

Contextual insights and mobile user experience

Debrief on concepts developed during a co-creation workshop at Lift11

lift

NOKIA

CONTENTS

1. Introduction
2. Background
3. Workshop process
4. Quotes from the introduction
5. Concept descriptions

INTRODUCTION

During Lift11 in Geneva, we conducted a co-creation workshop to develop an understanding of how contextual insights of users will contribute to the evolution of the mobile user experience. Big Data pertaining to mobility patterns was considered as an enabler for the mobile user experiences. In order to achieve this goal, the workshop zeroed in on the kinds of insights that big data sets focusing on mobile usage and behavior might lead to.

This document aims at presenting a catalogue of the concepts that emerged during this workshop.

BACKGROUND

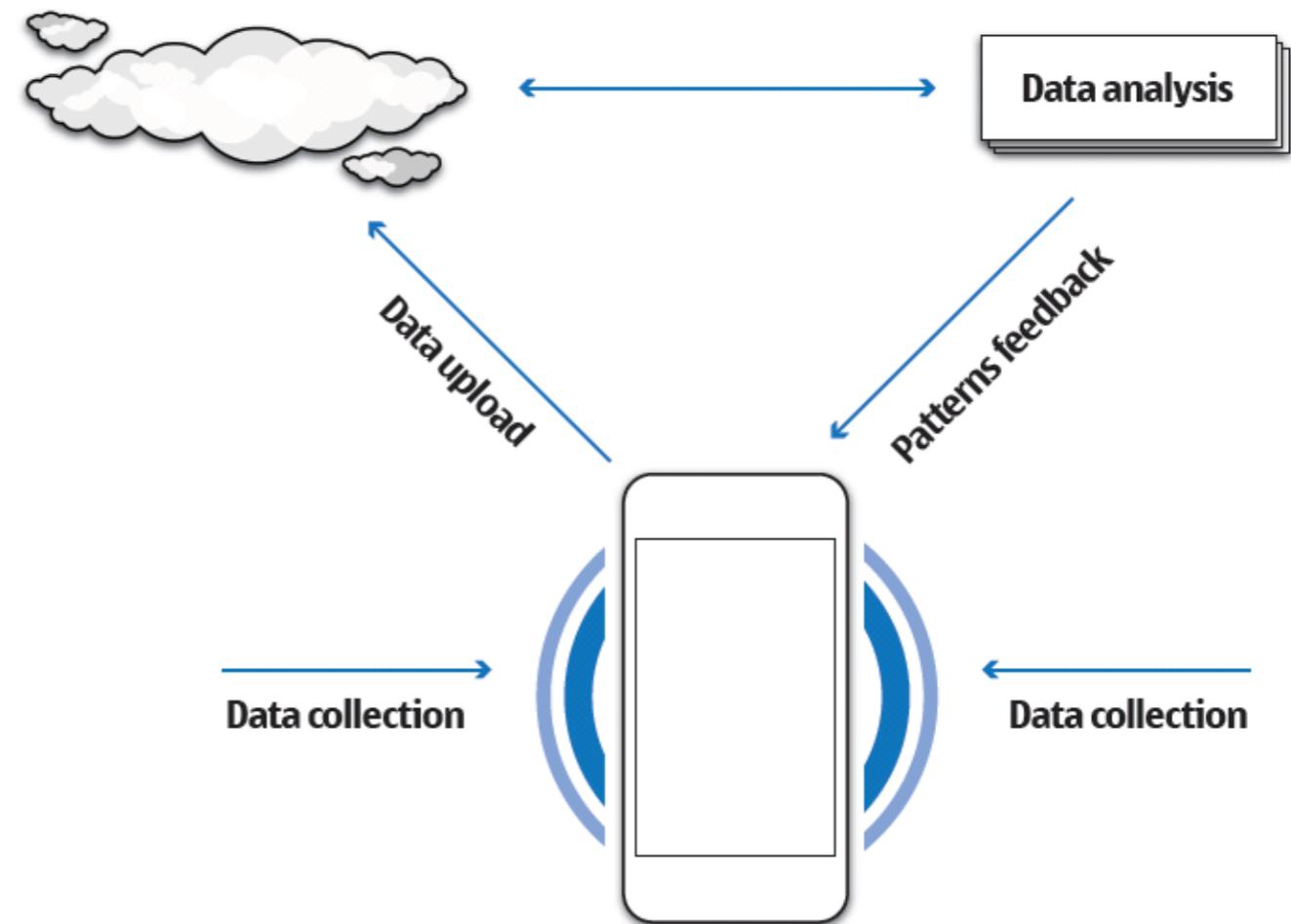
One of the driving forces behind the development of mobile services is an increased understanding of the needs of mobile users, brought about by the aggregation of big data sets pertaining to mobile usage and the contextual behavior of consumers. Such insights are expected to lead to the emergence of context aware services, wherein the User Interface as well as the content displayed to the user is highly personalized and tailored to the given context of use.

The key research question in this regard is: how to make the end user benefit from the collection of data? What types of user experiences are novel and compelling enough to make the collection of data acceptable, in the first place?

FRAMEWORK

In Data Driven Service Design framework, user centric design methods are used to discover the end user benefits pertaining to collection of mobility data.

See <http://research.nokia.com/page/11367> for more details



WORKSHOP PROCESS

The workshop was divided into four parts:

- A round of introductions in which people shared their least or most favorite examples of a technology or product based on personal data.

- A stimulus presentation to get the participants on the same page: user needs, user routines and contextual data potentially captured.

- Group assignment 1: Groupwork converging on concrete use cases around contextual insights & user experience: each group was asked to: (1) Pick up one or several needs, (2) Make a list of “digital traces” that can be captured by a mobile phone or various sensors and how these can be collected, (3) Propose a set of solutions to meet the needs with such data. After a quick presentation of the solution, everyone voted for the use cases to be developed further.

- Group assignment 2: based on the use case selected, groups had to develop an implementation plan (following the “Business model canvas” defined by Osterwalder and Pigneur: <http://bit.ly/f7x3VO>)

QUOTES FROM INTRODUCTION

Participants' positive experiences with services based on personal data

"I tried to get money in Pittsburgh but entered the wrong code several times and blocked my card. Before I had the time to phone, the bank phoned me to tell me I had blocked my card and then solved my problem"

"Platform that helps me discovering music like last.fm or Pandora are interesting to explore new bands, they compensate for my laziness"

"I enjoy Sleepcycle on the iPhone.... you put it on your bed, it senses your movement and it wakes you up at the right moment (at the end of a sleep cycle)"

"I also like an app that senses where you are on a university campus and puts your phone on silence mode"

"I love the local directory on iPhone to localize you and give you information about your location and the nearby services"

"Tripit RJDJ: a mobile platform that creates music based on contextual data (noise in the environment, your movement tracked by an accelerometer)"

"A band called Arcade Fire released a video on the Web, the song asked you where you were, when you've been and the clip's content was adapted to your answer (the location you entered)"

"I like digital diaries: if you go on holidays, you shoot pictures that you can store, share, your media content is more accessible digitally and you can also capture sports data (hiking trips, skiing trips...)"

QUOTES FROM INTRODUCTION

Participants' negative experiences with services based on personal data

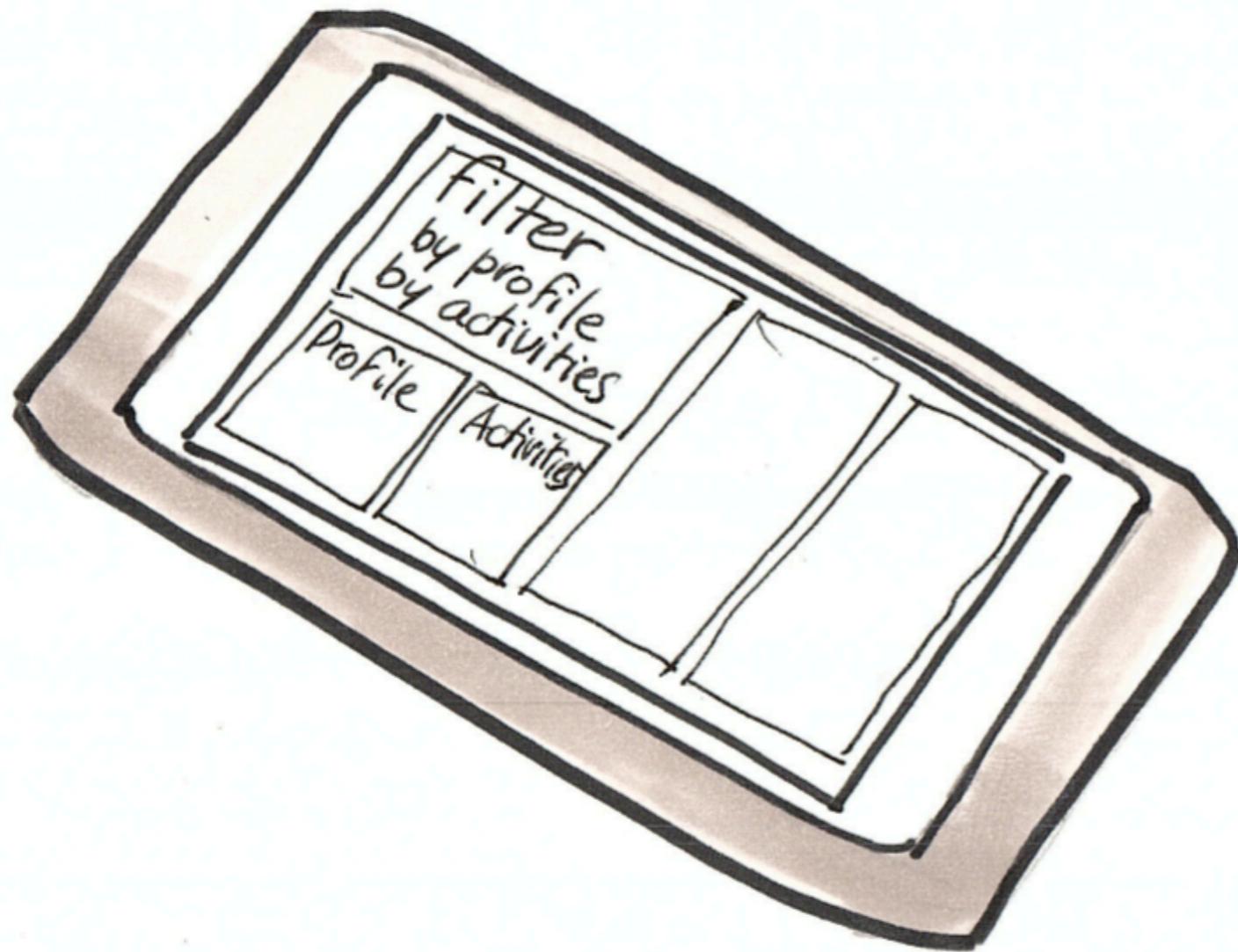
“I used to live in India where there is a strange mechanism to authorize bank transfers through Interactive Voice Recognition: a mechanical voice asks you to repeat weird quotes to let you talk to the right person”

“I get wrong personalized ads because of bad profiling on Facebook”

“On my laptop, it's super annoying to remove stuff from the old laptop and bring my personal stuff to the new one”

“I used to have hotmail/MSN, they extended the service to upload pictures. I forgot about it and yesterday a friend of mine visited my profile and sent some pictures to me... because the privacy settings have changed... now my pics have become public!”

“WHAT’S AROUND?”



- ▶ Concept description: a local sharing platform accessible to anyone (anyone can read/post) on your mobile phone. The interface shows what's happening in the real world around you (local events, local anything, can I meet up with someone in the area?).
- ▶ Needs served by this concept: get back in touch with “real life”, have a local sharing platform accessible to everybody with no technical barriers

“PERSONAL MORNING JOURNAL”



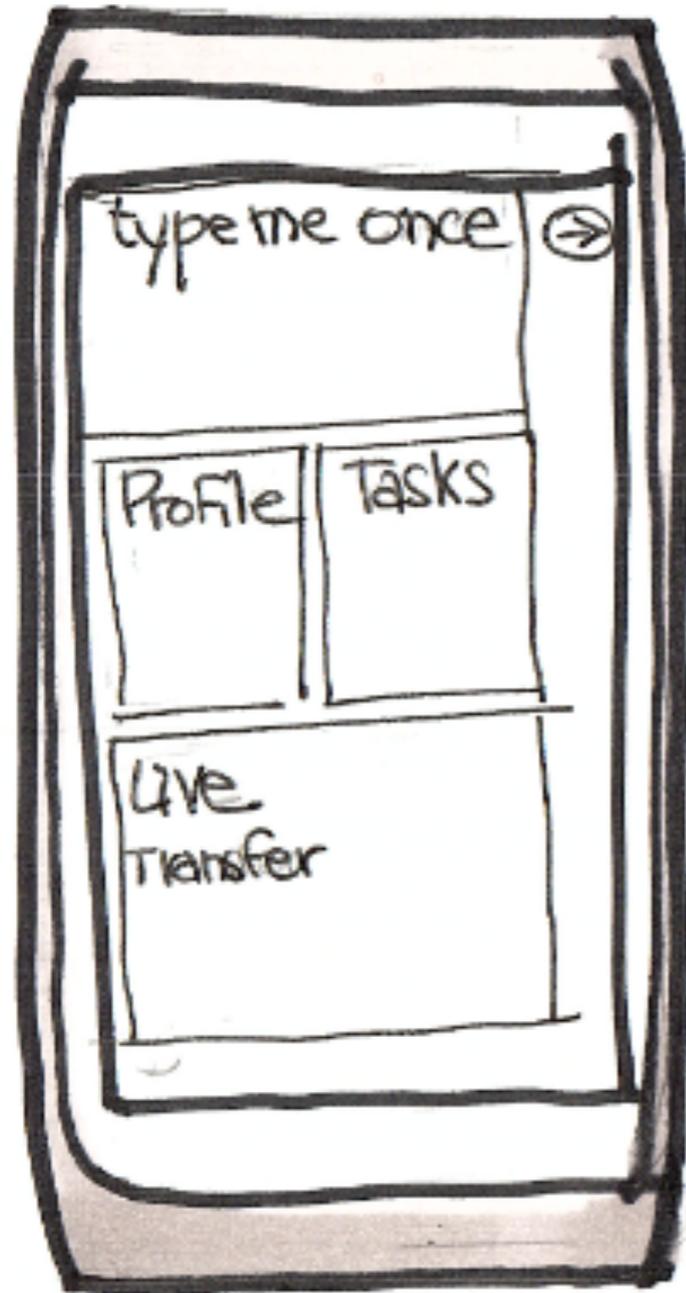
- ▶ Concept description: the service gathers and aggregates data according to contextual information and user preferences/history, with personal messages from user's contacts. It is personalized based on both preferences and routines. It can give a recap of the day before with some surprises ("you were near these people at this event").
- ▶ Needs served by this concept: access to the right information at the right time, potential for “surprise”

“PERSONAL MORNING JOURNAL” (2)



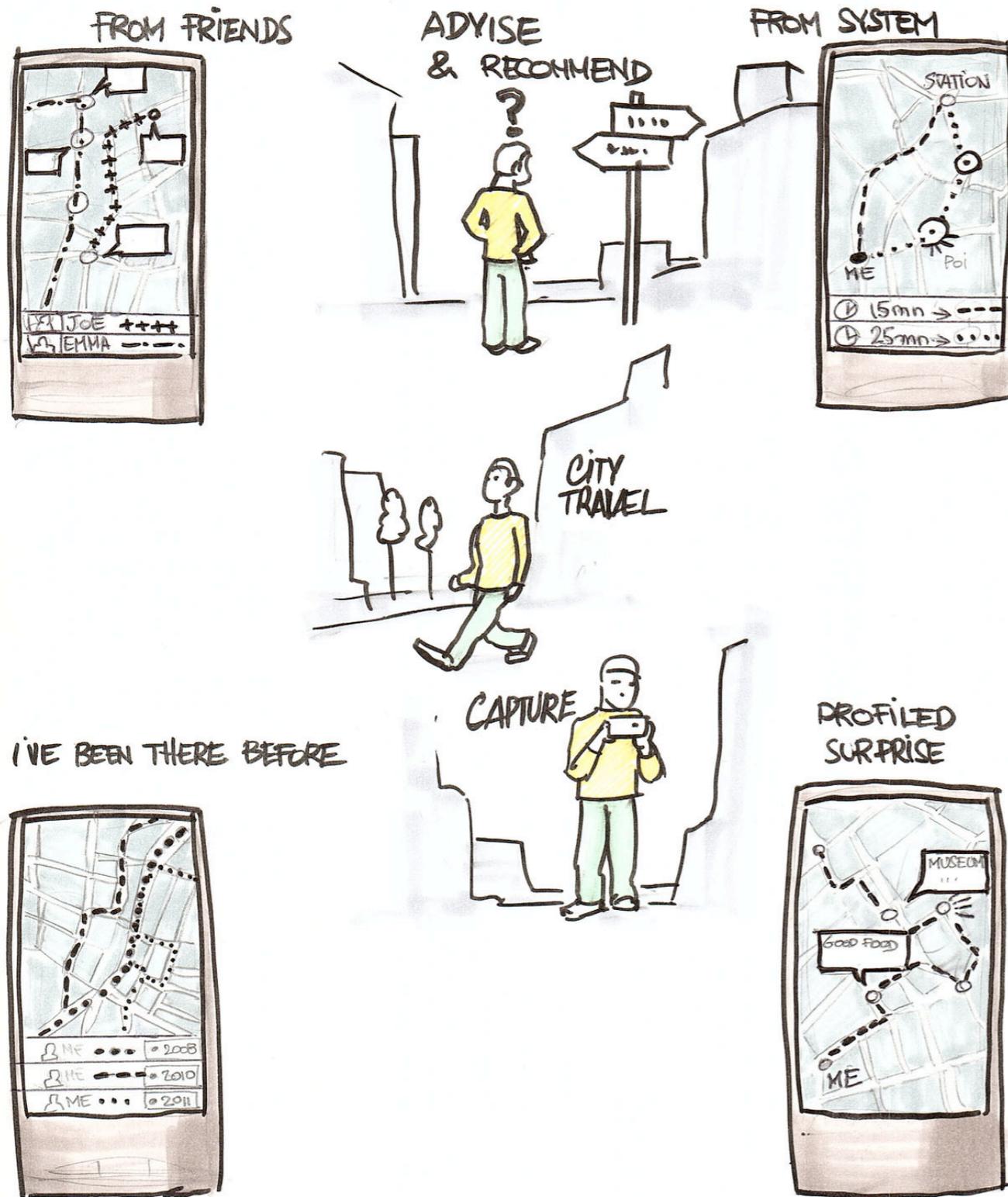
- ▶ Concept description: the morning journal can take many forms (phone, tablet, printed).

“TYPE ME ONCE”



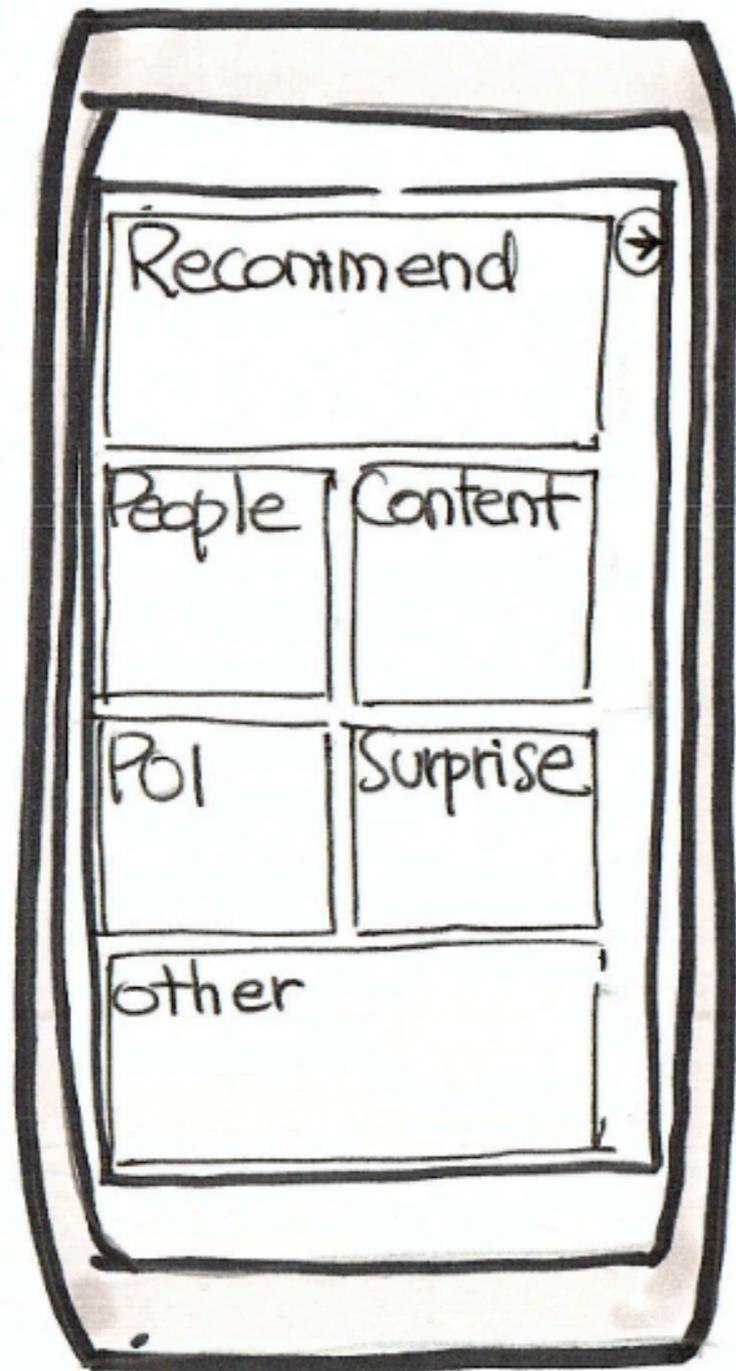
- ▶ Concept description: a unified profile to build bridges between different apps. Based on this information (demographics, tasks, preferences), the system proposes recommendations and other features from the user's phone can rely on this information.
- ▶ Needs served by this concept: better recommendations, fewer useless apps (you enter information once, one control point, avoid data loss, easy transfer to another phone)

“MEMORY OF YOUR LIFE”



- ▶ Concept idea: the service memorizes the history of places which matter to the user (leisure + business). It links together location/place/content/time and makes them accessible both on mobile and computer platforms. The interface then allows advanced search visualizations ("mirror of your life") or access to friends' information (compare your memory to your friends', see if there are overlaps or differences between your "memory map" and that of your contacts'). It can also enable a "replay" of past activities.
- ▶ Need served by this concept: to keep the memory of the places/events/people.

CONTEXTUAL RECOMMENDER



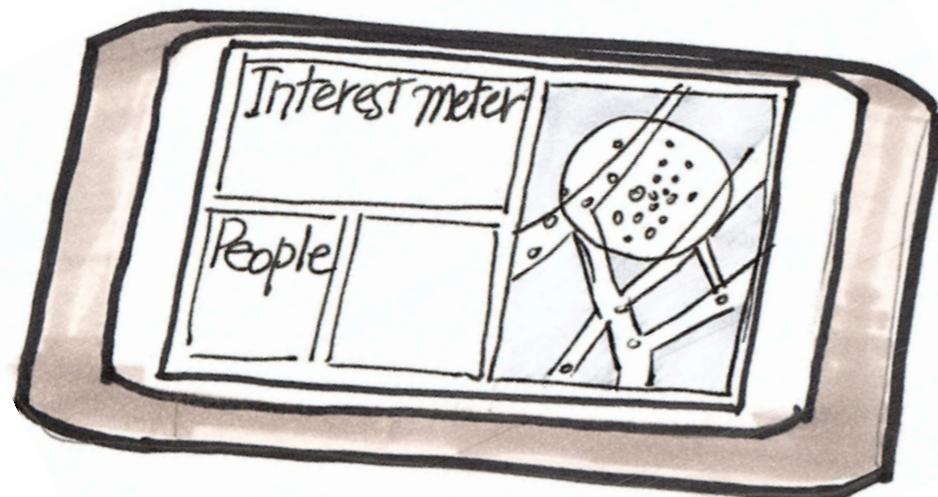
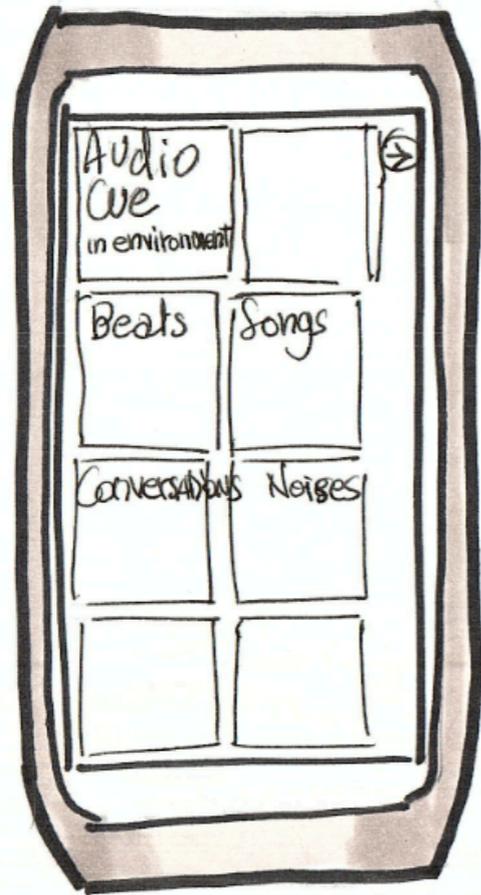
- ▶ Concept description: this feature is an extension of the previous concept: it allows getting recommendations of relevant Point of Interests (POI), people, content (digital or physical) based on your historical behavior, social suggestions (your personal network, everyone who shares your interests, or a certain person you know) or surprising/playful pointers from people the user has never met
- ▶ Needs served by this concept: access to what is around in your usual locations, what are the places that my friends found relevant.

CALL AWARENESS/SOCIAL FILTERING



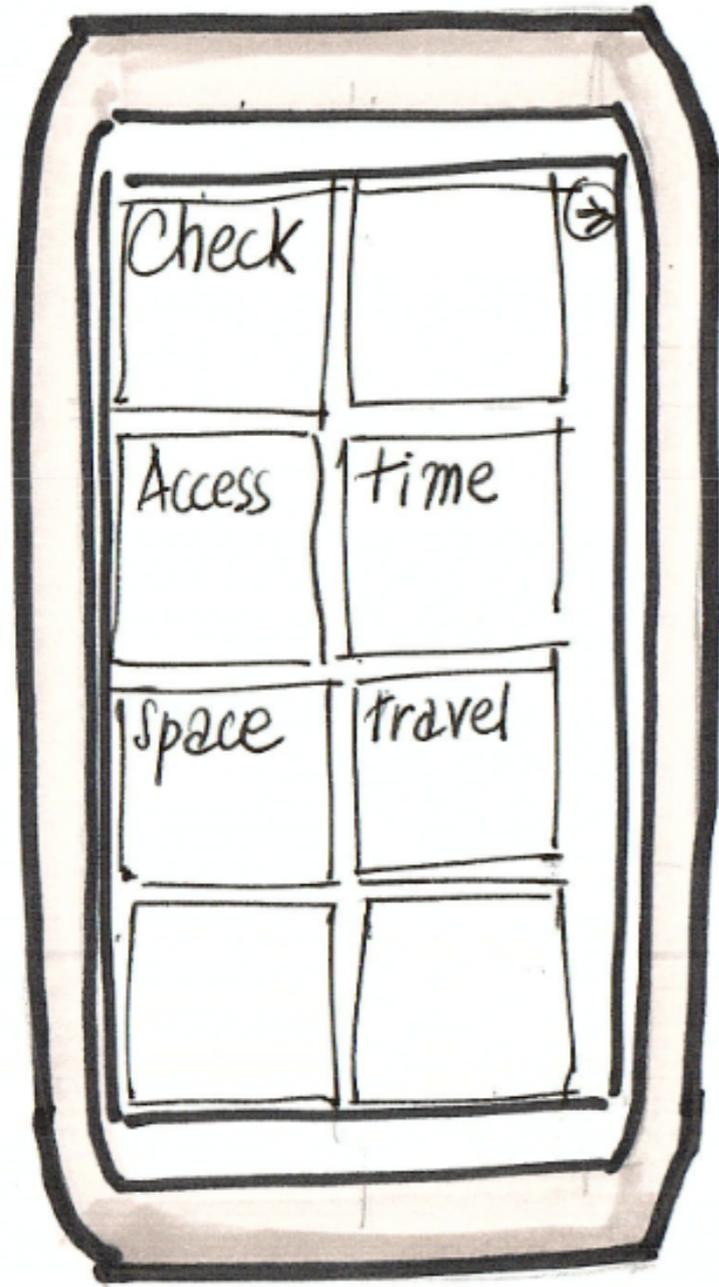
- ▶ Concept description: automatic detection of the intensity of communication. The system detects the numbers of calls/SMS/emails/voicemails you receive and creates an indicator of the urgency with a graphical representation of who called when. It acts as a social filtering platform: the system learns about people and filters content on mobile phones according to the profile of the user's contacts (eg. I don't receive an SMS about soccer when I am with my kids). It can also filter content based on what's around the user, a social context, and a comparison to parameters in the address book.
- ▶ Need served by this concept: allows phone interactions to be socially appropriate.

POKE-A-PLACE / INTEREST METER



- ▶ Concept description: access the general mood of a public point of interest (bar, restaurant, plaza) through different indicators: loud music, noise patterns, density of participants. The user can also receive a music track, or news related to the location/culture/environment.
- ▶ Needs served by this concept: anticipate the situation in a certain place (compared to my interest for instance).

CHECK THINGS IN ADVANCE (1)



- ▶ Concept description: check current status at certain places (queue at airport? is it open? how long is the queue? did the plane land?), pre-book queue number/pre-arrange things (receive a queue number when you are a 5-minute walk away),
- ▶ Needs served by this concept: it improves customer services by associating primary functions based on POI (e.g. it tells you which bus you can take at what point in space)

CHECK THINGS IN ADVANCE (2)

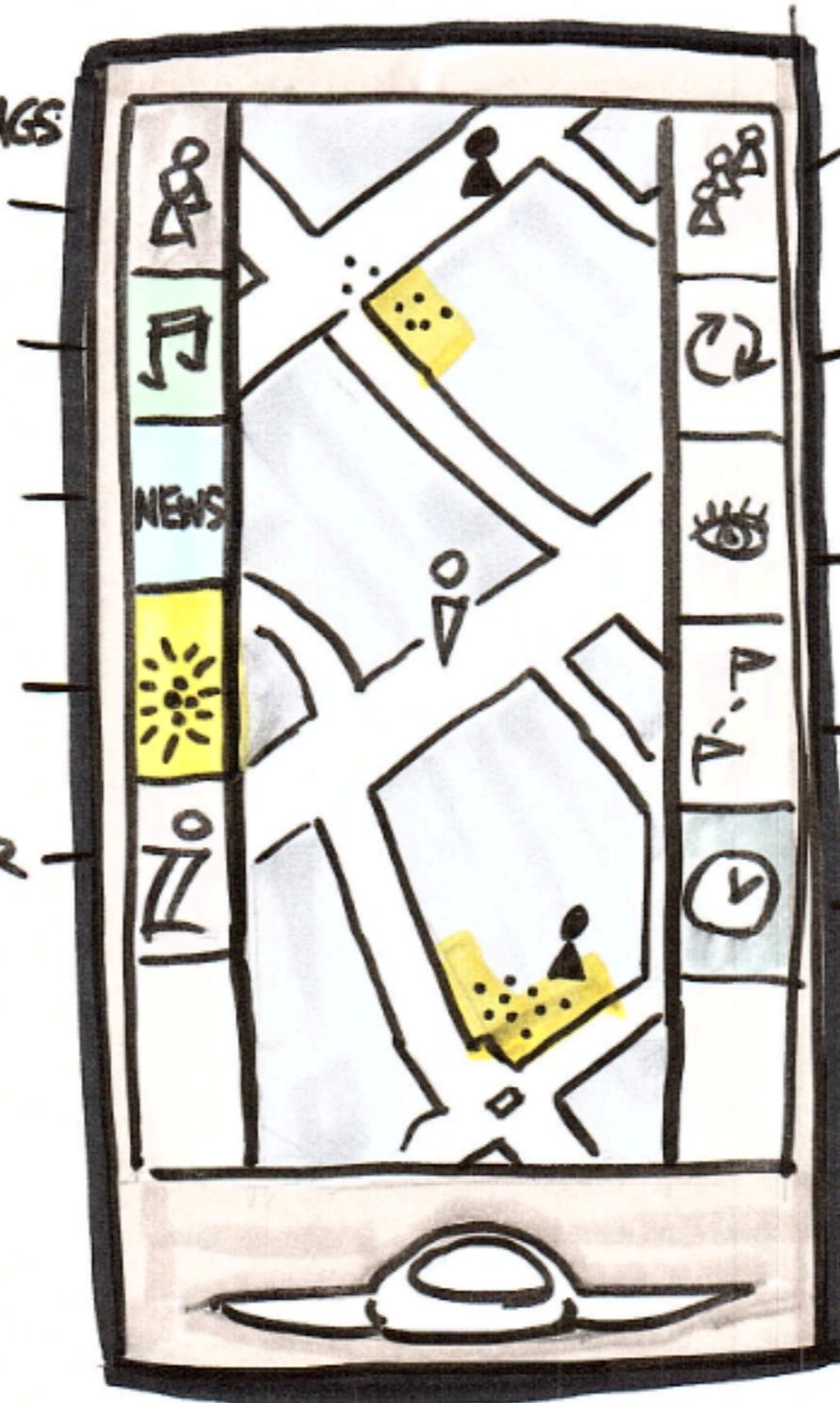
FRIENDS
TEXT/PHOTOS/FLAGS

AUDIO CUES
IN ENVIRONMENT

WHAT'S NEW

HOT SPOTS

INTEREST O'METER



QUEUE
OBSERVER

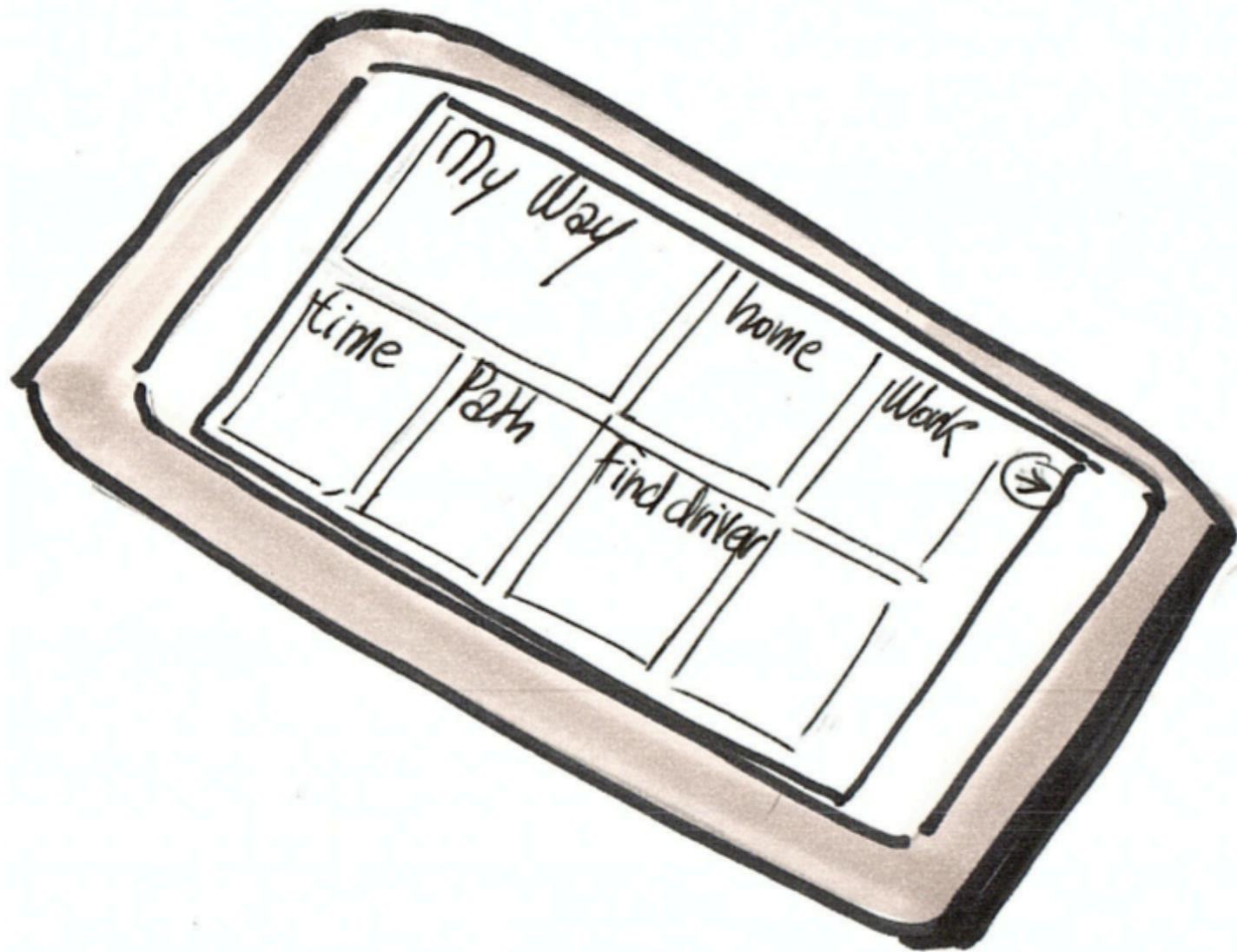
SWITCH
TO BEST

INSTANT CAM
(WEBCAM)

WHERE & WHEN
TRANSPORT SYSTEM

TIME & SPACE

“MY WAY”



- ▶ Concept description: a system that helps to manage user expectations based on location-based data such as traffic data: is it possible to find a better route? as a driver will I be late? can I find an alternate driver (because I'm drunk)? what if people don't know the neighborhood?
- ▶ Needs served by this concept: anticipate issues related to navigation, help me change my plans in real-time.

“MY MOOD”



- ▶ Concept description: MyMood is a service that informs others about your mood and availability to receive phone communication. This information can also be used for a recommendation engine that prevents you from calling in certain situations (when the other party is entering the subway).
- ▶ Needs served by this concept: awareness of others' availability and openness to interact.

CREDITS

Project conducted by Jan Blom, Juha Laurila (Nokia Research Center), Ulla Kruhse-Lehtonen, Dirk Hofman (Nokia Consumer Analytics and Insights) and Nicolas Nova (Lift)

Graphic recording: Etienne Guerry (XP team)
Photo Slide 23 by Luca Mascaro

Participants: Peter Angelos, Attila Bujdosó, John Elbing, Ulrich Fischer, Martial Ganiere, Stéphane Koch, Luca Mascaro, Maxime Mollon, Nicolas Sierro, Julian Zbar

This document is licensed under a Creative Commons International Attribution-ShareAlike 3.0 (CC BY-SA 3.0) license



lift

NOKIA

DATA DRIVEN SERVICE DESIGN AT NOKIA RESEARCH CENTER LAUSANNE

NRC-Lausanne combines data intensive research with user centric design techniques, in an attempt to generate service and application concepts that are based on continuously collected mobile data from individuals and communities

One of the enablers for such activities is the Lausanne Data Collection Campaign, which is a people centric sensing project focusing on mobility data collected from almost 200 individuals living in Lake Geneva region

Please visit the following URL to get more information about the Lausanne research activities:<http://research.nokia.com/page/11367>

The Nokia logo, consisting of the word "NOKIA" in a bold, blue, sans-serif font.

