GTOnline

Lite Social Networking
for Networking Socialites

GTOnline System Overview

GTOnline is a simple social networking application with a set of basic features similar to those found on sites like Facebook and LinkedIn. GTOnline users maintain a basic profile including their name, birthdate, hometown, current city, schools they have attended, and places of employment. Users can connect to other users by sending friend requests. If a request is accepted, then a friendship link is established between the two users. In addition to maintaining basic profile information, users can let their friends know what they are currently doing by writing status updates. Users can also comment on their friends' status updates as well as their own status updates.

The GTOnline application also supports administrative users who maintain the list of schools and places of employment. Administrative users can also run reports that aggregate certain information across the entire social network. *For simplicity, the administrative functionality has been left out of this document*. However, for development of the GTOnline data model, it is important to note that the system should maintain the **Last Login** date and time of each administrator.

Logging In to GTOnline

Figure 1 shows the GTOnline login screen. All users are uniquely identified by their **Email Address**. Providing a valid **Email Address** and **Password** combination will log the user into the system. Providing invalid login credentials should display an error message and return the user to the login screen.

Users who are new to GTOnline must register first. A *Register* button is provided directly on the login page. Clicking this button displays the new user registration form. Figure 2 shows the new user registration form. All fields on this form are required and cannot be changed at a later time. (Users who forget their passwords are just plain out of luck!)

After the user clicks **Register**, the system should verify that all fields are filled in, that the **Email Address** has not already been registered, and that the **Password** and Confirm **Password** fields are equal. If any of these validations fail, the user should be returned to this screen to make corrections. The user should be provided with meaningful error messages so he or she knows what to correct.

Figure 1 - GTOnline Login Screen

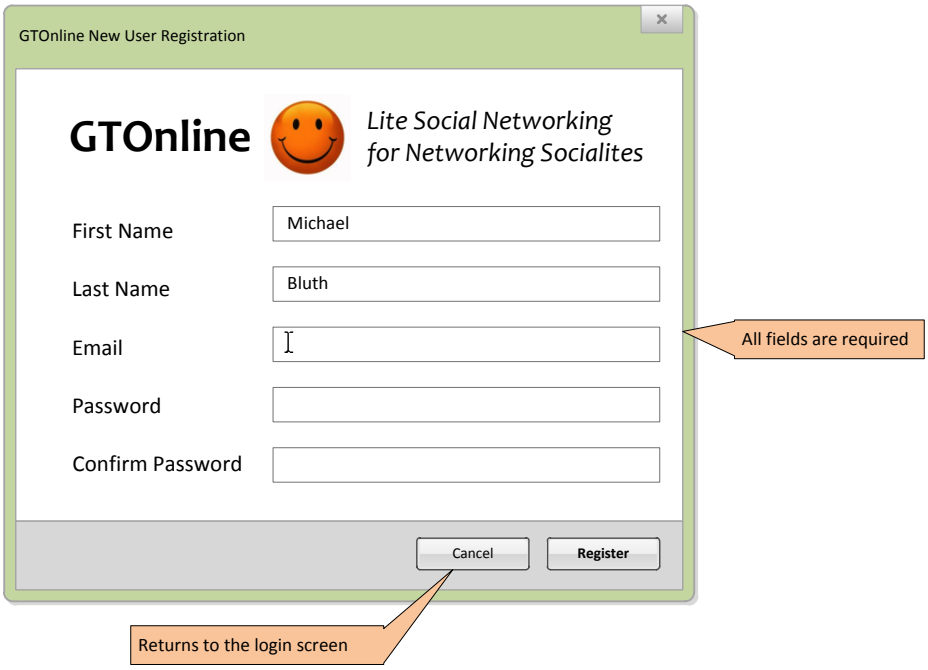

Figure 2 - New User Registration Form

GTOnline User Profiles

All GTOnline users (except administrative users) have a profile containing basic information. After a new user registers with GTOnline, they should be taken immediately to the Edit Profile screen. This interface is shown in Figure 3. The basic profile properties include the user's **Sex**, **Birthdate**, **Current City**, **Hometown**, and any number of **Interests**.

The profile also contains information about the user's education. The set of available **School**s and their **Type**s is maintained behind the scenes by the database adminstrator, so the user will select his or her school from a fixed list, instead of typing it in explicitly. A user can have any number of schools associated with his or her profile and can also provide a **Graduation Date** for each school. If a user has not yet graduated, the graduation date can be left blank. The interface should allow the user to add multiple schools and also delete schools from his or her profile in case of an error. It is also possible that the same school will appear multiple times with different graduation dates.

The profile also contains professional information. A list of employers is maintained behind the scenes by the database administrator. The user will select his or her **Employer** from the list and then provide a **Job Title**. The **Job Title** field can be any value provided by the user—i.e., there is no preset list of job titles. A profile can contain multiple **Employers** and the same **Employer** may even appear multiple times as long as the **Job Title** is different in each case. The interface also allows the user to delete associated employers in case of an error.

The only required fields on the profile are **Sex** and **Birthdate**. All the other fields may be left blank (e.g., no **Current City**, **Hometown**, **School**, or **Employer** information).

Viewing a GTOnline Profile

After logging in, a user who has already set up a profile should immediately see the View Profile screen for his or her own profile. Figure 4 shows the View Profile screen. All information from the user's profile should appear on this screen. However, the **Year Graduated** field should only be shown if the user has actually graduated and provided the graduation date for that school. The schools should be sorted by graduation date in descending order (most recent schools appear at the top). If the user has not graduated from a school then that school should appear at the top.

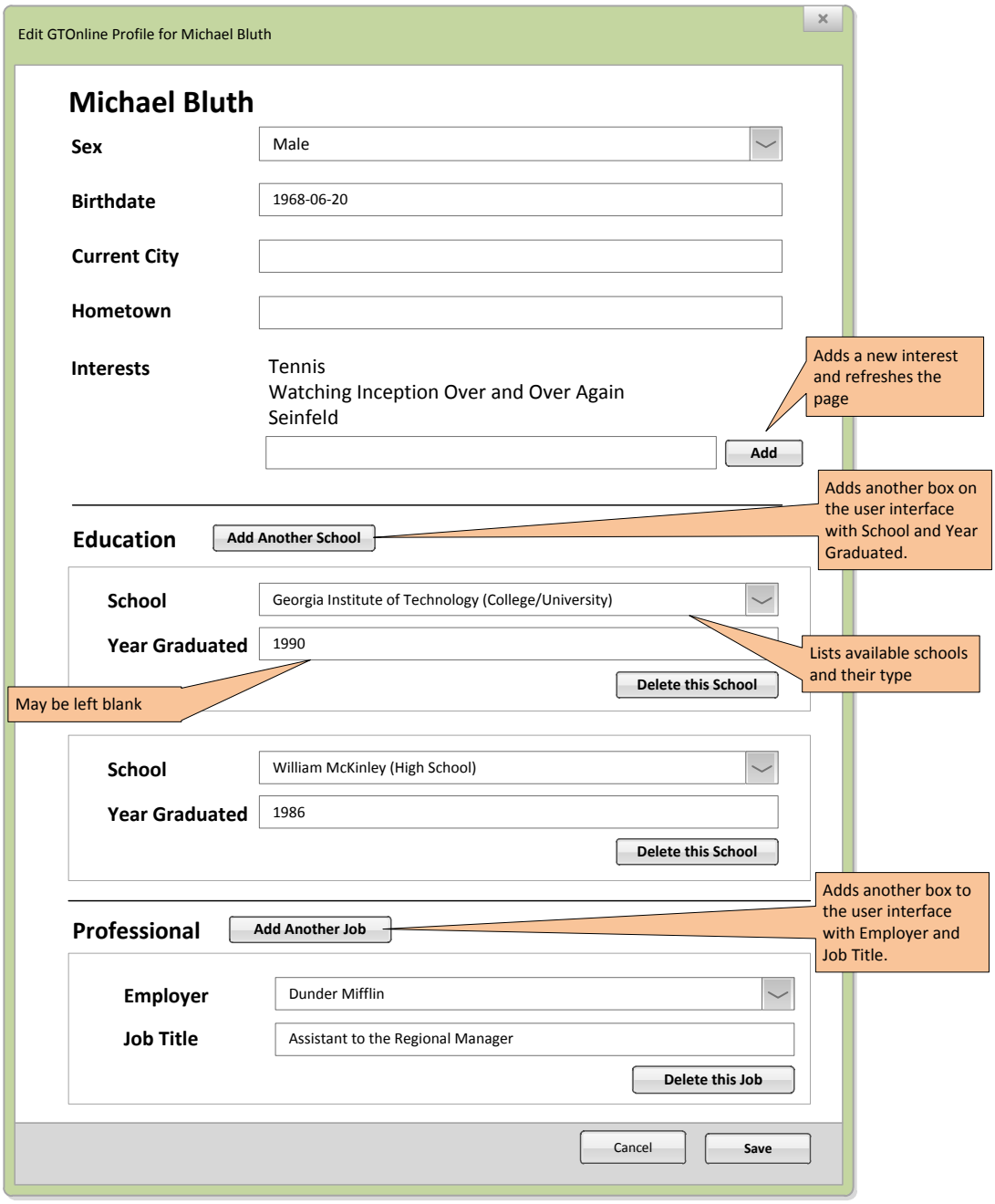

Figure 3 - Edit Profile

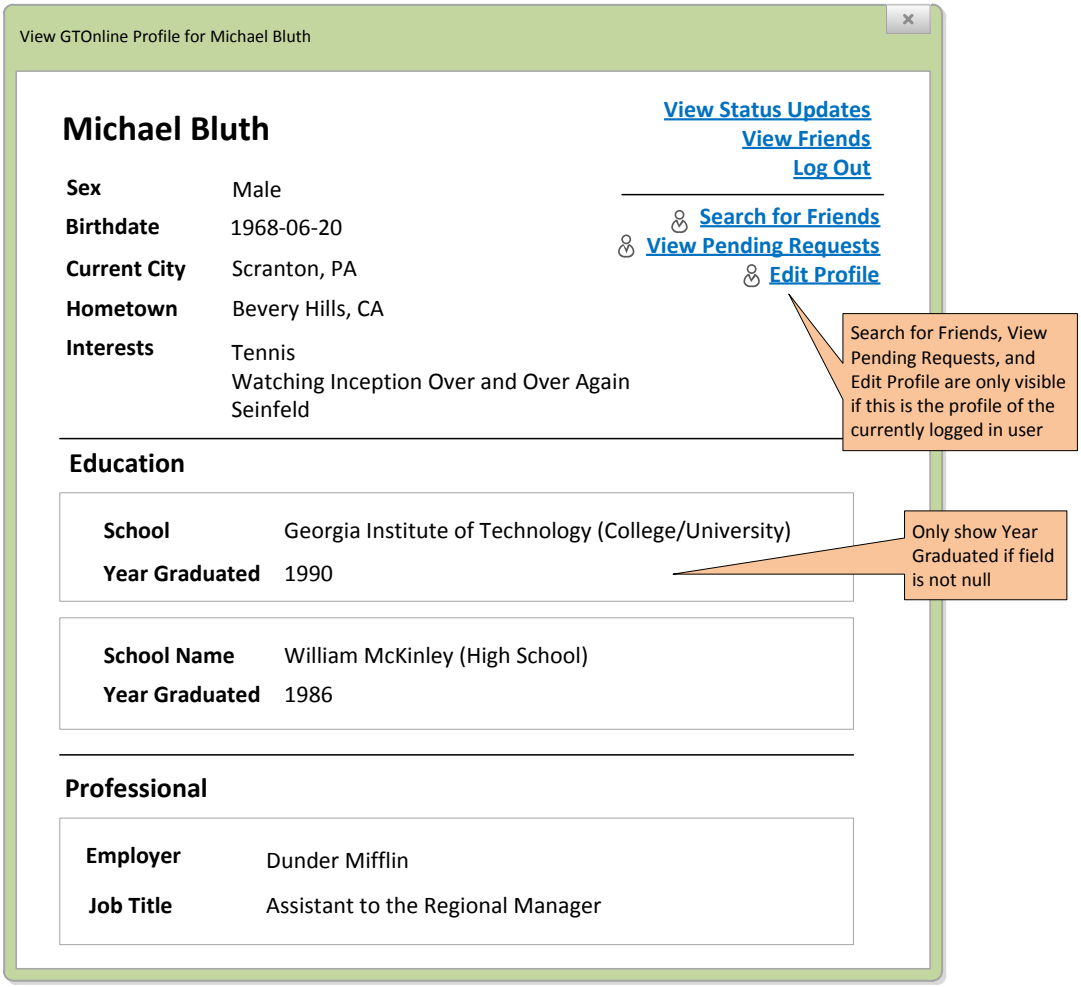

Figure 4 - View Profile

There are a number of links on the View Profile screen:

- Clicking **View Status Updates** shows the latest Status Updates from the user (see Figure 9).
- Clicking **View Friends** shows the list of friends for this user (see Figure 8).
- Clicking **Log Out** signs the user out of the system and shows the login screen.

In addition to these links, two more links appear if the profile is that of the currently logged in user (i.e., if the user is looking at someone else's profile, he or she will not see these options).

- Clicking **View Pending Requests** shows the list of friend requests that have not yet been accepted or rejected (see Figure 7).
- Clicking **Edit Profile** shows the Edit Profile screen allowing the user to make changes to his or her own profile (see Figure 3).

Requesting and Adding Friends

Social networks are all about making connections. GTOnline allows users to search for friends and connect to them. There are several steps involved in making a connection with a new friend on GTOnline:

1. A user searches for a friend based on several profile criteria including **Name**, **Email Address**, and **Hometown** (see Figure 5).

2. Then, the user submits a friend request to another user with whom they wish to connect (see Figure 6).

3. Finally, the other user receives the friend request and accepts it or rejects it (see Figure 7).

A significant difference between GTOnline and Facebook is that friendship is not always reciprocal in GTOnline. (Perhaps this is a better representation of real life!) This means, for example, that just because Emily is friends with Sarah, this does not imply that Sarah is friends with Emily. In other words, in order to establish a two-way connection between Emily and Sarah on GTOnline, both users must send friend requests to each other and both requests must be accepted. If, however, only Emily sends a request to Sarah and Sarah accepts it, then Sarah will appear in Emily's list of friends, but Emily will *not* appear in Sarah's list of friends (because Sarah has not yet made a request to Emily). Technically speaking, this means that your data model must differentiate the user who requested the friendship from the one who accepted it.

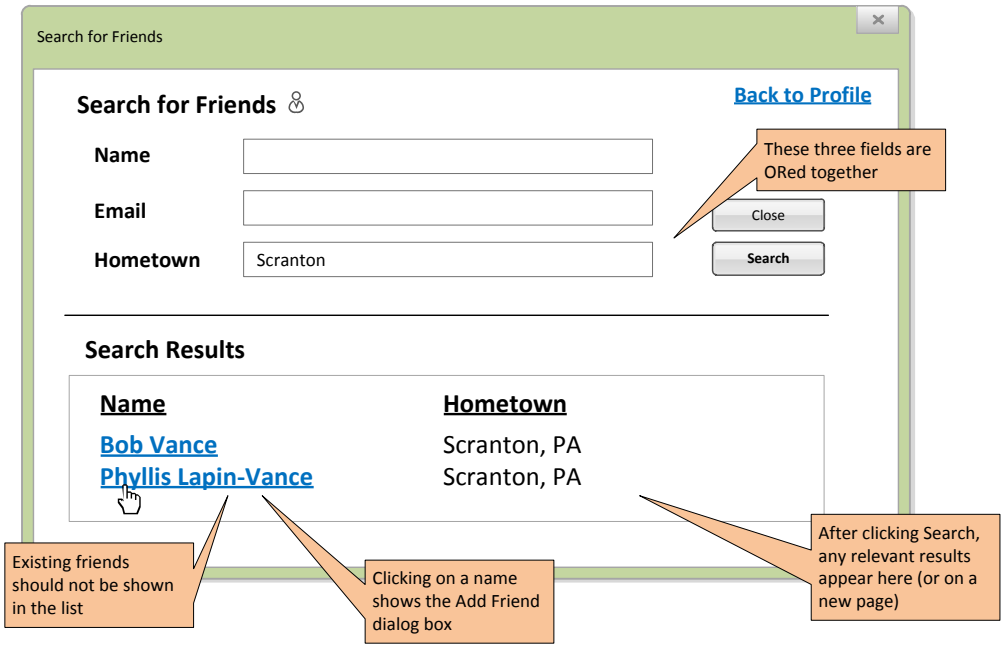

Figure 5 - Search for Friends

Figure 5 shows the Search for Friends screen. This screen has two parts. One part contains several fields that the user can fill in to search for friends. The user does not have to fill in all three fields. Furthermore, the search should return users that meet any of the criteria. That means, for example, that searching for the **Name** "John" and the

Hometown "Scranton" will return users who have the substring "John" in any part of their **Name** OR who have the substring "Scranton" in their **Hometown** OR both.

The second part of the screen shows search results. The results should be sorted alphabetically by **First Name** and then **Last Name** and should also list the **Hometown** for the users returned. For simplicity of implementation, you may choose to divide this screen up into two separate screens: the first contains the search criteria and the second lists the results.

When the user clicks on a **Name** in the search results, the Request New Friend screen is shown (see Figure 6). This screen lists the **Name** and **Hometown** of the user who will receive the friend request. Also, the user must provide a word or two describing the **Relationship** with the friend (e.g., co-worker, brother, sister, classmate, etc.).

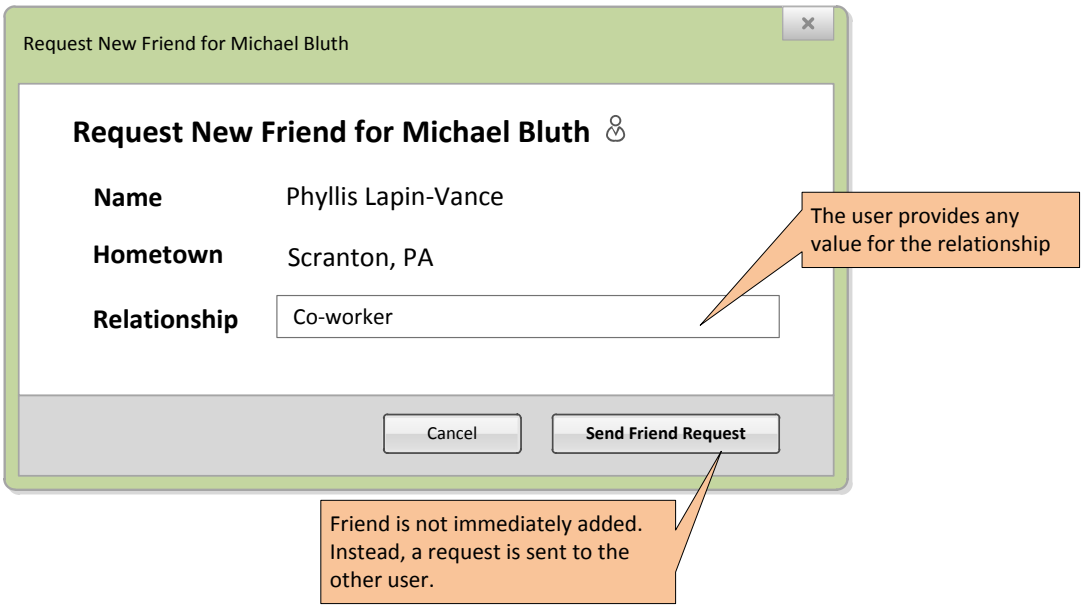

Figure 6 - Request New Friend

From a user's profile there is a link to see any pending friend requests (see Figure 4). The Pending Friend Request screen shown in Figure 7 lists two kinds of requests: requests from other users that the current user can accept or reject, and requests that the current user has sent to other users that have not yet been accepted or rejected. Once a request has been accepted or rejected, it is removed from the Pending Friend Request screen of both the user who initiated the request and the user who accepted/rejected request. A user may also cancel a request that he or she sent before the other user has accepted/rejected it. Once a request has been cancelled, it should no longer appear on either user's Pending Friend Request screen.

From a user's profile, there is a link to see the current list of friends connected to the user. This list only shows direct, first-level friends (i.e., no friends-of-friends, etc.). By default, the friends list is sorted by the **First Name**. However, the user may click on the table header to change the sorting to the **Relationship** or **Connected Since**

fields. Note that the **Connected Since** field is set when the friend request is accepted, *not* when the request is originally sent.

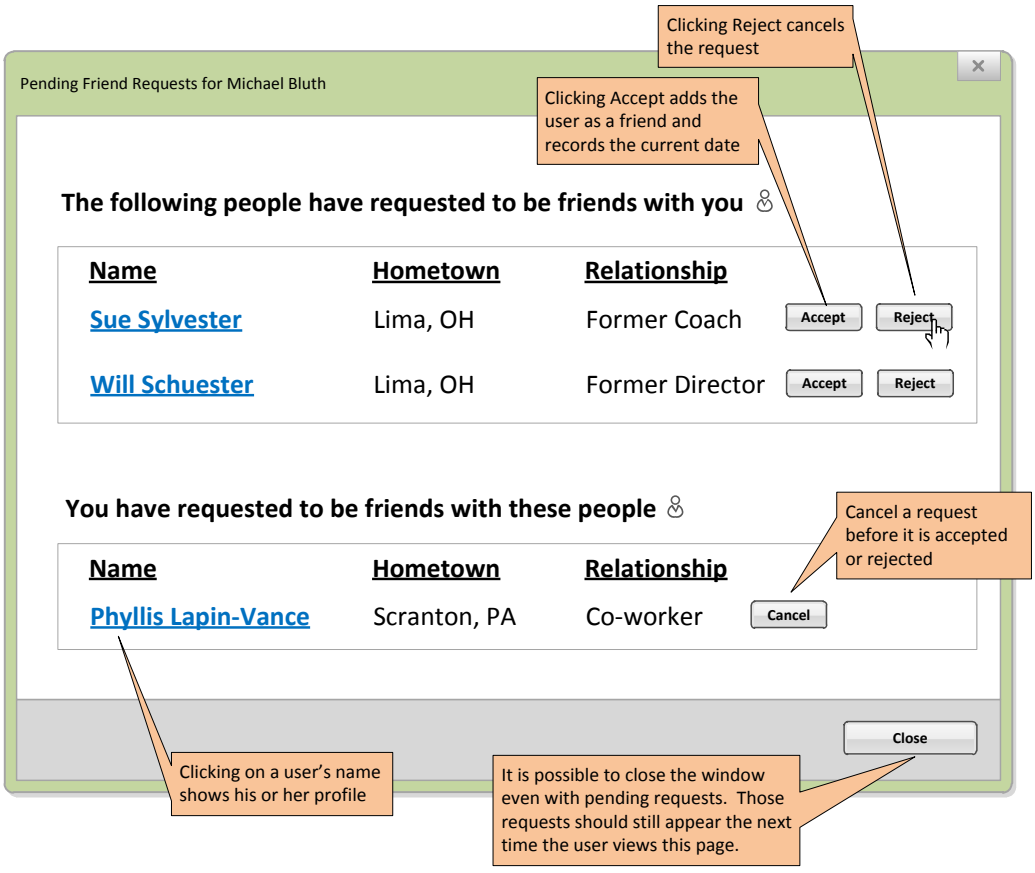

Figure 7 - Pending Friend Requests

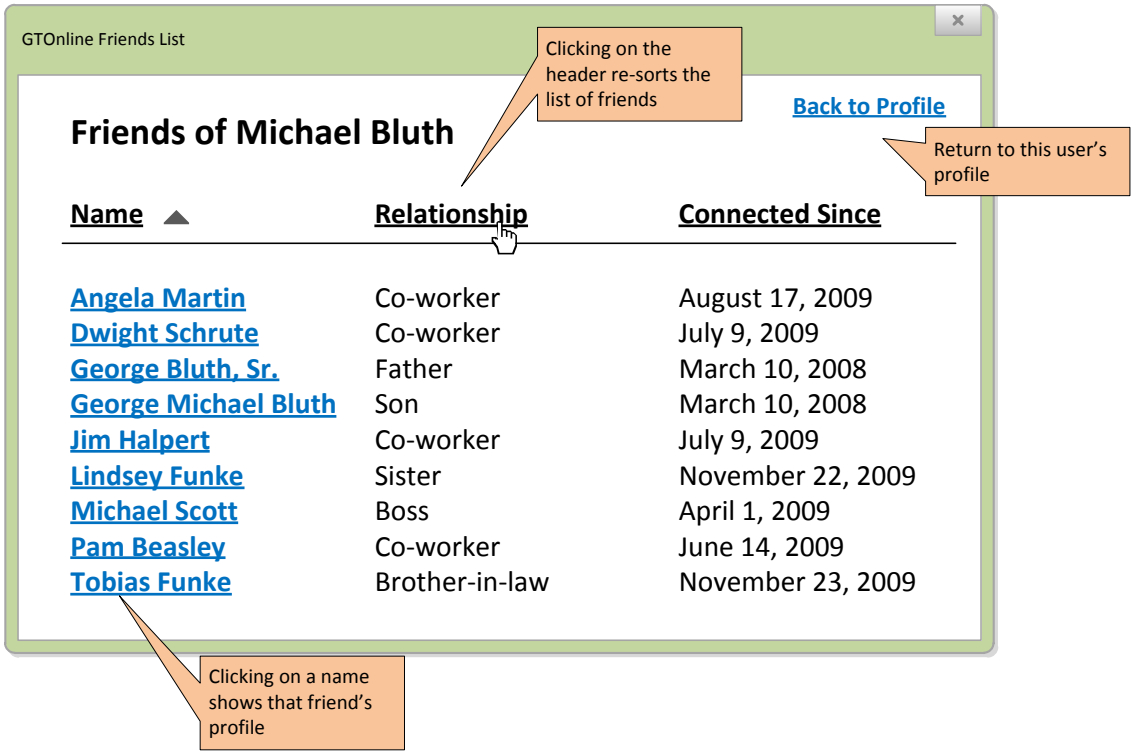

Figure 8 - View List of Friends

GTOnline Status Updates

A social networking application would be nothing without Status Updates. So, even a lightweight social network like GTOnline supports Status Updates. A **Status Update** is a brief snippet of text that lets a user's friends know what the user is currently doing or thinking. From the View Profile page, there is a link to view that user's most recent Status Updates (see Figure 4). The View Status Update screen is shown in Figure 9. This screen serves multiple purposes:

- It allows friends of a user to view the latest Status Updates from that user as well as any Comments that have been made (by any user).
- It allows a user to add new Status Updates.
- It allows users to add Comments in response to their friends' Status Updates.

Clearly, users should only be able to add Status Updates to their own profiles. Therefore, the option to add a Status Update is only shown if the Status Update screen is for the currently logged in user. Due to limited screen space, GTOnline only shows the last three Status Updates and any comments that have been made on those Status Updates. Status Updates should be sorted in descending order with the latest update appearing at the top. The date and time of the Status Update should be shown along with the actual text of the Update.

Comments make Status Updates fun because they allow users to make (smart) remarks about the Status Updates of their friends. Comments are always associated with a particular Status Update. As seen in Figure 9, an Add Comment button appears next to each Status Update allowing the currently logged in user to comment on their friends' Status Updates. Comments should be sorted in ascending order with the most recent comment (for each Status Update) appearing at the bottom. There is no limit to the number of Comments allowed on a particular Status Update. It is also possible for a user to comment on his or her own Status Update.

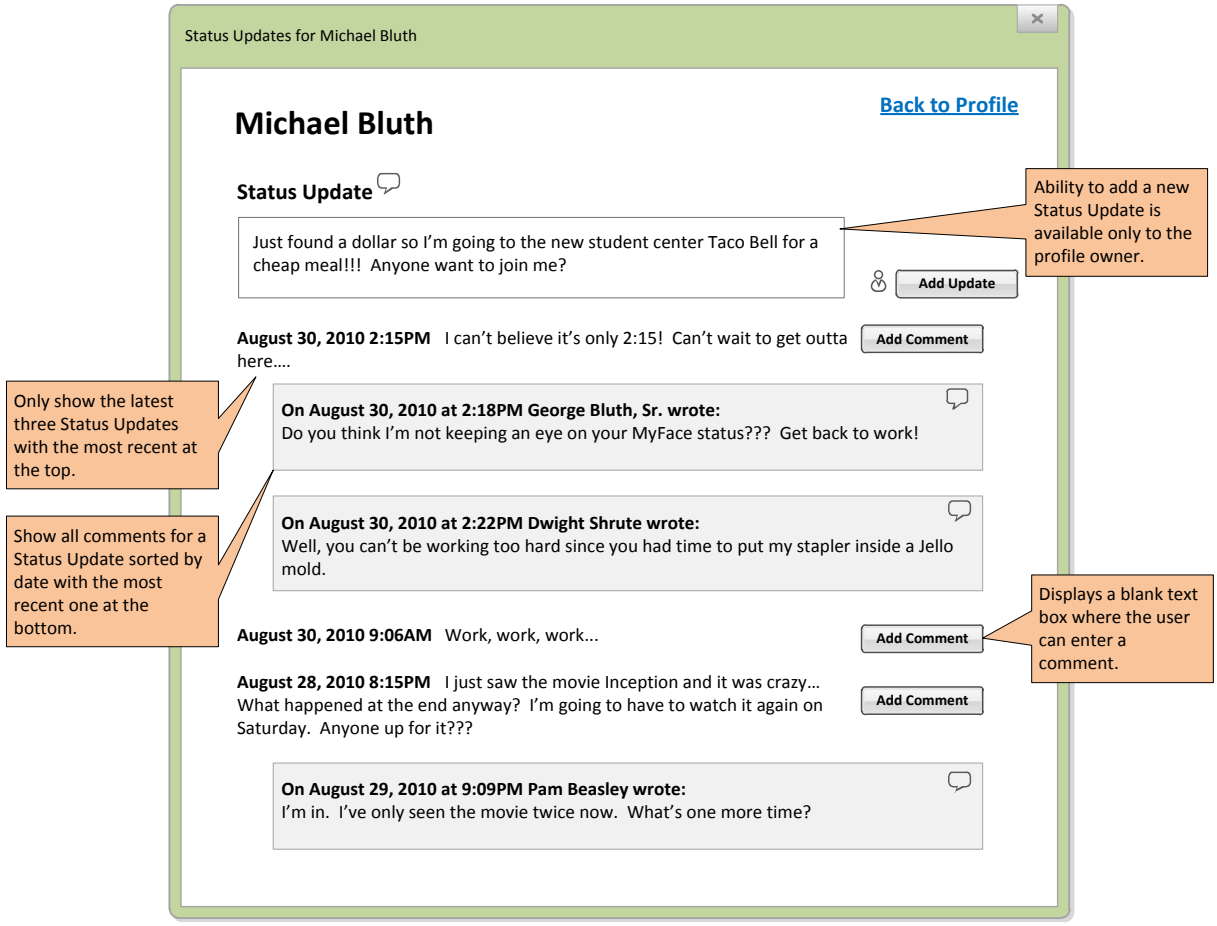

Figure 9 - View Status Updates