

# Human Genetics Unit Module

Link to the Git Hub : <https://github.com/surangak/HguSriLanka>

Human Genetics Module has two main factors when writing this wiki page. It has the module with all the support libraries as well as the HTML form as a separate segment.

## Uploading the module

Checkout the code from git hub : <https://github.com/surangak/HguSriLanka>

go to the folder you checked out and go to the hgu folder. Open a terminal and run the following command

```
mvn clean install
```

Then go in to the omod/target/folder where you will find an file with an extension of .omod. Copy that and paste it in the app folder of your OpenMRS instance.

## HTML form

HTML form was built to use with the new GUI of OpenMRS. First you need to create a HTML form in the OpenMRS using the code given in Git Hub : [https://github.com/surangak/HguSriLanka/blob/master/hgu\\_form.html](https://github.com/surangak/HguSriLanka/blob/master/hgu_form.html)

The HTML form is similar to Vitals form and you can use the HTML form entry wiki to customize any requirement you need.

beginning of the HTML form you will find the following line

```
<script type="text/javascript" src="../../moduleResources/hgu/scripts/jspedigrees/jspedigrees.nocache.js"></script>
```

In the human genetics unit there is a tool to draw pedigrees of patients. That is a third party library which has been used inside the HTML form. The required libraries are in the hgu module and above line is to link those libraries.

Following is an example for a section tag

```
<section id="refereed_by_section" sectionTag="section" headerStyle="title" headerCode="Refereed by">
<fieldset>
<legend>Clinicians Note</legend>
<h3>Clinicians Note</h3>
<p class="left">
<obs conceptId="163142" id="clinicians_notes"/>
</p>
</fieldset>
</section>
```

and the above code would look like below in the form.

- Provider
- Referred by
- Clinicians Notes
- Clinicians Note**
- Management
- Samples
- Next Visit Notes
- Pedigree Drawing
- Confirm

Clinicians Note

The important part to remember here is the "obs conceptid". Look and feel of the input box as well as the data format in the database are all decided on this id. You will have to create individual concepts in the concept dictionary for each input.

Guide lines on creating concepts : <https://wiki.openmrs.org/display/docs/Create+and+Edit+Concepts>

You have to create concepts for each observation in the genetics form.



Creating New Concept

[New](#)

**Id**

**Locale** [English](#) | [Spanish](#) | [French](#) | [Italian](#) | [Portuqese](#)

**Fully Specified Name\***

**Synonyms**

**Search Terms**

**Short Name**

**Description**

**Class**

**Is Set**

**Datatype**

**Numeric**

|                      |                      |
|----------------------|----------------------|
| <b>Absolute High</b> | <input type="text"/> |
| <b>Critical High</b> | <input type="text"/> |
| <b>Normal High</b>   | <input type="text"/> |
| <b>Normal Low</b>    | <input type="text"/> |
| <b>Critical Low</b>  | <input type="text"/> |
| <b>Absolute Low</b>  | <input type="text"/> |

*(range values are inclusive)*

**Units**

**Allow Decimal?**

**Display Precision**

**Mappings**

**Version**

Above is an image where you can create a new concept. The most important attribute in this form is the Numeric type. You have select text for input which are texts. Below is an filled example

## Creating New Concept

| [New](#)

**Id**

**Locale** [English](#) | [Spanish](#) | [French](#) | [Italian](#) | [Portuguese](#)

**Fully Specified Name\***

**Synonyms**

**Search Terms**

**Short Name**

**Description**

**Class**

**Is Set**

**Datatype**

**Mappings**

**Version**

After filling the information press Save Concept button and you will be directed to the screen below.

Concept saved successfully

## Viewing Concept provider

[Previous](#) | [Edit](#) | [Stats](#) | [Next](#) | [New](#)

**Id** 163144  
**UUID** 0a4a4b85-3675-40f7-8943-d27832c3a6ce  
**Locale** [English](#) | [Spanish](#) | [French](#) | [Italian](#) | [Portuguese](#)  
**Fully Specified Name** provider  
**Synonyms**  
**Search Terms**  
**Short Name** provider  
**Description** This the name of the provider  
**Class** Question  
**Datatype** Text  
**Mappings**  
**Version**  
**Created By** Super User - 21 August 2016 23:37:47 IST  
**Changed By** Super User - 21 August 2016 23:37:47 IST

### Resources

[Similar Concepts](#)  
[Merriam Webster@](#)  
[Google™](#)  
[UpToDate@](#)  
[Dictionary.com@](#)  
[Lab Tests Online](#)  
[Wikipedia](#)

### Concept Usage

Obs for this concept: 0

Copy the Id and replace the Obs Conceptid id in the appropriate field set in the HTML form

as for the above edit the line should like follows

```
<obs conceptId="1631444" id="provider" />
```

this line stays in between fieldset tags.

Adding different Tests to the tests done list can be done changing the following line in the HTML form.

```
<obs conceptId="163142" labelText="Tests" answers="0,1,2" answerLabels="Test1,Test2,Test3" style="dropdown"/>
```

If you want to a new Test, make sure to add an answer as well as answer label as follows.

<obs conceptId="163142" labelText="Tests" answers="0,1,2,3" answerLabels="Test1,Test2,Test3,New Test Added" style="dropdown"/>

Major improvement in this HTML form was the embedment of the pedigree drawing tool. You can find it under the pedigree drawing tool.

The screenshot shows the OpenMRS patient record for 'UNKNOWN UNKNOWN' (Patient ID 10043K). The interface includes a navigation menu on the left with the following items: Provider, Referred by, Clinicians Notes, Management, Samples, Next Visit Notes, Pedigree Drawing (highlighted), Pedigree Drawing Tool, and Confirm. The main content area displays '5.0 Family History' and '5.2 Pedigree chart (Please draw a 3 generation pedigree and indicate affected members if known)'. An 'Edit' button is visible below the pedigree chart section. A notification box at the top right states: 'This is a temporary record for an unidentified patient' with a 'Merge into another Patient Record' button. The top navigation bar shows 'OpenMRS', 'admin', 'Isolation Ward', and 'Logout'.

Press on the Edit button to start drawing a new pedigree for the patient.

Link to the Drawing tool on Git Hub : <https://github.com/briantwhite/JavaCodeFromSVN/tree/master/jsPedigrees>

Small hack has been used to save the pedigree after drawing it. There is another hidden field as follows.

```
<div style="display: none;">
<obs conceptId="163141" id="XML"/>
</div>
```

You need to create another concept (Text ) and set the number of that concept in the above code segment.

There are few important methods which are given from the pedigree drawing library. They can be invoked as follows.

`window.setStateXML()`

The above method takes in a saved pedigree drawing ( XML ) and redraw the pedigree tree on the canvas

`window.getStateXML()`

The above method gives the drawn pedigree as XML

```
window.pedexIsReady = function() {}
```

The above method is called when the jspedigree drawing tool has been loaded properly. You can write any command that you want it to be executed before any user starts interacting with the form.

```
var v = getValue("XML.value");  
window.setStateXML(window.atob(v));
```

Above two lines are inside the pedexReady function. in the XML is the hidden field which has the previous pedigree drawing XML and that value has been loaded to the variable v. and that has value has been decoded from base 64 encoding and fed to the setStateXML() function to draw the pedigree.

There is an in built method in OpenMRS HTML module where you can execute a script before the validation or submission. We are using the submission check as follows

```
<script type="text/javascript">  
beforeValidation.push(function() {  
var val = window.getStateXML();  
val = window.btoa(val);  
setValue("XML.value",val);  
if (val == null || val == "") {  
return false;  
}  
});  
return true;  
</script>
```

The variable val has been loaded with the XML value of the pedigree and that has been changed to base 64 encoded. The base 64 encoded value has been saved to the hidden variable XML.

Following segment defines the container for the jspedigree drawing tool

```
<div id="ped">  
<section id="pedigree" sectionTag="section" headerStyle="title" headerCode="Pedigree Drawing">  
<fieldset id="pedigree">  
<legend>Pedigree Drawing Tool</legend>  
<table>  
<tr><td><b>5.0 Family History</b></td><td></td></tr>  
<tr><td>5.2 Pedigree chart (Please draw a 3 generation pedigree and indicate affected members if known)</td><td></td></tr>  
<tr><td colspan="2" id="jsPedigreesContainer" height="600px" width="200px"></td></tr>  
</table>  
</fieldset>  
</section>  
</div>
```

Image Upload

This is one major feature which is still under construction at the time of writing this wiki page. Image upload works in the Old UI of OpenMRS but in the new UI it has to be fixed.

The screenshot shows the OpenMRS interface for a patient record. At the top, there is a navigation bar with the OpenMRS logo, a user profile for 'admin', a location dropdown for 'Isolation Ward', and a 'Logout' button. Below the navigation bar, the breadcrumb trail is 'UNKNOWN UNKNOWN > hgu'. The patient information section shows 'UNKNOWN UNKNOWN' with 'Male' and 'unknown age' details, and a 'Patient ID' of '10043K'. A warning box states: 'This is a temporary record for an unidentified patient' with a 'Merge into another Patient Record' button. On the right, there is an 'Exit Form' link. The main content area is divided into a left sidebar with menu items: 'Provider', 'Refereed by', 'Clinicians Notes', 'Report Upload' (highlighted), 'Management', 'Samples', 'Next Visit Notes', 'Pedigree Drawing', and 'Confirm'. The 'Report Upload' section contains a 'Choose File' button and the text 'No file chosen'.

Above screen shot shows how it would look in the form. In order to have this feature you need to create a complex concept as follows.

The screenshot shows the 'Creating New Concept' form in OpenMRS. The top navigation bar includes the OpenMRS logo, the text 'Currently logged in as Super User', and links for 'Log out', 'My Profile', and 'Help'. The main navigation bar contains 'Home', 'Find/Create Patient', 'Dictionary', 'Reporting', 'Appointments', and 'Administration'. The form title is 'Creating New Concept' with a 'New' link and a search input field. The form fields include: 'Id' (empty), 'Locale' (English, Spanish, French, Italian, Portuguese), 'Fully Specified Name\*' (image upload), 'Synonyms' (Add Synonym), 'Search Terms' (Add Search Term), 'Short Name' (empty), 'Description' (Uploading image), 'Class' (Misc), 'Is Set' (checkbox), 'Datatype' (Complex), 'Handler' (ImageHandler), 'Mappings' (Add Mapping), and 'Version' (empty). At the bottom, there are buttons for 'Save Concept', 'Save and Continue', and 'Cancel'.

You also can change the handle so it would allow you to upload pdfs, text files etc. Image Handler is for images.

After creating the complex concept you will get a page like below and copy and save the id so you can use that in the HTML form

Concept saved successfully

## Viewing Concept image upload

[Previous](#) | [Edit](#) | [Stats](#) | [Next](#) | [New](#)  

**Id** 163145  
**UUID** ad24c523-2ea1-4ac3-aa86-858bc52b3ced  
**Locale** [English](#) | [Spanish](#) | [French](#) | [Italian](#) | [Portuguese](#)  
**Fully Specified Name** image upload  
**Synonyms**  
**Search Terms**  
**Short Name**  
**Description** Uploading image  
**Class** Misc  
**Datatype** Complex  
**Mappings**   
**Handler** ImageHandler  
**Version**  
**Created By** Super User - 23 August 2016 09:58:52 IST  
**Changed By** Super User - 23 August 2016 09:58:52 IST

### Resources

[Similar Concepts](#)  
[Merriam Webster@](#)  
[Google™](#)  
[UpToDate@](#)  
[Dictionary.com@](#)  
[Lab Tests Online](#)  
[Wikipedia](#)

### Concept Usage

**Obs for this concept: 0**

```
<section id="report_upload" sectionTag="section" headerStyle="title" headerCode="Report Upload">
<fieldset>
<legend>Report Upload</legend>
<h3>Report Upload</h3>
<p class="left">
<obs conceptId="163145" id="report_upload"/>
</p>
</fieldset>
</section>
```