NTTdocomo's mobile phones for persons with disabilities

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NTT DOCOMO

Ryuji Nagata
1. Japanese Cell Phone Market
2. Universal Design Approach in NTT DOCOMO
3. What is Raku-RakuPhone?
4. Features of Raku-Raku Phone
5. Bone conduction receiver “Sound Leaf”
Japanese Cell Phone Market
Trend of Cell Phone Market in Japan

Percentage by system

- 2G: 10.30mil (9.8%)
- 3G: 95.13mil (90.2%)

Cell phone Share

<table>
<thead>
<tr>
<th></th>
<th>Number of contracts (million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DoCoMo</td>
<td>95.13mil (90.2%)</td>
</tr>
<tr>
<td>au</td>
<td>10.30mil (9.8%)</td>
</tr>
<tr>
<td>Softbank</td>
<td>96.43mil (9.8%)</td>
</tr>
<tr>
<td>EMOBILE</td>
<td>1.0%</td>
</tr>
</tbody>
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(as at end of Nov. 08)

Penetration rate: 82.6%

Entire mobile phone market: 105.43mil

3G mobile handset: 95.13mil

* Source: Telecommunications Carriers Association (TCA), Publicly announced figures
The Japanese total cell phone market is trending toward saturation. For the over-50 age bracket in particular, mobile phone market growth has been remarkable.

Source: Report on Trends in Communications Use, Ministry of Internal Affairs and Communications (MIC)
Universal Design Approach in NTT DOCOMO
DOCOMO’s Hearty Style

- Action Based on the fundamental concept of universal design.

- Pursue Easy for anyone through our products, stores and services based on UD with warm-hearted.

<table>
<thead>
<tr>
<th>Cell Phone</th>
<th>Stores</th>
<th>Service</th>
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<tbody>
<tr>
<td>Design product reflecting customers voices to bring a cell phone to match your needs</td>
<td>Serve customers to make them comfortable</td>
<td>Provide services with pricing plans and features fits customer needs</td>
</tr>
</tbody>
</table>
We exchanged opinions with people with disabilities and universal design authorities from the stage of design and construction and developed enriched service menus and outlet design planning.

Interior, DOCOMO Shop Marunouchi in Yuraku-Cho, Chiyoda-Ku, Tokyo

Full services menu

- Sign language staff
- Concierge service
- Consultation
- English tool, braille tool

Shop design

- Resolved levels on floors/corridor
- Set up indoor directions
- Set up omni-counter
- Set up omni-toilet
- Directions by artificial voice guide

"DOCOMO Hearty Plaza" won a 2004 Good Design Award
Concepts of Product Development

- **Usability**
  - Make mobile phone functions easier to use and to understand

- **Accessibility**
  - Expand our base of mobile phone customers, regardless of age or capacity.

- **Interface**
  - Limits on usability of mobile phone by cost or technology. Bridge to external systems.

- **Adaptation**
  - Use the interface to provide dedicated devices that suit our customers.
5 UD Principles for Cell Phone by docomo

1. Easy access to information
2. Product lineup with good design at reasonable price
3. Features responsible to individual needs
4. Understandable and usable user interface
5. Consistent user interface to keep away miss-operations.
What is Raku-RakuPhone?
Basic features

Large screen & large letters
Adoption of a large 2.8-inch large LCD
Large display of letters

3 one-touch dial buttons
Calls can be made using just by one button

Voice reading function
Content of mail can be read aloud
Raku-Raku Phone Current lineup

- Large and easy viewing characters
- 3 one-touch dials
- Camera/Text-to-Speech function
- Speed dial
- GPS/digital TV
- e-wallet/Global roaming

**Raku-Raku Phone Premium (F884i)**
- Apr. 2008

**Raku-Raku Phone 6 (F-10A)**
- Aug. 2009

**Raku-Raku Phone Basic II (F-07A)**
- Apr. 2009

**Raku-Raku Phone Simple (D800iSS)**
- Dec. 2005
Successful Sales Status of the Raku-Raku Phone Series

15M units sold !!!

As of June 2009
Features of Raku-Raku Phone
Voice input mail

Easy to write e-mails using voice input
1. Start i-mode mail function
2. Press a voice-input button
3. Run voice input mail program
4. Speak a message toward handset microphone
5. Speech to text conversion
6. Send i-mode mail

Points; Japanese language have many homophones so the speech to text has been extremely difficult for a long time.
the network talking books distribution Service

Portable DAISY player is common for visually impaired people. But DAISY player has not been embedded in cell phone yet.

We have put a DAISY player in Raku-Raku Phone. So visually impaired people can listen to the network talking book with your mobile phone.

“Bibulio-Net” is provided by JAPAN BRAILLE LIBRARY originally.

JAPAN BRAILLE LIBRARY provides digital talking book contents.
12,395 titles (Mar.2009)

How to use “Bibulio-Net” mobile phone version
1. Download JAVA application from the site
2. Run the downloaded JAVA application and select library menu
3. Choose your favorite title and download the contents
4. The certified visually impaired people can enjoy them free

Title Example
“The open door” by Helen Keller

Bibulio-Net -Utilization of “DAISY”-
Bone conduction receiver “Sound Leaf”
Bone conduction receiver “Sound Leaf”

SoundLeaf

- Receiver
- Volume Switch
- Battery Indicator
- Hook button
- Microphone
A bone conduction receiver allows effective use of telephone calls in noisy locations or for those who have problems with hearing disability due to their ages. It transmits the sounds from the bone to the auditory nerve.
Thank you for your attention!