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|  | Appendix E -Transition Matrix for TM1.2 to TM 2.2 |
|  |  |  |  |  |  |  |
|  | P | Problems | Backward Traceability (Cross-Document) | Forward Traceability (Cross-Document) | The Problems and Goals sections were reversed, with problems now going first. New matrix on left hand side. |
|  | P 3.1.1.1 | People with communication disabilities have problems communicating | n/a | G 3.1.2.1 |  |  |
|  | P 3.1.1.2 | It’s hard to communicate messages to people with certain communication disabilities | n/a | G 3.1.2.2 | Now the Problems forward trace to the goals and the Goals forward trace to the remaining sections. The remaining sections reflect this. The mapping is the same from the Goals to the remaining section, except now the Problems section is not a middle man anymore.  |
|  | P 3.1.1.3 | Communication aids can be expensive | n/a | G 3.1.2.3 |  |  |
|  | P 3.1.1.4 | Communication aids can be socially inhibiting | n/a | G 3.1.2.3 |  |  |
|  | P 3.1.1.5 | People may deny their disabilities | n/a | G 3.1.2.3 |  |  |
|  | P 3.1.1.6 | Communication aids can be unattractive | n/a | G 3.1.2.3 |  |  |
|  | P 3.1.1.7 | Some communication aids are not portable | n/a | G 3.1.2.4 |  |  |
|  | P 3.1.1.8 | Placing emergency calls on a smartphone can be difficult | n/a | G 3.1.2.5 |  |  |
|  |  |  |  |  |  |  |
|  | G | Goals | Backward Traceability (Cross-Document) | Forward Traceability (Cross-Document) |  |  |
|  | G 3.1.2.1 | Helping the elderly communicate with others | P 3.1.1.1 | C-D1 through C-D4, C-D6 through C-D9, C-D11 through C-D12, C-FR1, C-FR2, C-FR4 through C-FR9, C-NFR1 through C-NFR11, I-D 2.1.14, I-FR 2.2.15, I-FR 2.2.17.4, I-FR 2.2.17.4.x, I-FR 2.2.17.5, I-FR 2.2.17.5.x, I-FR 2.2.21 |  |  |
|  | G 3.1.2.2 | Helping others communicate with the elderly | P 3.1.1.2 | C-D1, C-D2, C-D5 C-D12, C-D13, C-FR7, C-NFR1, C-NFR4, C-NFR8, C-NFR10, C-NFR11, I-D 2.1.14, I-FR 2.2.19, I-FR 2.2.20 |  |  |
|  | G 3.1.2.3 | Alternative to hearing aids | P 3.1.1.3, P 3.1.1.4, P 3.1.1.5, P 3.1.1.6 | I-D 2.1.13, I-D 2.1.14, I-FR 2.2.21 |  |  |
|  | G 3.1.2.4 | Portable Solution | P 3.1.1.7 | I-D 2.1.13 |  |  |
|  | G 3.1.2.5 | Handling emergency situations | P 3.1.1.8 | C-D10, C-FR3, C-NFR8, I-D 2.1.13, I-FR 2.2.15 |  |  |
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|  | Below are the items that have changed in the Improved Understanding Document due to three new requirements presented at the beginning of phase 2. Note that these are the items that have changed, not all the items influenced by the change. Items that are influenced by the change are listed in the forward and backward traceability columns.  |
| Legend: | C = Item has changed. | D = Item deleted | A = Item added | M = Item has been moved. |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  | I-FR | Issues - Functional Requirements | Backward Traceability (Cross-Document) | Forward Traceability (Cross-Document) | Backward Traceability (Within Issues) | Forward Traceability (Within Issues) |
| C | I-FR 2.2.9 | Meaning | C-FR4 | FR 3.3.7 | I-D 2.1.2.4, I-D 2.1.7.2, I-D 2.1.7.3, I-D 2.1.7.4, I-FR 2.2.21, I-NFR 2.3.11.2, NFR 2.3.11.3 | I-NFR 2.3.1, I-NFR 2.3.11 |
| C | I-FR 2.2.11 | Icon Size | C-FR6 | FR 3.3.9 | I-D 2.1.2.3, I-NFR 2.3.11.1 | I-D 2.1.7.4, I-FR 2.2.6, I-FR 2.2.17, I-NFR 2.3.1 |
| C | I-FR 2.2.14 | Repeating Sentences | C-FR8, CFR9 | FR 3.3.12 | I-FR 2.2.18, I-FR 2.2.13 | I-FR 2.2.17.4, I-FR 2.2.17.3.1 |
| C | I-FR 2.2.17 | Home Screen Layout | G 3.1.2.1 | FR 3.3.14, FR 3.3.14.1 | I-D 2.1.7.2, I-D 2.1.7.4, I-FR 2.2.4, I-FR 2.2.10, I-FR 2.2.11, I-NFR 2.3.11.1 | I-FR 2.2.17.1, I-FR 2.2.17.2, I-FR 2.2.17.3, I-FR 2.2.17.4, I-FR 2.2.17.5, I-NFR 2.3.1 |
| A | I-FR 2.2.17.4 | Recents Category | C-FR8 | FR 3.3.14.7 | I-FR 2.2.14, I-FR 2.2.17 | I-FR 2.2.17.4.1 |
| A | I-FR 2.2.17.4.1 | Recents Contents |  |  | I-FR 2.2.17.4 | I-NFR 2.3.5 |
| M | I-FR 2.2.17.5.1.1 | "Everything About Me" Category | G 3.1.2.1 | FR 3.3.14.5 | I-D 2.1.7.4, I-FR 2.2.17.5.1 | I-FR 2.2.17.5.1.1.1, I-FR 2.2.17.5.1.1.2 |
| M | I-FR 2.2.17.5.1.1.1 | "Everything About Me" Contents | G 3.1.2.1 | FR 3.3.14.5 | I-FR 2.2.17.5.1.1 |  |
| M | I-FR 2.2.17.5.1.1.2 | "Everything About Me' Target User | G 3.1.2.1 | FR 3.3.14.5 | I-FR 2.2.17.5.1.1 | I-FR 2.2.17.5.1.1.3 |
| M | I-FR 2.2.17.5.1.1.3 | How to Input the Information into the "Everything About Me" Section | G 3.1.2.1 | FR 3.3.14.5 | I-FR 2.2.17.5.1.1.2 |  |
| A | I-FR 2.2.21 | Sign Language Setting | G 3.1.2.1, G 3.1.2.3, C-FR2 |  |  I-FR 2.2.21 | I-FR 2.2.9, I-FR 2.2.18, I-NFR 2.3.1, I-NFR 2.3.3, I-NFR 2.3.11 |
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|  | I-NFR | Issues - Non-Functional Requirements | Backward Traceability (Cross-Document) | Forward Traceability (Cross-Document) | Backward Traceability (Within Issues) | Forward Traceability (Within Issues) |
| C | I-NFR 2.3.11 | Customizability | C-NFR10 | NFR 3.4.9 | I-FR 2.2.9, I-NFR 2.3.1, I-FR 2.2.21, NFR 3.4.9, I-NFR 2.3.11.x |  I-NFR 2.3.5 |
| A | I-NFR 2.3.11.1 | Customize Icon Size | C-NFR10 | NFR 3.4.9.1 | I-NFR 2.3.11 | I-FR 2.2.11, I-FR 2.2.17, I-FR 2.2.18 |
| A | I-NFR 2.3.11.2 | Customize Icon Label | C-NFR10 | NFR 3.4.9.2 | I-FR 2.2.2, I-NFR 2.3.3, I-NFR 2.3.11 | I-FR 2.2.1, I-FR 2.2.9 |
| A | I-NFR 2.3.11.3 | Enable/Disable "Hold to Speak" | C-NFR10 | NFR 3.4.9.3 | I-D 2.1.7.3, I-NFR 2.3.4, I-NFR 2.3.11 | I-FR 2.2.9, I-FR 2.2.16 |
|  |  |  |  |  |  |  |
|  | D | Improved Understanding - Domain | Backward Traceability (Cross-Document) | Forward Traceability (Cross-Document) |  |  |
|  |  |  |  |  |  |  |
|  | FR | Improved Understanding - Functional Requirements | Backward Traceability (Cross-Document) | Forward Traceability (Cross-Document) |  |  |
| A | FR 3.3.14.5 | "Recents" button | I-FR 2.2.17.4 | Pr 4.1.1 |  |  |
| M | FR 3.3.14.6.1 | "Everything About Me" Button | I-FR 2.2.17.5.1.1, I-FR 2.2.17.5.1.1.x, I-FR 2.2.20 | Pr 4.1.1 |  |  |
|  |  |  |  |  |  |  |
|  | NFR | Improved Understanding - Non-Functional Requirements | Backward Traceability (Cross-Document) | Forward Traceability (Cross-Document) |  |  |
| A | NFR 3.4.9.1 | Resize Icons | I-NFR 2.3.11.1, NFR 3.4.9 | Pr 4.1.x |  |  |
| A | NFR 3.4.9.2 | Relabel Icons | I-NFR 2.3.11.2, NFR 3.4.9 | Pr 4.1.x |  |  |
| A | NFR 3.4.9.3 | "Hold to Speak" | I-NFR 2.3.11.3, NFR 3.4.9 | Pr 4.1.x |  |  |
|  |  |  |  |  |  |  |
|  | Pr | Prototype | Backward Traceability (Cross-Document) | Forward Traceability (Cross-Document) |  |  |
| C | Pr 4.1.1 | Home Screen | D 3.2.1, D 3.2.2, D 3.2.5, D 3.2.7, FR 3.3.2, FR 3.3.3, FR 3.3.7, FR 3.3.8, FR 3.3.9, FR 3.3.10.1, FR 3.3.12, FR 3.3.13, FR 3.3.14, FR 3.3.14.1, FR 3.3.14.2, FR 3.3.14.3, FR 3.3.14.4, FR 3.3.14.5, FR 3.3.14.6, FR 3.3.14.5, NFR 3.4.1, NFR 3.4.2, NFR 3.4.3, NFR 3.4.9.1, NFR 3.4.9.2, NFR 3.4.9.3  | n/a |  |  |
| A | Pr 4.1.3 | Speak-Dinner | D 3.2.4, D 3.2.7, FR 3.3.11, NFR 3.4.9.1, NFR 3.4.9.2, NFR 3.4.9.3 | n/a |  |  |
| D | Pr 4.1.3  | Hygiene | D 3.2.4, D 3.2.7, FR 3.3.11, NFR 3.4.9.1, NFR 3.4.9.2, NFR 3.4.9.3  | n/a |  |  |
| D | Pr 4.1.4  | Bath | D 3.2.4, D 3.2.5, FR 3.3.5, NFR 3.4.5, NFR 3.4.6, NFR 3.4.9.1, NFR 3.4.9.2, NFR 3.4.9.3  | n/a |  |  |
| A | Pr 4.1.4  | Sleep | D 3.2.4, D 3.2.5, FR 3.3.5, NFR 3.4.5, NFR 3.4.6, NFR 3.4.9.1, NFR 3.4.9.2, NFR 3.4.9.3  | n/a |  |  |
| A | Pr 4.1.5  | Recent | FR 3.3.10.1, FR 3.3.12, FR 3.3.13, FR 3.3.14.5, NFR 3.4.9.1, NFR 3.4.9.2, NFR 3.4.9.3, | n/a |  |  |
| D | Pr 4.1.5 | Contacts | FR 3.3.14.3, NFR 3.4.9.1, NFR 3.4.9.2, NFR 3.4.9.3  | n/a |  |  |
| D | Pr 4.1.7 | Everything About Me | D 3.2.5, D 3.2.10, FR 3.3.14.6.1, NFR 3.4.9, NFR 3.4.9.1, NFR 3.4.9.2, NFR 3.4.9.3  | n/a |  |  |