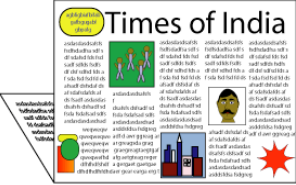

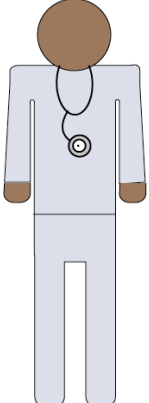
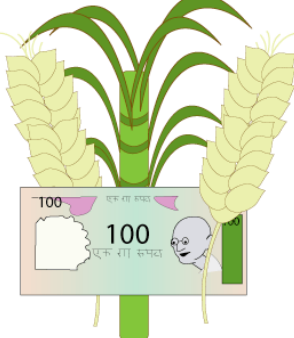






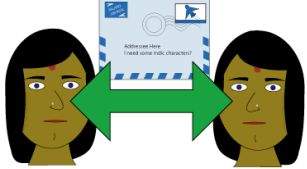
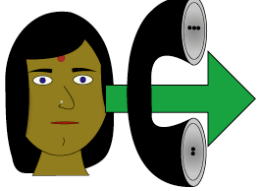
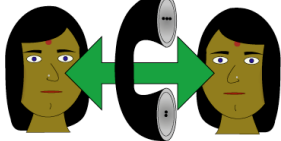
Because we were assuming low literacy for our target population, it was important that we designed icons that were easily understandable and easily learnable without requiring the use of explanatory text. Additionally, during the icon design process, it was important to make explicit all of our assumptions about our user population, their background, and experiences, so as to not unknowingly integrate potentially false assumptions into the icon.

As two of our team members are from India, we leveraged their knowledge as initial ‘expert evaluators’ during design iteration in order to identify these issues, and re-design the icons accordingly

In this table, we explain each the icons, including a brief explanation of the functionality offered by the icon, as well as an example of a false assumption that was uncovered during the design process.

| Icon                                                                                | Explanation                                                                                                                                            | Design Decision                                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     | <p><b>Information</b><br/>Clicking this icon will bring up a screen presenting the user with additional icons for specific sources of information.</p> | <p>The original design for this icon looked much like a Western newspaper. We conferred with Indian colleagues, who said that Indian papers are much more visually complex, with brighter colors and more columns.</p>                           |
|  | <p><b>Information – Maternal Health</b><br/>Clicking on this icon presents the user with information related to maternal health.</p>                   | <p>In the first design of this icon, the mother had on a long-sleeved sweater. An initial informal evaluation of this icon, however, revealed that women in this region rarely wear long-sleeved shirts. The sari is a much more appropriate</p> |
|  | <p><b>Information – Doctor</b><br/>Clicking on this icon presents the user with information related to health concerns.</p>                            | <p>Typical Western medical symbols – such as the red cross or serpent and shield – would not be intelligible to this population. This icon represents a canonical doctor with a stethoscope around his neck.</p>                                 |

|                                                                                   |                                                                                     |                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                   |    | <p><b>Information - Crop Prices</b><br/>Clicking on this icon will give the user the current crop prices. It depicts sugar cane, and wheat, as well as a 100-Rupee note.</p>                                                                             | <p>It was important to choose crops that are actually grown in this region. Wheat and sugar cane are popular cash crops in south India.</p>                                                                                                                                         |
|   |                                                                                     | <p><b>Female Contact</b><br/>This icon represents a contact (female); it appears on the user's workspace. Clicking on this icon presents the user with several methods for communicating with this contact</p>                                           | <p>In Indian iconography, the bindi (red dot) and/or a nosering are commonly used to denote 'female'</p>                                                                                                                                                                            |
|  |                                                                                     | <p><b>Male Contact</b><br/>This icon represents a contact (male); it appears on the user's workspace. Clicking on this icon presents the user with several methods for communicating with this contact</p>                                               | <p>In Indian iconography, the moustache is commonly used to denote 'male'</p>                                                                                                                                                                                                       |
|                                                                                   |  | <p><b>Envelope</b><br/>This icon is not used as a standalone entity; it is incorporated into some of the other communication icons. It is meant to imply communication by writing.</p>                                                                   | <p>Many in the rural South Indian population are familiar with the process of sending letters via Post. Indian Inland Air Mail envelopes are very idiosyncratic looking (different from western white envelopes); we tried to replicate this look here make them recognizable.</p>  |
|                                                                                   |  | <p><b>Communication - Sending Email</b><br/>Clicking on this icon enables to user to send an email to a contact (see discussion on <i>Asynchronous / Synchronous Communication Icon Conventions</i> for further explanation of our design decisions)</p> | <p>Western icons used to denote email – such as envelopes, 'country' mailboxes, and stamps – don't hold in this context. For our population, sending mail via post is the most familiar process to sending e-mail – thus we have used an Indian Inland Air Mail –style envelope</p> |

|                                                                                     |                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <p><b>Communication - Chat (i.e. Instant Messaging)</b><br/> Clicking on this icon enables a user to chat synchronously with a contact that is currently online.<br/> (see discussion on <i>Asynchronous / Synchronous Communication Icon Convention</i>)</p> | <p>This was a difficult functionality to design an icon for, as our users probably don't have much experience with synchronous communication via text. The nearest analog we could think of was telegraph, but as this is mostly used in emergency situations, we did not want to use a telegraph icon here, for fear that it would carry unintended connotations.</p> |
|    | <p><b>Communication - Voicemail</b><br/> Clicking on this icon enables a user to send a voicemail to a contact.<br/> (see discussion on <i>Asynchronous / Synchronous Communication Icon Convention</i>)</p>                                                  | <p>As mobile phones are a pervasive technology in developing countries, we assumed our users would be familiar with the concept of voicemail.</p>                                                                                                                                                                                                                      |
|  | <p><b>Communication - Voice over IP</b><br/> Clicking on this icon enables a user to initiate a voice connection to a contact who is currently online.<br/> (see discussion on <i>Asynchronous / Synchronous Communication Icon Convention</i>)</p>           | <p>Phones are one technology that we could safely assume our users were familiar with; the choice of a phone to represent voice over IP was a natural one.</p>                                                                                                                                                                                                         |

### Asynchronous / Synchronous Communication Icon Conventions

We struggled with the best way to convey the difference between communication modes (synchronous vs. asynchronous) and media (voice vs. text). We considered two different approaches:

- (1) Finding an existing communication method, with which our target population is already familiar, and designing an icon based on that. For example, synchronous voice (i.e. VoIP) could be represented as a telephone, and asynchronous text (i.e. e-mail) could be represented as a Post envelope.
- (2) Our other option was to come up with a slightly more abstract, but consistent set of iconographic conventions to represent the different communication modes and media.

The first approach ended up failing simply because, given our target population's experiences, there were no natural intuitive mappings for some of the communication functionality we plan on providing. For example, the closest existing communication method to represent synchronous text would be telegraph, but its use is sparse, and it carries with it other connotations (emergency) that we didn't want to imply.

We decided to develop a slightly more abstract, but consistent, framework, based on the following design decisions:

**Synchronous communication** is represented by two people connected by an arrow.

**Asynchronous communication** is represented by one person with an arrow.

**Text communication** is represented by an Inland Air Mail envelope.

**Voice communication** is represented by a telephone.

While we believe this is a sound framework, we understand that it may not be immediately intelligible to all our intended users. However, we do believe that because it uses consistent conventions, it will be easily learnable once explained.