

Design for Interaction

A decorative graphic element consisting of a large, light blue arc that starts from the left edge and curves downwards towards the bottom right. The area under this arc is filled with a gradient of blue, transitioning from a darker shade on the left to a lighter shade on the right.

Real (Historical) Interactive Design
Problems

Contents

- design example 1: mobile communicator
- design example 2: communicator for children

Mobile Communicator

- essentially a combination of mobile phone, PDA and some PC functionality
- typical task range:
 - send and receive both email and phone calls
 - maintain appointments, contacts, etc.
 - run office applications (including web browser)
 - some media support (audio / video)
- this was before the current generation of smartphone technology existed

Related Devices: 3G Phone

- obvious overlap in functionality
 - phone calls, contacts list, web access
- however, phones weren't then well suited to office-style applications
 - relatively small displays
 - interfaces unsuited to data input
- many phone features weren't relevant to typical business tasks (eg. camera)

Related Devices: PDA

- Personal Digital Assistant
- category that existed since early 1990s
 - originally a portable electronic contacts list
 - evolved to encompass a range of PC-style functions, but in a highly limited manner
 - the original Blackberry emailer was effectively an update of the original PDA concept
- lacking in phone capabilities

Related Examples



Target Market

- aimed firmly at the professional and business customer base
- users who required business-type software and communication tools on the move
- main user experience goals were for an effective and efficient product
- cost was important, but not at the expense of functionality

Communicator Design Issues

- portability:
 - small and light
 - physically robust – had to cope with knocks, rain, warm/cold temperatures
 - display to cope with highly varied light levels
- physical usability:
 - device to be used on the move – enable as much functionality as possible to be usable with one hand

Communicator Design Issues 2

- modes of use:
 - very often used while multi-tasking – usage must therefore be as intuitive as possible
 - often used for time-critical tasks, so all functions to be immediately available
 - switching between tasks / functions to be relatively seamless
 - should allow users to suddenly break off / resume tasks without losing information

Communicator Design Issues 3

- physical aspects:
 - partly dictated by portability requirements
 - device had to appeal to target market, so while it need not be overtly trendy it required a strong design aesthetic
 - “professional”, “slick”, “aspirational”
- software design:
 - applications had to enable all required tasks
 - software to fit in with physical constraints

Communicator Design Issues 4

- possible input options:
 - basic form of primary input mechanism – keyboard, keypad or touchscreen
 - pointing device (if any) – touchpad, scroll-wheel, stylus,...
 - number of keys and other controls
 - use of “hotkeys” (eg. to launch applications)
- output choices:
 - screen size and shape; use of audio

Example Product: Nokia N9000



Example Product: HTC Tytn II



N9000 Design Solutions

- primary input through miniaturised, modified keyboard
- no pointing device – instead used scrolling controls to move around or select items
- applications could switch between “views” (states with only certain functionality available) hard concept for users to grasp
- web browser to default to Favourites list rather than downloading a homepage

Mobile Communicator for Children

- design project initiated by Philips in 1990s
- similar basic concept to previous example
- in this case, target market was young – children aged 9-12
 - specifically targeted at girls
- user experience goals emphasised fun, entertainment and creativity (rather than efficiency and effectiveness)

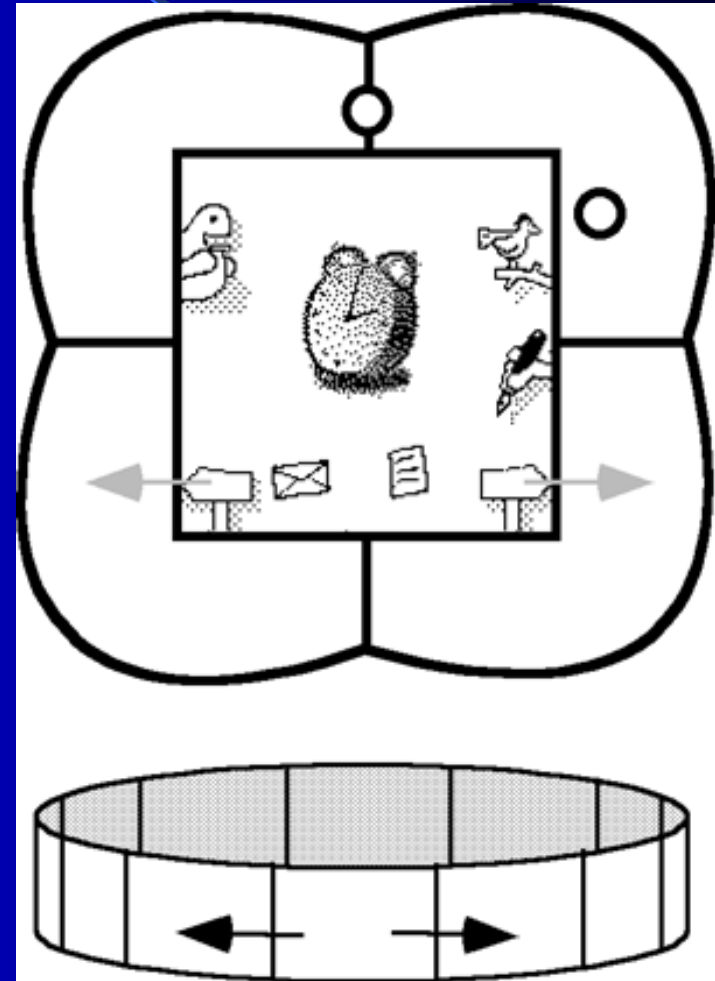
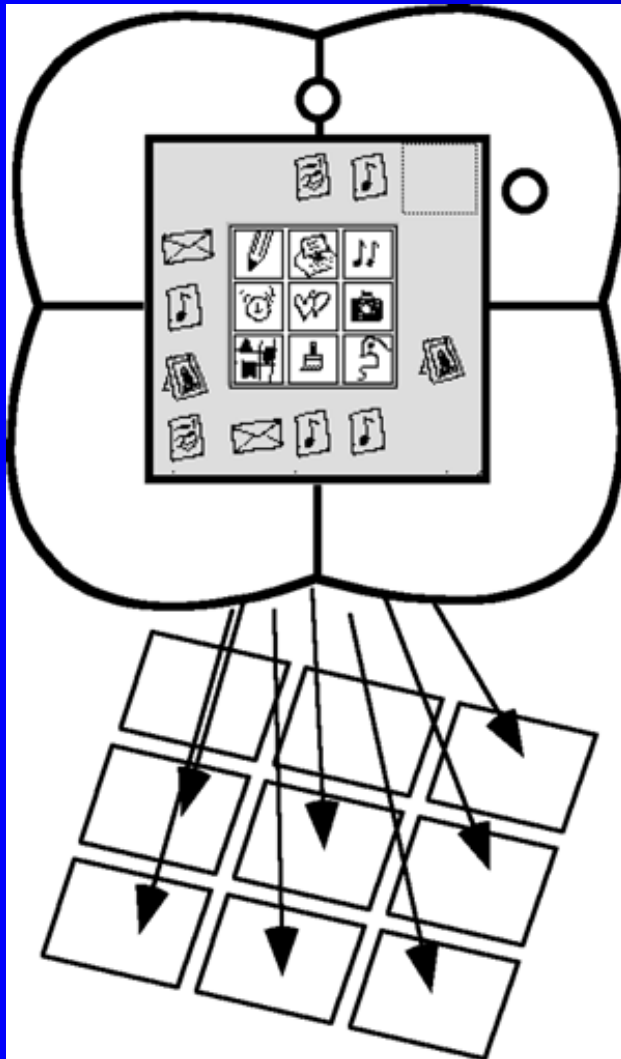
Development Process

- design programme involved testing models of the device with children from the target market
- allowed the form, style, user interface and specification to be influenced by the user group
- very useful results – for example, children didn't like the original overly bright colour scheme initially trialled

Communicator Design Goals

- as identified in collaboration with the target market:
 - device should support communication and stimulate social interaction
 - device should enable child creativity
 - device should be fun and expressive, allowing unexpected and novel things to happen as part of operation
 - device should allow personalisation

Interface Design Examples



End Result

- a range of design ideas were whittled down and fine-tuned
- however, the product itself was never produced
 - lack of hardware capability to meet design specification at required price
 - didn't tie in with existing product range
 - more details at:
acm.org/sigchi/chi96/proceedings/desbrief/Oosterholt/rho_txt.htm

Conclusions

- some useful lessons can be learned from these examples
- in both cases, existing functionality was being repackaged in a new way
 - many compromises involved in development
 - feedback from users crucial to process
- even where “successful” designs were produced, other factors determined outcome