

Global Studio: Health Network

A Support Website for Global Health Workers

Website Design Overview and User Guide

Diagnosing the Digital Divide
GROCS Project Report April 2007



The design of Global Studio: Health Network was done by Jonathan Brown, Katherine Hartman, Heather Lanthorn and Nolawi Tadesse as the Diagnosing the Digital Divide team in GROCS 2007, Grant Opportunities [Collaborative Spaces], at the University of Michigan, January - April 2007. The team was advised by Andrew Babson.

Overview

Global Studio: Health Network (GS:HN) is an online community for health workers in geographically-isolated or resource-limited areas of the world. The initial audience for the site will be health workers providing education and treatment for AIDS/HIV in Ethiopia. GS:HN is designed to provide a support network for these individuals who find themselves in a situation with:

- Limited resources
- Limited literacy rate among populations that they are serving
- Limited training for health workers

GS:HN is designed to provide a platform for health workers to create, share, and use educational materials in the execution of their work. As such, GS:HN is an online networking site for health workers centered around sharing resources that have been created and used with particular audiences to address particular behaviors in particular geographic area. Users can search for resources posted to the site, share their own materials, and leave feedback for other users. Using on-site messaging, the users will be able to find and communicate with other health workers that are working with similar populations.

The main portion of the website is a visual design tool for creating “projects” -- storyboard-style presentations that can be displayed on screen or printed and distributed. The visual design tool will allow for creation of material within the web browser, reducing the need for special software to access the content. The site will also include the ability to share images, movies, and other content in addition to projects made in the design tool.

GS:HN addresses two particular needs of the target community. First, health workers may be dropped into a situation without any additional tools for addressing the particular needs of their charges. Second, health workers may be unable to communicate with other health workers facing similar circumstances. GS:HN provides a platform for communicating with others in the field and sharing what does and does not work in educational and training materials.

This document is organized as follows: In the next section, we discuss the broad structure of the site. After that, we discuss in turn the account/profile area, the design tool, the resource finder, the network, and future areas. Finally, we discuss some of our findings and plans for integration of cell phones into the site.

Website Areas

The Global Studio: Health Network (GS:HN) website is a member website with open registration for community members. Once registered, a member has access to the following areas:

- **Account:** In addition to an online profile including biography, location, and photo, this area includes a simple on-site messaging tool and links to the user's projects and on-site network.
- **Design Tool:** In this area, a member can create, edit, and view "projects" -- pamphlets, presentations, posters, and other visual items. The design tool also allows for sharing images and other resources.
- **Find Materials:** The purpose of the site is sharing resources, so the find materials area is prominent on the site. The find criteria are the same as those used for classification of projects in the design tool: setting, audience, location, behavior, and format. There is also an advanced search and an ability to save past searches as "channels" that can be revisited in the future.
- **Network:** This area of the website is for the social networking aspects of the site. A member can search for other users, then group users into categories -- e.g. "friends", "colleagues", "same region" -- or send a message or view another user's shared projects and other resources.
- **Glossary:** The glossary is a Wikipedia-style glossary for collecting useful terms and definitions. The glossary will also include a way for members to post questions and requests for information so that others can fill them.
- **Feeds:** This aggregates the channel concept for shared feeds as well as for related users.

Community Standards and Policing the Site

The website relies on active community participation to ensure that content remains appropriate. The site is initially focused on HIV/AIDS education materials; there is an assumption of professionalism on the part of site members. If this is violated, the site will rely on other members to report in a complaint about certain materials. If three complaints are received about the same item, it will automatically become inaccessible to the other members on the site. Complaints will be adjudicated by members of the team or other site administrators with a notice sent to the content owner as appropriate.

Pictures and Local Iconography

The site will use pictures and local iconography as appropriate throughout. The initial set of graphics have been selected and prepared for use on the site. Additional photos will be solicited from site users over time and, if appropriate, included in the site presentation.

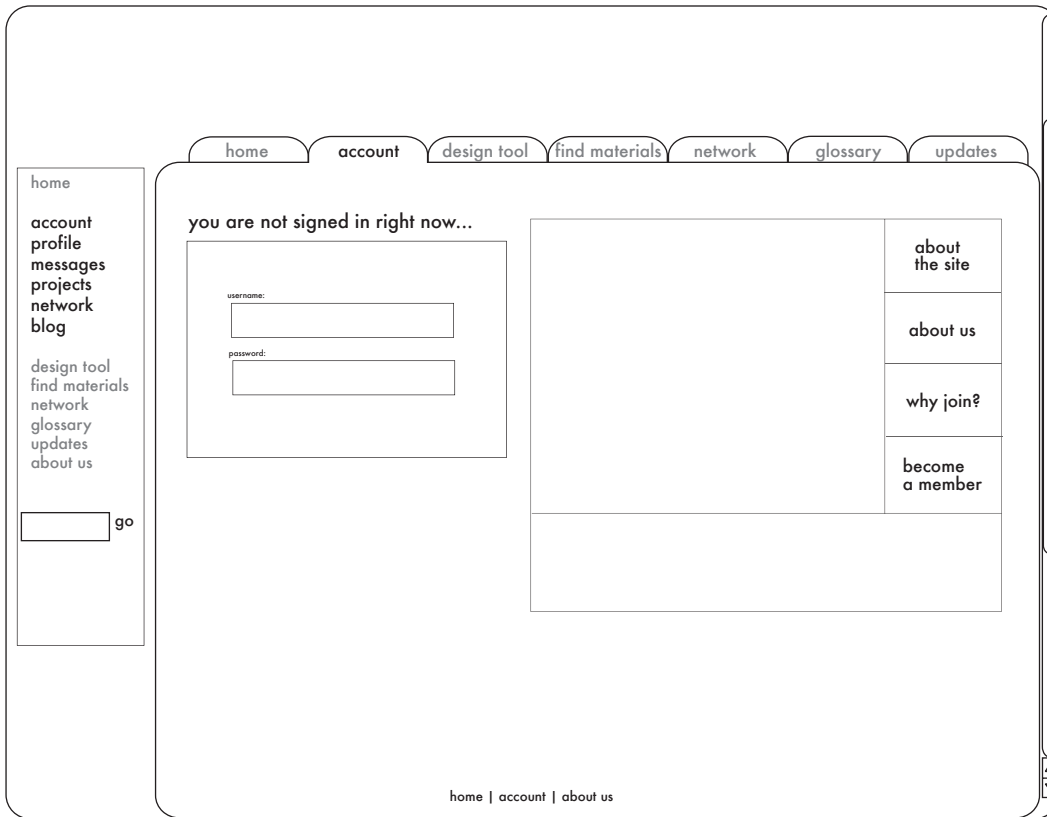
Licensing

The site will operate under a creative commons license whereby all members maintain ownership of their materials but allow all other members and the site operators to use and reuse these materials. A simplified terms of service will be prepared to explain the "rules of the road" and expectations for users.

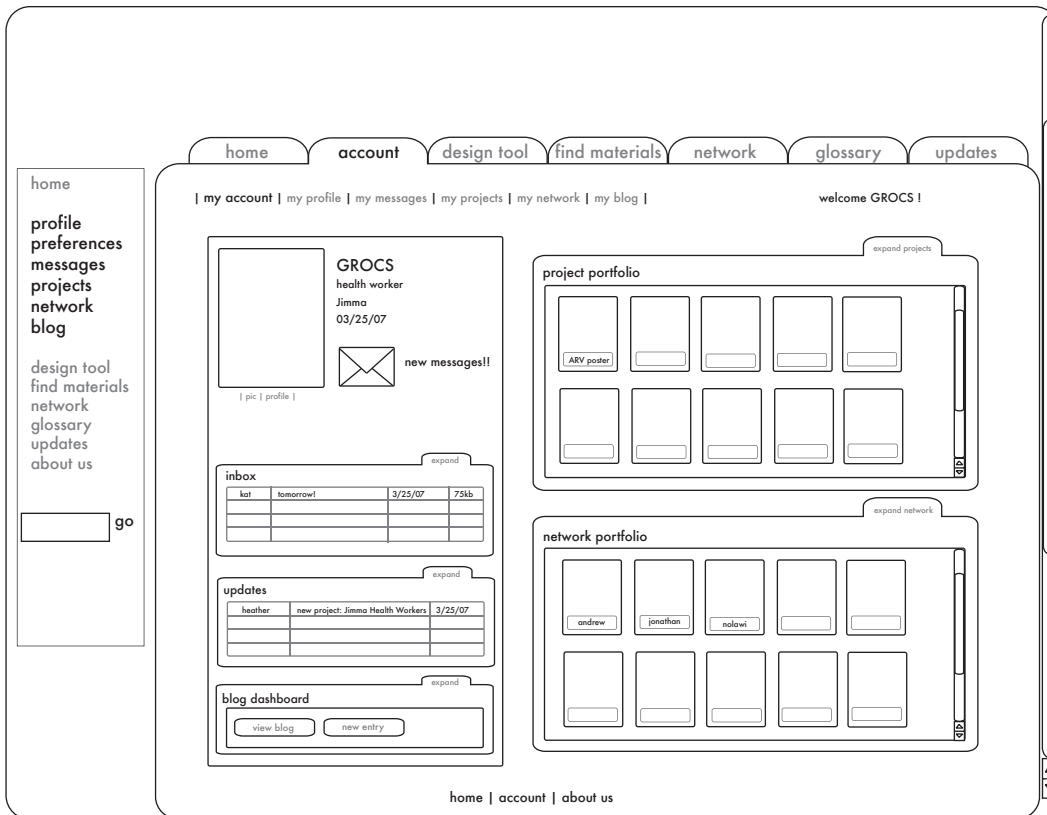
Account

The account area of the website is where a user can access his or her profile, on-site messaging, and on-site network. The account area is divided into the following areas:

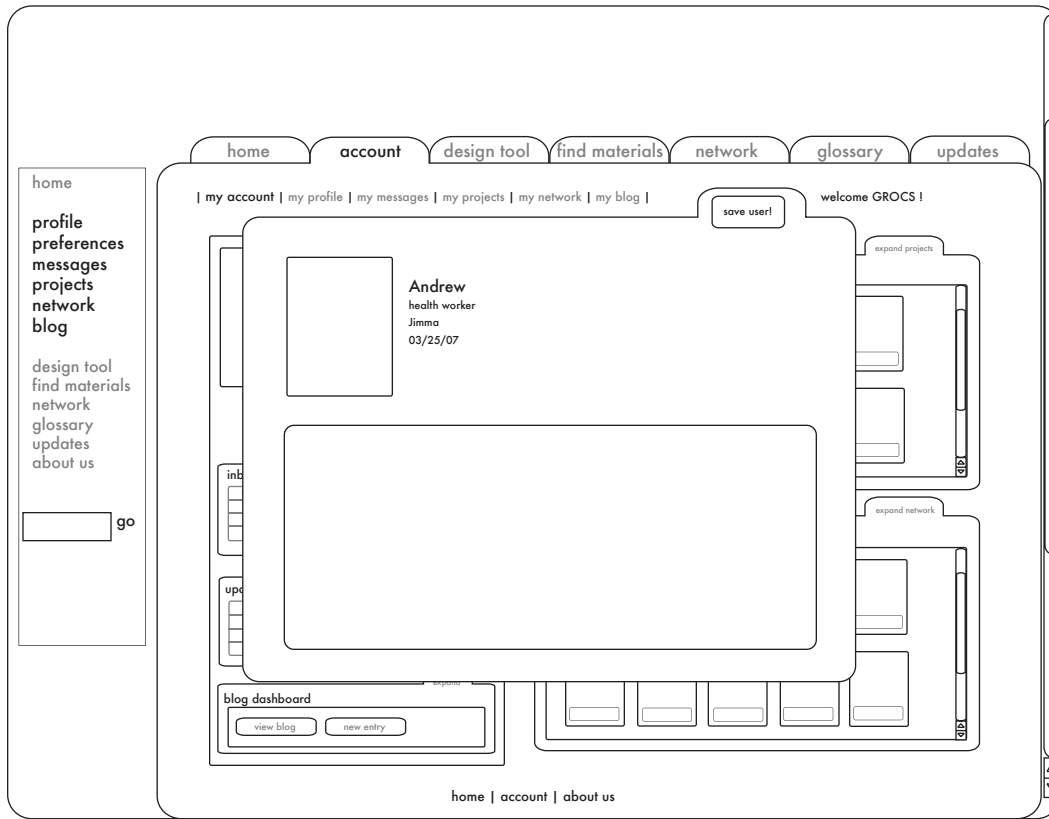
- **My Account:** This is a “dashboard” for the user -- showing summary and updated information about the user’s account all on one page. It includes a list of the latest messages received, any updates from the user’s channels, and links to the user’s projects and network contacts.
- **My Profile:** A user has two profiles: a public profile and an extended profile that can be viewed by friends and colleagues who are in the user’s network. We will use a Facebook-style authorization to join another user’s network.
- **My Messages:** This is a simple on-site messaging system that allows for sending simple messages between users on the site. There will be a well-known help address for user concerns to the site managers.
- **My Projects:** This will link to the area of the same name in the design tool.
- **My Network:** This will link to the area of the same name in the network area.
- **My Blog:** This will be added in the future to allow for blog posting by site users.



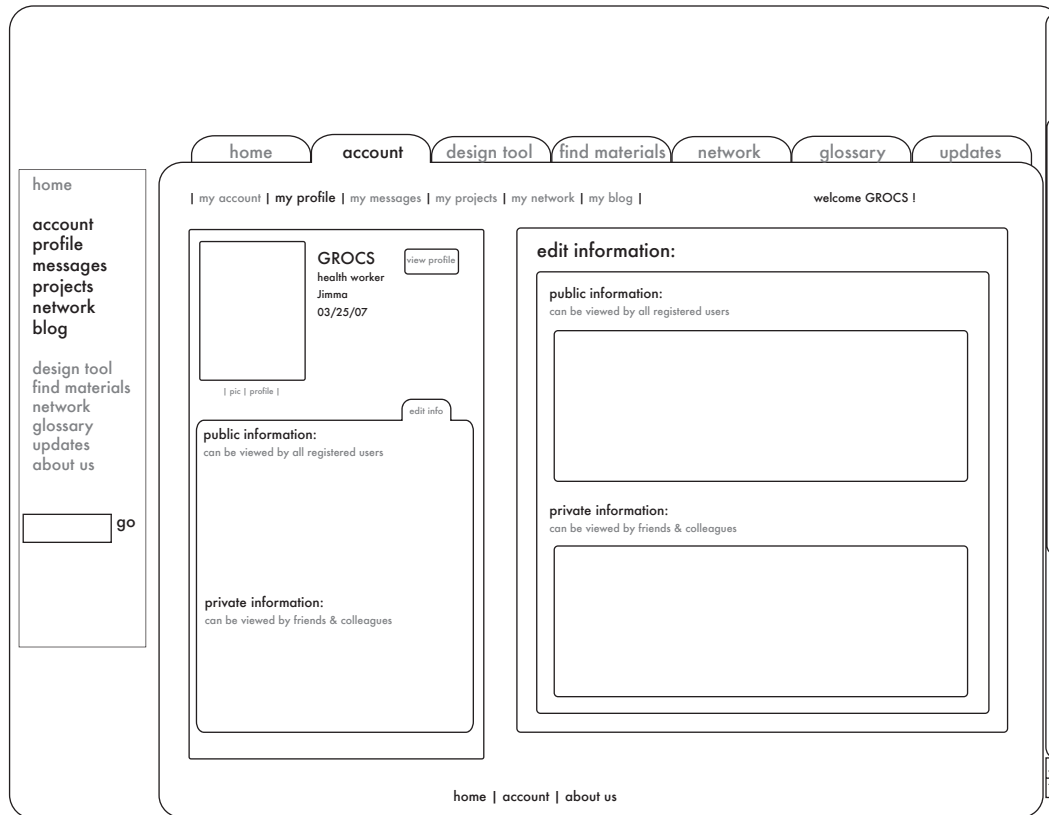
Login: Before a user logs in, the site will include details about the site’s contents and why a user should join.



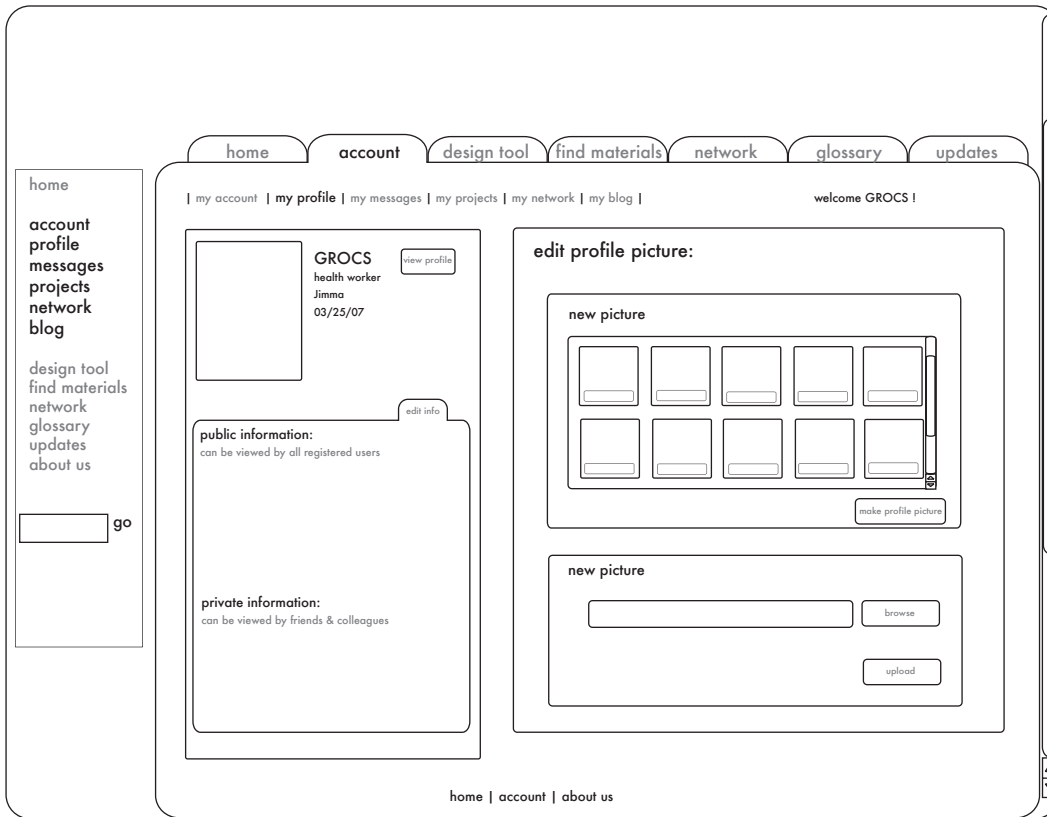
Dashboard: When a user logs in and accesses the account tab, the initial presentation is a “dashboard” showing the latest messages, the user’s current projects, and other updates.



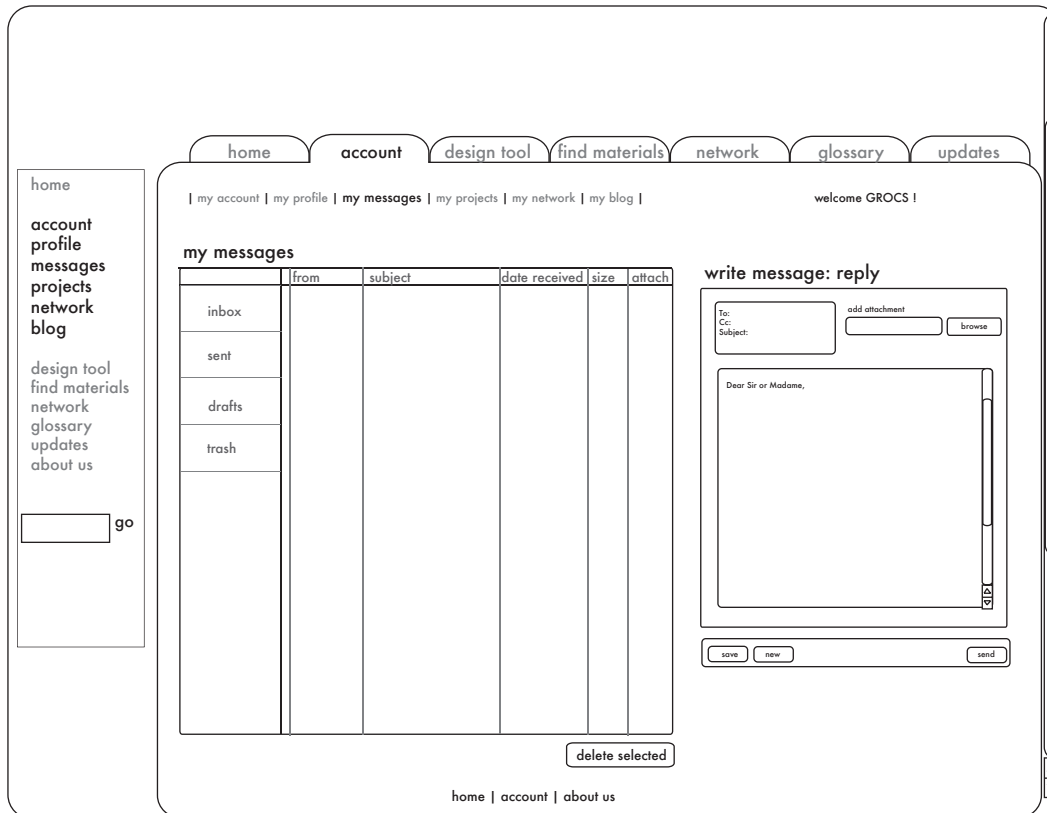
User Profile: Selecting a user in your network shows the user's picture and profile.



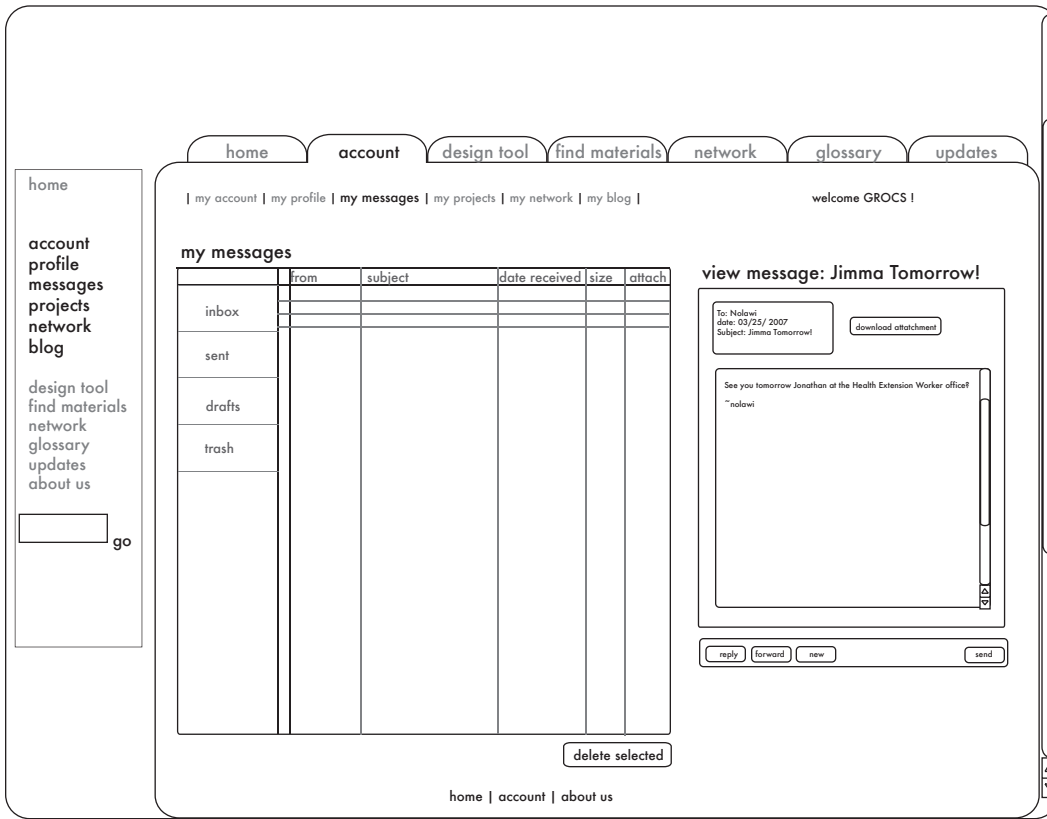
Public and Private Profile: A user has a public profile as well as an extended profile that is visible to others in the user's network.



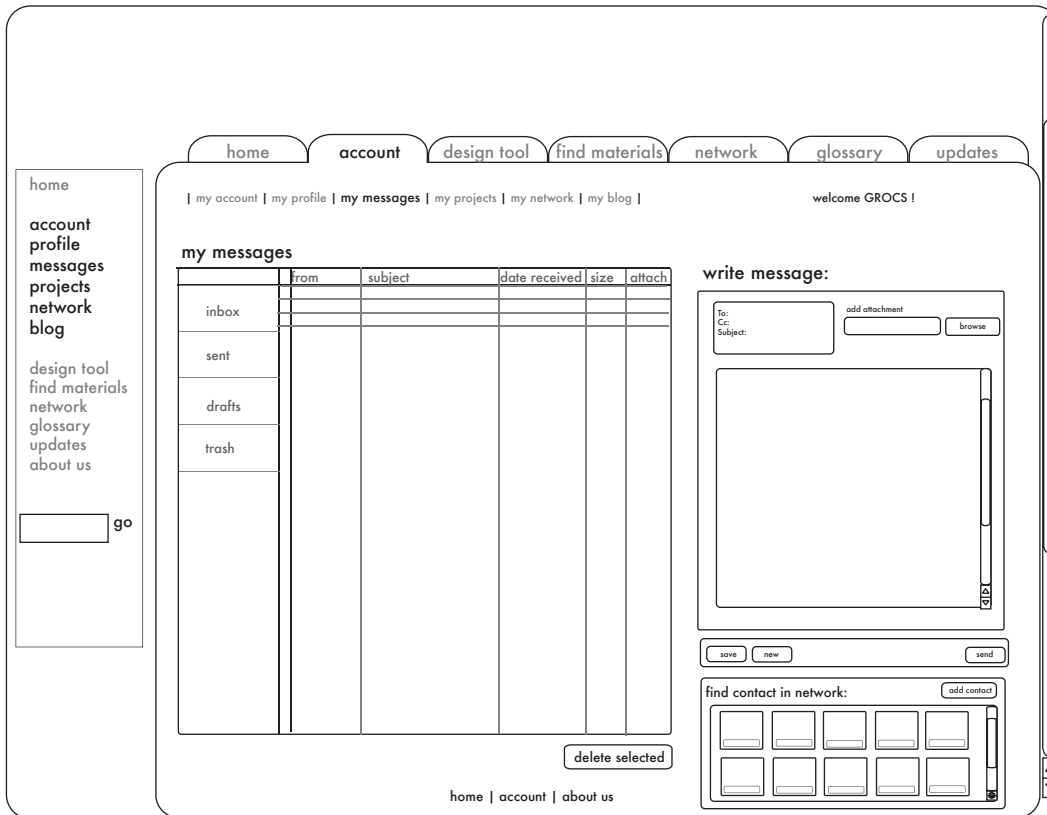
Profile Pictures: A user can upload pictures to his or her profile for display to other users on the site.



Message Area: The account area will include a simple messaging facility that allows for on-site communication between members.



Messages: Messages are simple in format -- to, from, subject, and text message body.



Integration with Network: The messaging tool will be integrated with the user network for communicating directly with user contacts.

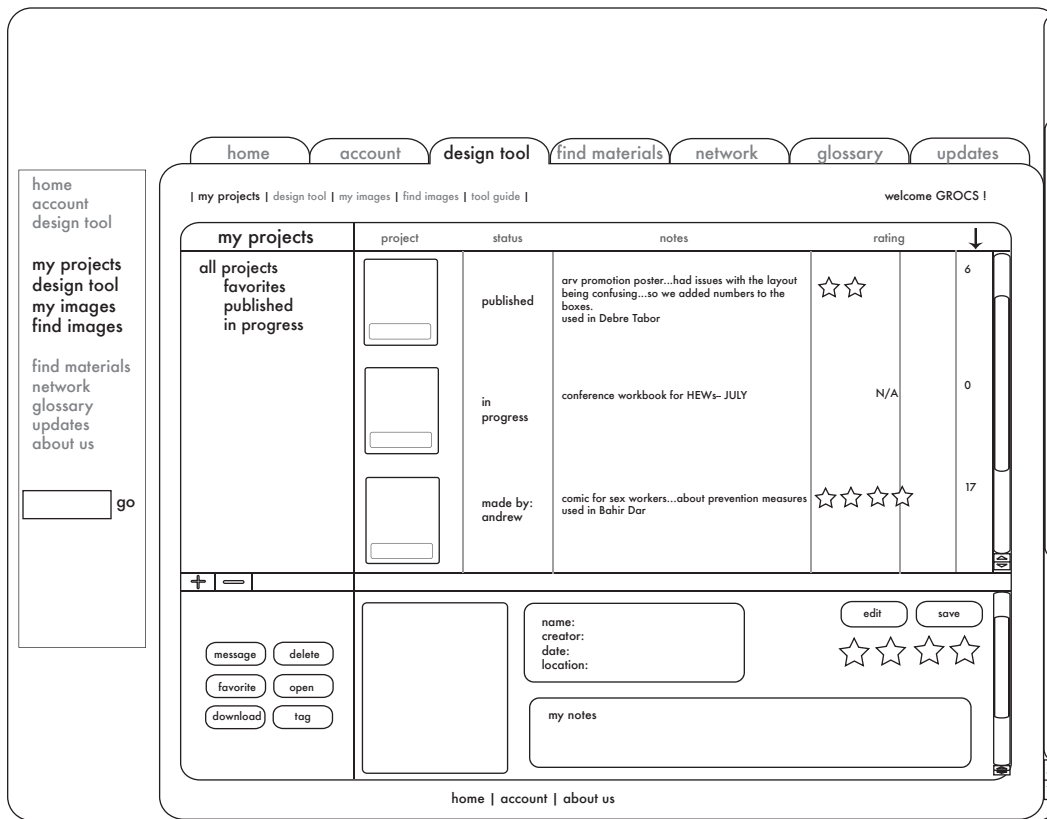
Design Tool

The design area includes the design tool and related content. The design area has the following major areas:

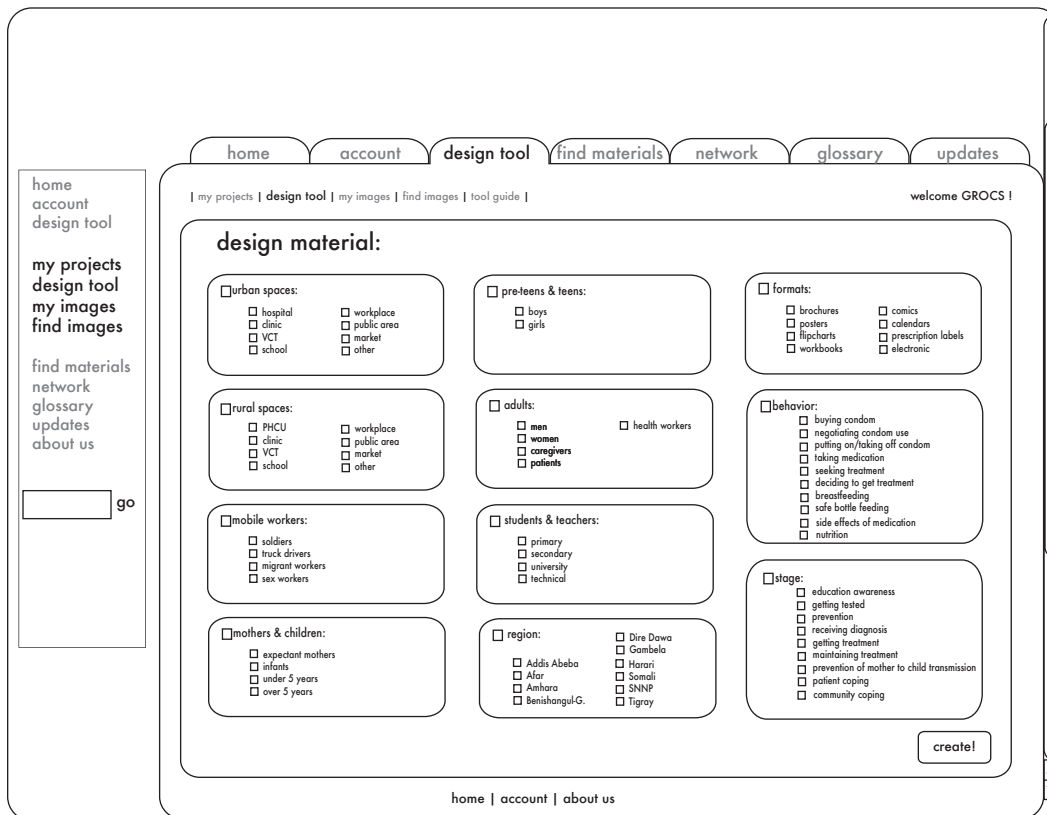
- **My Projects:** This is where a user's project portfolio is kept. A user can see which projects he or she created, whether those projects are published, and which projects are shared from other users. The user can see feedback received from other members using his or her shared projects and can leave feedback for other users on their projects.
- **Design Tool:** The design tool is an AJAX application in the website for creation of "projects" -- posters, presentations, etc. Projects can be made in the browser, then downloaded as a PDF, viewed, shared, or accessed using the mobile phone interface to the site. The design tool will support the following functionality:
 - selection tool
 - object movement
 - paint bucket
 - text tools
 - rotate/flip images
 - insert
 - delete
 - cut/copy/paste
 - autosave
 - layering
 - symbols and clipart
 - Amharic text palette
 - document templates

The design tool is modelled on desktop publishing/page layout programs like Microsoft Publisher or Adobe InDesign.

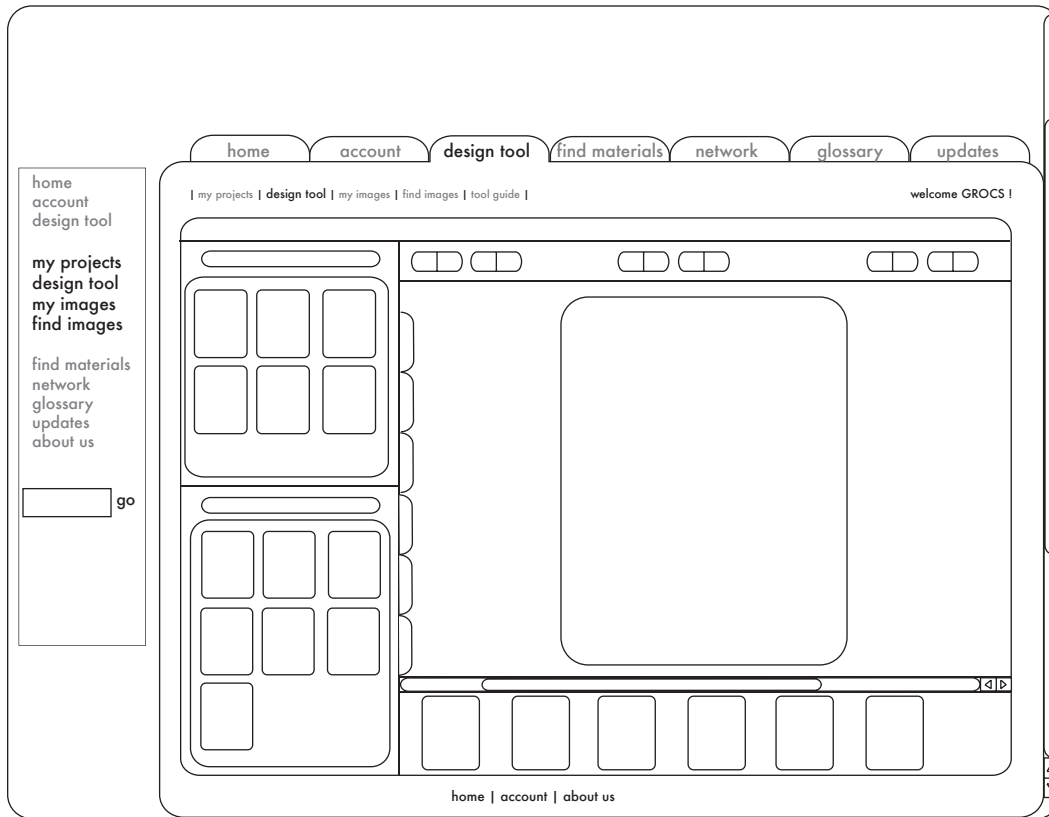
- **My Images:** Users can upload images for inclusion in their projects and for sharing with other users.
- **Find Images:** This allows a user to search for other images that have been made available by others on the site.
- **Tool Guide:** This will include an overview of how to use the design tool and include a tutorial-style narrative.



My Project: See your projects as well as any feedback received from other users with a DIGG-style rating system.



Project Classification: The site relies on users classifying their projects so that they can be found and used by other users of the site.



Design Tool: The design tool is an AJAX application for building “projects” in browser. It is patterned on Microsoft Publisher and will include templates ready for use by users.

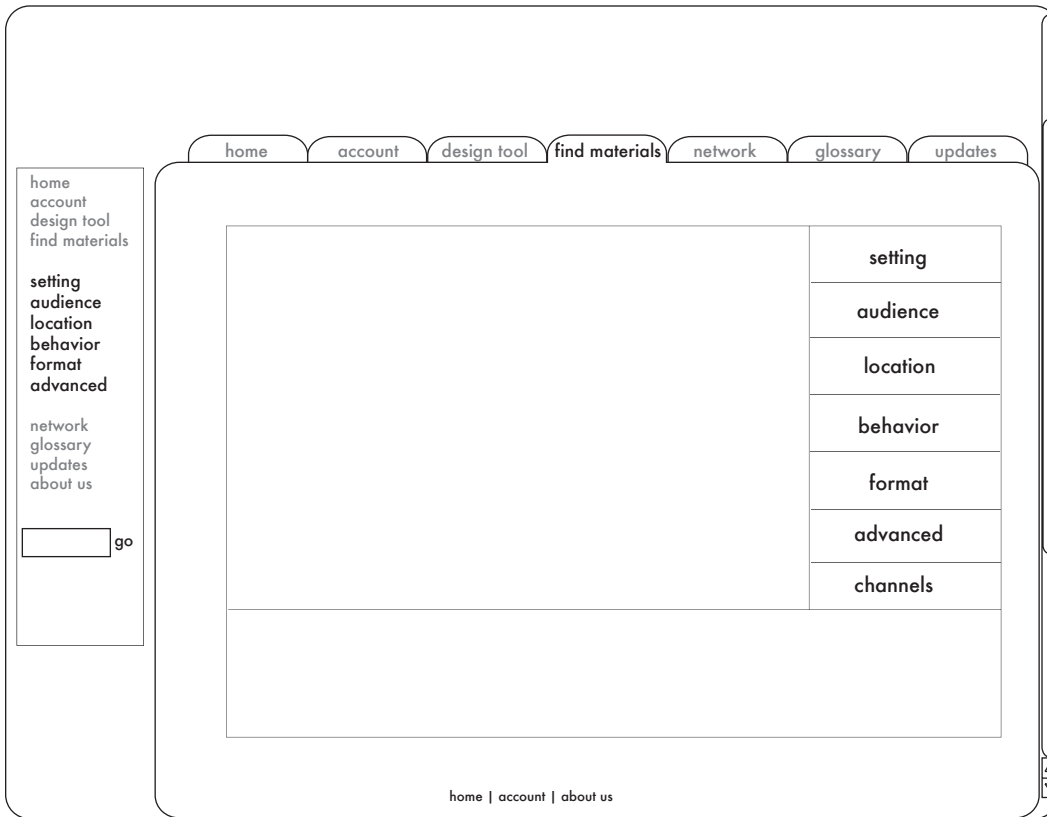
Find Materials

Materials are sorted into five categories:

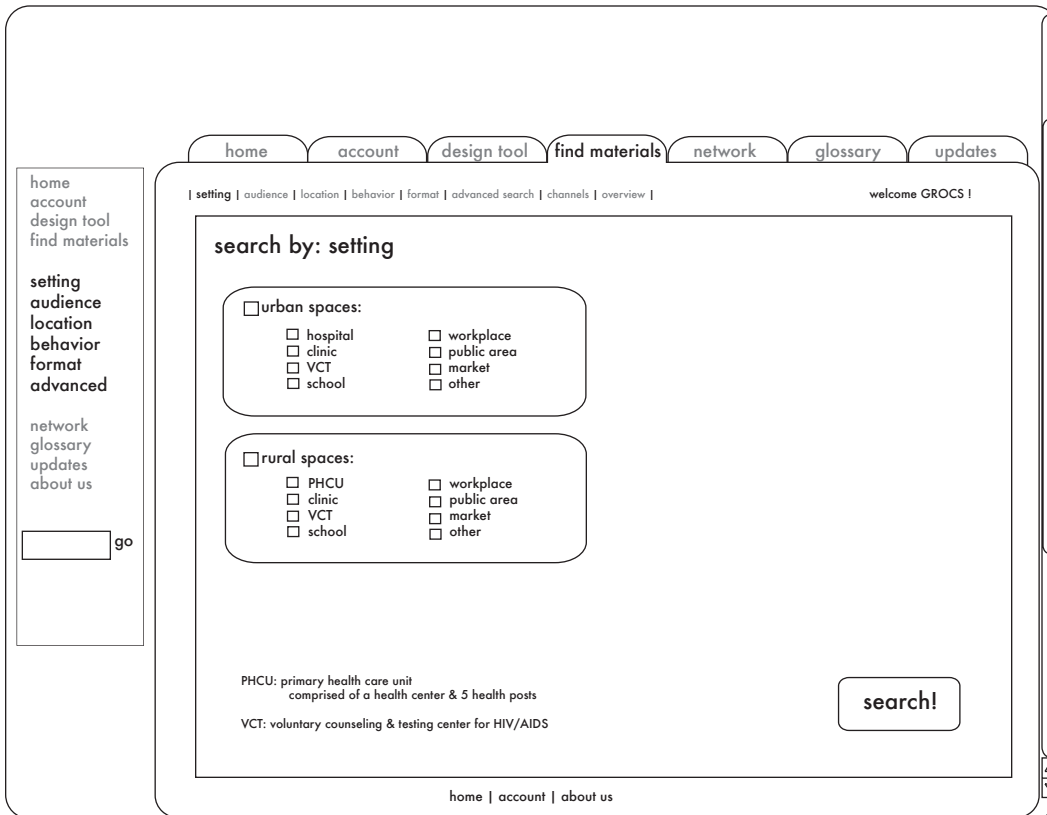
- **Setting:** The physical place for interaction with the audience or for the behavior targeted, this is first split by “urban” or “rural”, then includes places like hospitals, clinics, and schools.
- **Audience:** These are groups of people targeted, such as mothers and children, pre-teens and teens, students and teachers, mobile workers, etc.
- **Location:** This is currently one of the regions of Ethiopia; in the future we hope to add Google Maps API to the site to “geocode” project uses in the field.
- **Behavior:** This will use a graphical organizer of target audience behavior produced from public health literature.
- **Format:** This allows a user to search for “pamphlets” or “posters” -- the layout of the project.

In addition to searching by these, there is an advanced search that includes searching by all categories as well as by author and by keyword. Search terms can be saved as “channels” and revisited for updates in the future.

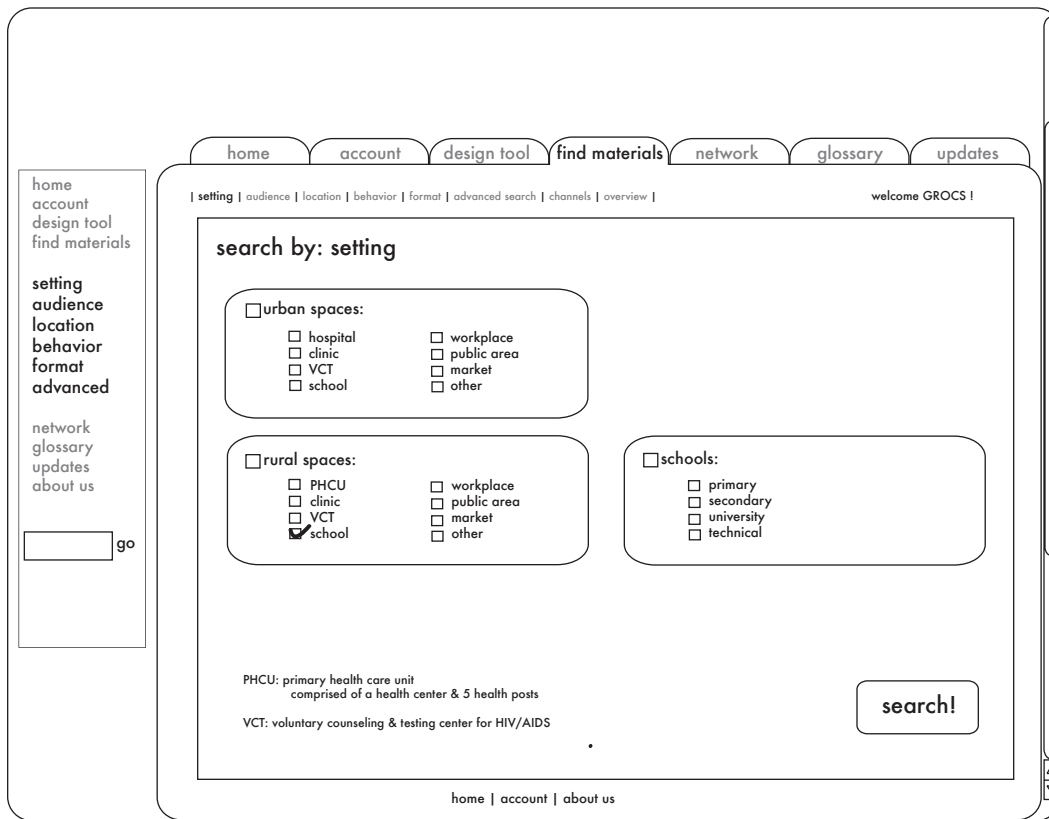
When results are shown, they can be sorted, added to “My Projects”, and feedback can be left for the author on the utility of the project.



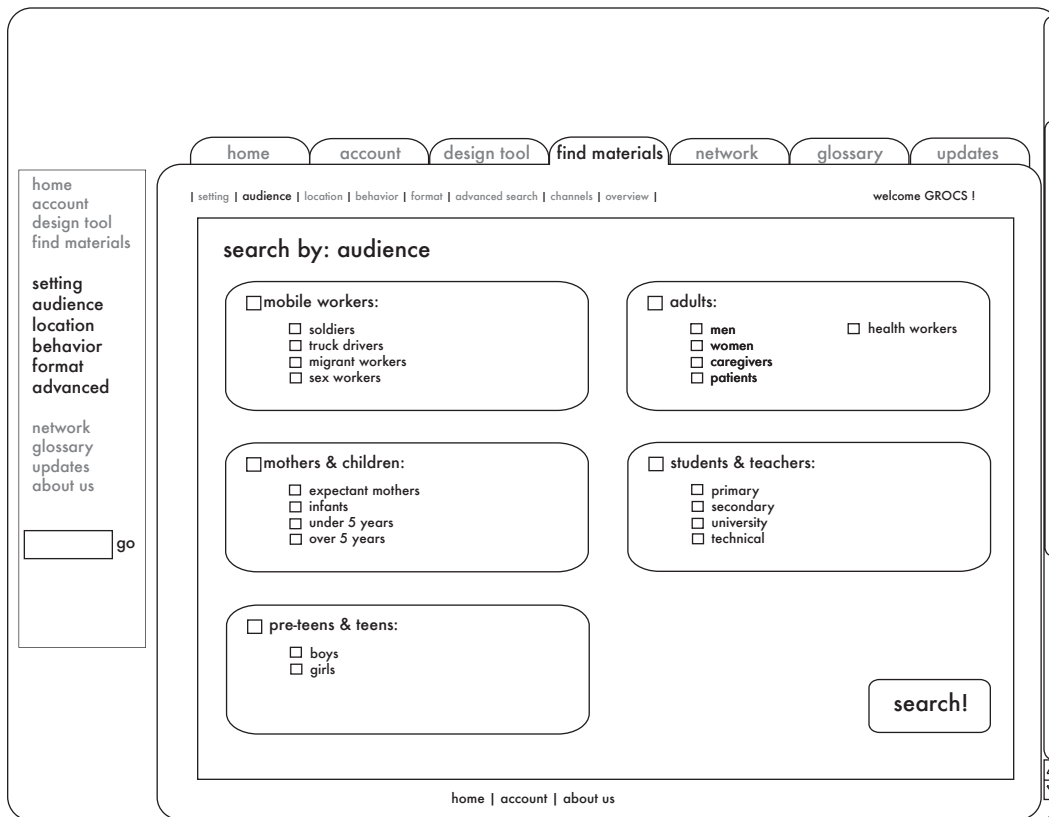
Find Materials: Materials are organized in five categories -- setting, audience, location, behavior, and format. There will be photos for each category.



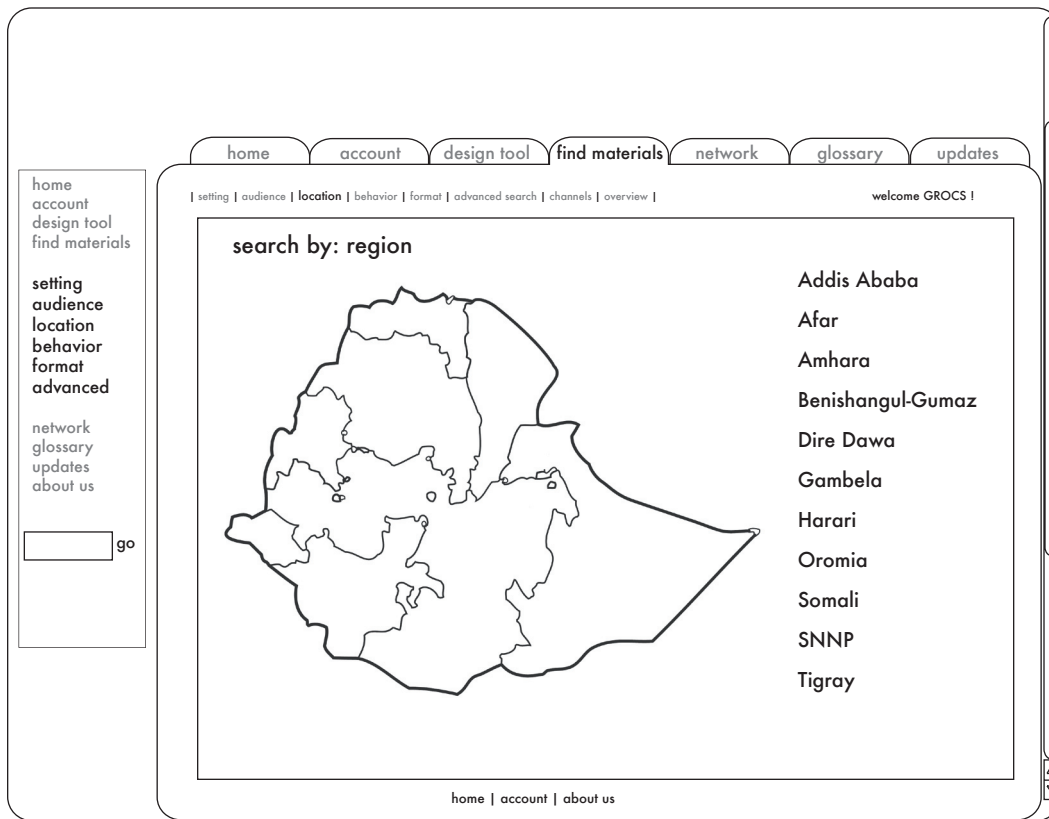
Search By Setting: Setting will first be split by urban or rural.



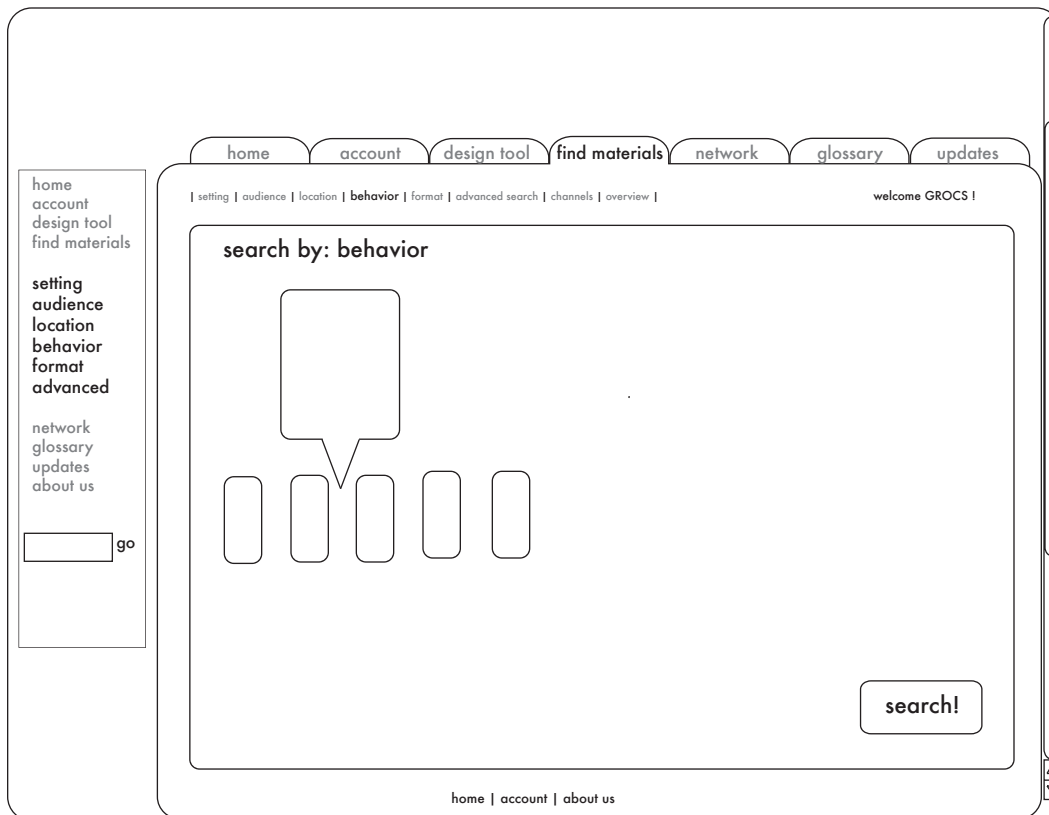
Deeper Setting: Several of the categories will have multiple levels, as illustrated with “schools”.



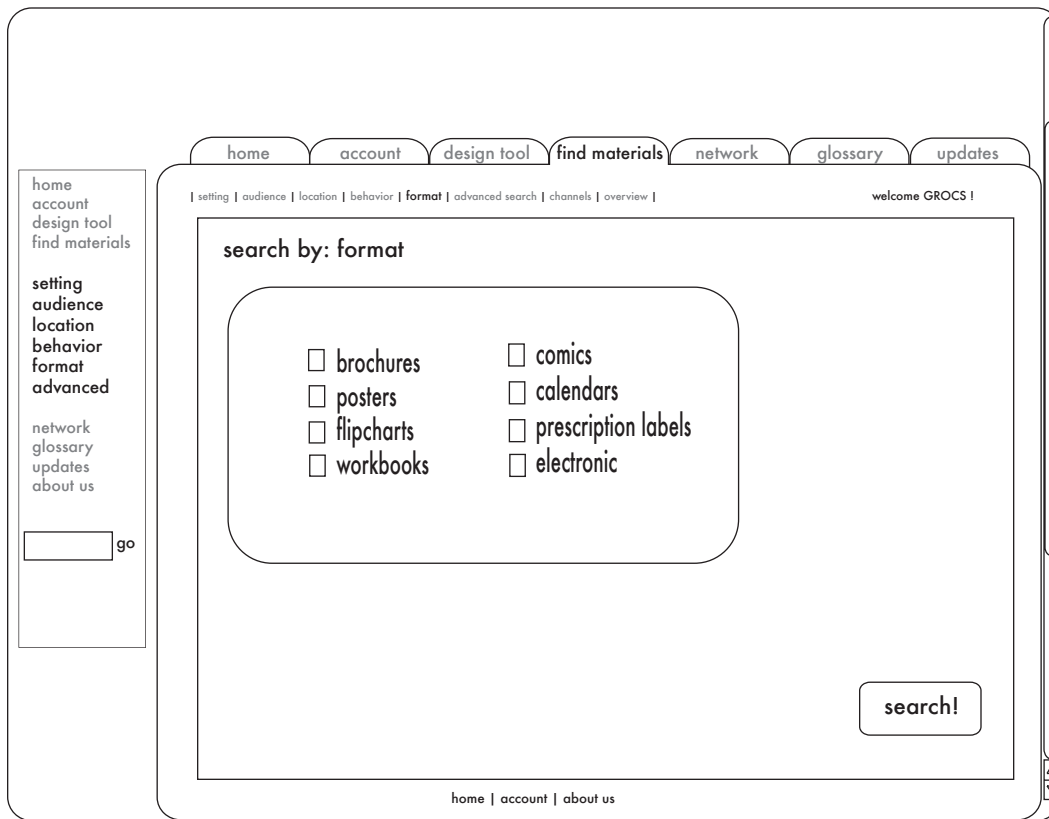
Search by Audience: Searching by audience lets users select from a variety of target audiences for the educational materials.



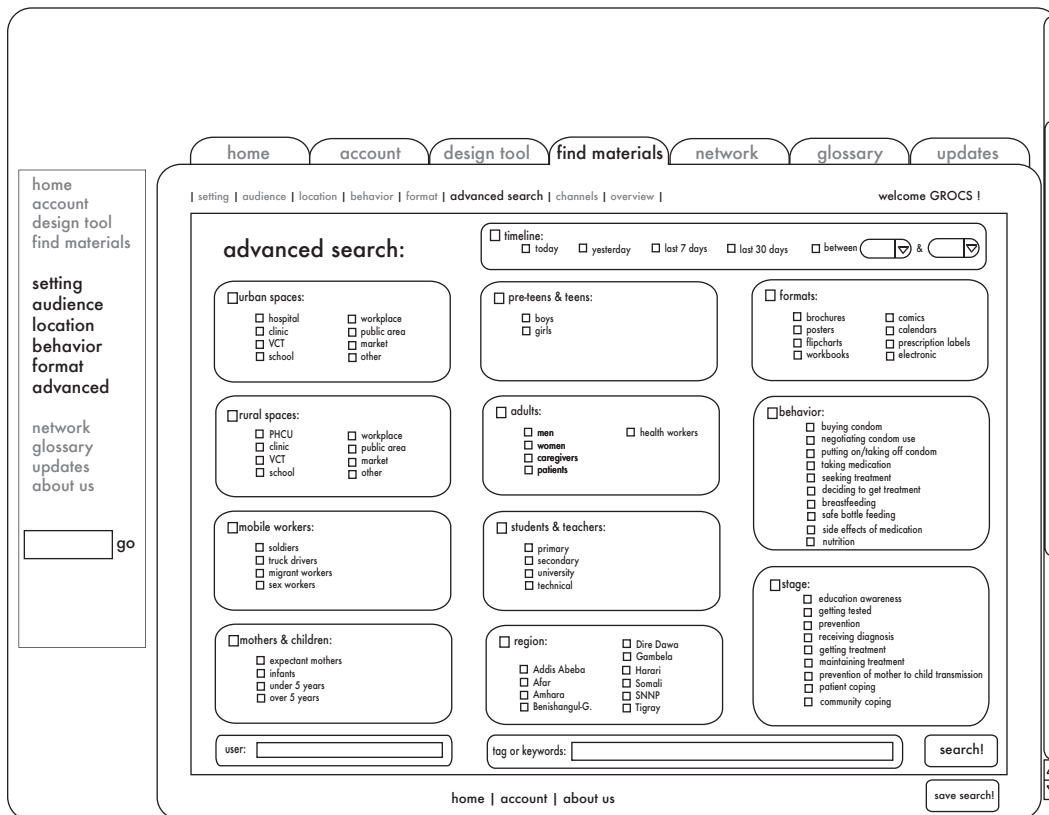
Search By Region: Projects will be identified by the region that they were initially used in or were subsequently used in if reported by users. In the future, this will integrate Google Maps API.



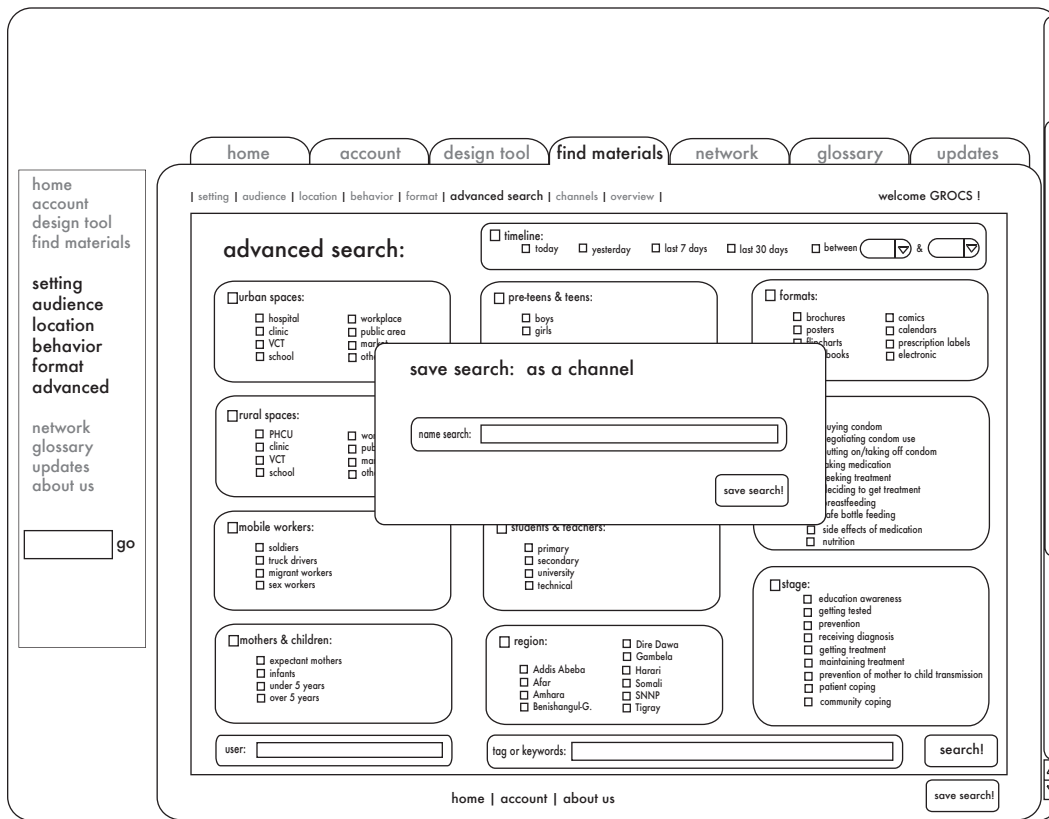
Search By Behavior: This area will include a graphic organizer of public health behavioral pathway information.



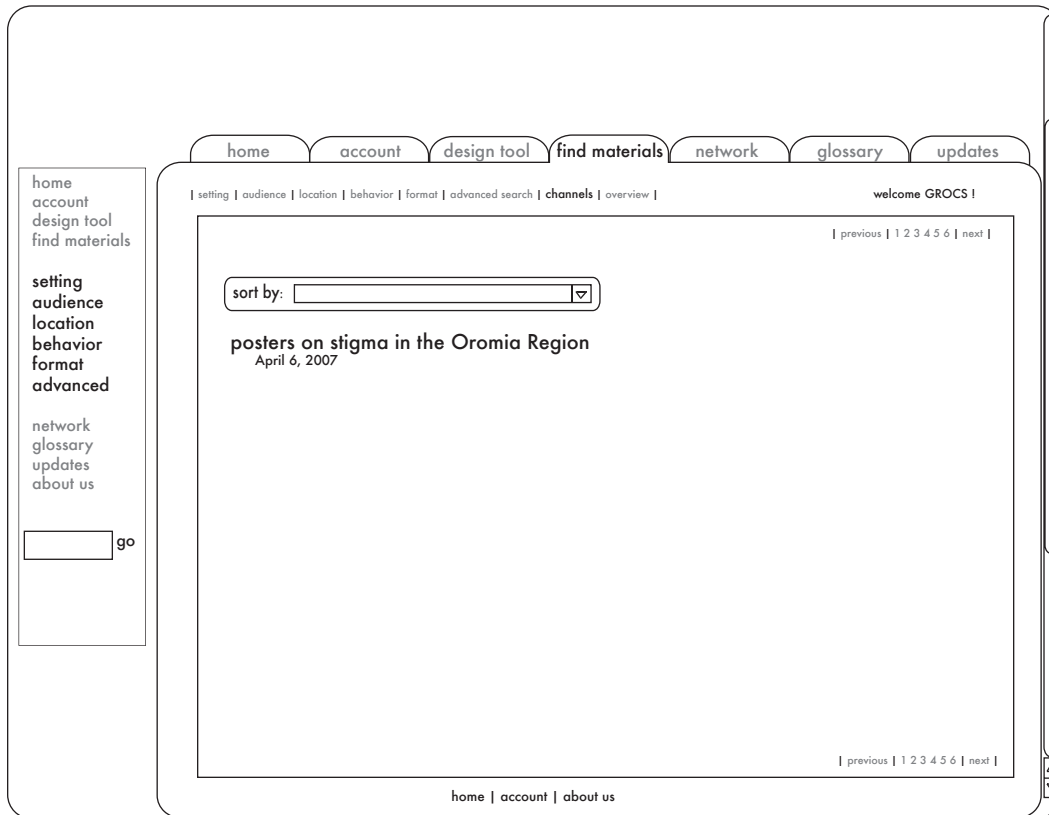
Search By Format: Users will be able to search by project format to, for example, only retrieve brochures.



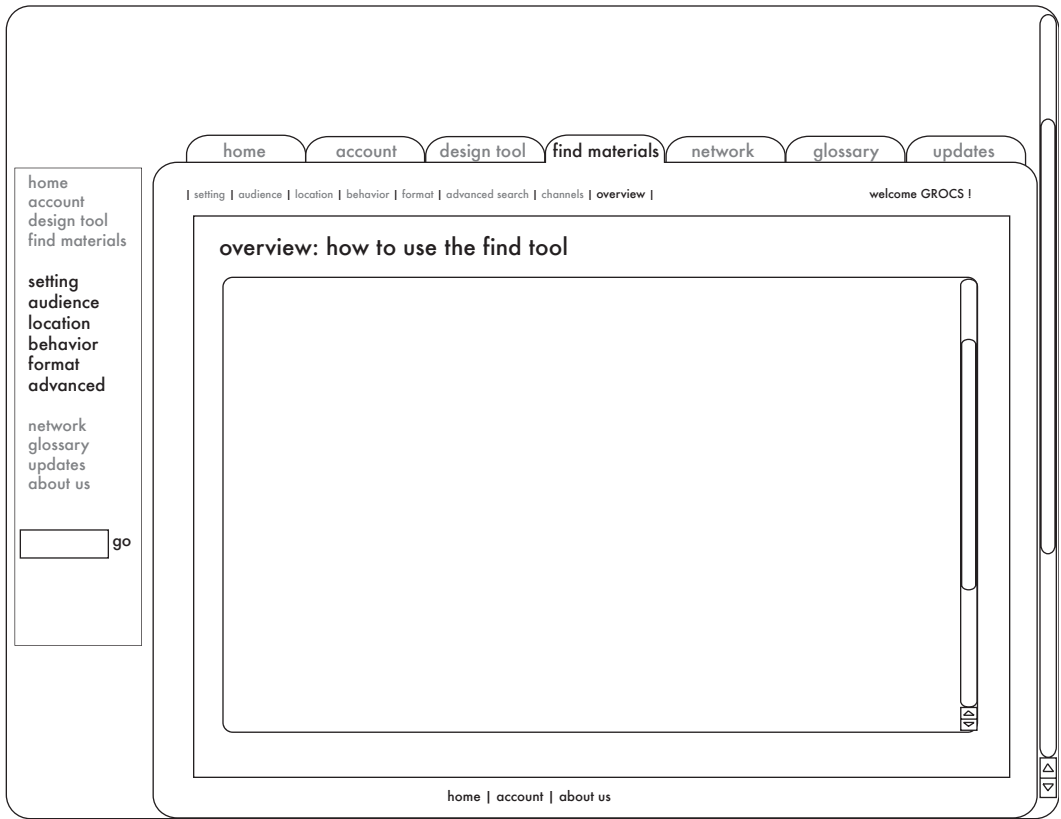
Advanced Search: The advanced search option includes all options on the previous five screens as well as the option to search by user (author) or by keywords in the project.



Save Search: Searches can be saved as a “channel” and the site will notify users of new or changed projects matching their saved search criteria.



Channels: A user can access his or her saved search criteria under the “Channels” option.

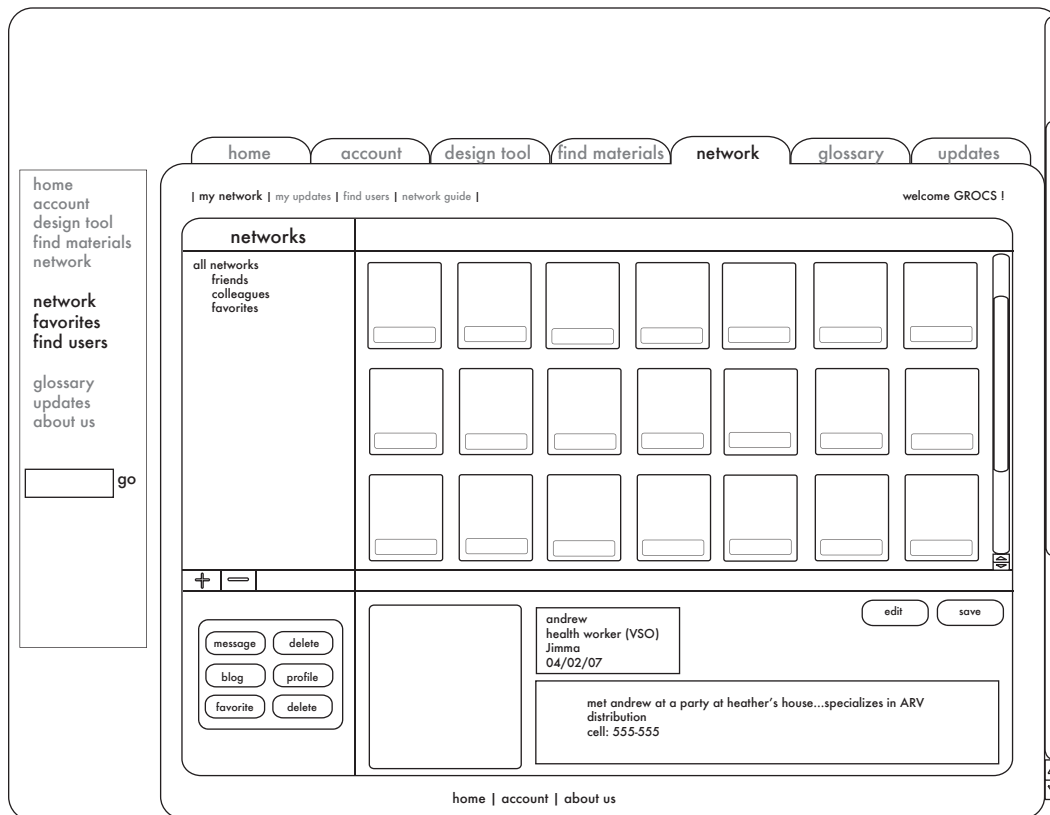


Overview: There will be an overview written in tutorial style to explain how to use the find materials area.

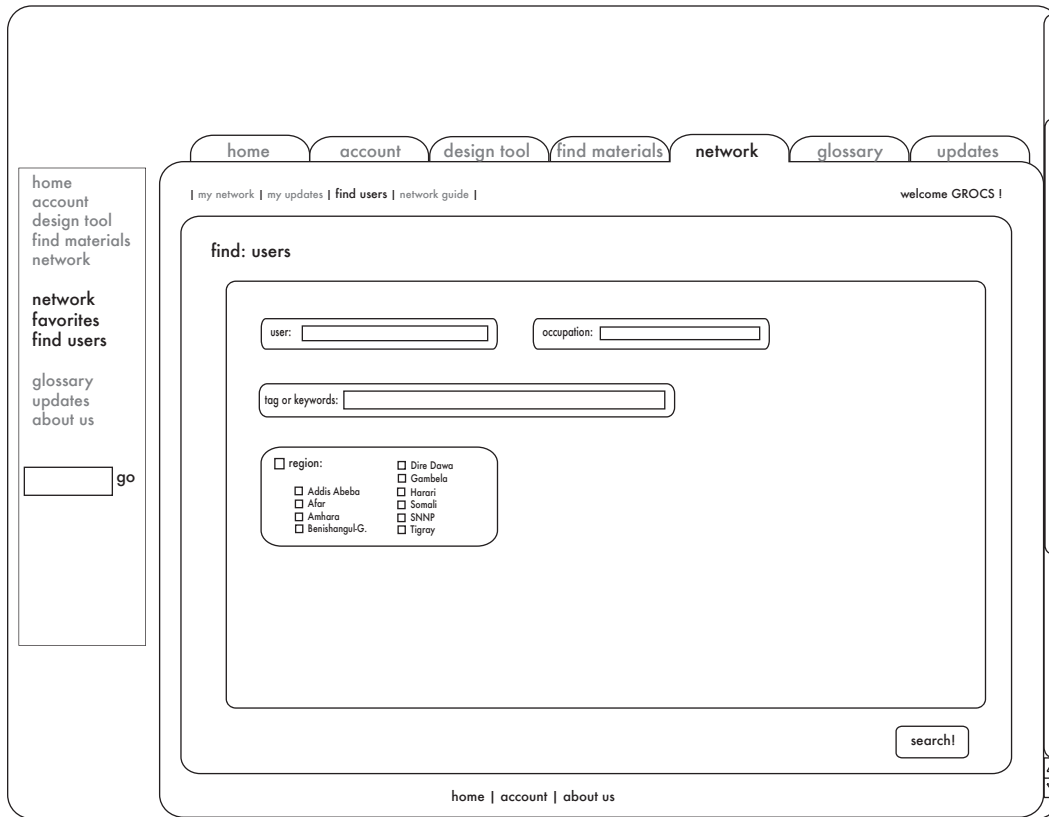
Network

The Network area is the social networking hub on the site, designed to allow for cooperation and information and resource sharing among the users. It has four major subdivisions:

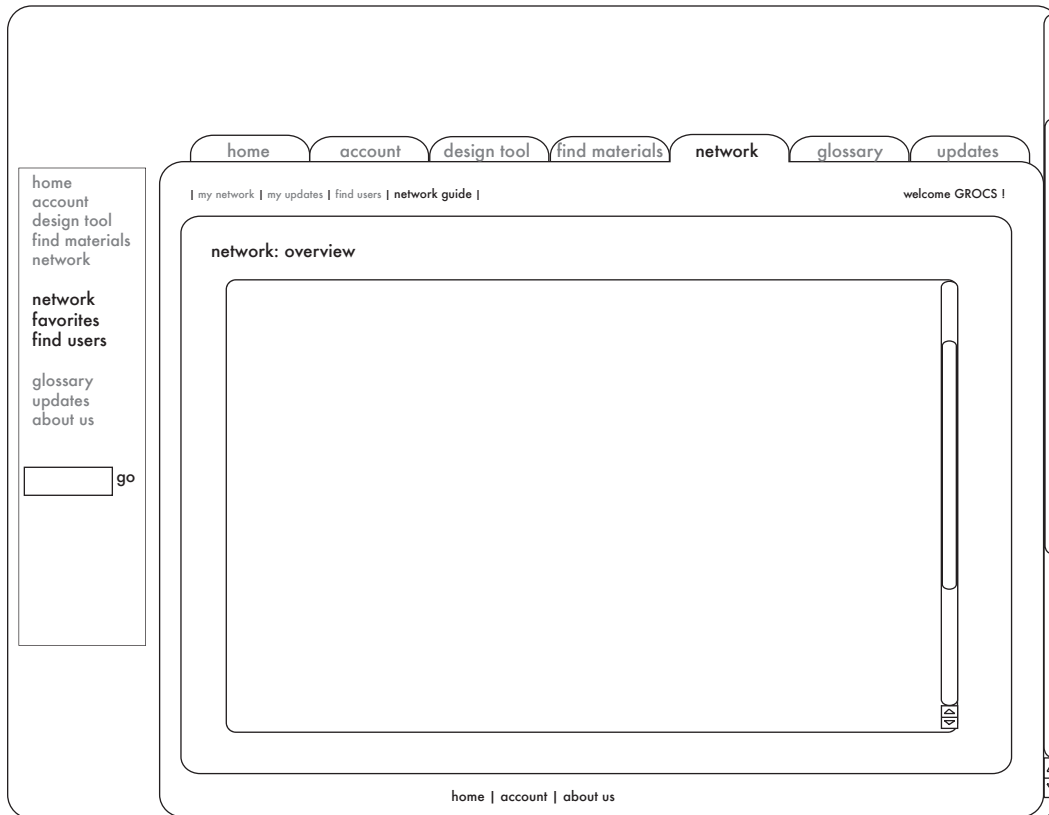
- **My Network:** This is a page listing the contacts already in a user's network. On this page, the user can organize his or her contacts into groups, message them directly, view their profiles, record notes and private thoughts about a user, and view their shared resources.
- **My Updates:** On this page, a user can see the latest updates of shared materials from the members of his network. It is similar to the "channels" feature for finding materials.
- **Find Users:** Users can search the online member database by name, occupation, tag, or region of work. In the results, a user can see other user's public profiles, their shared resources, and ask to add them to "My Network".
- **Network Guide:** Like other areas, this will include a descriptive overview in tutorial style.



My Network: A user can see thumbnails of all other users in his network, organize them into groups such as "friends", "colleagues", and "favorites", or message them.



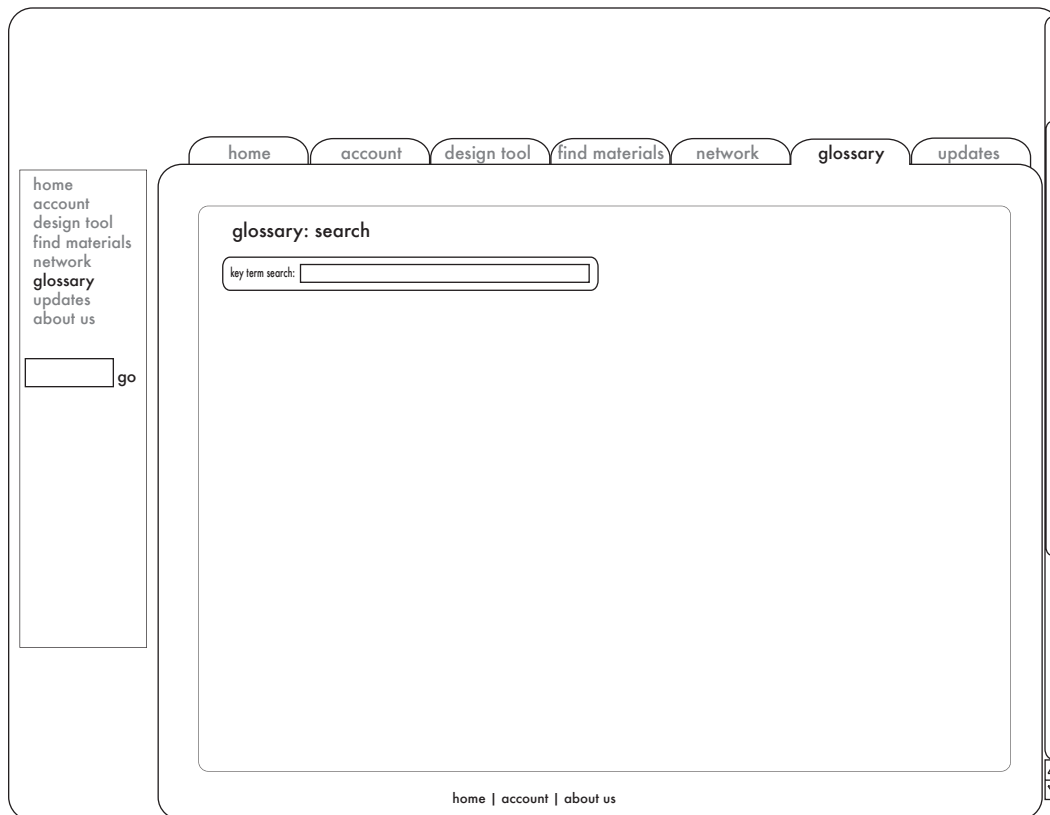
Find Users: Find users by name, occupation, keyword, or service region.



Overview: Like other sections, the Network area will include an overview written in tutorial style.

Glossary

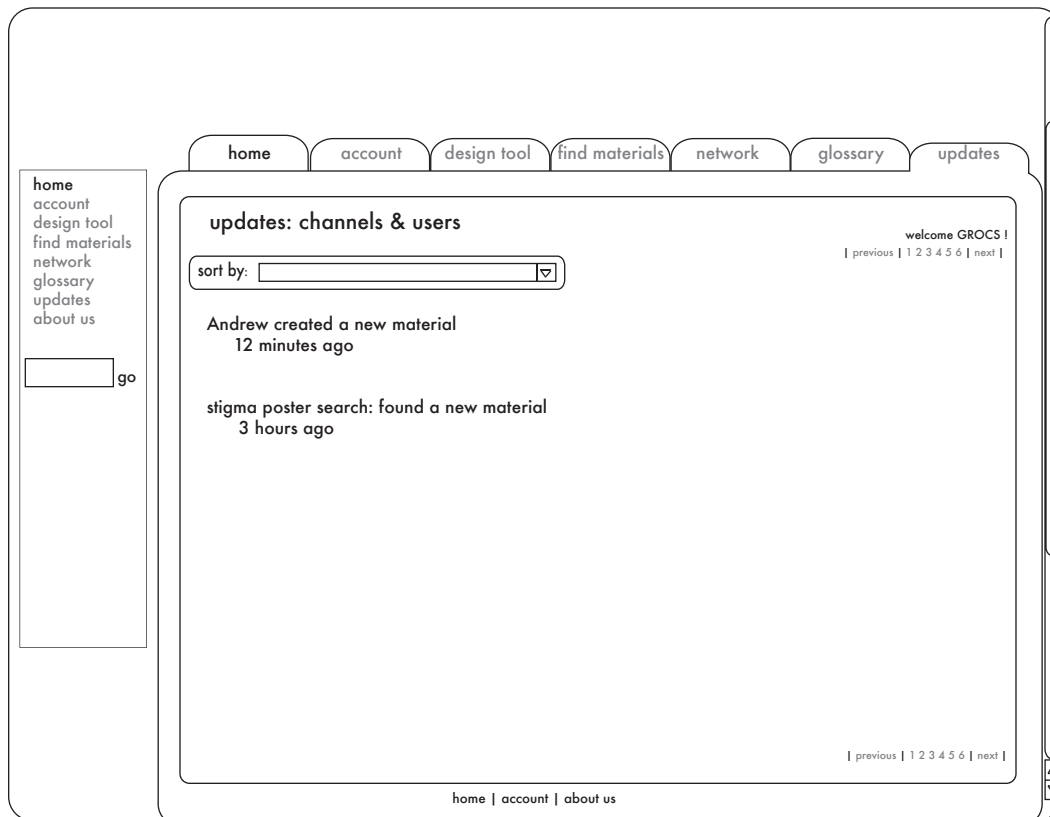
The glossary is a Wikipedia-style collection of user-submitted definitions and information on entries and definitions requested by other users. It will have a simplified search interface and will include an easy way to post requests for definitions and to see the list of requests.



Glossary: Glossary showing keyword search.

Updates

The Updates area of the website allows a user to quickly see recent changes to the areas of interest to him or her. Updates are checked for (1) searches saved as channels and (2) other users in his or her network.



Updates: Updates showing results for a user in the network (Andrew) and for a channel (sigma poster search).

Integration with Mobile Phones

As part of the project, we assessed the utility of mobile phones for distributing information in this context. Preliminary evaluation shows that, with advanced smart phones, a user can participate in almost the same way as a traditional browser user as these smart phones have integrated web browsers. For other phones, the two options are MMS and SMS. MMS requires additional investigation, and SMS has only limited text support.

Phones with Browsers: Smart Phones

The smart phones used, the T-Mobile Dash and BlackBerry, had integrated web browsers. These web browsers worked well with most HTML content; frames, tables, and certain style sheet formatting associated with those were not rendered correctly. In many cases, images were re-sized automatically for viewing on the smaller screen. With integrated camera phones, it was possible to upload images to the website from the camera phone, making it easier to collect and share local images on the website.

We envision integrating support for these directly with the site with a mobile section with a simpler interface than the full website, but having most features except for the design tool. We were not able to extensively evaluate interoperability with GPS technology, but believe that these phones could be used to post blog posts or comments/feedback on projects keyed to the geographic coordinates of use. With integration with Google Maps API, this would allow those to immediately appear on the site, displayed geographically.

MMS: Multimedia Messaging Service

No significant progress could be made on integration of MMS in the time allowed. MMS appears to suffer from a lack of standardization in the method of content delivery, but could be used to transfer projects between phones, such as from a health worker to members of a target audience, and should be investigated further.

SMS: Short Message Service

The basic phones considered, like the Nokia 6010, had support for sending text messages only. Given that the site has a large visual component, this largely excludes participation with the site's design-tool-related components. We foresee that these could be used to inter-operate with a database on the server to provide textual information in response to simple commands -- find someone nearby to help for members of the community target by health workers, report in a very brief note about the location of a health worker (such as coordinates), get definitions and information, etc. Pursuing this is not an immediate priority.

Cell Phone Problems: E-mailing a Phone

One problem that may emerge as we extend this service is the difference between cell phone conventions in the United States and elsewhere. In particular, in the United States, text messages interact with email without requiring any special change on the email end. Our research shows that, internationally, cooperation with the phone companies to pay to send emails to phones is the norm.

Next Steps

Considerable progress was made in defining the website features and functionality that would be made available to support the health worker community. The task remains to implement, test, and deploy this system. Diagnosing the Digital Divide requests to become a project in residence at GROCS for the next several months as we complete the website and complete initial testing when three team members will be on site in Ethiopia, interacting with individual health workers and showing them how to use the site. We will then be positioned at the end of the summer to report back the results of the experiment in providing this support tool to the target audience, and, at that point, we would need to discuss the future for hosting and supporting the site if it is continued.