

The “process” of Innovation

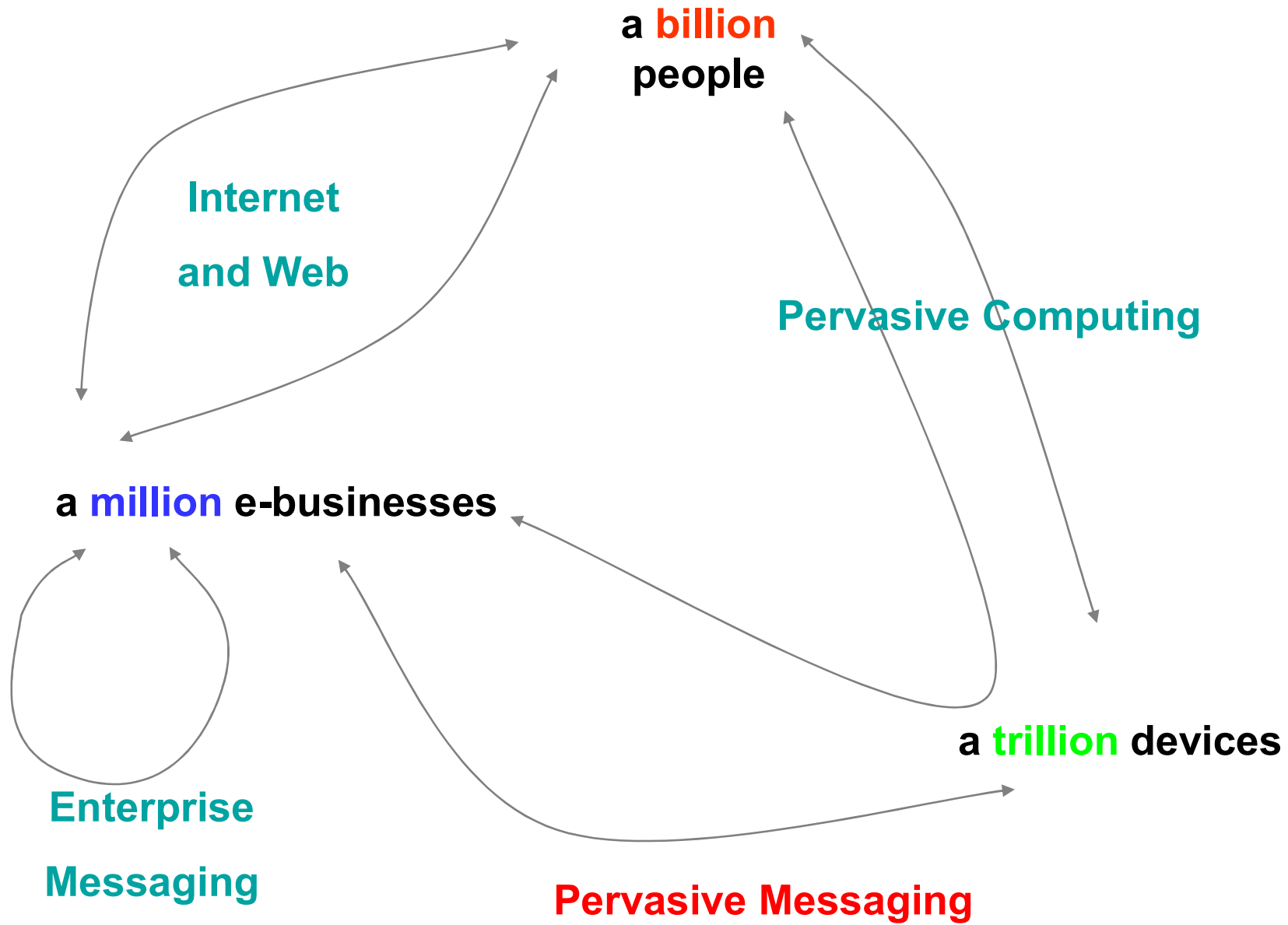
Pervasive Messaging Technologies

Dr Andy Stanford-Clark

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Distinguished Engineer
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Remote monitoring station

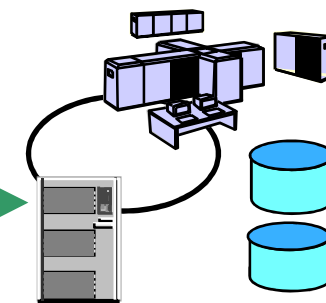
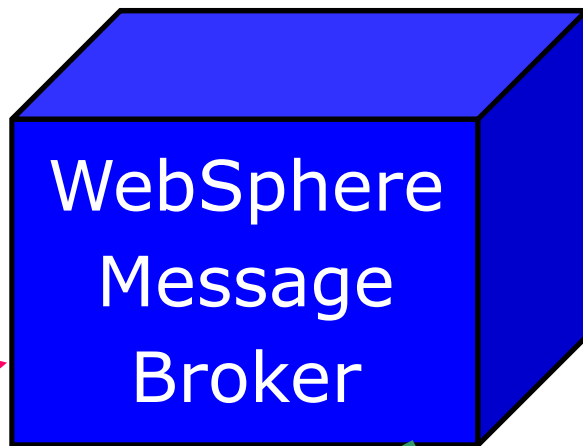


Electricity monitoring

residential

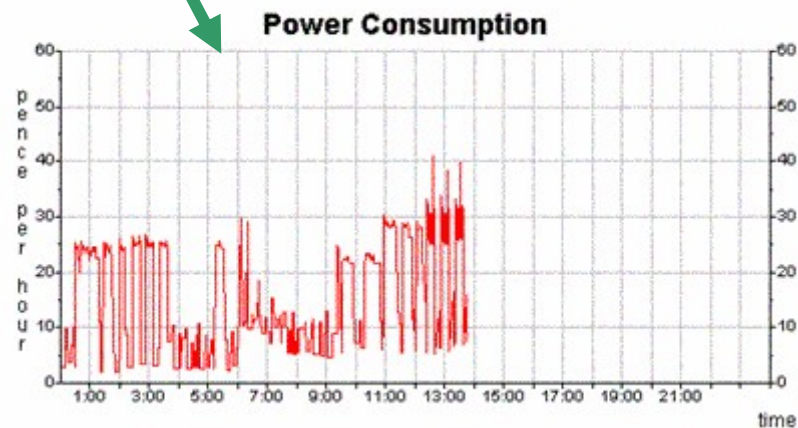


commercial

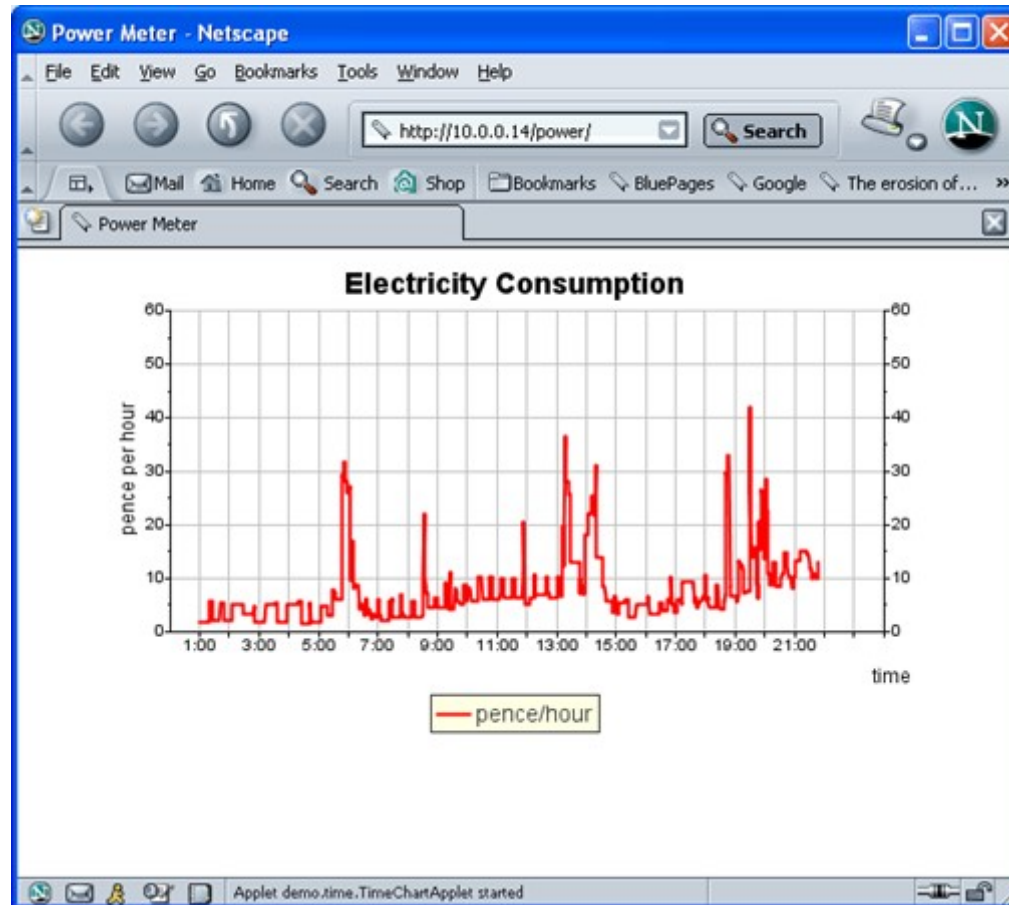


Data mining application for tariff optimisation, based on usage

Java "dashboard" applet running in Web browser on PC, subscribing to broker for live data



Power Meter



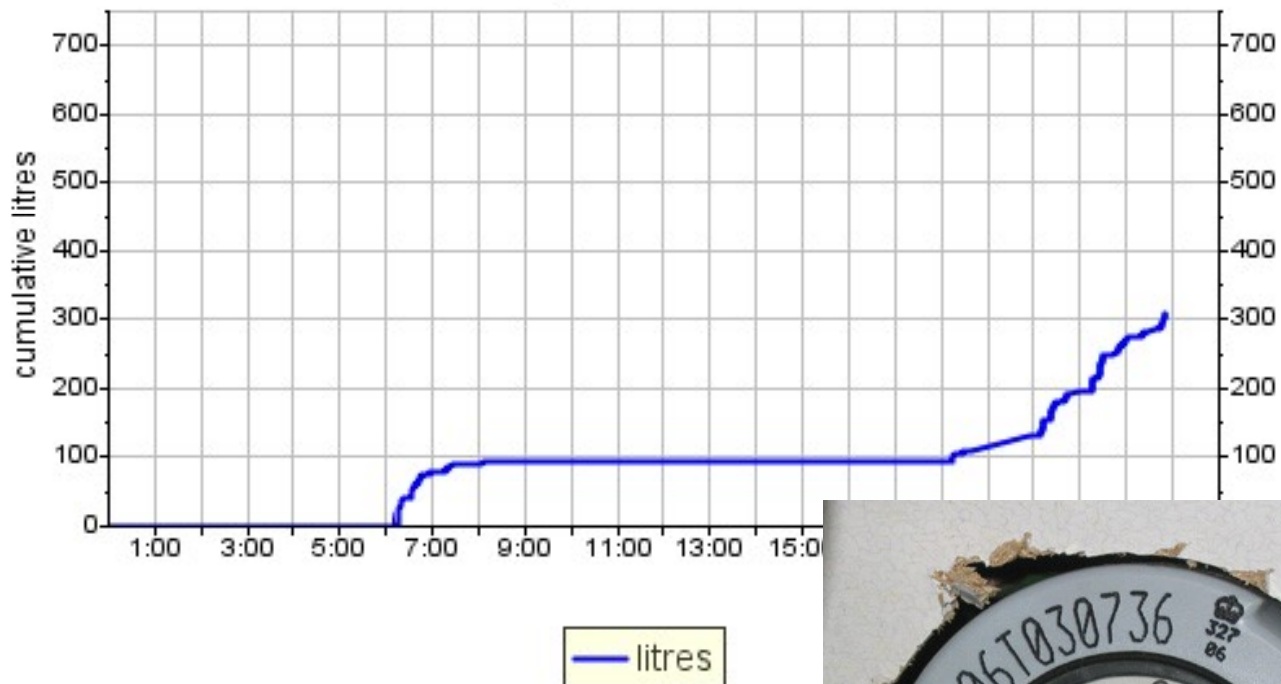
0-20p/hour – green
20-40p/hour – amber
40-60p/hour – red!



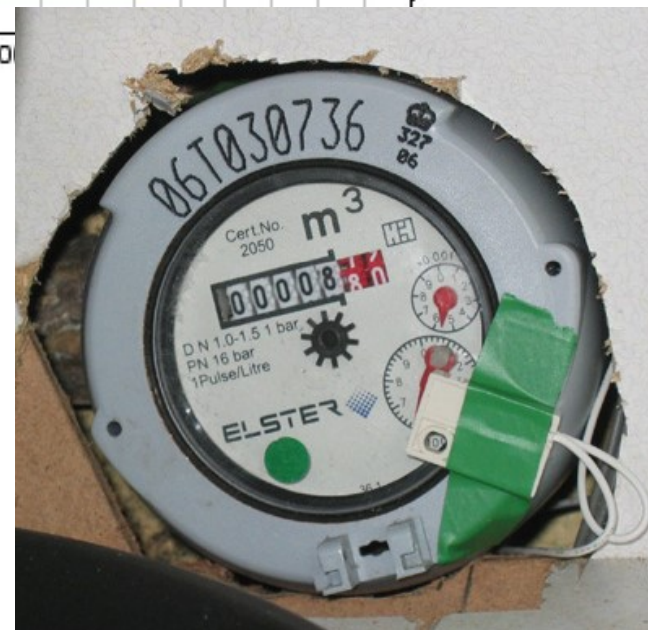
Water Meter



Daily Water Use



Meter Reading ** (litres)
00019786



Car telematics



Where's Andy's car?

The screenshot shows a Netscape browser window titled "Where's Andy's Car ? - Netscape 6". The address bar contains "http://www.scadabs.net/GPS/". The page content includes:

- Where's Andy's Car?**
- Last update:** Thu Jun 12 17:45:26 2003 BST
- lat:** 50°51.834 N
- lon:** 1°34.395 W
- speed:** 37.8 mph
- direction:** 178.1 deg
- [Refresh](#)
- [Map](#)

The main feature is a map of Lyndhurst, Hampshire, with a red car icon indicating the location. The map shows streets, landmarks like "Custards", "Goose Green", and "Clayhill", and a scale bar for 1000m. A banner at the top of the map area says "Andy's car is here!".

Service supplied by www.StreetMap.co.uk

Pay-As-You-Drive insurance



Norwich Union are the UK's largest insurance group, backed by Aviva plc with over £200 billion of assets under management and 25 million customers worldwide, a market share of around 16 per cent and is more than 1.5 times the size of its nearest rival. It is also the largest personal lines insurer.

Daily Mail, Thursday, March 13, 2003 *** Page 27

Black box in the car

By Sean Poulter
Consumer Affairs Correspondent

Hi-tech check on where you drive will decide how much insurance you pay

WITH insurance charges steadily rising, an aircraft-style "black box" is being fitted to cars in an experimental pay-as-you-drive scheme.

It means motorists' premiums will be based on where and when they have driven - with the hi-tech device charting the details of journeys and being a step towards a global positioning satellite system for the North.

The information is then sent via the mobile phone system to the insurance firm, which calculates a bid. This will be based on the time spent on the road and whether the driver has used accident blackspots, city centres or rural roads.

The system will award lower premiums to those who use their cars sparingly, avoid rush hours and stick to roads.

The scheme is to be trialled in the summer by Norwich Union, insurer of Norwich Union, with the help of IBM.

Robert Ledger, the firm's Pay As You Drive programme director, said: "We believe this is a much better way to pay for insurance.

"We get a lot of enquiries from customers who say they have not had a crash, yet their rates are being charged as if they had.

"This technology relates personal driving records much more closely to the premium charged."

The technology was also announced last year, but the insurance firm said it was awaiting a decision on the use of a crash, which provides a record of the driver's location and provides directions to drivers who get lost.

However the system, which already operates in parts of the U.K., may raise "big questions" about the way it could be used to monitor a driver's location and provide directions to drivers who get lost.

The same sort of technology - if used like all cars - could also be used to monitor the use of a car at any point as part of a UK-wide congestion charging scheme.

Norwich Union, which is part of Aviva, envisages fitting millions of the hi-tech insurance covers on a monthly basis, and will offer tips on how to reduce the cost.

The insurer has been developing the policy in conjunction with information technology group IBM, which will provide the computer hardware, and mobile phone operator Orange which will relay information via phone lines.

An IBM spokesman said: "This technology can be used to benefit motorists who pay insurance rates based on actual use of their cars." Mr Ledger said: "The key is to ensure that a driver, the technology could be used into all the electronics of the car."

"It could then tell you the split second that a crash has happened and whether there is a front or rear impact."

"It might tell you the speed and the severity of the impact. That could allow someone at Norwich Union to alert an ambulance or a fire engine which would send help much more quickly than at the moment."

Asked about his brother-in-law, Mr Ledger said: "This is not compulsory - if customers don't like it, they don't have to have it."

"We expect that this will not spread to everyone, but we really do see benefits for customers."

HOW THE BLACK BOX WORKS

- 1 Black box - slightly smaller than a VHS cassette. It sits either under dashboard or in boot. Contains computer and two transmitters.
- 2 Computer records details of the trip: Time of day, duration, mileage, roads used. Could provide speed details in the future.
- 3 Signals from black box beamed off Coast Protection Satellite to provide journey details which are stored in the computer.
- 4 Details of journeys transmitted at least once a month - possibly daily - to Norwich Union office in Norwich via Orange mobile phone mast network.

Insurance company works out premium to be charged monthly based on mileage, roads used and time of travel.

POSSIBLE EXTRAS

- If you get lost: Driver contacts Norwich Union call centre who will advise location and provide directions to destination.
- In a breakdown: Company has involved breakdown service and will guide mechanics to the location of the vehicle.
- In case of accident: Call centre alerted if car airbags triggered. Will be able to assess severity of impact and send out ambulance to the engine.

IBM leverages its work with Progressive Insurance, its partnership with Orange and **WebSphere MQ Everyplace** to drive an innovative new business model for the UK's largest insurer, Norwich Union Insurance – pay-as-you-go car insurance

"Customers choosing Pay As You Drive™ insurance will benefit from individual premiums based on how often, when and where they actually used their cars. Motorists would receive a fairer deal as this initiative provides them with the opportunity to really be in the driving seat when it comes to controlling their premiums."

Robert Ledger, programme director for Norwich Union

Home automation

Appliances controlled from phone, Internet, etc.

Netscape
File Edit View Go Bookmarks Tools Window Help
Search
http://10.0.0.14/POA/outside.html

<input type="button" value="ON"/>	<input type="button" value="OFF"/>	Water Feature
<input type="button" value="ON"/>	<input type="button" value="OFF"/>	Pond Fountain
<input type="button" value="ON"/>	<input type="button" value="OFF"/>	Outside Lights
<input type="button" value="ON"/>	<input type="button" value="OFF"/>	Gym Heater

Outside Lights turned OFF

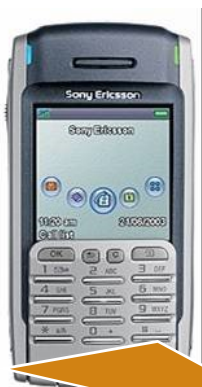
X10 Patio Lights



X10 Patio Lights

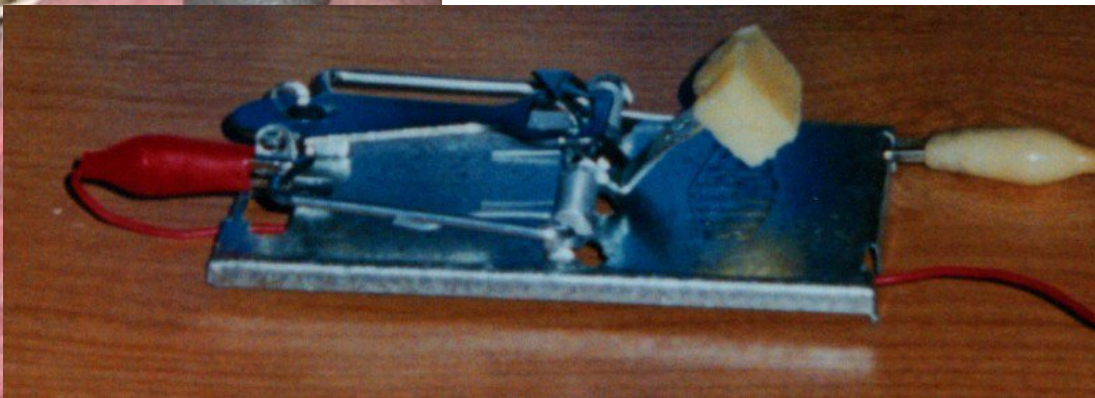
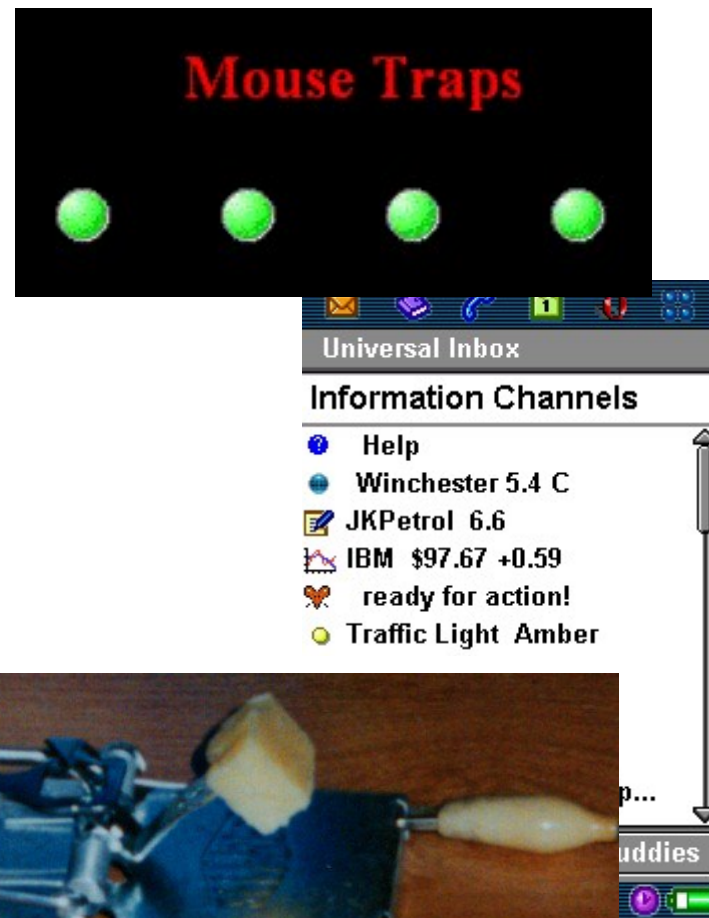


TXT the reindeer!

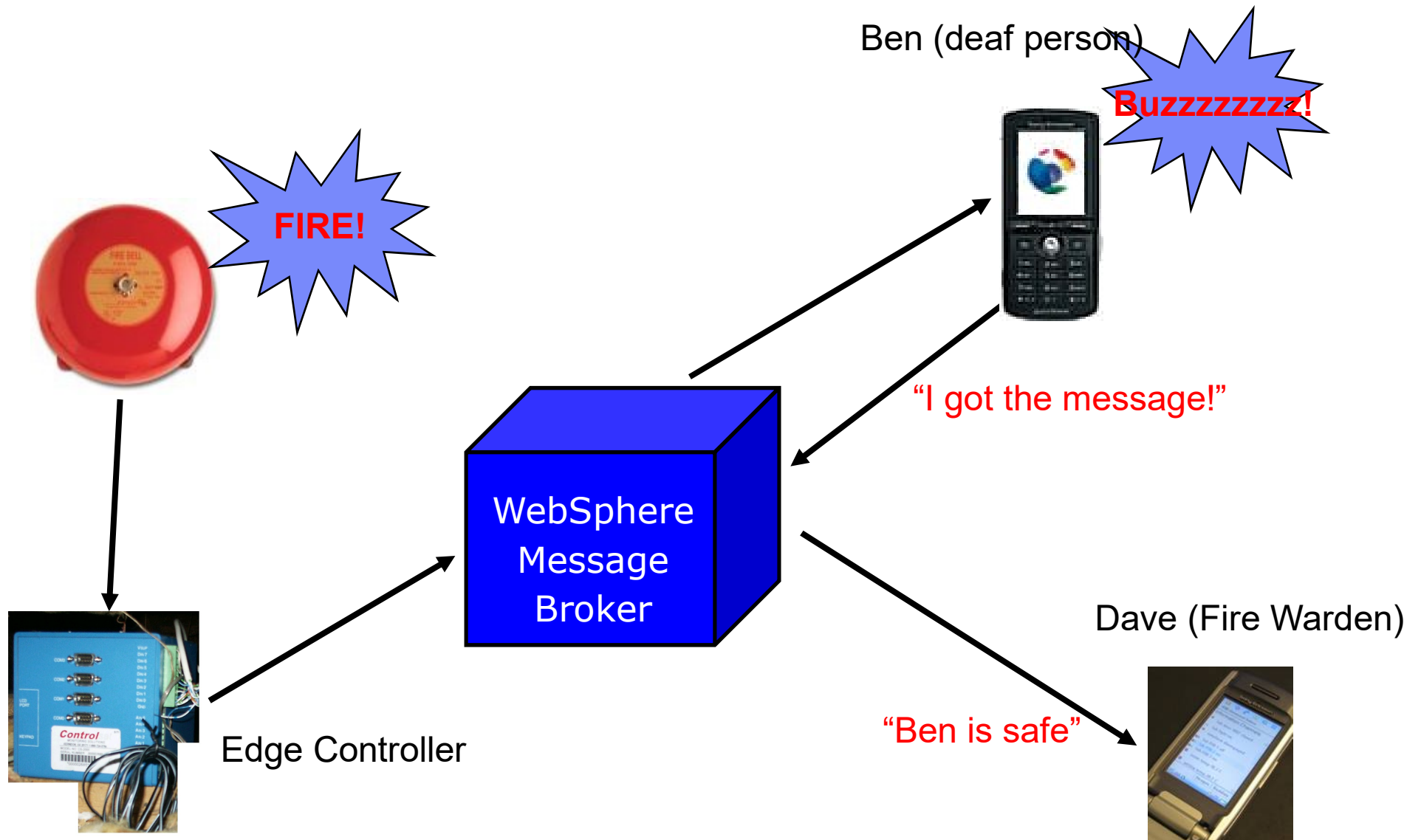


Mouse Traps

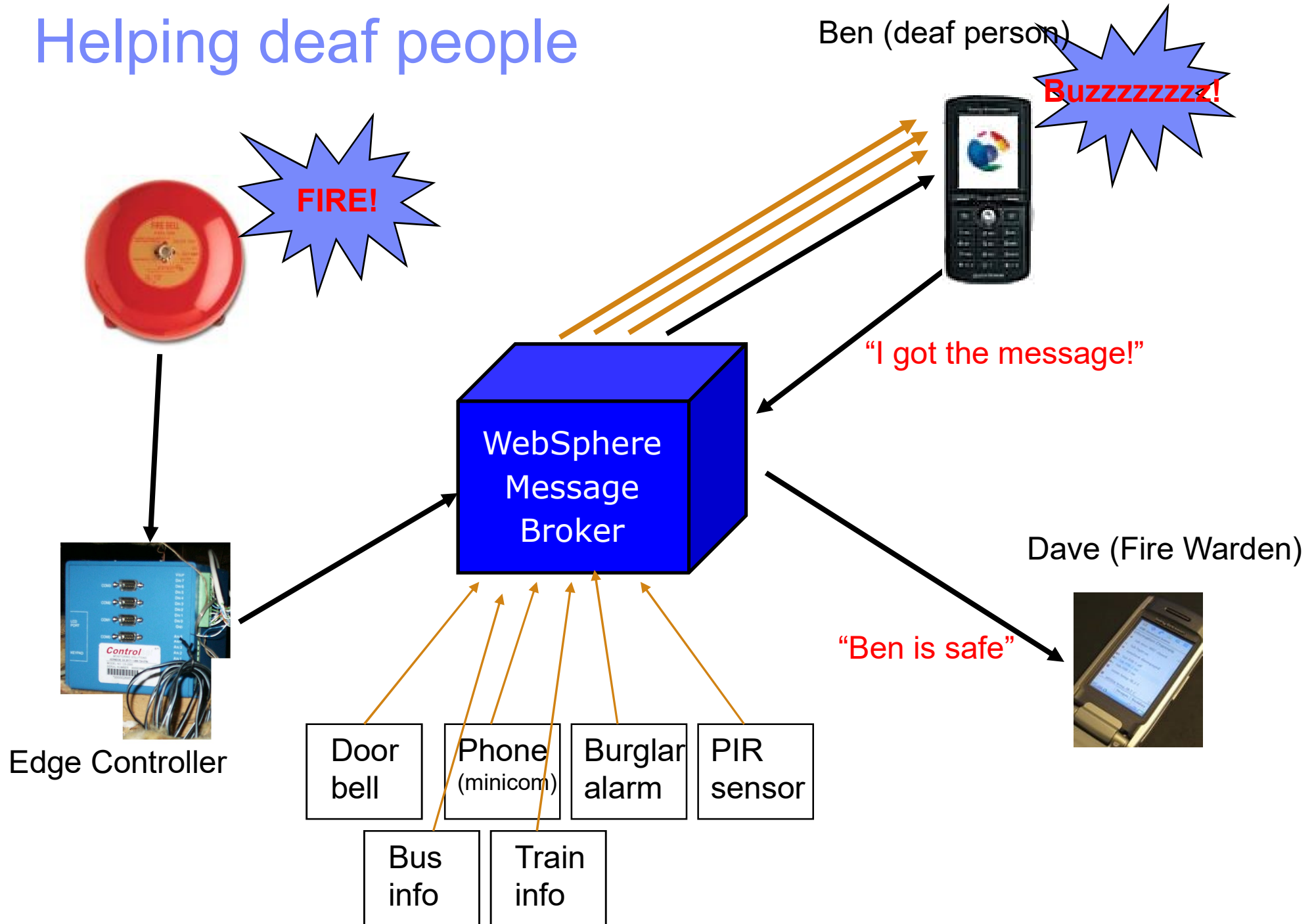
“Mouse Events” sent to dashboard and cellphone



Helping deaf people

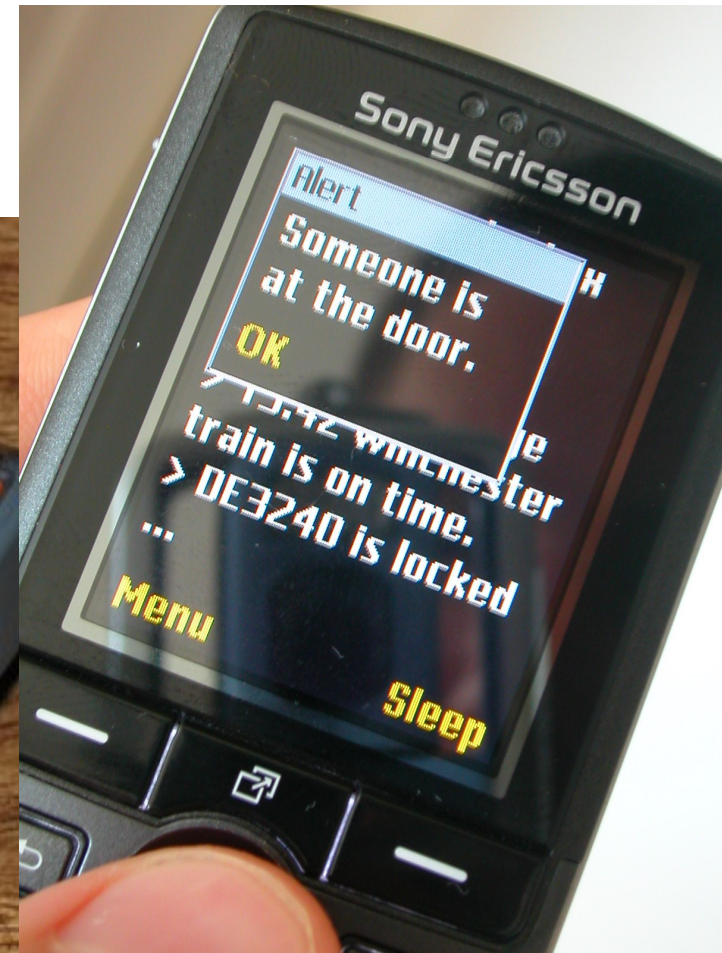


Helping deaf people

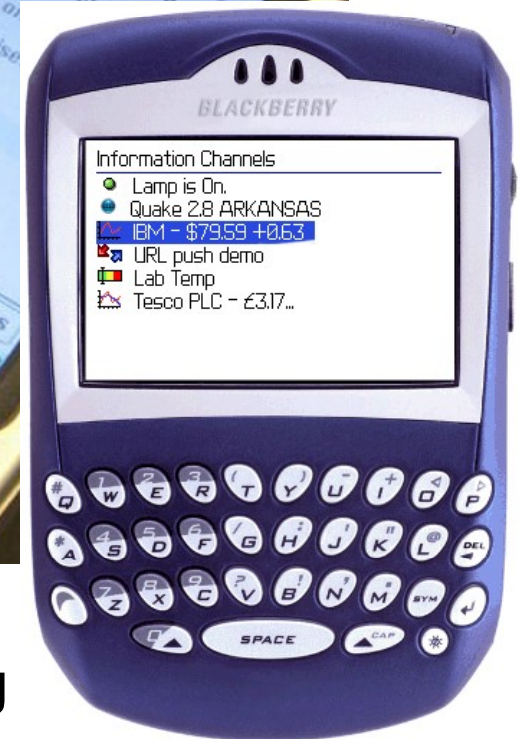
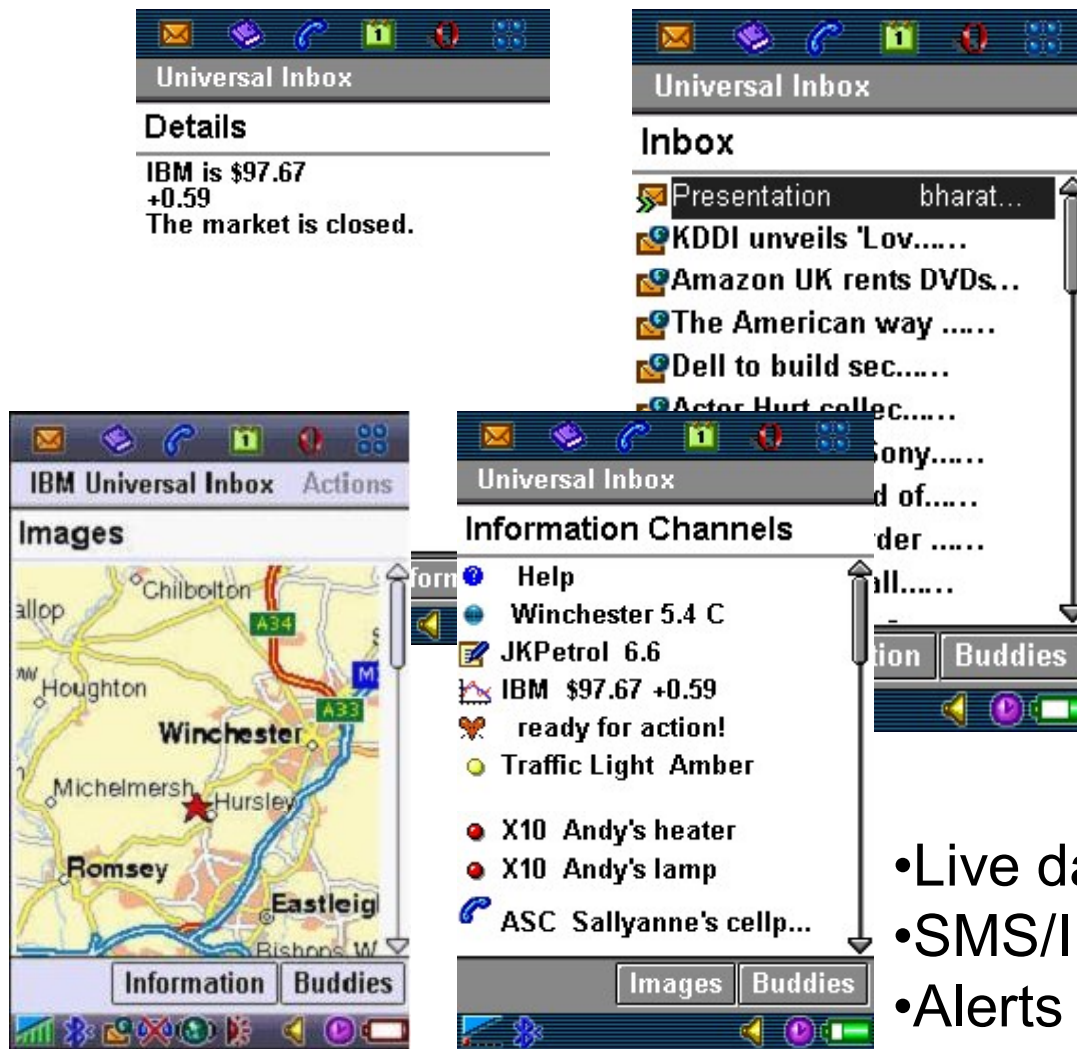


Pervasive Accessibility

Helping deaf people play on a level playing field with their hearing colleagues: at home, in the work place, and in public.



"UIB" - Universal InBox



- Live dashboard display
- SMS/IM-style messaging
- Alerts and notifications
- Action buttons to activate/respond
- Image and sound delivery

UIB in the News



The screenshot shows a Netscape browser window with the following content:

- Address Bar:** <http://news.bbc.co.uk>
- Page Title:** BBC NEWS | Science/Nature | Chemists escape labs via mobiles - Netscape
- Navigation:** Home, TV, Radio, Talk, Where I Live, A-Z Index
- Header:** BBC NEWS UK EDITION
- Text:** Last Updated: Friday, 4 February, 2005, 08:47 GMT
- Buttons:** E-mail this to a friend, Printable version
- Section Header:** Chemists escape labs via mobiles
- Author:** By Jo Twist, BBC News science and technology reporter
- Lead Paragraph:** A blend of mobile technology and award-winning software is letting scientists finally escape the lab.
- Main Text:** The software, called "middleware", lets different computer systems talk to each other securely and instantaneously.
- Image:** A photograph of a mobile phone on a bar counter next to a glass of beer and a glass of wine.
- Caption:** The system is not smart enough to actually buy a round yet
- Footer:** BBC WEATHER, BBC news, BBC ON THIS DAY



The Official Web Site

WIMBLEDON 2005

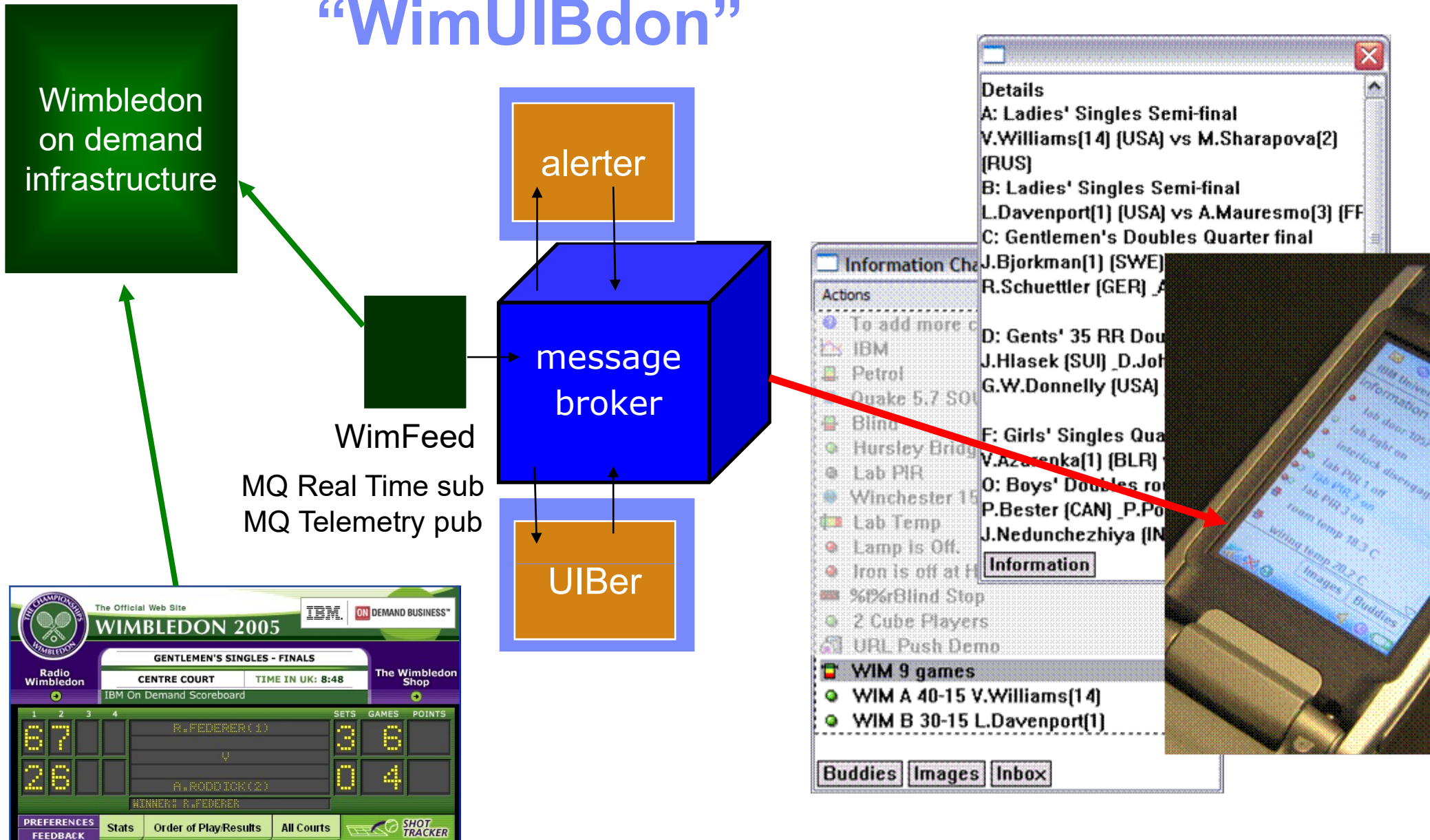


ON DEMAND BUSINESS™

> Learn More



“WimUIBdon”



Location-Aware Messaging for Accessibility

- IBM Extreme Blue project Summer '06
- Four students working for twelve weeks
Southampton, Cambridge, Northumbria
- Broad remit, focus on demonstrable results
- Location-based services delivered via mobile phones to people with sensory impairments.



LAMA



“The train for Waterloo has been changed to platform one”



LAMA

bbc.co.uk Home TV Radio Talk Where I Live A...

UK version International version About the versions

BBC NEWS

OPEN BBC News in video and audio

Last Updated: Monday, 18 September 2006, 12:05 GMT 13:05 UK

E-mail this to a friend Printable version

Deaf to 'hear' PA system on phone

By Geoff Adams-Spink
Age & disability correspondent, BBC News website

A group of research students at IBM has developed a system to make public announcements available to people on a mobile phone.

Called LAMA, the service was originally conceived to improve communications for deaf people.

Its designers hope that it will soon be in use in busy public places like stations and hospitals.

LAMA was developed at IBM's laboratory in Hampshire.

As someone enters a place where the LAMA system is running, it is recognised by their mobile phone which will then display a list of the services on offer.

Tehnologie de telefonie mobila pentru persoanele cu deficiente auditive

Sistemul "Location Aware", dezvoltat de IBM, permite anunturilor publice sa fie afisate sub forma de alerte pe telefonul mobil.

Studentii britanici implicati intr-un proiect de cercetare al laboratorului IBM din Hursley, proiect care face parte din programul global IBM Extreme Blue, au dezvoltat un sistem care are scopul de a imbunatati comunicarea persoanelor cu deficiente auditive, in momentul in care acestea patrund in locuri precum gari, aeroporturi sau la locul de munca. Sistemul, denumit LAMA - Location Aware Messaging for Accessibility, poate trimite pentru utilizatorii acestui sistem de telefonie mobila o gama larga de informatii privind localizarea acestora. Informatia poate fi trimisa, la cerere, intr-o gama larga de formate.

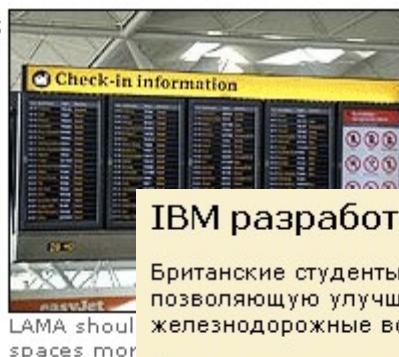


Acestea sunt de obicei sub forma mesajelor text, dar pot fi si sub forma unei imagini sau a unei alerte tactile ca o setare pe modul vibratii al telefonului.

In momentul in care utilizatorii sistemului patrund intr-un loc in care functioneaza LAMA - cum ar fi statiile de metrou sau aeroporturi - telefonul lor mobil recunoaste sistemul si furnizeaza o lista de servicii disponibile in mesagerie pe care serviciul le ofera.

Prin abonarea la acest serviciu, utilizatorii pot fi avertizati imediat in legatura cu orice anunt de interes public care este transformat instantaneu in formatul preferat de utilizator.

"Sunt foarte entuziasmat de potentialul acestui sistem, deoarece poate reduce senzatia de izolare pe care pot simti persoanele cu deficiente auditive. Mai precis, sistemul ofera posibilitatea ca aceste persoane sa fie avertizate imediat asupra mesajelor urgente, chiar daca persoanele sunt intr-un mijloc de transport public sau la locul de munca", a declarat David Livmore, presedintele Deafness Research UK.



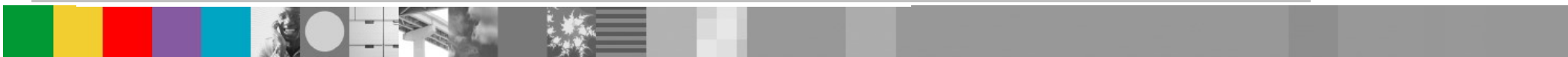
IBM разработал мобильную систему для слабослышащих

Британские студенты, работающие в лаборатории программного обеспечения IBM в Херсли, создали позволяющую улучшить коммуникационные возможности слабослышащих людей, находящихся в железнодорожных вокзалах, аэропортах, а также на работе.

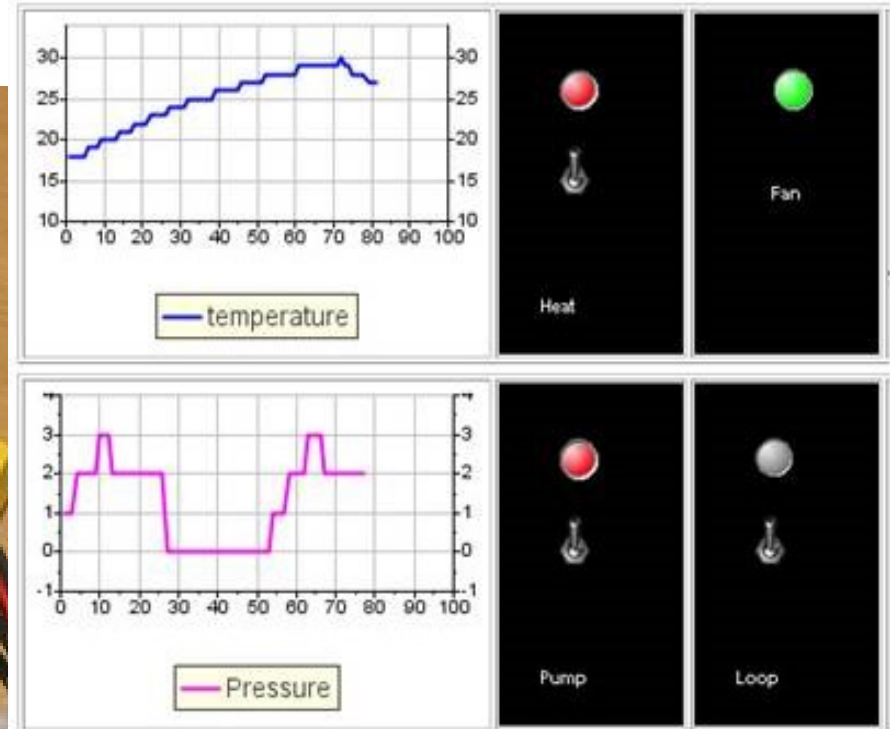
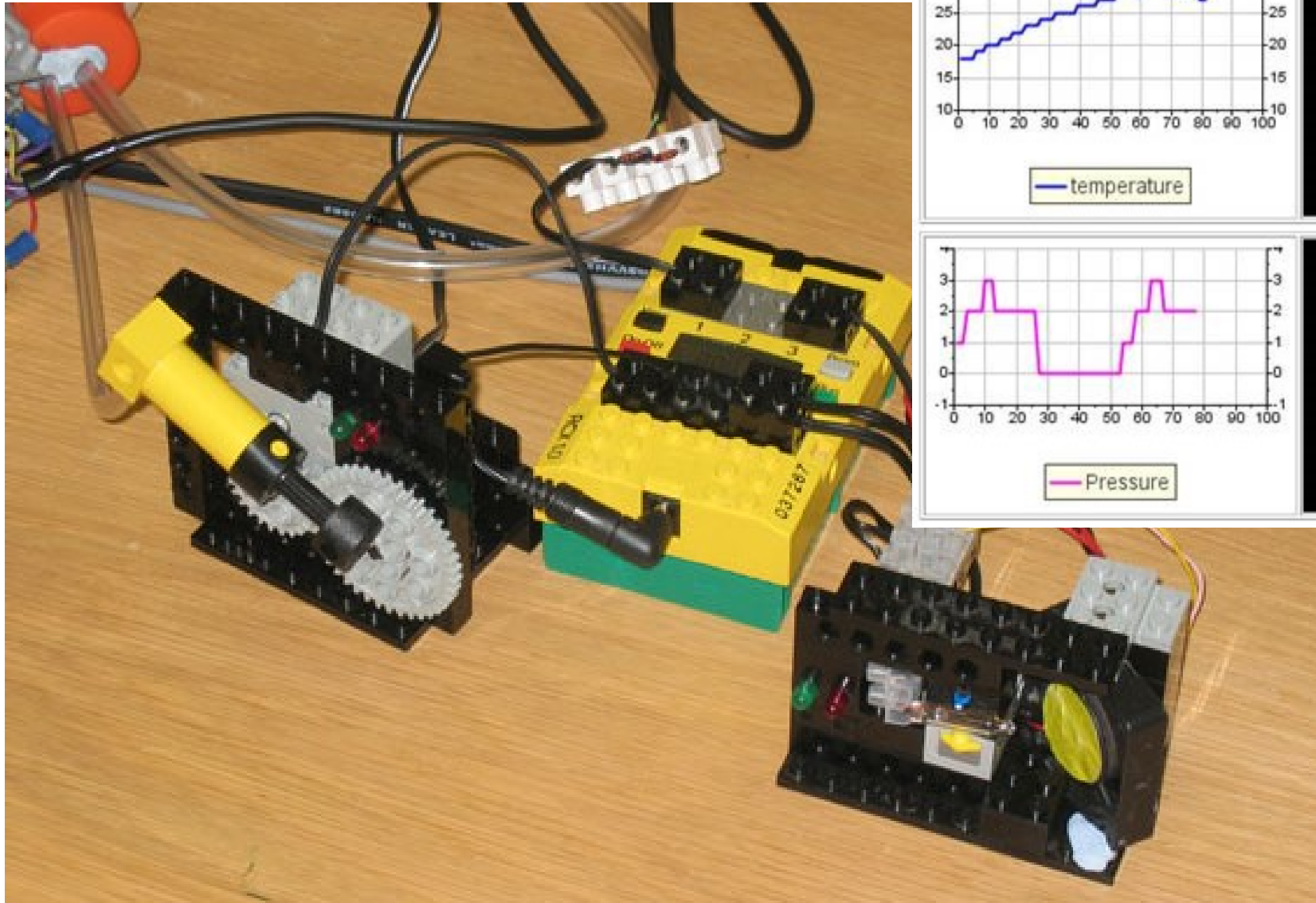
Система под кодовым названием LAMA (Location Aware Messaging for Accessibility) способна отправлять на телефоны пользователей разнообразную информацию, связанную с их местонахождением. Информация доставляется в различных форматах — как правило, в виде текстовых сообщений, однако возможны изображения или сигналы вибрации мобильного устройства.

Если пользователь попадает в зону действия системы LAMA — например, на железнодорожном вокзале — его мобильный телефон обнаруживает систему и выводит список предлагаемых услуг по доставке информации. При регистрации сервиса пользователь может автоматически получать объявляемую информацию, предпочтительный пользователем формат.

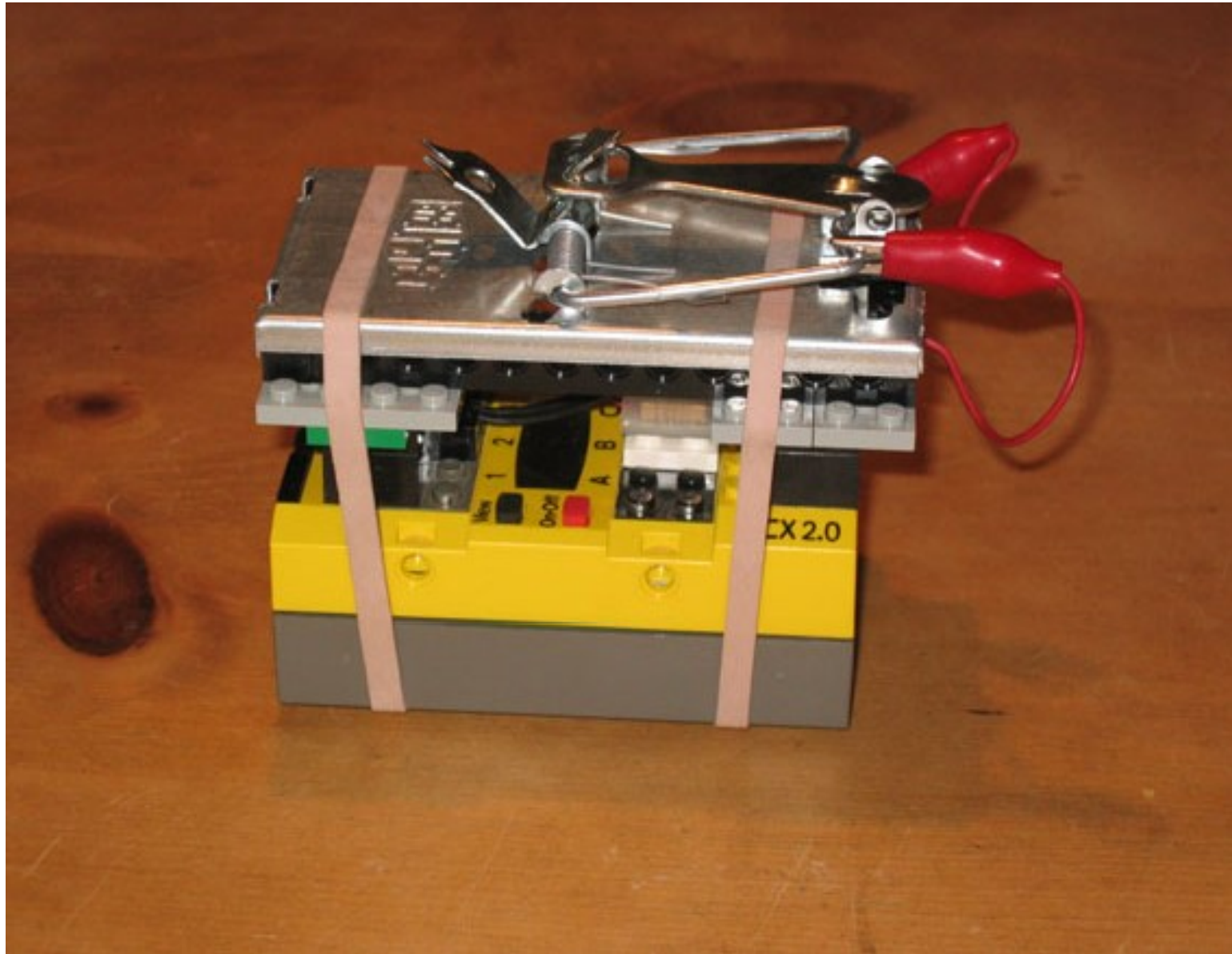
“May I suggest as a small step in that direction IBM keeps the acronym but changes the meaning to Location Aware Messaging for All” – Bloor Research



Lego MindStorms for Industrial Automation



And the famous mousetraps!



And finally... the llamas!

what makes you
special?

March 2006

a master inventor
at work

How IBM's Andy Stanford-Clark and his llamas inspired a new type of auto insurance...and other tales of innovation

→ Learn more

Part of the solution
The patent system needs reforming. Read IBM's ideas about what should change.

→ Learn more

Innovation that matters
Three companies that get it.

→ View the video



Pervasive Messaging Technologies

Thanks for listening!

Andy Stanford-Clark

andysc@uk.ibm.com

