

WikiGenes – Collaborative Publishing

Tutorial

How to Create Your Own Collaborative Publishing Project

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ABSTRACT

Get a hands on experience on how to create your own private project within the WikiGenes publishing environment and how to embed it in your own website.

For instance, you can invite selected colleagues to work on a collaborative article, benefiting from the authorship tracking technology in WikiGenes which links every sentence to its author and thus provides due credit to each of your collaborators. You can then make your article public and embed a live version in your website using your own layout or export it into any format.

You will also learn how to use the advanced editor of WikiGenes, manage access to your projects, stay up to date with RSS alerts, and import and export documents in different formats, including PDF and Word.

WikiGenes is open access and available online at <http://www.wikigenes.org>.

PROTOCOLS

Necessary Resources

Hardware

Computer capable of supporting a Web browser and an Internet connection

Software

Current Internet browser (e.g. Firefox, Apple Safari, Microsoft Explorer)

Basic Protocol 1 – SEARCHING FOR A SPECIFIC GENE OR ARTICLE

1. Point the browser to the WikiGenes home page at <http://www.wikigenes.org>

*The **home page** (Figure 1) is the starting point of the publishing cycle in WikiGenes and has several elements.*

*The **menu** on the left contains links to general and contact information, sharing functions, links to your personal content. The menu may also provide context functionality depending on the main content of a page.*

2. Type in your query, for instance “PTEN human” (without the quotes), and start your search.
The search will cover the entire content in WikiGenes and retrieves only documents that contain all query terms. To search for complete phrases you can also use quotes. To search for authors or specific database identifiers (e.g. UniProt), use the advanced search.
3. Check your search results (Figure 2) and redefine your query if necessary. Click an entry in the search result to open the corresponding document.



Figure 1 – WikiGenes (<http://www.wikigenes.org>) is a collaborative publishing resource with information on thousands of genes, chemicals, diseases and other biomedical concepts.

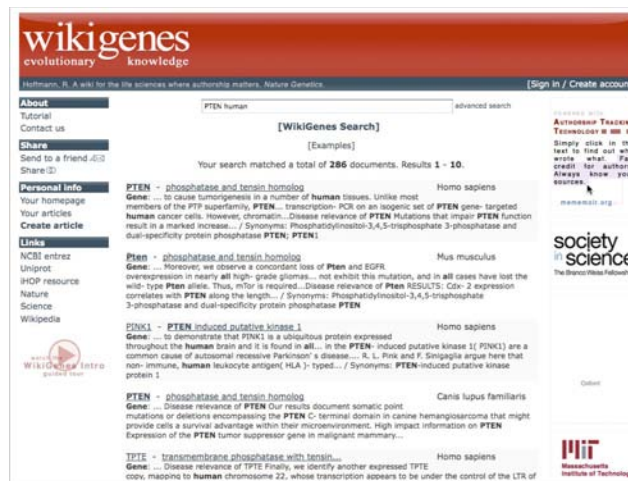


Figure 2 – This illustrates a typical search result, here for the query “PTEN human”.

Basic Protocol 2 – EXPLORING THE FRONT VIEW OF AN ARTICLE

1. Select a document from your query (see Basic Protocol 1) to open its **front view**. Or point your

browser to <http://www.wikigenes.org/e/gene/e/5728.html> for the human PTEN gene.

*The **front view** (Figure 3) may contain text and images. Content can be structured into subsections and may contain text boxes, tables, etc.*

Terms in the content may be hyperlinked to their corresponding articles in WikiGenes. Hyperlinks also have 'mouse-over' information as guidance to the reader.

2. To identify the author of any text in WikiGenes, use the mouse to click into the plain text.

The corresponding author will be shown at the top of the page and all of her or his contributions will be highlighted in the text.

3. To learn more about a specific author, click her or his name to open the context menu (see Figure 8).

The context menu provides you more information on the author, like the server part of the email, and links to the home page and other contributions of the author.

4. To identify the author of a hyperlinked term, click the term and hold the mouse down.

This will popup the author next to the highlighted term.

5. Click a hyperlink to navigate to the corresponding article.

Note that the unambiguous identification of entities in WikiGenes makes an intuitive exploration of the entire information space possible (Figure 4).

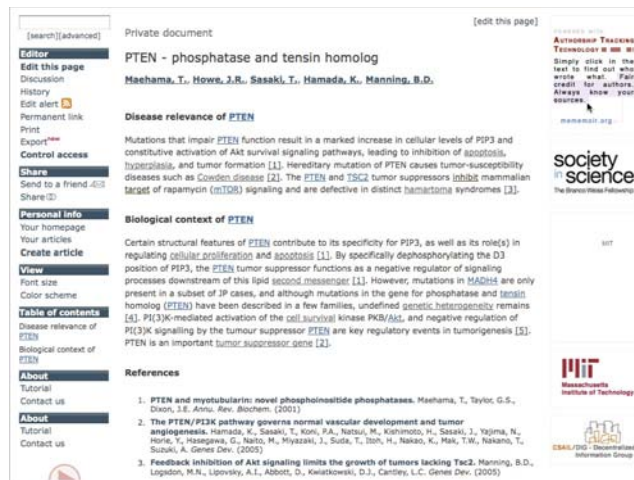


Figure 3 – The front view of a document in WikiGenes, here an example article for the human gene PTEN.

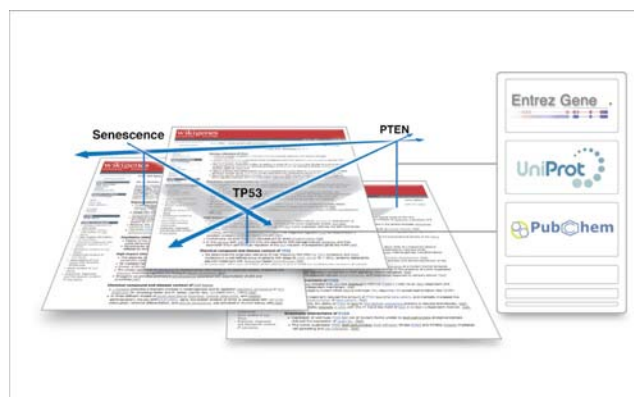


Figure 4 – Interlinked information network in WikiGenes. Users can benefit from unambiguous entity identification for navigation in WikiGenes and to identify the exact database records in authority resources, like UniProt, Entrez Gene and PubChem.

Basic Protocol 3 – EDITING AN ARTICLE

1. Point the browser to the WikiGenes **front view** of an article (see Basic Protocol 2) and click “edit

this page” (either in the menu or at the top of the page).

*In the **edit view** you can edit the content in its final layout (Figure 5). Note that you might have to login first. If you do not have the rights to edit the article, then the ‘edit this page’ button might not be shown.*

*The **editor** is structured in the following sections:*

- *Buttons for basic formatting and database lookups are shown in the **toolbar** at the top of the page.*
- *The **content section** is right below the **toolbar**.*

2. Place the caret on a hyperlinked term to obtain more information on it. The corresponding information is then shown in the **detailed information area** at the top of the **content section**.

Note that there is no mouse-over information available for hyperlinks in the editor.

3. To link a term with a specific gene place the caret on the term (e.g. “pten”) and click the **gene button** from the **toolbar**, which will popup a context menu. Choose “define term as a gene” to trigger a database search, which will open in it’s own window (see Figure 6).

To remove a hyperlink, repeat these steps but choose “Undefined term” from the context menu.

4. To insert a citation place the caret to the position where you want to insert it and choose the **reference button** from the toolbar. Then search the citation (e.g. in Pubmed or WikiGenes) and select it to complete the insertion.

*Note that this will create “[Ref]” symbol at the insertion site. Put the caret on top of this symbol and verify its content in the **detailed information area** at the top of the content section.*

5. To link a term with another article in WikiGenes place the caret on the term and choose the **link**

button from the toolbar.

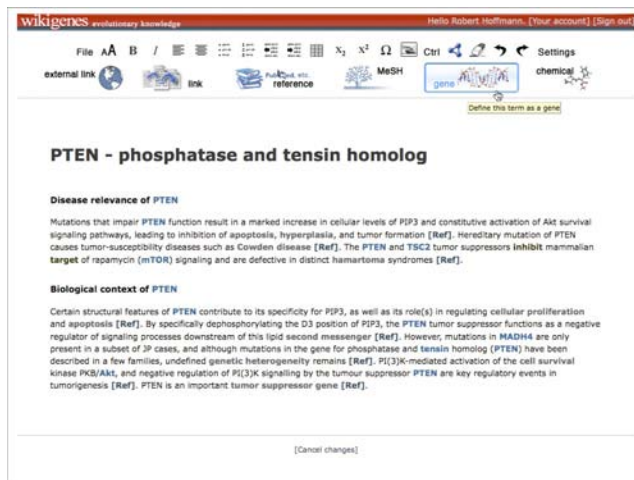


Figure 5 – The editor in WikiGenes enables document editing in the final layout without the need to learn a proprietary syntax.

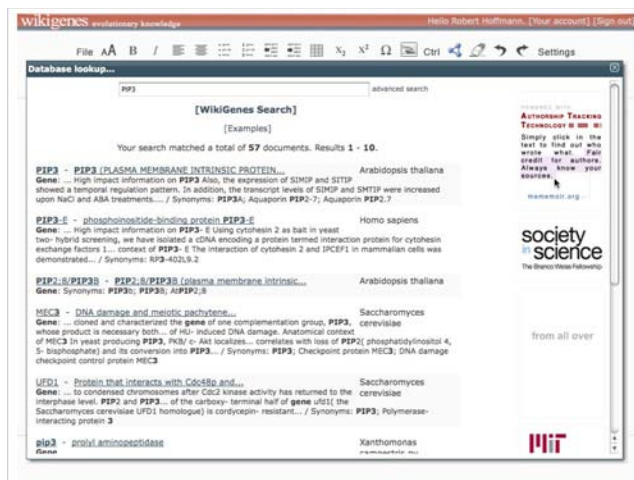


Figure 6 – The editor provides integrated database lookups to link terms with specific database records (e.g. sequence entries in the case of genes) or to insert citations (e.g. Pubmed references).

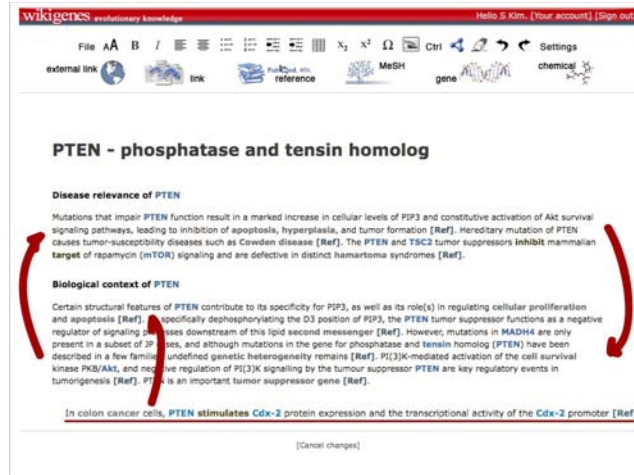


Figure 7 – Changes of collaborative documents can become quite complex. Shown is a simple case where two paragraphs switch place and a new sentence is inserted.

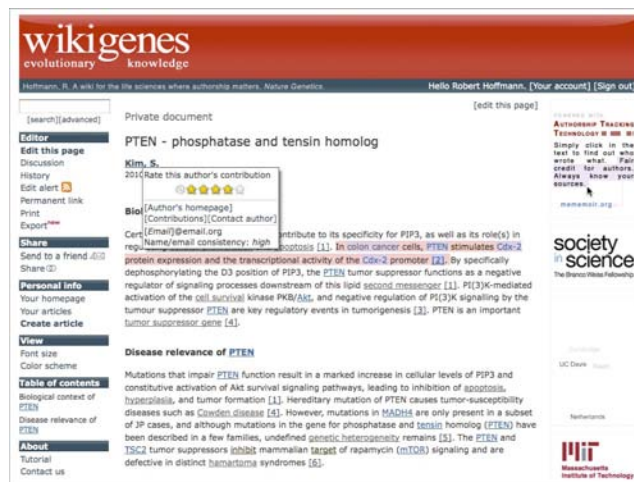


Figure 8 – This shows the resulting front view of the document edited above (see Figure 7). Although the paragraphs were switched, the authorship tracking technology correctly attributes authors to their contents. In this figure the user has clicked in the text of the second sentence, which is therefore highlighted. The corresponding author ('Kim, S.') and further information is available from the context menu on the author.

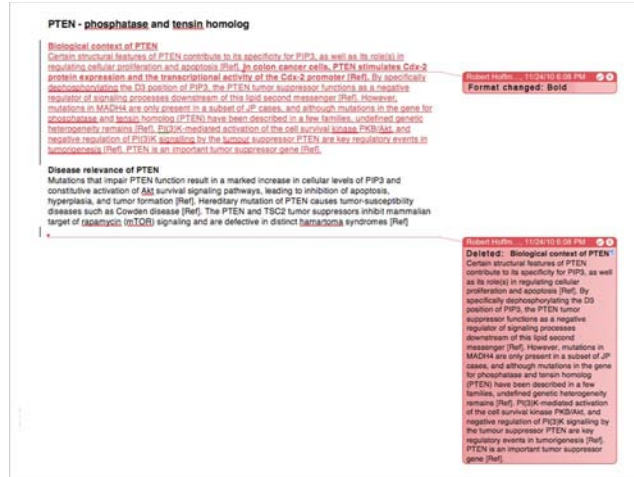


Figure 9 – This illustrates the result which would be obtained with conventional ‘track changes’ functionality (corresponding to the edits in Figure 7). Here the moved paragraph gets attributed to the ‘moving’ author, and the original authorship information is deleted. This screen shot was obtained from Microsoft Word™.

Basic Protocol 4 – EXPLORING OLDER VERSIONS OF AN ARTICLE

1. Point the browser to the **front view** of an article and choose “history” from the **menu**.
2. In the **history view** (see Figure 10) you can either click on an older version to pull it up. Or you can select specific versions for comparison.

For a comparison result see Figure 11.

3. To check out the author who submitted a specific version simply click on the name of the author.

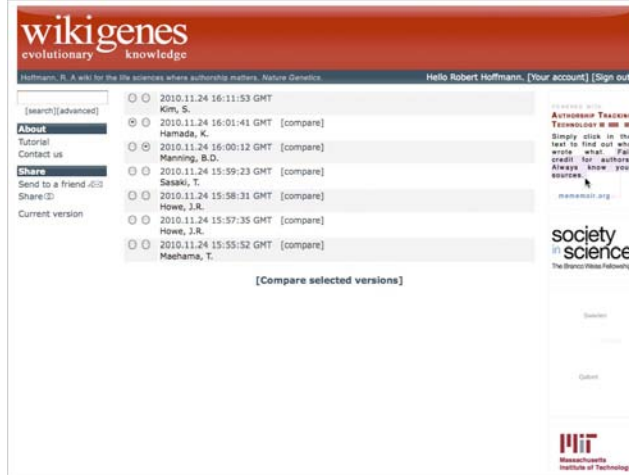


Figure 10 – This is a typical archive view of an article in WikiGenes. Here you can access older versions of the article or compare specific versions.

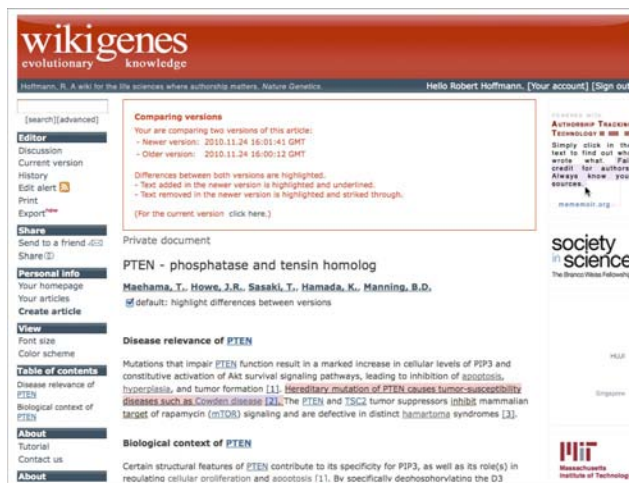


Figure 11 – This illustrates the result of a comparison of two versions. With the help of the authorship tracking technology, differences can be highlighted directly in the text, even in situations where entire paragraphs changed place.

Basic Protocol 5 – CREATING A NEW ARTICLE

1. To create a new article, choose “Create article” from the **menu**.

Note that the “Create article” menu entry is not available from all pages, but always from: the home page, the front view of an article or the “File menu” in the edit view.

2. On the page to create a new article (see Figure 12) type in the title of the article.

Note that it is good practice to check first if there is an article on a similar topic. Often it may be more effective to contribute to an existing article.

3. If no article exists on that topic, click the “create new article” button next to the search field.
4. Revise and confirm the title in the popup window and then choose the optimal type for your article.

The options are typically:

- “Read: everybody / Write: everybody”

Choose this option to create a new article in the public domain. Users still have to register to contribute to this article, but everyone is invited. Note that this type of article ranks highest in search results in WikiGenes.

- “Read everybody / Write: you”

Choose this option to create a ‘publication’ in WikiGenes. Everyone can read these articles, but only you and authors that you invite can contribute. Article names are unique, so that for each title there can be only one article.

- “Read & Write: you”

Choose this option to create a private document. Only you and colleagues that you invite can read or contribute to this type of document. Note that you can decide later to make this document public and visible to everyone.

5. After you choose the article type you will arrive directly at the **edit view** of the new article.



Figure 12 – Creating an article in WikiGenes. Before creating an article with a ‘free’ text title, you should make sure that there is not already an existing article for this or a similar topic.

Basic Protocol 6 – IMPORTING A DOCUMENT Point the browser to the edit view of an article in WikiGenes. If your target article for the upload does not yet exist you have to create it first (see Basic Protocol 5)

1. In the **edit view** choose the “File button” in the **toolbar** and select “Upload document” from the context menu. This will take you to the import screen (see Figure 1).
2. At the import screen (see Figure 13) choose a document to upload from your computer.

Compatible input formats range from OpenOffice to Microsoft Word. Note that there is a file size

limit.

- To import documents with Endnote™ citations please choose the Microsoft Word (‘.doc’) format.

Due to the fact that Endnote uses a proprietary data format, the import of Endnote citations might not always work and is therefore in a beta stage.



Figure 13 – Import screen to upload documents in a range of formats (including Microsoft Word™ and OpenOffice). Figures included in imported documents will be uploaded automatically.

Basic Protocol 7 – LISTING YOUR CONTRIBUTIONS AND ARTICLES

- To get an overview of all the documents you have edited, created or been invited to, choose the menu item “your articles” from the left **menu**.

Note that this menu item may only be available after you have logged in.

- For every document in the list there are two links. To go to the latest version of the document, click “current”. To go to the exact version of the document where you last contributed choose the date

link.

Note that typically you will be interested in the latest version, since other authors might have changed the article. But if your contribution was removed in the latest version then the dated link can be useful to retrieve your input.

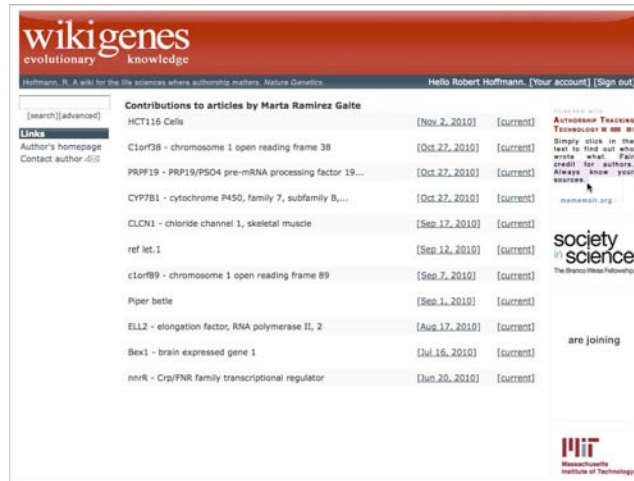


Figure 14 – This figure illustrates an example contribution list for an author in WikiGenes. From here it is possible to access the exact version where the author contributed or to open the current version.

Basic Protocol 8 – CONTROLLING ACCESS AND INVITING COLLABORATORS

1. Point the browser to **front view** of an article and choose “Control access” from the **menu**.

Note that this option is only available for articles that you own or for which the owner has granted you control rights.

2. On the control screen (Figure 15) you can manage the rights of individual users or user groups concerning the current article.

3. Add a new collaborator to the policy for this article by adding her or his email. Enter the email in the corresponding text field and press the “add” button.
4. Add a user who already has an account in WikiGenes. Enter the name in the text field next to the “Search:” label and then press the “search” button. Click on the correct user in the search result to add her or him to the policy for this article.
5. To add an entire group to the policy of this article, choose a group from the corresponding menu and click “add”.

6. After you have added your collaborators to the policy of your article, you can fine-tune their rights.

Some collaborators might only have read access while other could be allowed to even control the access to this article (e.g. invite other collaborators).

7. Note that the order of access rights in your policy is relevant. To change the order you can drag and drop items in the policy.

If you would give a specific user write access, but further down in the policy revoke the this right from the group ‘everybody’, then this user would not have write access either.

8. New collaborators in your policy will get an automatic invitation, unless you unselect the corresponding option.

Note that you can add a personal message to this invitation.

9. To grant your Facebook friends access to the article click the “Facebook” tab (Figure 16).

Note that your WikiGenes account must be linked to your Facebook account to use this function.

Also your Facebook friends will not be invited automatically, so you have to inform them yourself.

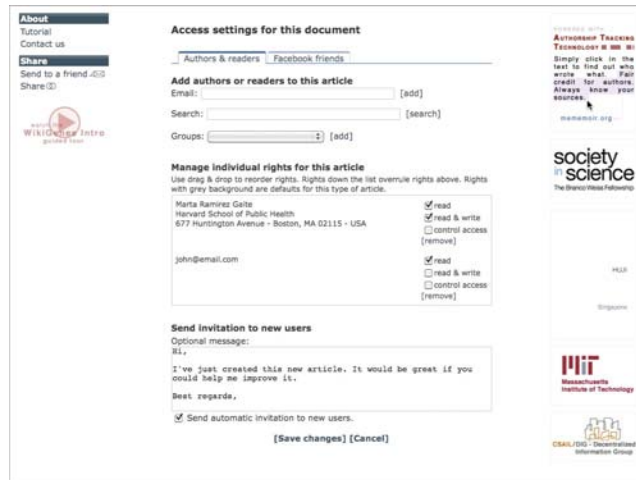


Figure 15 – Access rights can be configured for all articles by the owner of an article. Specific rights (e.g. read and write) can be granted to individual users or user groups. Optionally an invitation to new users can be send from here.



Figure 16 – Users with a linked Facebook account can grant rights to their friends in Facebook.

Basic Protocol 9 – STAYING UP TO DATE WITH RSS ALERTS

1. To stay informed about the evolution of a specific article you can subscribe to its RSS feed (see

Figure 17).

2. Click “edit alert” in the **menu** to open the feed and subscribe with your favorite feed reader.

Note that currently only private documents and selected articles have a RSS feed available. In the near future all articles will have their own feed.

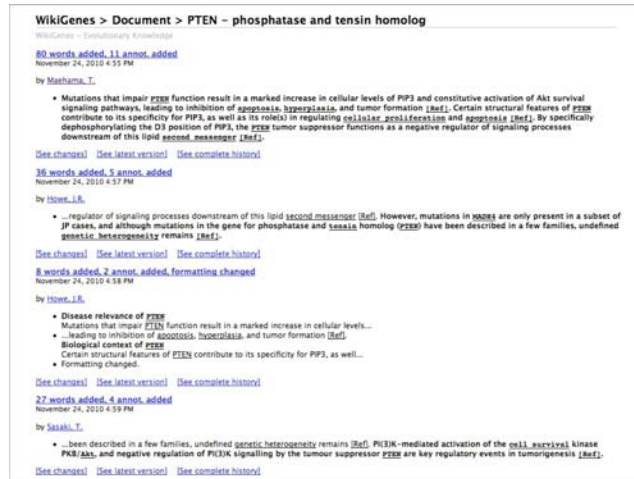


Figure 17 – This illustrates an example RSS feed containing changes to an article in WikiGenes. Users can bookmark these feeds to keep up to date about the evolution of an article. With the help of the authorship tracking technology it is possible to keep these alerts concise and to highlight changes within their context.

Basic Protocol 10 – ACCESSING SECURELY VIA HTTPS

1. To access any content in WikiGenes using encrypted browser-server communication simply change `http://` to `https://` in your browser address bar. For instance, `https://www.wikigenes.org/e/gene/e/5728.html`

Note that sensitive interactions (i.e. login and registration) between browser and the WikiGenes

server are **always** using *https* to provide maximum security. Note that encrypted connections need more CPU and are thus slightly slower.

Basic Protocol 11 – EXPORTING ARTICLES TO WORD AND OTHER FORMATS

1. To export an article in WikiGenes, point the browser to the **front view** of the article of interest.
2. Then select “export” from the **menu**.
3. At the export screen (see Figure 18) you can select from a range of export formats, including PDF, Microsoft Word and OpenOffice.
4. Choose also the **page format** (letter or A4) and the **number of authors** to be shown at the beginning of the article.

For an example export to Microsoft Word see Figure 19.

5. To export also authorship attribution, you have to make the corresponding selection.

Note that authorship information can only be exported, if the target format has some kind of support for provenance. In OpenOffice and Microsoft Word the authorship information can be modeled to the ‘track changes’ function of these applications. See Figure 20 for an example.



Figure 18 – Document export screen. Articles in WikiGenes can be exported to a range of formats, including PDF, Microsoft Word™ or OpenOffice. Authorship information can be exported optionally and if the target format supports it (e.g. OpenOffice or Word).

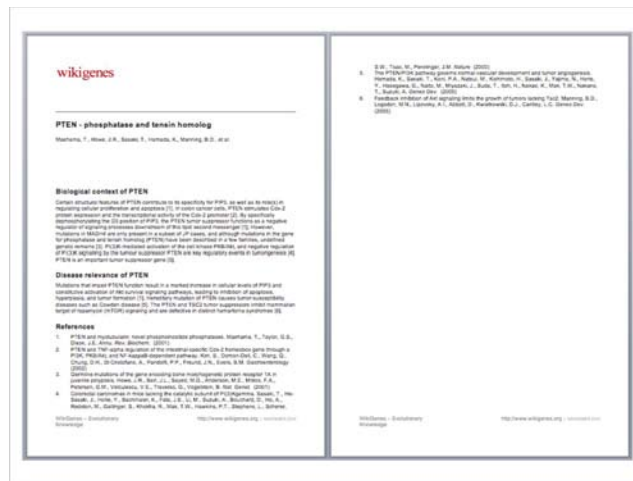


Figure 19 – This illustrates an example export to the Microsoft Word format.

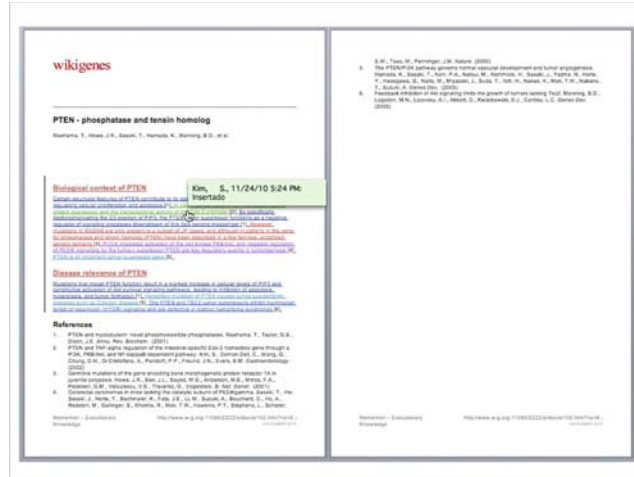


Figure 20 – This illustrates an example export to the Microsoft Word format, including authorship attribution and insertion times. Text from different authors is highlighted in different colors using the ‘track changes’ functionality common to many text processor applications.

Basic Protocol 12 – EMBEDDING ARTICLES IN YOUR WEBSITE

1. Choose the article to be embedded in your own web site from WikiGenes and identify the **significant part of its URL** (web address).

For human PTEN the URL is <http://www.wikigenes.org/e/gene/e/5728.html> and the significant part is before the “.html”, i.e. <http://www.wikigenes.org/e/gene/e/5728>

2. Create a web page on your web server, which will embed the article. You can use Source code 1 to get started.
3. To link to another article you must modify the Source code 1 at two positions:
 - At line 13: Replace the significant part of the address.

- At line 72: Replace the significant part of the address.

4. The result should look something like Figure 23.

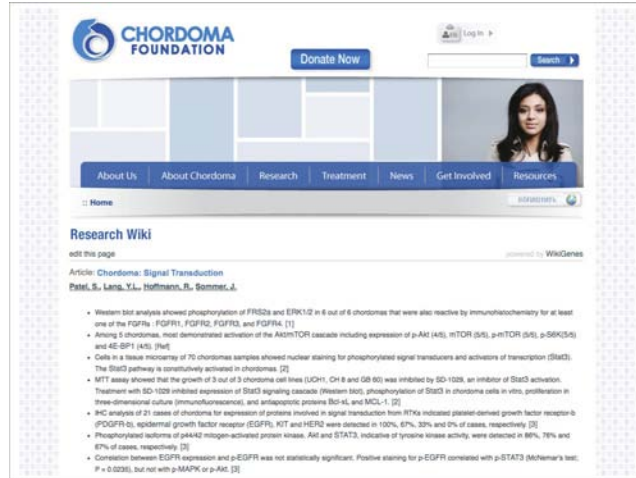


Figure 21 – The website of *The Chordoma Foundation* featuring a life version of a WikiGenes article embedded (see <http://www.chordomafoundation.org/research/wiki.aspx>).

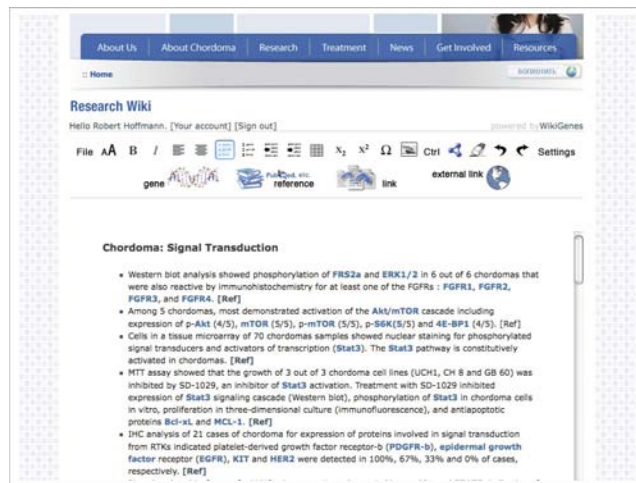


Figure 22 – The website of *The Chordoma Foundation* featuring a life version of a WikiGenes article embedded. The article can be edited directly within the embedding page (see <http://www.chordomafoundation.org/research/wiki.aspx>).

Source code 1 – HTML source code of an embedding web page.

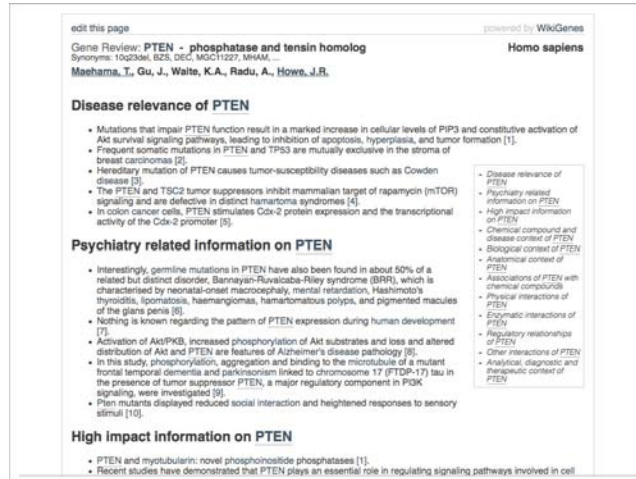


Figure 23 – Example of an embedding web page (see corresponding Source code 1).

Basic Protocol 13 – ADAPTING STYLES OF EMBEDDED ARTICLES

1. Comment line 31 in Source code 1 to disable loading the external CSS style sheet (http://www.wikigenes.org/css/pkg/article_front_ext_pkg.css).

Alternatively you can keep the external file and simply overwrite specific styles.

2. Overwrite specific styles. For instance to change the color of hyperlinks to red, add:

```
.orgMememoir_cc a { color:#ff0000; }
```

3. For the default styles download and see the external CSS style sheet from line 31 in Source code 1, http://www.wikigenes.org/css/pkg/article_front_ext_pkg.css

4. Please do not hesitate to contact us with questions or suggestions. This is very much work in progress.

Basic Protocol 14 – USING THE USER AUTHENTICATION OF WikiGenes IN YOUR WEB APPLICATION

1. Get informed about OAuth (<http://oauth.net>)

For a beginners guide see <http://hueniverse.com/oauth/>. See Figure 24 for a simplified overview of the OAuth data flow and the user experience.

2. Contact us for the public and private keys for your application.
3. Download OAuth libraries (<http://oauth.net/code/> and <http://code.google.com/p/oauth/>) to get started on your client implementation. Libraries are available in Java, Perl, PHP, Ruby, etc.
4. If you are using Java you can use the public WikiGenes API to simplify your communication with the WikiGenes server.

Please contact us for the WikiGenes libraries, as they are not yet public.

5. Check out the simple Java Source code 2, which is based on the WikiGenes API (see above) and the OAuth Java libraries from <http://code.google.com/p/oauth/>.

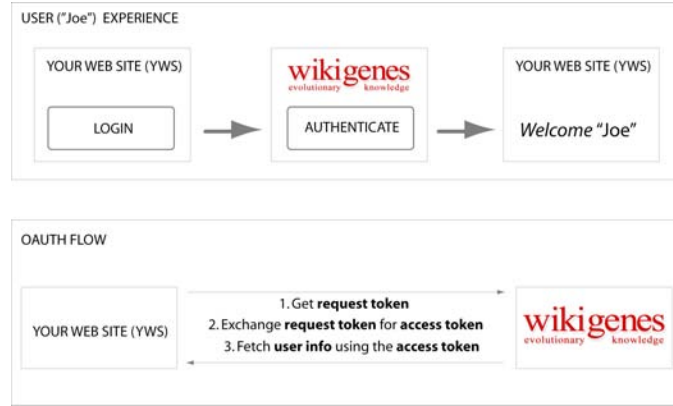


Figure 24 – Using WikiGenes for user management via OAuth. The figure illustrates the login process from the user’s perspective and below the general OAuth flow.

```

1  package org.mememoir.api;
2
3  import org.mememoir.api.client.*;
4  import java.util.Scanner;
5
6  public class TestOAuthClient {
7
8      static private final int STEP_GET_REQUEST_TOKEN=1;
9      static private final int STEP_GET_ACCESS_TOKEN=2;
10     static private final int STEP_FETCH_USER_INFO=3;
11
12     static private String providerUrl="http://www.wikigenes.org/user/oauth/";
13     static private String apiKey="myKey"; // !!! request by email
14     static private String apiSecret="mySecret"; // !!! request by email
15
16
17     private void run(int step, Scanner in) {
18
19         // !!!
20         MememoirOAuthService oAuthService;
21         OAuthService=MememoirOAuthServiceFactory.getInstance().createMememoirOAuthService(providerUrl, apiKey,
22         apiSecret);
23         if(step==STEP_GET_REQUEST_TOKEN) {
24
25             String callbackUrl="http://YOURWEBSITE.COM/oauth.html";
26
27             MememoirRequestToken requestToken=oAuthService.getRequestToken(callbackUrl);
28
29             System.out.println("Getting request token:");
30             System.out.println("- Token: "+requestToken.getToken());
31             System.out.println("- Token secret: "+requestToken.getTokenSecret());
32             System.out.println("\nNOW: Open browser and authorize at: "+requestToken.getAuthorizationUrl());
33         } else
34         if(step==STEP_GET_ACCESS_TOKEN) {
35
36             System.out.println("Enter request token:");
37             String token = in.nextLine();
38             System.out.println("Enter token secret:");
39             String tokenSecret = in.nextLine();
40
41             MememoirRequestToken authorizedRequestToken=null;
42             authorizedRequestToken=new MememoirRequestToken(token, tokenSecret);
43
44             MememoirAccessToken accessToken=oAuthService.getAccessToken(authorizedRequestToken);
45
46             System.out.println("Access token:");
47             System.out.println("-Token: "+accessToken.getToken());
48             System.out.println("-Token secret: "+accessToken.getTokenSecret());
49
50         } else
51         if(step==STEP_FETCH_USER_INFO) {
52
53             System.out.println("Enter access token:");
54             String token = in.nextLine();
55             System.out.println("Enter token secret:");
56             String tokenSecret = in.nextLine();
57
58             MememoirAccessToken activeAccessToken=null;
59             activeAccessToken=new MememoirAccessToken(token, tokenSecret);
60
61             MememoirApiClient apiClient=oAuthService.createMememoirApiClient(activeAccessToken);
62             System.out.println(apiClient.getEmail());
63         }
64     }
65
66     public static void main(String[] args) {
67
68         Scanner in = new Scanner(System.in);
69         TestOAuthClient yws=new TestOAuthClient();
70         yws.run(STEP_GET_REQUEST_TOKEN, in);
71         yws.run(STEP_GET_ACCESS_TOKEN, in);
72         yws.run(STEP_FETCH_USER_INFO, in);
73         //
74         in.close();
75     }
76 }

```

Source code 2 – Java source code of a test client application interacting with the WikiGenes OAuth server. This example makes use of the public WikiGenes Java API.

OTHER INFORMATION

Introductory movie - <http://www.wikigenes.org/app/info/movie.html>

CONTACT

Contact form - <http://www.wikigenes.org/com/contact.html>

Email - contact@wikigenes.org