

RSA[®]Conference2017

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Payment Security and Vendor Management Challenges in the Asia Pacific



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Introduction

- Introduction of the topic
- Introduction of the speakers and ties to SE Asia / Singapore
 - Sandeep: Leads the Asia Strategic Payments product team and is based out of Bangalore, India. Responsible for building the next generation of digital payments for Uber in Asia.
 - Shreyas: Works at San Francisco HQ of Uber, focusses on Payments Security and Vendor Security. Lived in Singapore during 2001-02 and worked at CPF Board.



1

Jun 01 2010





>500

Cities

>70

Countries

Background

- Payments is critical at Uber as every Uber ride involves a payment touch point. Billions of rides!! Billions of payments!!
- Challenges faced in building and maintaining such complex payment systems
- Payments at Scale and how it differs across regions

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Payments at Uber

Payments Overview

- Rider Payments
 - Uber supports various digital payment types across the world. Card, Wallets and upcoming payment systems such as UPI in India are some of them.
 - In over 30+ markets, Uber also supports cash as a payment system.
- Driver Payments
 - Direct payment to Driver's bank a/c by integrating into large global banking systems.
 - In the US, Driver can get paid to the bank account instantly on demand. (Debit Rails)
- Uber Eats Payments
 - Payment flow gets complicated with more parties involved - Eater, Driver, Restaurant.
 - Uber continues to rely on digital payment systems to pay most of the parties in the chain.

SE Asia Payments

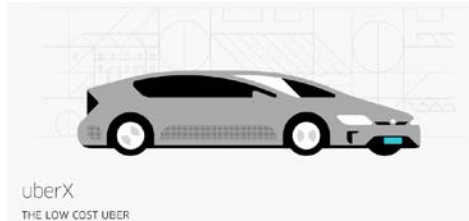
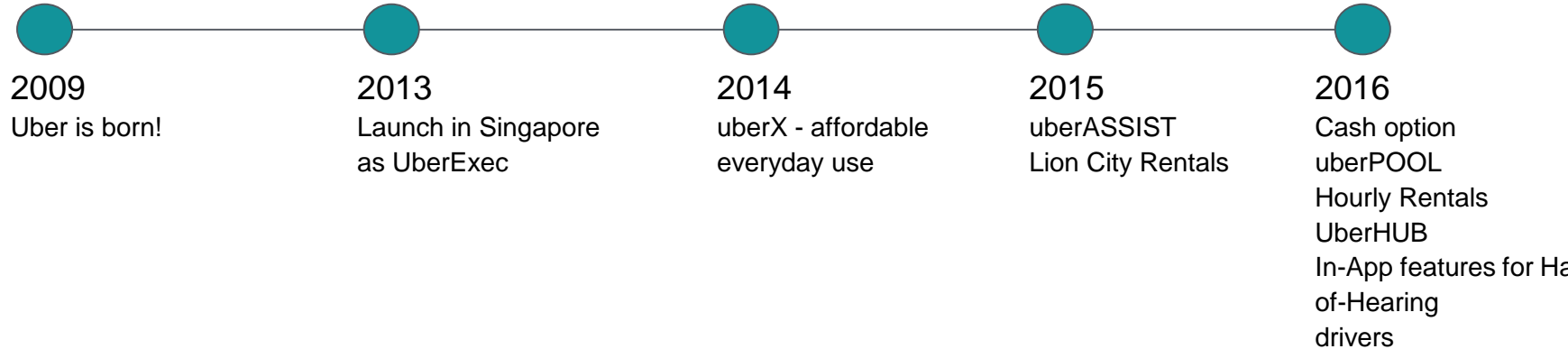
- Rider Payments in South East Asia have been constantly changing with various countries getting on to the digital bandwagon.
 - Uber continues to explore digital payment systems. Look out for some exciting launches in the next few months.
- Driver Payments
 - In several countries Uber is able to affect payments via the local clearing house. This helps the driver get funds sooner and keep costs low for Uber.
 - Banking payment systems continue to be slower than expected and require overnight processing
 - In markets such as Indonesia, Uber has integrated with a wallet to enable drivers paying Uber (for arrears)

Uber ❤️ Singapore

Our journey together

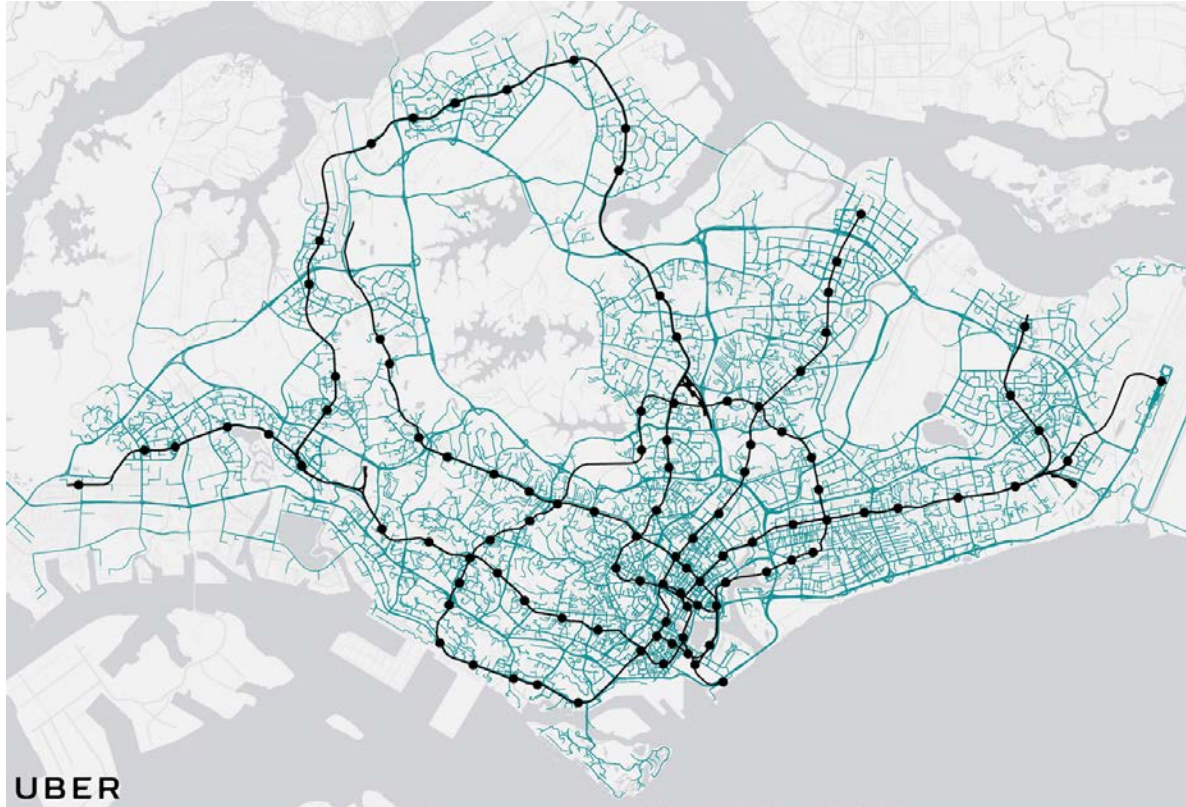
Start with solving a problem

Smart innovations to meet specific rider and driver-partner needs



1-in-3 Rides Start Or End Near MRT Stations

Interwoven into the transportation landscape, complementing public transit



Lines represent Uber trips that began or ended near MRT stations in Singapore.

- MRT STATION
- MRT LINE
- UBER TRIPS

Data from Singapore between March 1st and April 1st, 2016. Completed trips only. Points have been jittered for privacy. Actual trip routes have been replaced by routes generated using an open source routing process.

Payments at Singapore

- Payments at Uber Singapore
 - Riders mostly use cards to pay for an Uber. High penetration of digital payments in the country.
 - Drivers are directly paid to bank accounts

Payment Security Challenges at SE Asia

- Every payment system integration at Uber required an intense vetting of the vendor's technology systems to avoid any potential threats to Uber's systems.
- Payments team works closely with the Security team at Uber to ensure that to the extent possible the vendor's security systems are tested.
- Several of these payment systems require interaction with the telecom service provider and it is difficult to centralize such testing.

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eFraud Prevention

eFraud Prevention

- Fraud prevention platform
 - Machine learning used to detect fraud driver signups
 - Pattern identification to detect fraud
 - GPS pattern analysis to identify fraud trips
- Chargeback prevention
- Credit Card fraud prevention

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Vendor Security Management

Vendor Security: Overview


- process followed to security audit a payment system
- the timeframes to decide, audit and build payment systems.
- data storage of payment vendors in the cloud vs on-premise

Vendor Security: Our homegrown approach

- Risk based approach
- Score requirements
- Light weight, less questions, fast-paced

Vendor Security: Risk based approach

- Risk based approach

Data Qty >>>	High Quantity >1 mil	Med Quantity	Low Quantity <1k
Data Qlt 			
High(SSN, PII)	A	A	A
Medium (IP)	B	B	C
Low(non PII)	B	C	C
Very Low data	D	D	D

Vendor Security: Score requirements

Criteria	Max (Example)	Score
Security Policies/Whitepaper	n1	
PCI Certification (If Finch)	n2	
External Attestation (SOC2)	n3	
External Certification (ISO 2700x)	n1	
External Audit Reports	n4	
Security team (size/focus)	n2	
Customer base	n3	
Third party pen tests	n1	
Assessor discretion with justification	n4	
	100	

Vendor Security: Light weight

- Light weight, less questions, fast-paced
- Transparent decision matrix

Risk Category	uScore required	uScore
A	N1	
B	N2	
C	N3	N
D	N3	

Vendor Security: Deep Technical Assessments

- Finance / FinTech Vendors considered High Risk
- Deep 1-2 person week Pen Test / Black Box security testing conducted
- Pen Test results were prioritized for remediation
- Launch and continued relationship contingent on remediation

Challenges with Security Assessor Selection

- Knowledge and reputation
- Regional and cultural barriers
- Scheduling and availability
- Technical challenges like local SIM cards
- Paperwork challenges like NDA/ Consent form signing

Pitfalls of not performing a rigorous audit

- Risk not understood
- Questionnaires are too theoretical
- Code-integrations that may lead to major flaws

Cultural and Human Aspects

- Mutual Respect
- Timezone barriers
- Holidays
- Negotiations
- Perception of security

Case Study: Indonesia

- High % of unbanked resulting in extensive cash usage
- Wallets on both rider and driver side are interesting payment systems.

Recap

- Recap of Payments and Security
- Recap of eFraud
- Recap of Vendor Management and Security Assessments

Apply what you learnt today

- Fast adaption to fast paced business expansion
- Vendor Security: Technical focus Vs Paperwork
- eFraud prevention: Innovation is the key
- Payments Security: Deeply interesting and fast evolving
- Continuous learning and Innovation is the key

Questions

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UBER