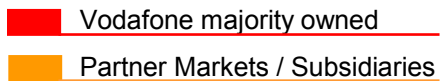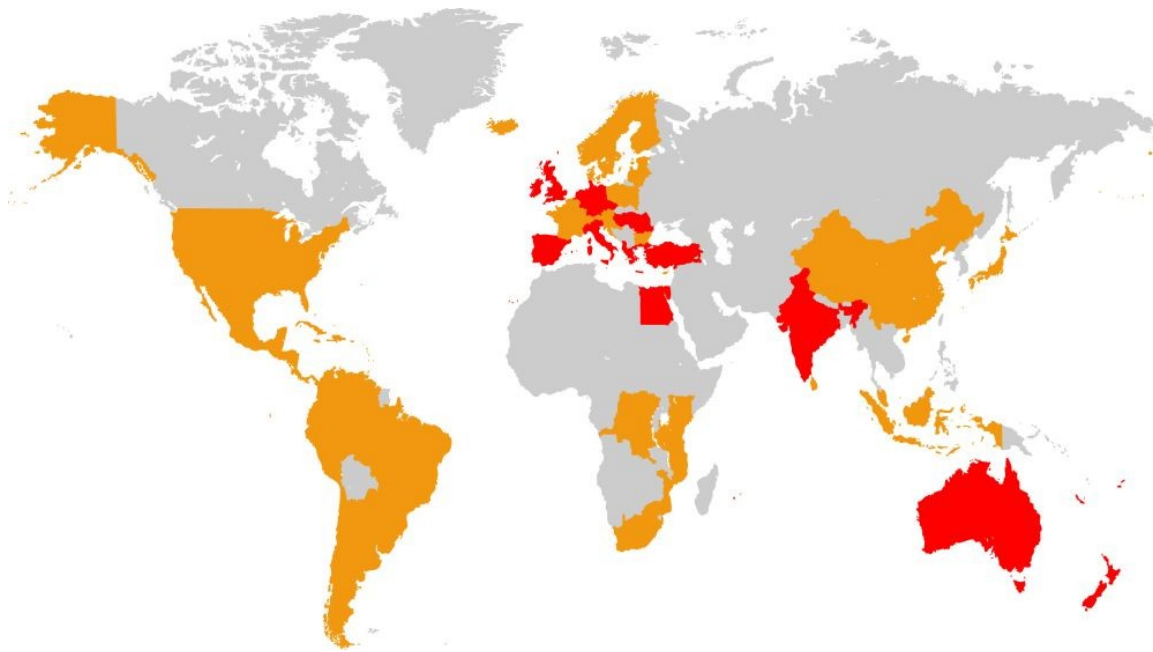GROUP R&D

Presentation on
Context in Social Networking

Based on the Position Paper from Julian Pye, Wolfgang Schuster, Patrick Waters from Vodafone Group R&D

Presented on 16 January 2009 at the W3C workshop in Barcelona on the Future of Social Networking

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Vodafone worldwide

Vodafone majority owned

Partner Markets / Subsidiaries

_World's leading international Mobile Communications Group

_Over 279 million proportionate customers*

* Sept. 2008

_Equity interests in 27 countries across five continents

_Further 40 partner networks worldwide

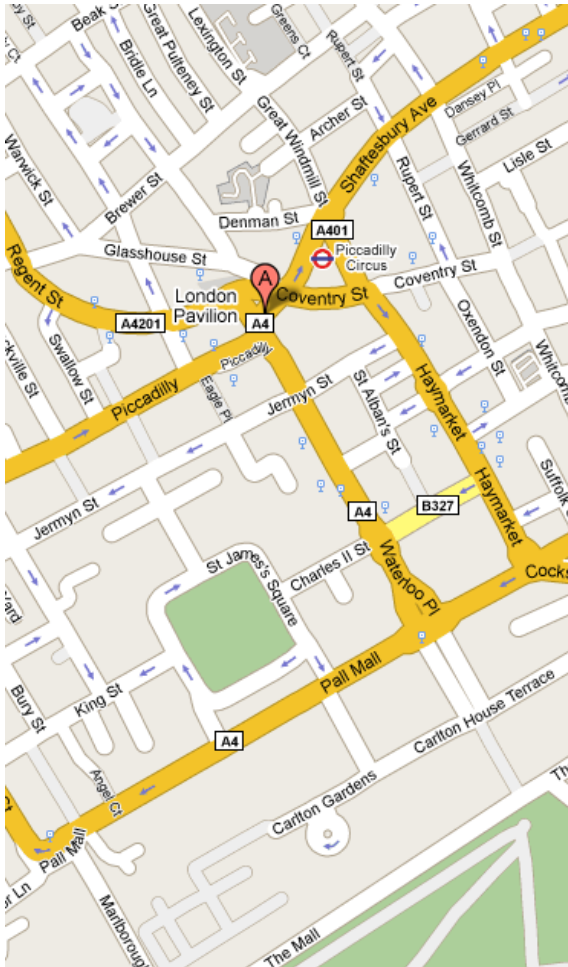vodafone

Vodafone Group R&D – Mission

GROUP R&D

Driving Innovation in a Wireless World

by Creating Business Opportunities from Technology

Vodafone Group R&D Offices in the UK, Germany, Spain and the Netherlands

I am at Piccadilly Circus and switch on my phone

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- Am I at my Work's office at Piccadilly?
  (Service should offer work-related communication features with remote colleagues and partner companies)

- Am I on a one-day business trip heading to a partner company?
  (Service should offer communication features with colleagues at my home office)

- Am I hungry and do not know where to go?
  (Service should offer a list of restaurants)

- Am I late on my way to a work dinner at a restaurant in the area?
  (Service should offer communication features with the restaurant or the colleagues and locate a taxi company)

- Do I want to meet my friends who may be at a club?
  (Service should offer event planning features and communication features with local friends)

- Am I at already at the club with my friends?
  (Service should offer communication features with friends not present, offer automatic tagging and sharing of images at club)

- Am I on a family holiday?
  (Service should hide work related content, offer family and urgent communication features, enable tagging of content capture and sharing with respective privacy features)

- Am I living here and I want to do a 'Sunday evening catch-up' with extended family and friends?
  (Service should offer communication features to extended family and remote friends)

- Am I driving in my car? Am I in distress after having lost my wallet and looking for help? Am I jogging? Am I…?
  (Service should offer the respective services)

Location needs Context to offer the most efficient social network experience

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What are the components of context?

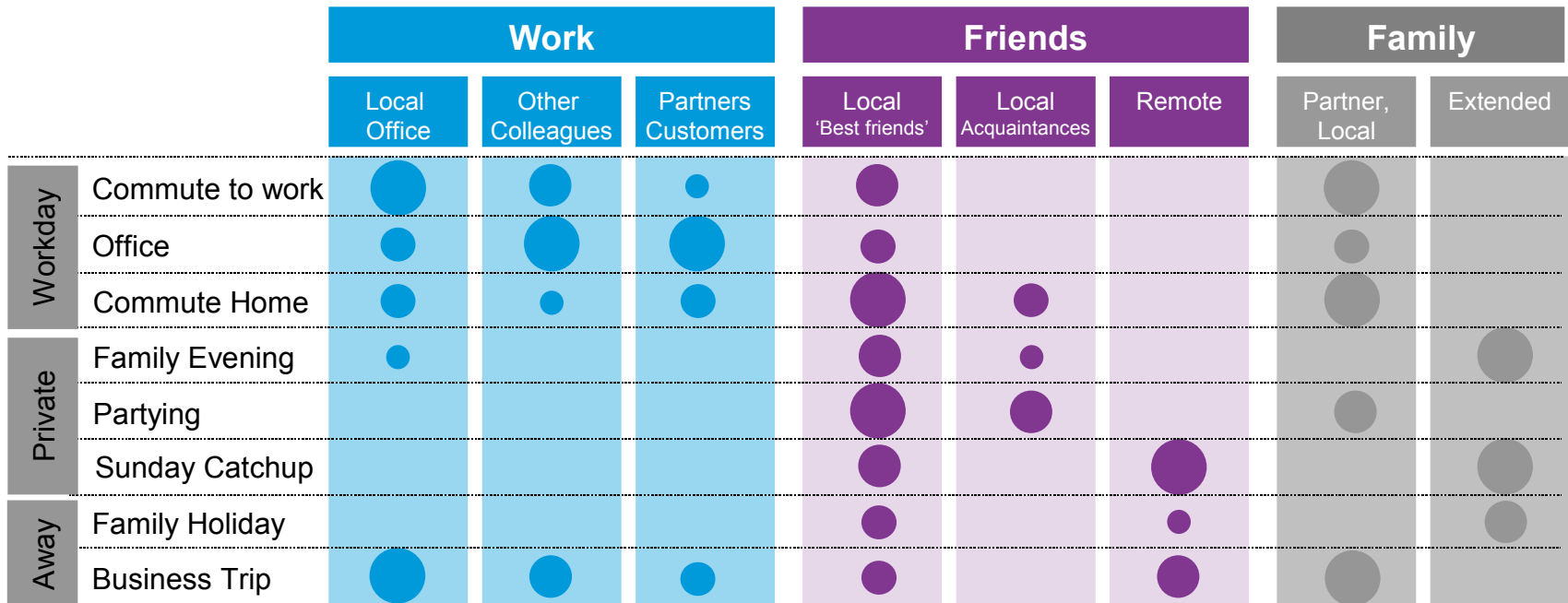- Context = Time + Location + Motivation/Social Context

How to know the context?

- Time: Clock

- Location and Proximity: GPS, Network-location, NFC, BT, Femtocell, WLAN, etc

- Motivation/Social Context – ranging from the simple to the complex:

  - Profile switch: ‚Profiles' (I want to ‚work', ‚have fun', ‚relax')

  - Tagging of locations (You have been here several times before – is this ‚Home', ‚Work', etc?)

  - Data-mining: Information from Office Calendar application, from Social Networks Calendar, from Email exchanges

  - Telephone billing and record history, special contracts for friends and relatives

  - Social Context and Proximity: Gained from other users in the same location, which may be connected to the user

  - Semantic parsing of users feeds (‚will be at business trip next week', ‚am at the Radiohead gig')

  - Algorithmic and AI: Recording locations and making assumptions

  - Precise psychological profiles: Emotional state, characteristics, personality

  - Complex/Futuristic: Real-time biological observation of emotional state

  - Hybrid: Mixture between the above

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A simple example with context: Improving access

- Most social networking applications use the same UI in all usage contexts and offer the same information feeds on their mobile applications

- With social networks still growing rapidly and increasingly allowing complex interaction and communication features, the usage experience will become increasingly cluttered

- Considering an aggregated social network or a network with multiple contacts from multiple domains, context could enable prioritisation of contacts and communication features and offer an improved experience

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		Work			Friends			Family	
		Local Office	Other Colleagues	Partners Customers	Local 'Best friends'	Local Acquaintances	Remote	Partner, Local	Extended
Workday	Commute to work	●	●	●	●			●	
	Office	●	●	●	●			●	
	Commute Home	●	●	●	●	●		●	
Private	Family Evening	●			●	●			●
	Partying				●	●		●	
	Sunday Catchup				●		●		●
Away	Family Holiday				●		●		●
	Business Trip	●	●	●	●		●	●	●

- Requirements for the scenario above could be achieved with a combination of knowledge of main locations (local office, home), social motivation (work, have fun, relax), schedule (holiday and business trips) and social graphs (location, relationship, history)

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Using Social Proximity and Generated content with context (Vodafone R&D activity with University of Bath)

- A number of users are present at a shared event (e.g. a wedding, a club night, a concert, etc)

- Some users will be socially linked, others will not

- Proximity to other users (e.g. via Bluetooth, Femtocell, etc) defines a new ‚supergroup' of attendees, calendar entries of some provides context

- During the event many members may create content, such as photographs or activity feeds

- A service may pool content and activities together and offer the new group members content and contacts from others

- Such a service would:
  – Manage the group - the service will intelligently manage the social network that represents the group
  – Document media: the service will provide the facility to intelligently document media associated with a group based event.
  – Manage privacy: the service should continually monitor and mange user permissions. It will operate within these permissions throughout service execution
  – Integrate with the semantic web. The service should bridge communication between the mobile group and the 'cloud'

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V0.4 | 19 janvier 2009

On the need for half-life time of information

From the Telegraph, May 9th 2008*:

- „Jill Price, 42, can remember every part of her life since she was 14 but considers her ability a curse as she cannot switch off. […]

- Every detail about every day since 1980 - what time she got up, who she met, what she did, even what she ate - is locked in her brain […]

• Her condition is so rare that scientists had to coin a term for her condition - hyperthymestic syndrome from the Greek thymesis, for remembering, and hyper, meaning well above normal. „

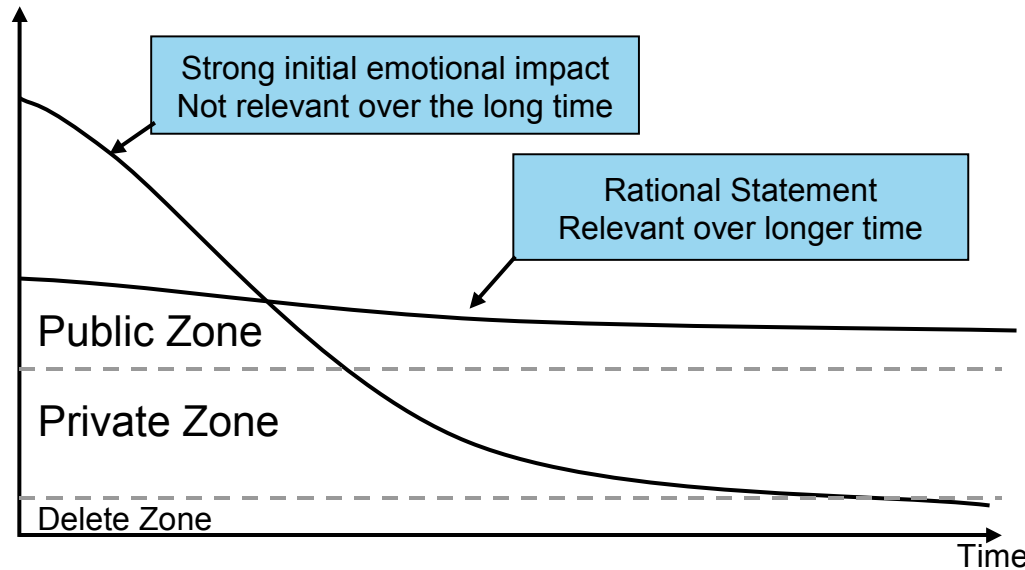* http://www.telegraph.co.uk/news/1940420/The-woman-who-can-remember-everything.html

**Many of today's Social Networks can be diagnosed as 'hyperthymestic'.
Each information is weighted equally and kept until data is explicitly deleted**

• Will all these activity feeds still be equally important after five years time?

is cold. about an hour ago - Comment	learned Fast Healing in Vampires. 1:24am - Comment
is relaxing after becoming a certified motorcycle rider! 5:40am - Comment	back at work…surprise! 10:36am - Comment
thinks that Palm Pre smartphone is so damn sexy! 46 minutes ago - Comment	posted Significant Cybersecurity Weaknesses at IRS -
Good morning Munich. 7 hours ago - Comment	stashed away a pool of blood in Vampires. 1:25am - Comment
is attending LOST: The Premiere Event Wednesday January 21st 8/7c on ABC.	is going home. 7:25pm - Comment

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Adjacent example of context use to enable enable 'half-life time' of SN feeds and communication

Strong initial emotional impact
Not relevant over the long time

Rational Statement
Relevant over longer time

Public Zone

Private Zone

Delete Zone

Time

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- With increasing life-long information and activity feeds, users might desire a mechanism that can slowly 'expire' less important information to the users private sphere (and finally to an area not reachable by default or automatically deleted)

Context	Resulting default halftime:	Initial	Mid-term	Long-term
Work interest-statement (now working on…)		Medium	Medium	Low
Business trip planning note ('will be in X in 2 weeks')		High	Low	-
Mobile Use, Quick statement, e.g. 'on the way to'		Medium	Low	-
Mobile Use, taking mobile photo of topical importance		High	Medium	Low
Mobile Use, taking photos of friends at event		High	Medium	Medium
PC Use at home, posting holiday photos		Medium-high	Medium-high	Medium

- Requirements for the scenario above could be achieved by agreeing on an expiry definition and mechanism for tweets and activity feeds; to enable context, an agreement would have to be made how to map context to the half-life graph

Thank you

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