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The National Accessibility Portal and Facebook: a case study

LL Butgereit
Meraka Institute, CSIR
Pretoria, South Africa
lbutgereit@meraka.org.za

Abstract:

The National Accessibility Portal is a web repository of information for South Africans living with disabilities. Information stored on the portal include copies of legislation applicable to people with disabilities, lists of schools for children with disabilities, lists of accessible tourist venues, mailing lists, discussion forums, book reviews, etc. In an effort to reach a wider (and possibly younger) group of potential users, a Facebook application was developed which could be installed in a Facebook profile. This made it easier for people to keep up-to-date with what is new on the National Accessibility Portal without leaving the popular Facebook portal. The Facebook application could be shared, posted in a profile, and invitations could be sent to Facebook friends. This paper discusses the technical issues, problems encountered, and lessons learned in creating a Facebook front end for a traditional web site.

Keywords: Facebook, NAP, disabilities, accessibility, social networking

1. Introduction

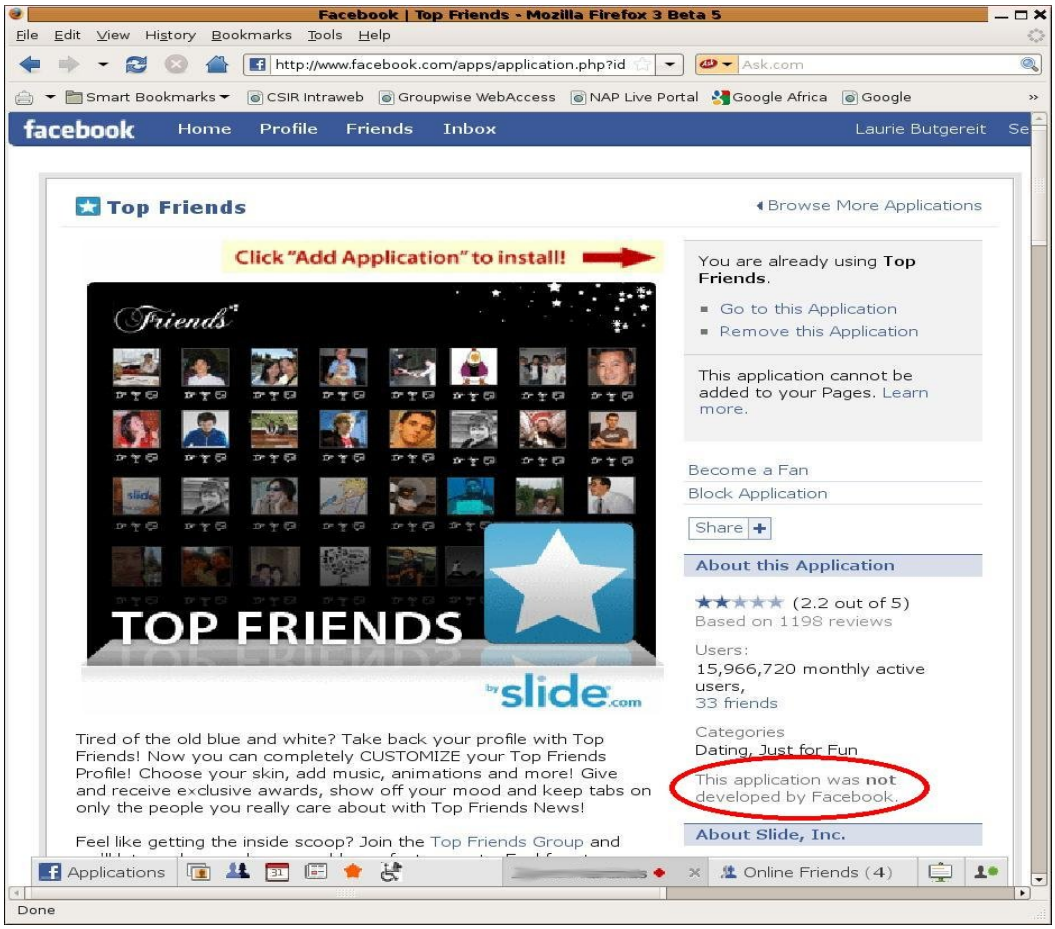
The National Accessibility Portal (NAP) is a repository of information for South Africans living with disabilities (Coetzee, et al, 2007). Not only is the NAP portal designed to provide information to people with disabilities, it is also designed so that the presentation of the content is in an accessible manner making it possible for visually impaired people, people with physical disabilities and the Deaf to easily access the information. The NAP Portal adheres to numerous accessibility standards and has been evaluated for accessibility (Coetzee, 2008).

Facebook is a social networking site. From its humble beginnings in 2004 at Harvard University, Facebook now boasts over 132 million unique visitors in June, 2008, with the Facebook network comprising more than 10,000 servers on the web tier level alone (Howard, 2008). Facebook users set up profiles of themselves, post photos, create a list of friends, message each other, chat with each other, and write on each others' walls. “Generation Y” (also often called the “millennia’s” and refers roughly those young adults who are just beginning to graduate from university) reveal much more about themselves on Facebook then more mature users feel comfortable with (Westlake, 2008).

The National Accessibility Portal Facebook application is an attempt to tap the power of online social networks in order to attract more viewers to a traditional website. This paper will describe how a Facebook application works, some of the problems which were encountered, and some statistics on traffic to the National Accessibility Portal.

2. Facebook as a Portal

Besides being an online social networking site, Facebook is also a portal to other sites. The term “portal” can be ambiguous but in this context the author uses the term “portal” to mean a “single point of access to information on the Internet”. Facebook can be a type of user interface or frontend for another website by using the facility of Facebook applications. Applications which seem to the naïve user to be “part of Facebook” are actually links to another website. For example, by investigating the popular “Top Friends” facility, one finds the following:



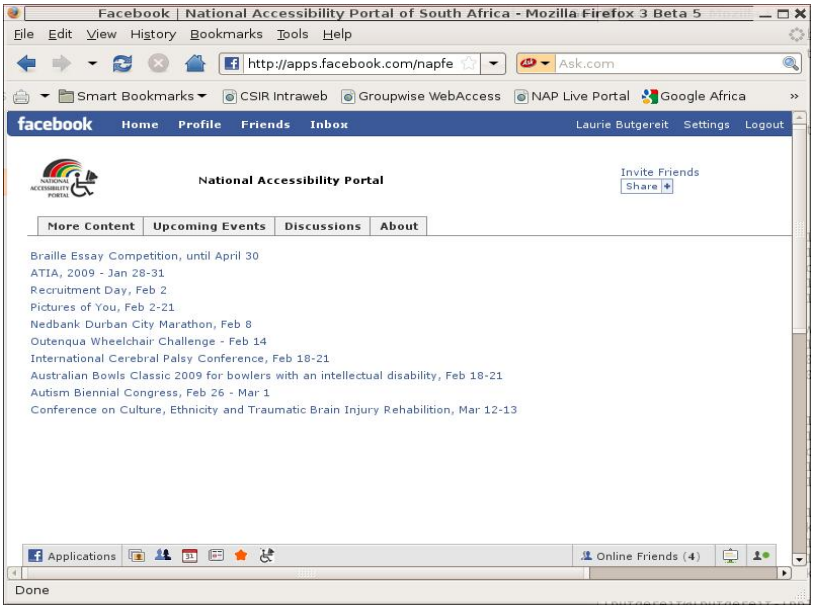
The important note “This application was not developed by Facebook” is an indication that the Facebook application will probably be running on a non-Facebook server.

While there seems to be no official statistics on the number of Facebook applications serving as portals to other websites, the Facebook group entitled “Facebook Developers” has over 2 million members.

3. What is a Facebook application?

In simplest terms, a Facebook application is merely a servlet which executes on a third-party server. When a Facebook user clicks on a Facebook application in the browser on his or her local workstation, a request is made to Facebook which, in turn, makes a call to a third-party server (or the data could possibly be cached on the Facebook servers themselves in certain cases) for the data. In some cases, the Facebook application could bypass the Facebook server altogether and go directly to the third-party server.

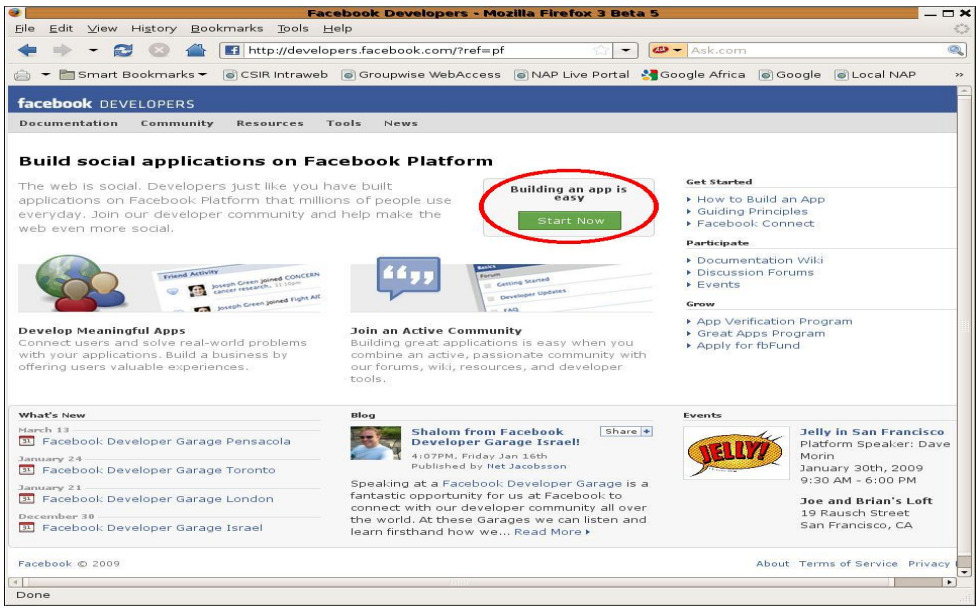
This can be seen on the National Accessibility Portal Facebook application:



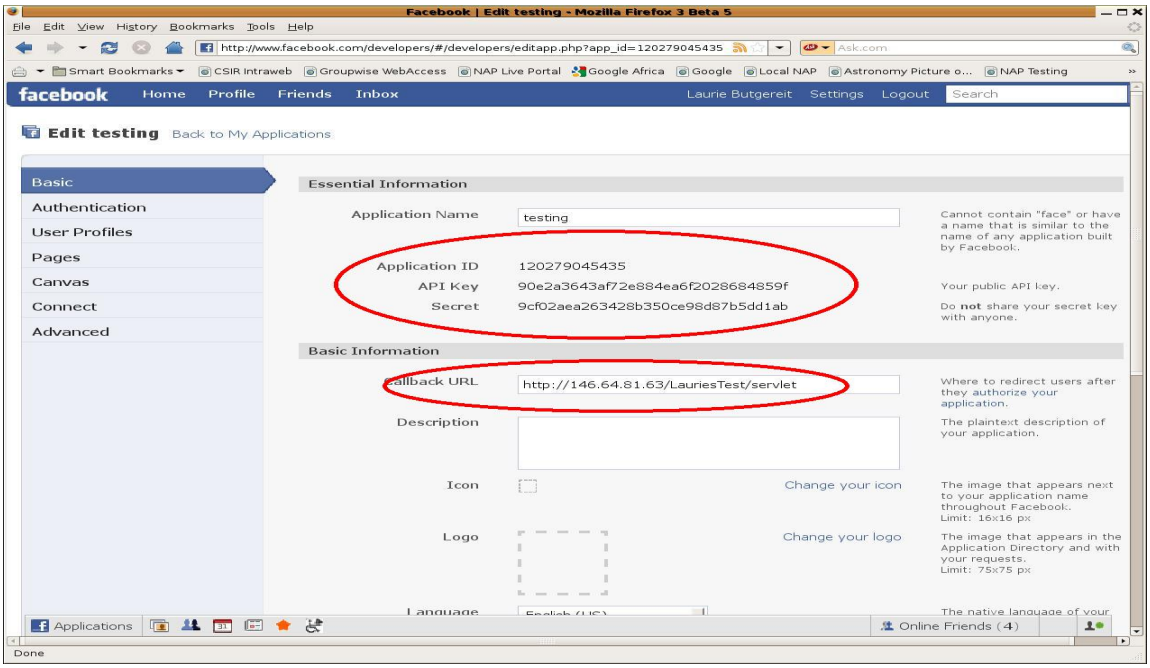
where the links in the grey tabs refer back to a Facebook server and the links to the actual disability events refer directly to the National Accessibility Portal.

4. How to set up a Facebook application

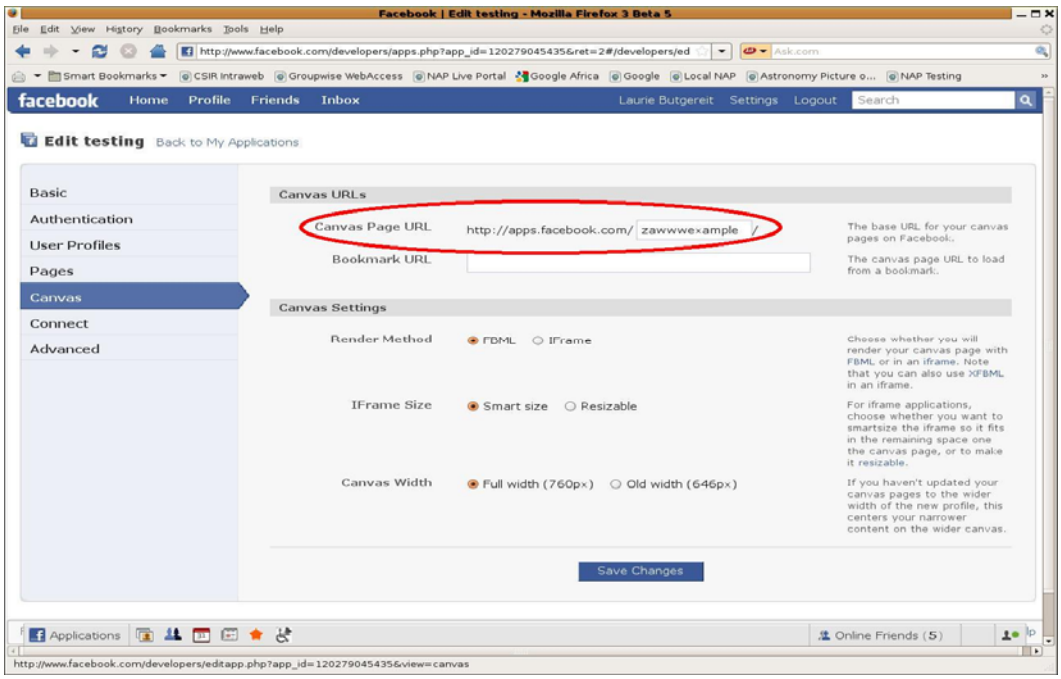
Facebook makes it fairly easy to create a Facebook application. On the bottom Facebook menu, there is an option *Developers.* This link takes you to a developers page with links to documentation, events, training materials, etc.



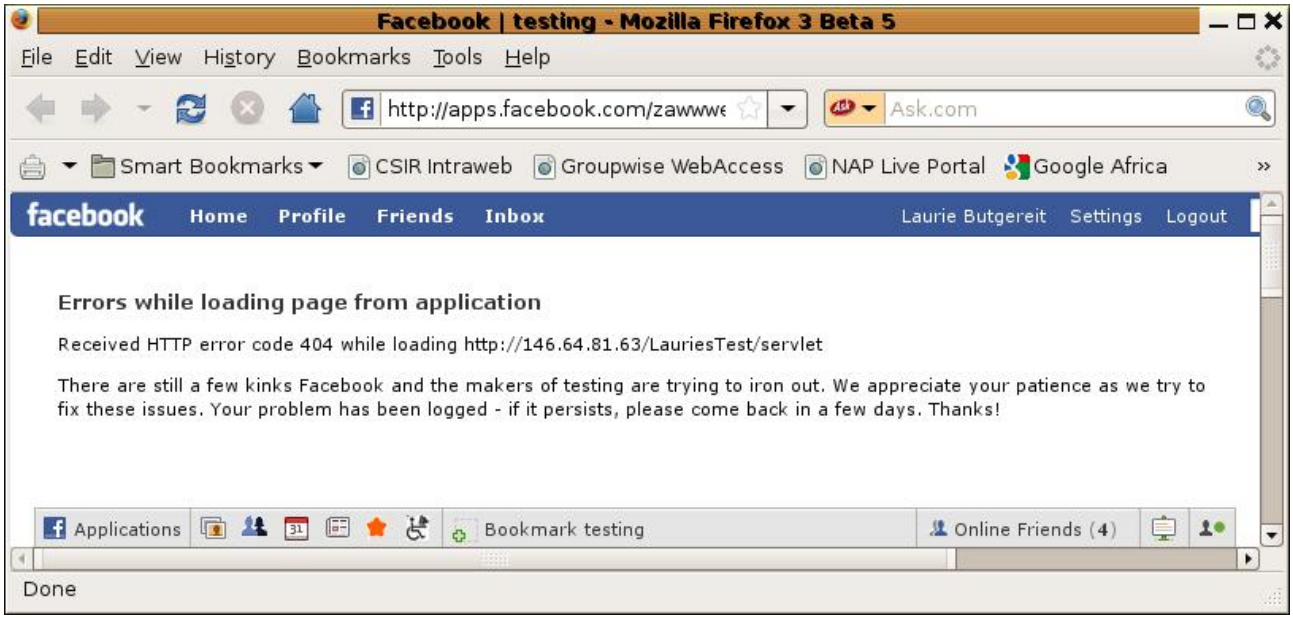
The button entitled *Start Now* will lead budding Facebook developers to a tutorial with explicit instructions on how to set up an Application. When you actually start to configure the application, three important values are given to you: The Application ID, the API key, and the Secret value.



The Callback URL field is where you, as the Facebook developer, enter the URL of the servlet which Facebook must call when this application is executed. This must be a publicly accessible URL which is available 24/7. The other critical field which must be entered is on the Canvas page:



This is where you assign your application a Facebook URL. With this configuration, you should be able to point your browser to http://apps.facebook.com/zawwwexample and, since we haven't actually written our servlet yet, you should receive a valid Facebook branded error message:



This error message shows that Facebook attempted to access the URL http://146.64.81.63/LauriesTest/servlet and that something happened and that the call failed.

5. The application servlet

Facebook applications can be written in many languages. There are language specific APIs for numerous languages including PHP, Java, C++, and Perl. The *official* library is PHP.

In view of the fact that the National Accessibility Portal is a J2EE application running under Jboss, we chose to use Java for the development of the Facebook application. There are three different Java APIs currently available. We used the facebook-java-api libraries found at http://code.google.com/p/facebook-java-api/.

It is critical that the servlet (regardless of the language in which it is written) has access to the API key and the secret value assigned by Facebook (Section 4 above) when the application was created. This can be easily configured in the web.xml deployment description for the servlet:

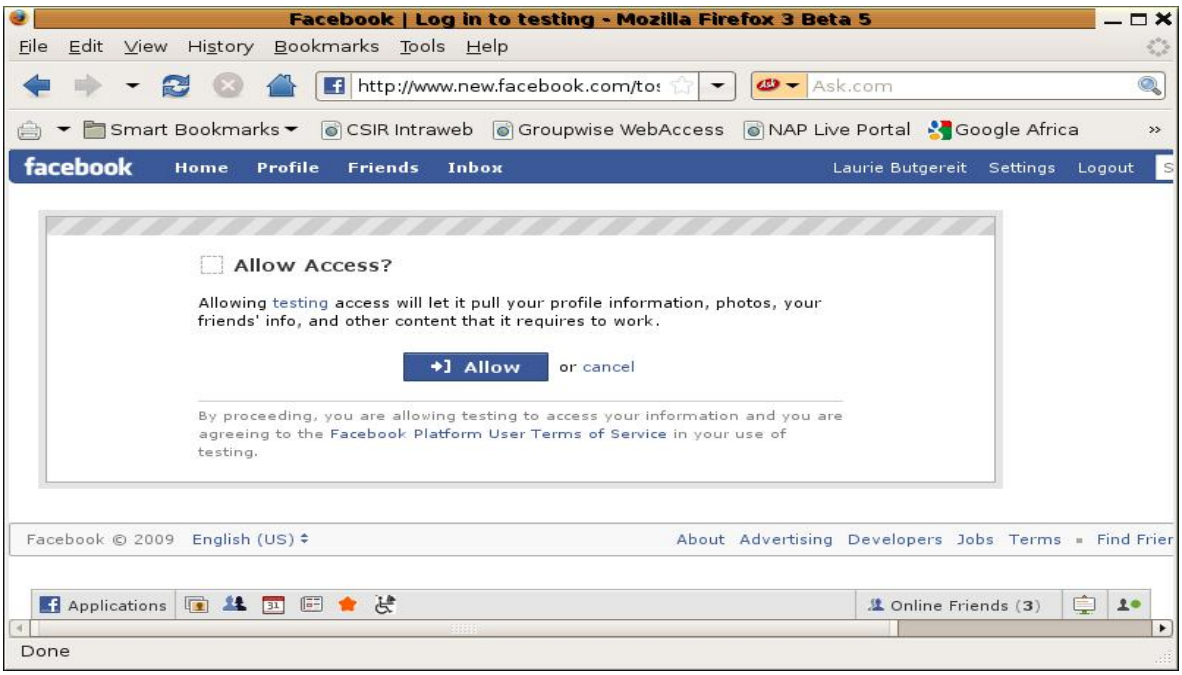
```
<servlet>
    <servlet-name>ZAWWWServlet</servlet-name>
    <servlet-class>
        za.org.meraka.facebook.servlet.nap.ZAWWWServlet
    </servlet-class>
    <init-param>
        <param-name>apiKey</param-name>
        <param-value>
            90e2a3643af72e884ea6f2028684859f
        </param-value>
    </init-param>
    <init-param>

        <param-name>secretKey</param-name>
        <param-value>
            9cf02aea263428b350ce98d87b5dd1ab
        </param-value>
    </init-param>
</servlet>
<servlet-mapping>
    <servlet-name>ZAWWWServlet</servlet-name>
    <url-pattern>/servlet</url-pattern>
</servlet-mapping>
```

The *doGet* method from the servlet is:

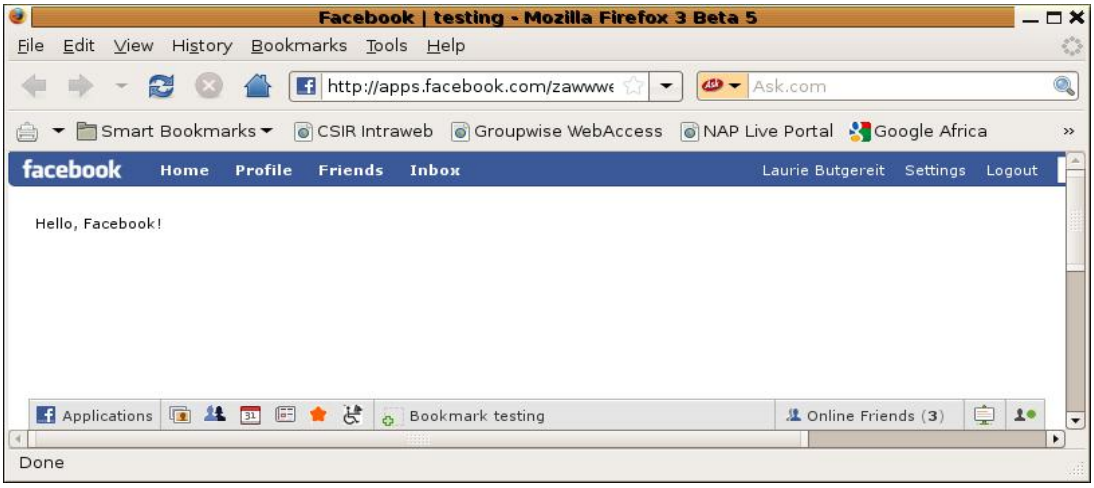
```
protected void doGet(HttpServletRequest request,  HttpServletResponse response)
        throws ServletException, IOException {
    try {
        String FB_API_KEY = getInitParameter("apiKey");
        String FB_SECRET_KEY = getInitParameter("secretKey");
        String sessionKey;
        sessionKey = request.getParameter(FacebookParam.SESSION_KEY.toString());
        FacebookJsonRestClient facebook;
```

```
            if ( sessionKey == null )
                facebook = null;
            else {
                facebook = (FacebookJsonRestClient)
                                                    new FacebookJsonRestClient( FB_API_KEY,
FB_SECRET_KEY, sessionKey);
            }

            PrintWriter servletOutput;
            servletOutput = response.getWriter();
            response.setContentType( "text/html" );
            if (facebook==null){
                                String loginPage =

          "http://www.new.facebook.com/login.php?api_key="+FB_API_KEY+"&v=1.0&canvas=true";
                servletOutput.println("<fb:redirect url=" + loginPage + "/>");
            }
            else{
                servletOutput.println("Hello, Facebook!");
            }
        } catch ( Throwable t) {
            System.out.println("throwing " + t);
        }
}
```

In the above code segment, if the variable *facebook* is null, then the Facebook user has not given this application permission to the application to access his or her Facebook profile. In such a case, the user is redirected to a Facebook permission page which looks like:



Assuming that the Facebook user allows the application to access his or her profile information, then this page will not appear in future. Once the application executes, the Facebook page looks like:



6. FBML

Facebook has it's own mark up language called FBML. This is similar to HTML but has numerous hooks which allow the facebook application to integrate deeply into the Facebook portal. Tags such as

```
<fb:multi-friend-selector>
```

allows to Facebook programmer to easily request friends from the Facebook user. And the FBML tag:

```
<fb:share-button>
```

puts the familiar Facebook share facility on an application.

It is possible to write an entire front end to your traditional website using the facilities of FBML.

7. National Accessibility Portal application

As an experiment to see if Facebook could be used to attract more traffic to a traditional website, we wrote a Facebook application which could hook into a Facebook users' profiles, exist on the *Boxes* pages, be bookmarked on the bottom Facebook menu bars, or execute on a Facebook page on its own. The application merely summarized specific content on the National Accessibility Portal and provided links back to the NAP portal itself.

At the time of writing this paper, Facebook users could get a summary of new content available on the National Accessibility Portal, a list upcoming events which would be of interest to people with disabilities, and a list of current discussion forums on the NAP portal itself.

8. Website traffic

The National Accessibility Portal is a specialized website and as such is not necessarily a high traffic website. The National Accessibility Portal Facebook application was deployed just before Christmas, 2008, without comment. This was initially a technical test to ensure that the developers understood how Facebook worked.

In the beginning of January, 2009, we announced the Facebook application on our National Accessibility mailing list and within approximately 2 weeks, 4% of the traffic to the National Accessibility Portal came via Facebook. In addition, our Facebook application has approximately 10% of the quantity of registered users of the National Accessibility Portal within 2 weeks. We expect these values to increase during the upcoming months.

A number of the National Accessibility Portal Facebook application users and fans have “friended” and messaged the author of this paper. Many of these users were not aware of the original National Accessibility Portal website and were not users of the original portal. We have successfully reached many new users who have disabilities or work in with people with disabilities.

More details information about the website traffic will be available at the presentation of this information.

9. Problems encountered

We encountered one major problem which is still a problem at the time of writing this paper. Hopefully it will have been solved by the time we present this information.

The third-party server which hosts the actual Facebook application must have fast connectivity to the internet. When the Facebook server calls the Facebook application, it only waits a short period of time. This time period does not seem to be documented and is not configurable. If the application servlet does not respond within this period of

time, the Facebook server assumes that the Facebook application has crashed and prints a standard error message (as displayed in section 4 above).

This speed restriction that we are currently experiencing has stopped us from actually writing *social* programs which seriously interact with Facebook users and their friends.

At the time of writing this paper, the National Accessibility Portal is in the process of getting a faster connection to the internet. More information on this will be available at the time of presenting talk.

11. Facebook and Accessibility

Facebook, as a website, is not accessible. Visually impaired users find Facebook difficult, if not impossible, to use. There are currently two Facebook groups petitioning for a more accessible Facebook:

The Official Petition for a more Accessible Facebook

The Facebook Change for Accessibility Petition

However, users with non-visual disabilities comfortably use Facebook and often openly identify themselves as people with disabilities. A search of the South African Facebook network shows dozens of people identifying themselves as wheelchair users (or interested in wheelchair sports), dozens of people identifying their interest in Sign Language, and many people identifying themselves or family members as disabled. Many users also identify themselves (or family members) with debilitating diseases such as Multiple Sclerosis, Down Syndrome, and Cerebral Palsy. So, although Facebook is inaccessible to people with visual disabilities, it is useful to people with non-visual disabilities.

12. Using Facebook messaging on your website

Another easy way of using Facebook to promote your website is to allow Facebook messaging from your website. A link on your website to the URL

http://www.facebook.com/share.php

with two additional parameters to represent the URL of your website and the subject of the message will bring up the Facebook compose message screen with a link already attached and pointing to your website. If your user is concurrently logged into Facebook, this will happen seamlessly. If your user is not logged into Facebook, the traditional Facebook login page is presented.

Providing a link from your original website to your Facebook application can also be done by merely linking to the apps.facebook.com website. In this example, the link would be:

http://apps.facebook.com/zawwwexample

In the case of the National Accessibility Portal, we provide a “Share Content” facility at the bottom of content pages which allows users to email the content to a friend, discuss the content, send a NAP message, send a Facebook message, or install the NAP Facebook application:

13. Conclusion

We are still in the midst of a steep “learning curve” with respect to developing Facebook applications. Because of our connectivity speed issues, we have not been able to fully explore the capabilities of Facebook applications.

However, even with our limited connectivity speed, we are extremely happy with the fact that traffic is coming to the National Accessibility Portal via Facebook. We are also happy with the fact that there are new users (many of them who have disabilites or work with people who have disabilties) who were not aware of the original National Accessibilty Portal and now access the NAP portal through Facebook.

14. List of references

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