

Seamless Mobile Services in the Cloud

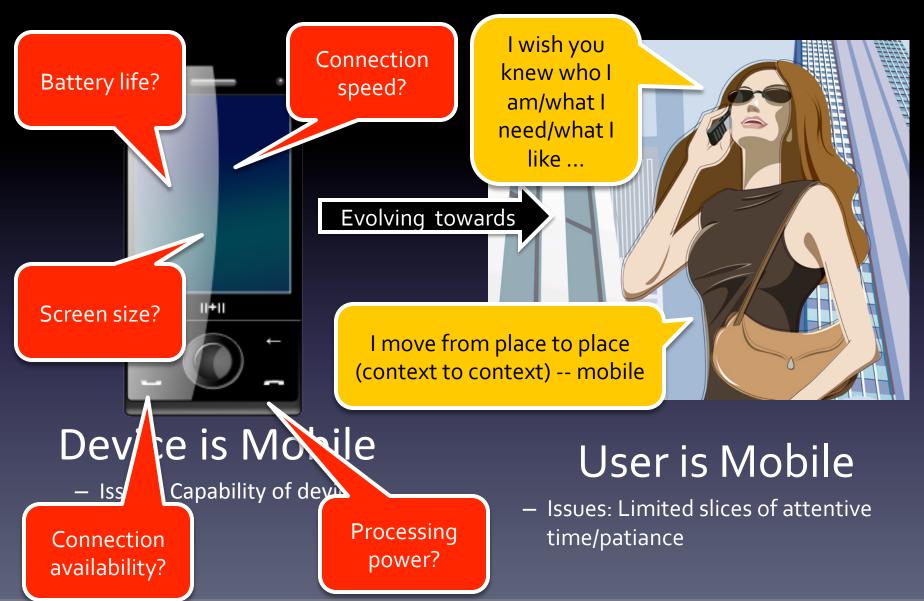
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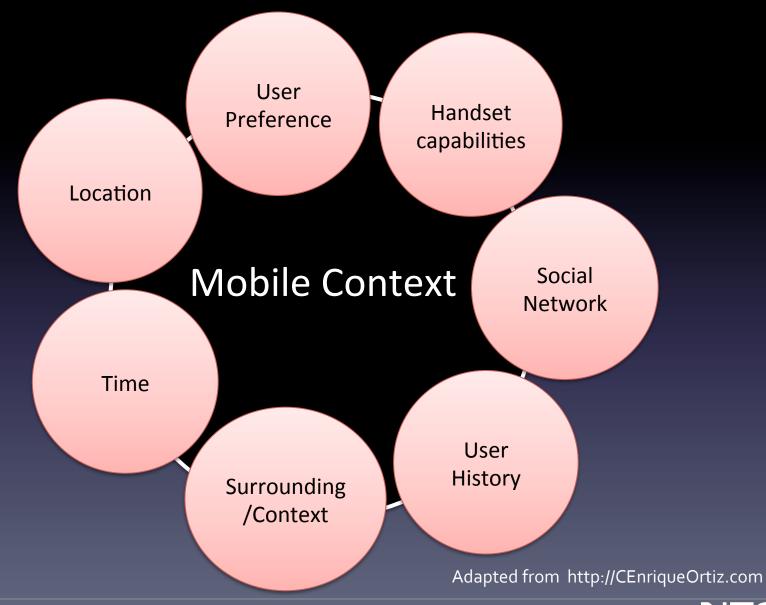
NEC Labs Data Management Research



Mobility is Really about the USER!



Mobile Context







Rich Apps on Smartphones

Most apps merely showcase maturity of mobile application development platform





What Do 10 Billion Apps Need?



Apps need to have an sophisticated picture of user

To succeed and differentiate in this crowded space

Mobile User's Context



Mobility presents opportunity to assign labels as user navigates through *mobile context*

Facated View of the User

App 3
(e.g., personal, calendar)

Caucasian

Female

Japan trip in June

Works in Sunnyvale

Travels to Paris

Lives: Near Santa Clara

App 4 (e.g., Maps app)

Wants: House

Wants: Car

 $\mathop{\mathsf{App}}_{\scriptscriptstyle{\mathsf{(e.g.,}}\atop \scriptscriptstyle{\mathsf{Shopping})}} 1$

Like: Organic Food

Likes: Apple

Married

App 2

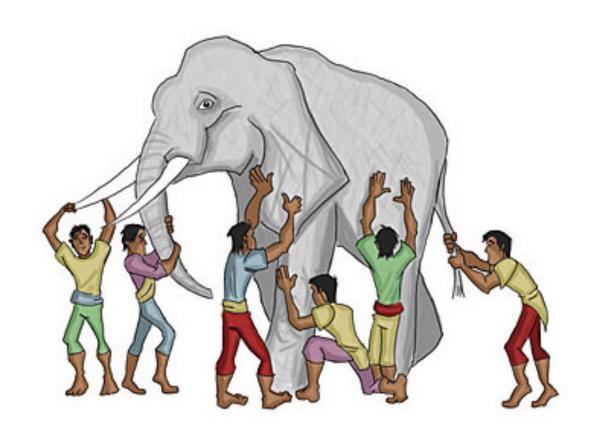
(e.g., social)

Friends with X, Y, Z

Apps have a faceted view of user



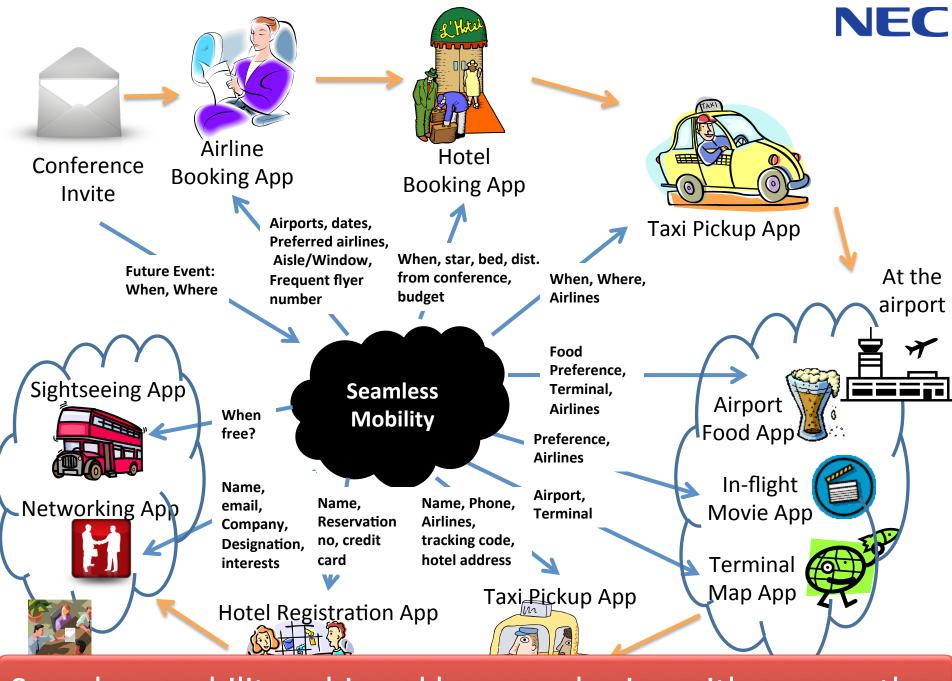
Apps and a User, akin to:



Real Picture of User

App B App D App E App A App D App C App F App G App H App P App I App K

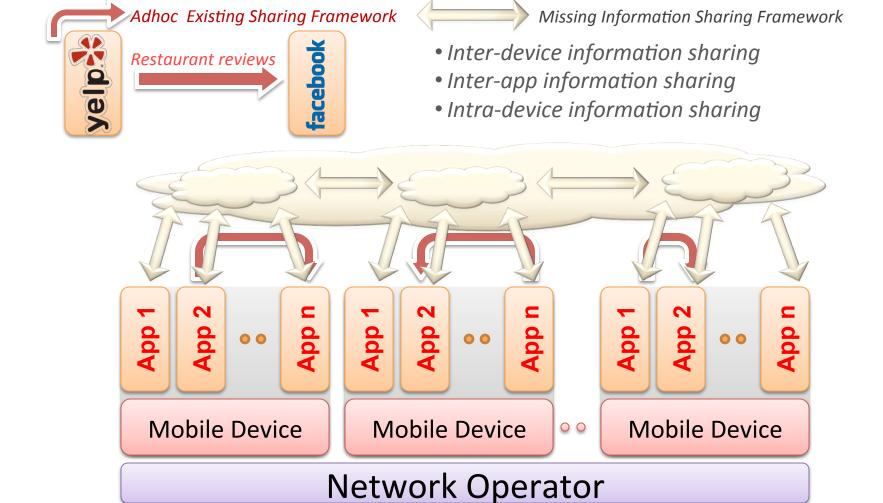
Real Picture of user emerges if apps are able to <u>SHARE</u> their own faceted view of user



Seamless mobility achieved by apps sharing with one another

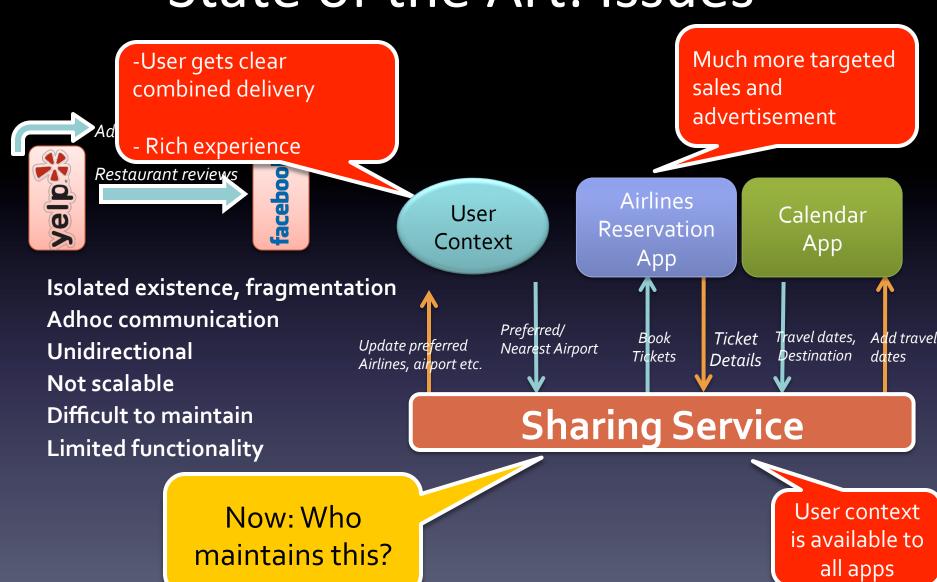


State of the Art in Sharing



App Store/Application Data Provider

State of the Art: Issues

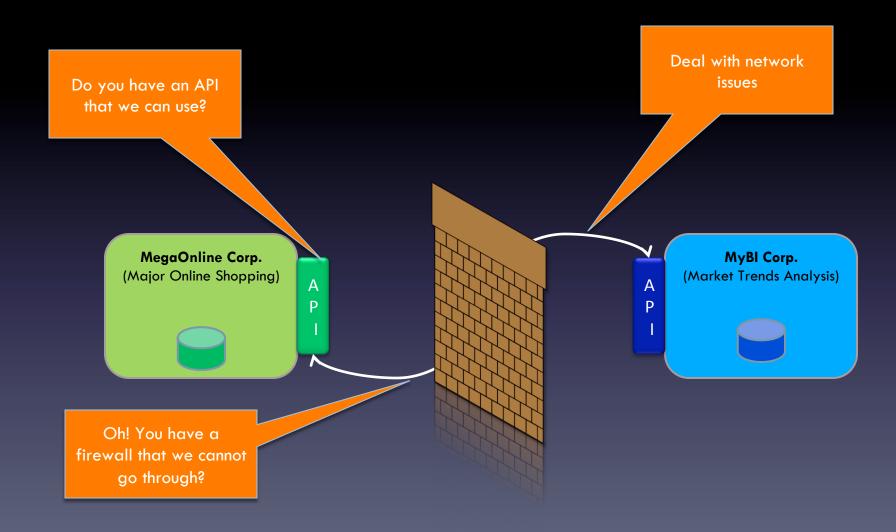


What is

What could be

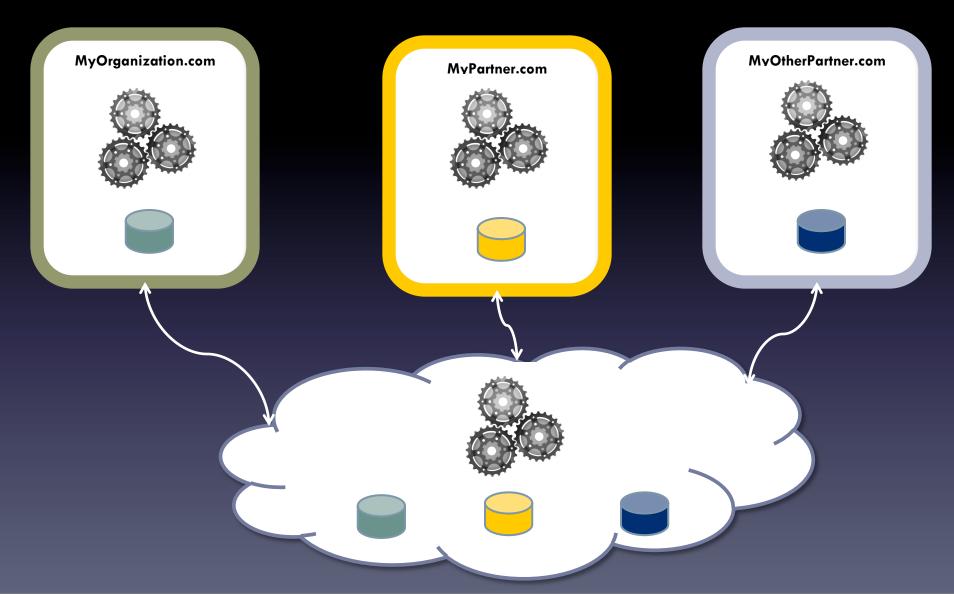
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Data Sharing — Traditional Way

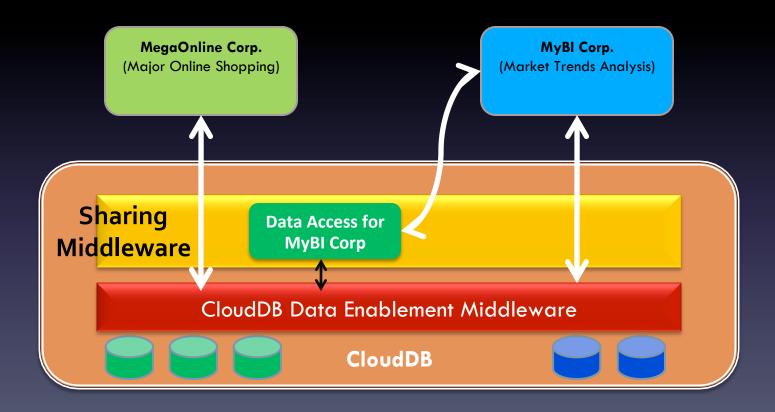




Cloud Ecosystem



Data Sharing - Cloudy Way





Key Players in Data Sharing

Data Owner

<Worried of how sharing might affect its own access to data>

SLA (performance)

SLA

optimization

Profit optimization

Data Consumer

<Wants fresh data and certain level of access on shared data>

SLA (data quality)

Provider

<Wants sharing to
happen as it means
more revenue>

SLA optimization

\$\$\$

Management



"Users are Privacy Pragmatists"

- Users value privacy but unwilling to pay to protect it
 - A Berkeley study [Grossklags et al., 2007] asked subjects: "How many sexual partners have you had?"
 - Found that they were willing to sell this information for a price
 - But, unwilling to pay sometimes 25c to protect it
- Privacy vs. Incentives
 - 82% people willing to share personal information for a chance to win \$100 [Tedschi, 2002]
- Familiarity with technologies develops trust
 - 86% in 1998 preferred not to shop online due to privacy concerns [BusinessWeek/Harris study], but by 2000, 2/3rd of people were open to shopping online



Thank You!