



# ExperienceLab

## Usability Issues and User Perceptions of a 1<sup>st</sup> Generation WAP Service

Vincent Helyar

January 2004

RESTRICTED COMMERCIAL

## Summary

This paper reports the findings of a usability evaluation carried out in January this year of a first generation WAP service, accessible in the UK with a Nokia 7110 phone. Consumer reactions to the WAP service, and the implications of the findings for the uptake of mobile commerce (m-commerce) are also considered.

## Method

A co-operative evaluation was carried out, in which 12 individual participants used a range of new WAP services. Each evaluation session lasted approximately 90 minutes with the participant and evaluator in one room, and observers in another room behind a one-way mirror. Participants carried out typical tasks with the WAP phone (such as looking up news headlines and checking cinema listings). To expose usability problems with the services and gauge consumer perceptions, users were encouraged to explain what they were doing and any concerns that they had.

## Results

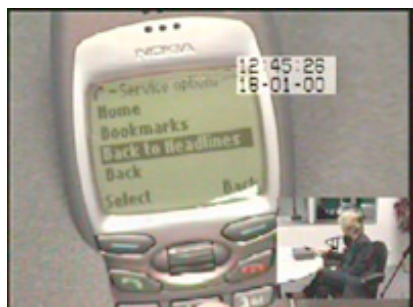
This section details the main findings of the evaluation.

Navigation conventions were drawn from both computers and mobile phones. The inconsistent navigation structures resulted in a **confused mental model** for many users who perceived the Nokia 7110 as a phone, and had difficulty interpreting the computing/internet metaphors such as 'back' for example. In 'phone' areas of the 7110 (such as the address book or settings screens) back operates by taking the user up one level in the menu hierarchy (as on most Nokia phones). In WAP content back behaves as an Internet back, always taking the user to the last page seen, not necessarily ascending the menu hierarchy. Participants often failed to grasp fully what the back option was actually doing when in WAP services.

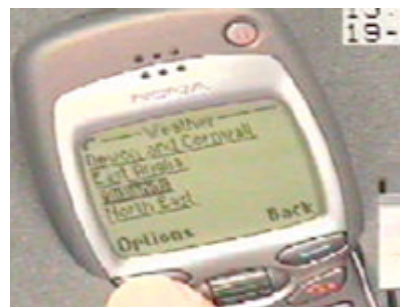
Participants in this study expected back to function as it did on other Nokia phones, and not as it does on the Internet. This suggests that users see the 7110 primarily as a phone and not as a computer. It may be the case that a historical 'back' is not appropriate with such a small screen size and poor visual orientation cues.

Participants also had difficulty understanding **computer terminology** used, such as home, bookmark, template, empty cache and security certificate. Even computer literate participants did not always understand these terms. Home was frequently associated with a home phone number, while bookmark and template had little meaning for most participants. This evidence suggests that computer metaphors may not always transfer smoothly to new devices, which are neither phones nor computers.

Failure to build accurate mental models from use of the phone caused **cost concerns** for participants, as they were uncertain when they were and were not being billed. Cues indicating connection to the WAP server had timed out, were not understood by participants- many of whom assumed that the phone was permanently connected to the WAP server. Connections that timed out were seen as broken connections, and often ascribed to a network fault of some kind.



**Figure 1**  
Confusing metaphors and terminology- what *does* 'Back' actually do?



**Figure 2**  
The participant wants to select from a list – they are unsure what button to press, but finally decide on 'Options'.

**Cumbersome and inconsistent navigation** in WAP content makes browsing information impractical and expensive. When asked to find address and telephone details for Imperial College only two participants were able to complete the task and it took them over 25 minutes to find what they were looking for. The categorisation structure used in the Business Directory did not work; participants frequently spent a long time drilling down for information only to find that they had started off in the wrong category. Those that did succeed in retrieving a list of universities in central London, had to sift through up to 132 results.

When not browsing, users need to be able to 'seek and retreat'. That is, find information quickly, and move back out of low level content. The information structure in place at the time of testing did not make this easy for users, particularly when looking for information lying on pages that could not be bookmarked.

In addition to these major usability problem areas, the evaluation also found that:

Finding some types of information is difficult: the small screen and line by line scrolling does not lend itself to navigating long lists of options or search results.

Users did not master some means of control and input (e.g. the new Nokia Navi roller, and search mechanisms).

Participants were impressed by the WAP content, but two-thirds said that they would not be willing to pay for it.

## Conclusion

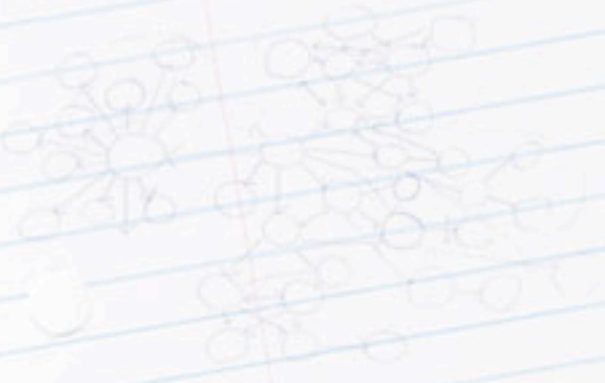
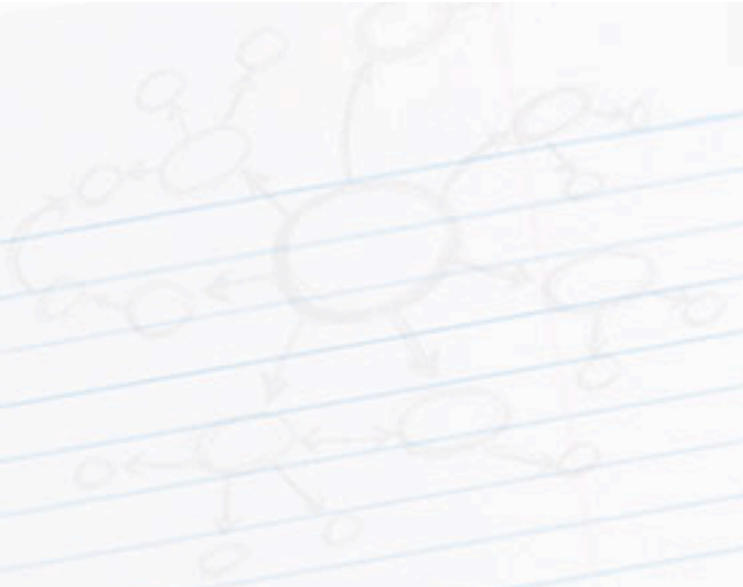
This study has shown that 1st generation UK WAP services can be difficult and time consuming for users to understand and to navigate. In order for m-commerce to prove attractive to consumers, the services and the phones themselves must be easy to use and add value. User centred design is the most effective means of achieving this goal. Further research is needed to expand on the issues revealed by this study, with particular focus on new WAP compliant content and devices.

### *About ExperienceLab*

ExperienceLab (formerly Serco Usability Services), are a global experience design research agency. They help organisations optimise their customer experiences, from web to TV and mobile, from advertising to physical environments. They've been doing this for a while, pretty much since the first computers and networks were created, so they know a thing or two about how to make people, processes and technologies work in harmony.

ExperienceLab use a wide range of techniques to tailor a research solution that fits your business objective, including ideation sessions, proposition analysis, customer needs mapping, usability testing, benchmarking and touch point integration studies. As a co-founder of the UXalliance we also provide research on a global scale.

Why not visit the ExperienceLab blog ([www.experiencelab.info](http://www.experiencelab.info)), which features the latest thinking on experience design issues.



**Serco ExperienceLab**

22 Hand Court

London

WC1V 6JF

+44 (0)20 7421 6499

[info@experience-lab.co.uk](mailto:info@experience-lab.co.uk)

[www.serco.com/experiencelab](http://www.serco.com/experiencelab)

ExperienceLab is part of the International Serco Group of companies.