Safety, Usability and User Interface Standards in the NHS

Tim Chearman and Stephen Corbett
Who are we

Tim Chearman
Tim is the NHS Common User Interface (CUI) Lead and joined the NHS in 2006. Tim has a BSc (Hons) degree in ergonomics and an MSc in Computing.

Stephen Corbett
Stephen Corbett is currently Head of User Experience at Connecting for Health (CfH). He joined CfH in 2007. Stephen holds a BSc (Hons) in Ergonomics and is currently finalizing his MBA.
Connecting for Health

• The National Programme for IT in the NHS (NPfIT) consisted of national and local applications

• The use of large implementers (CSC, Accenture, BT Global Services)

• No delivery, no payment contracts

• Object Based Specification

• A Delivery Organisation – Delivery is King
Connecting for health – Core Elements

- Procurement
  - Defining Standards
  - Evaluation
  - Object Based Specification

- Delivery Process

- Change Management
Usability Activities with CfH

NPfIT Initiation

2005 2007 2009 2011

Common User Interface Programme (CUI)

UX Group

CUI

Medical UI Standards
Medium-Long term

Tactical UX consultancy
Short-Medium term
COMMON USER INTERFACE
Aims of CUI Guidance

Prioritised based on:

• Was initiated as a partnership with Microsoft
• Strong safety case e.g. medications
• Alignment with national contracts
• High volume/high impact/core tasks e.g. Presribing, Patient ID
• Long term standards e.g. SNOMED CT
Patient Identification

Example: Patient Banner Aug-2007 *

2.6.1 Guidance

<table>
<thead>
<tr>
<th>ID</th>
<th>Guideline</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAB-0049</td>
<td>Display the patient name elements and the title in the following order: family name, given name, title</td>
<td>Mandatory</td>
</tr>
<tr>
<td>FAB-0050</td>
<td>Do not include labels for the patient name elements and the title</td>
<td>Mandatory</td>
</tr>
<tr>
<td>FAB-0051</td>
<td>Display a comma after the family name</td>
<td>Mandatory</td>
</tr>
<tr>
<td>FAB-0052</td>
<td>Display the title in parentheses</td>
<td>Mandatory</td>
</tr>
<tr>
<td>FAB-0053</td>
<td>Display the patient’s family name in upper case and the patient’s given name and title in title case</td>
<td>Mandatory</td>
</tr>
<tr>
<td>FAB-0054</td>
<td>Display the patient’s preferred name, if available, immediately below the family name</td>
<td>Mandatory</td>
</tr>
</tbody>
</table>

Table 9: Guidance – Displaying the Patient Name

Figure 6: Example of an Emphasised Patient Banner in Default Collapsed State

Figure 7: Example of an Emphasised Patient Banner With Zone 2 Expanded
Screen views

Medications list
Medications administration
Terminology browsing (SNOMED CT)

3rd stage
Example: Medications administration
Published Guidance available

- **Key Information**
  - Telephone Number Display and Input
  - Patient ID Display and Input
  - Sex / Gender Display and Input
  - Address Display and Input
  - Date Display and Input
  - Time Display and Input
  - Patient Name Display and Input
  - Email Display and Input

- **Terminology (SNOMED CT)**
  - Terminology Matching
  - Terminology Elaboration
  - Terminology Display
  - ADR Entry and display

- **Patient Administration**
  - Patient Banner

- **Medications Management**
  - Medications Views
  - Drug Administration
  - Search and Prescribe
  - Medications Lines

- **Latest release**
  - Noting with templates
  - SNOMED truncation
  - Display of SNOMED terms
  - Patient lists

- **Draft - Abbreviations**
  - Abbreviations in Free Text
  - Abbreviations in Fixed Text

- **Draft - Consistent Navigation**
  - Alert Symbols
  - Icons and Symbology

- **Draft - Decision Support**
  - Decision Support Notification
  - Decision Support Alerts

* Standards Mandated so far across the NHS by the NHS Information standards board

For Guidance: [www.cui.nhs.uk](http://www.cui.nhs.uk)
Key Lessons Learned

• Partner with receptive suppliers as early as possible
• Integration of safety and usability process is essential. Safety + Usability is the strongest message for standards (safety system)
• Start small and build to a bigger picture
• POC implementations vital for larger pieces – CURIO open source
Next steps

- SNOMED CT implementation review
- Define UI expectations for simple tasks e.g. Entering diagnosis, procedure etc
- Focusing on standards for start points from larger guidance documents
- Iterating CUI offering for the new market
- Stronger clinical sponsorship
- Mobile apps/new wave?
UX group

• Internal and external UX consultancy
• Our Mission - “be helpful, be pragmatic”
• UX work – Mainly tactical. Includes:
  – User interface production
  – Evaluations of software products
  – Site visits
  – Online questionnaires - System Usability Scale
  – Communication of findings to senior management/clinicians
  – Promote CUI work
UX - Some Lessons Learned

• The clinicians are typically “the smartest guy in the room”, they are a very influential and powerful stakeholder, but most of them don’t know UI or usability (or Technology for that matter)

• There are some woeful (clunky) products out there. My interpretation - no systematic application of user centred design process and use of UX people by many vendors and the limitation of the OBS approach

• The contract has been signed, you get what you bought
  – Once the contract is signed, there is little incentive for vendors and implementers to improve usability of their COTS product. The host organisation pays with higher training and lower utilization.

• Very difficult to get vendors and Implementers to share their UX work with us
UX Future Key Areas

• Raising UX awareness with senior stakeholders
  – Piloting the potential of an online version of the System Usability Scale (SUS) to give insight to senior stakeholders
  – Promoting UX to senior clinicians/bodies

• Influencing the NHS procurement and tendering process
  – Investigate several approaches to get usability into the mix
    • Use case approach
    • Creating prototypes and deriving the UX requirements that can be part of the tendering evaluation

• Promote UX healthcare professional networks
Thank you

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