社交关系数据库打通
文章/论坛浏览记录打通
长期：千人千面AI PUSH
服务库竞争力提升+优化设计
服务内容组合创新
流程优化设计
价格
门店网络
SKU爆品套餐
服务内容1
服务内容2
服务流程2C竞争力优化
价格2C竞争力优化
线下服务竞争力：1）门店网络覆盖率 2）服务品质 3）保真防骗
SKU爆品遴选：1）高频；2）利润高；3）不涉及安全纠纷；
服务组合创新
流程优化
价格动态运营
提升覆盖率；导流收入分成；诚信保真；
推出10“SKU+服务”套餐爆品，线上支付做收入
目的：
2C：科技体验+车载支付闭环
生态入口：语音交互/多模交互
生态出口：车载支付
打通车载硬件 1）人脸识别 2）指纹识别 +声纹识别
交互体验优化先服务后付款
消费金融
2OEM：车主全生命周期运营+功能反馈
积分打通权益兑换
二手车/同品牌置换
AH车主卡+X权益package包装成OEM车主卡
功能喜好/故障反馈
论坛口碑/点评/投诉反馈
车友圈发起活动 社群营销 社交裂变传播
2b：有效导流统计+私域流量
按需触发
车载支付记录/专属渠道码/专属产品/交互轨迹+导航轨迹
扩大用户触点 漏斗监测 精准投放 储值圈客 赠券埋钩
客户建档+画像沉淀+精准服务推荐+临近社区团购

TECHNICAL BASEMENT FOR UNIFIED MULTIPLE-END-USER-EXPERIENCE

- Unified ID System across different Firms
(Mutual-trusted and bundled Account)

- Available Data Fusion
(Combined conditions judgement)

- Cloud Based services-recommendation-engine using unified determination logic （Rules-Database）

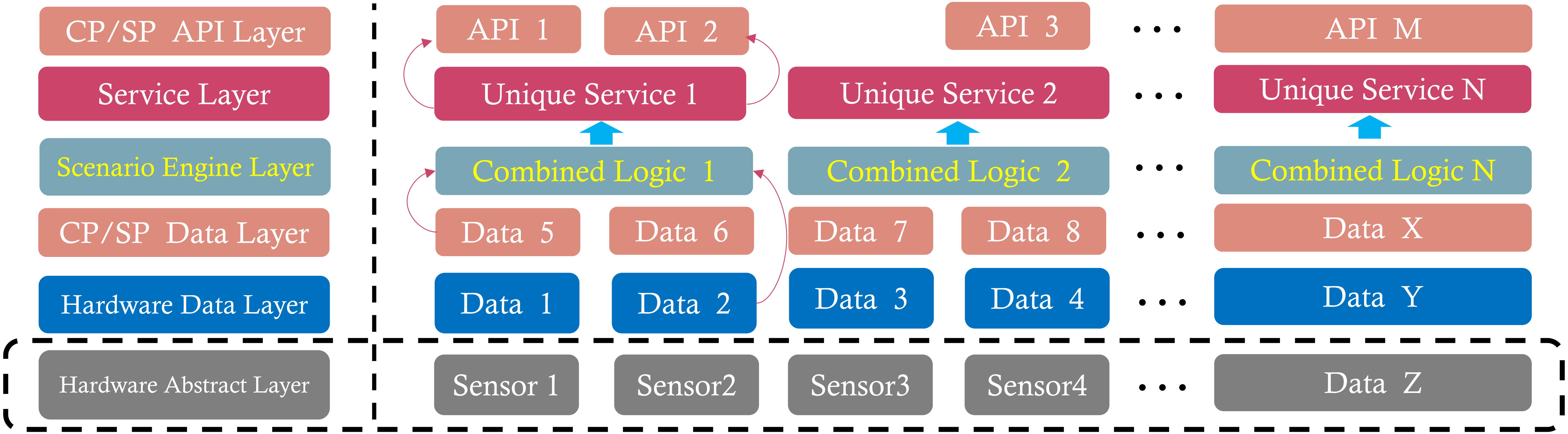
Private Chamberlain

- Undisturbed User Experience
- Breakpoint-Continuation Services
- Personal-preference matched Service Recommendations

FUTURE TREND ON BUSINESS MODEL OF VEHICULAR SERVICES

- *Another Question: How to build different user experience based on similar Internet Eco-system?*

Scenario-bunded & Unique Services wins

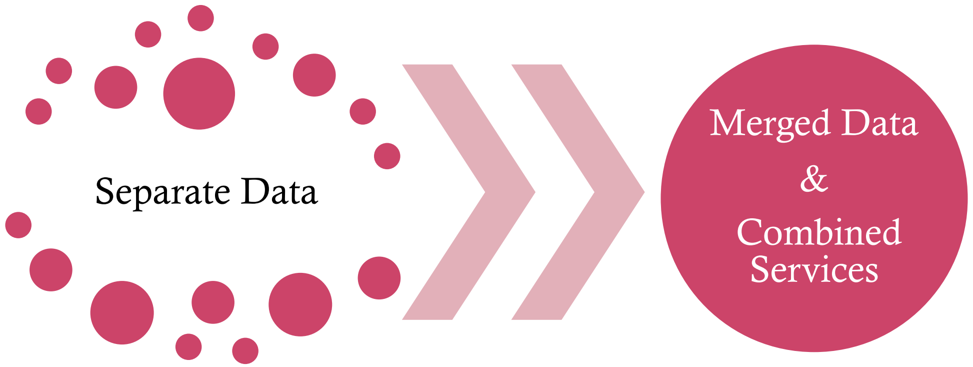


CP/SP API Layer
Service Layer
Scenario Engine Layer
CP/SP Data Layer
Hardware Data Layer
Hardware Abstract Layer
API 1
API 2
API 3
…
API M
Unique Service 1
Unique Service 2
…
Unique Service N
Combined Logic 1
Combined Logic 2
…
Combined Logic N
Data 5
Data 6
Data 7
Data 8
…
Data X
Data 1
Data 2
Data 3
Data 4
…
Data Y
Sensor 1
Sensor2
Sensor3
Sensor4
…
Data Z

Based On Digitalization Level of OEM's Vehicle

AVAILABLE BUT INVISIBLE DATA-MERGING

When data fusion occurs between two companies, joint venture can solve problem caused by trust crisis;
However ,when data fusion occurs more than 3,4,5 even more companies, what should we do?



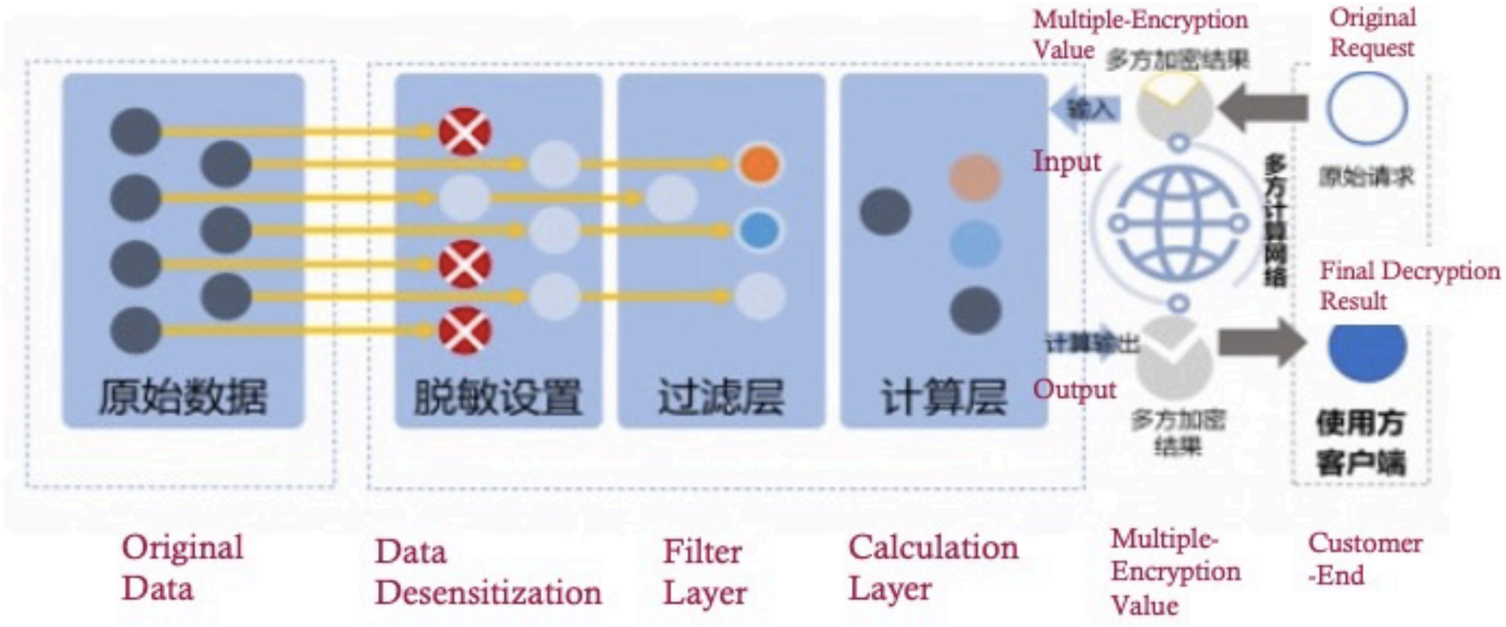
Separate Data

Merged Data
&
Combined Services

车联网出现后，
据、
售数据

Xiaofeng Yi once discussed data-fusion way based on block-chain in 2018's Forum in China

https://www.xincheping.com/news/121215.html


Multiple-Encryption Value
多方加密结果
Original Request
输入
Input
原始请求
多方计算网络
Final Decryption Result
计算输出
Output
多方加密结果
使用方客户端
原始数据
脱敏设置
过滤层
计算层
Original Data
Data Desensitization
Filter Layer
Calculation Layer
Multiple-Encryption Value
Customer -End

THANK YOU

Xiaofeng Yi

xiaofengyieki@gmail.com