



knowledge without boundaries

# EIFL-FOSS: Free and Open Source programme

Improving ICT infrastructure in libraries

## IMPLEMENTATION OF SUBJECTSPLUS AT ZAMAN UNIVERSITY, CAMBODIA

---

EIFL-FOSS CASE STUDY

December 2013

---

*This case study was compiled by the Zaman University Subject Plus Implementation Team - ZUSPIT project team and edited by EIFL-FOSS.*

## BACKGROUND

In 2012, the main focus of the EIFL FOSS programme was on Free and Open Source tools that would enhance access to, or usage of, e-resources. A project in 2011 by the National University of Science and Technology, Zimbabwe, had highlighted a marked increase in usage of e-resources following the implementation of SubjectsPlus, a FOSS software tool to create and present subject guides that promote and highlight e-resources. So it was decided that the EIFL Licensing team would be asked to identify EIFL countries whose libraries subscribed to a range of e-resources but where usage was fairly low. The libraries of these countries would then be invited to submit project proposals for small grants to aid the implementation of SubjectsPlus. Zaman University, Cambodia, submitted a successful proposal to install SubjectsPlus in their library and translate it into Khmer, and the project was undertaken in the second half of 2012.

## METHODOLOGY

A cross-cutting project team (Zaman University SubjectsPlus Implementation Team - ZUSPIT) was formed by the university's Human Resources Director Mr Zulfi Erken, including a project manager (Mr Murat Tutumlu), a PHP coder (Mr El Kriyar), a server administrator (Mr Les Lors), a web master (Mr Kha Buntha), and a librarian who could perform the translation of terms from English to Khmer (Ms. Chamreounleakhena Chap).

Activities to be undertaken were prioritised as:

- Install SubjectsPlus onto server.
- Implement Khmer character set onto server (Zaman University's working language is English).
- Translation of key terms and testing of software in Khmer.
- Creation of Subject Guides within SubjectsPlus.
- Roll-out of software with subject guides.
- Monitoring of e-resource usage.

## TRANSLATION ACTIVITY

The ZUSPIT staff initially focussed their effort on implementing SubjectsPlus in Khmer. They reported a few difficulties in the technical and language aspects which are described here to help anyone else who finds the same problems.

Their first difficulty was with using the Khmer Language character set on their server. After a few strings were translated to Khmer Language, ZUSPIT staff tried to implement the Khmer Language with SubjectsPlus for testing. The *messages.mo* file was compiled with the translated terms and placed in the required folder but it did not work immediately. While working around the problem, the server administrator noticed that *gettext* was not installed on the server. The server administrator installed *gettext* and the webmaster included it to the *php.ini* file. In addition the *gettext* needed local configuration for Khmer Language on the server (OS: Ubuntu). The server administrator successfully achieved the local configuration with the help of two manuals: an Ubuntu manual (<http://manpages.ubuntu.com/manpages/karmic/man3/DateTime::Locale::Catalog.3pm.html>) and *gettext* installation instructions (<http://pof.eslack.org/2010/11/17/php-gettext-problems-on-ubuntu-server/>). After the webmaster then configured the *config.php* file in the SubjectsPlus directory, the system showed the testing text in the expected manner.

The translation activity was led by a librarian but assisted by members of academic staff, thereby helping to build the relationships between library and academic staff that are essential to successfully implementing SubjectsPlus. It took about 2 weeks for the draft translation of all of the terms. After installation of the draft, finalizing the translation was not immediate. During the application of the translated strings to SubjectsPlus the team were faced with some difficulties:

- The .po file taken from the SubjectsPlus directory is used for translation and it was taken from an earlier version of SubjectsPlus – while translation was being undertaken a newer version had been installed. The project manager had to generate another .po file from the current version of SubjectsPlus and merged the old translations into the new one. Although all of the strings produced by PoEdit from the current version of Subject Plus were translated into Khmer and installed to the system, some text on the admin pages remained not translated (see Figure 1). The team's PHP Coder managed to find the reason: the `__()` function is not used for some of the text visible on the interface. For a 100% translated Khmer interface, the PHP code of SubjectsPlus had to also be changed for strings visible on the interface.
- In addition, some text on the admin page can be seen as series of question marks (see Figure 1). The team's webmaster noticed that some interface data fields of the SubjectsPlus database did not supporting utf8. By running the following SQL query, they made the related fields utf8 compatible:
  - ALTER TABLE `chchchanges` CHANGE `ourtable` `ourtable` VARCHAR( 50 ) CHARACTER SET utf8 COLLATE utf8\_general\_ci NOT NULL ,  
CHANGE `record\_title` `record\_title` VARCHAR( 255 ) CHARACTER SET utf8 COLLATE utf8\_general\_ci NULL DEFAULT NULL ,  
CHANGE `message` `message` VARCHAR( 255 ) CHARACTER SET utf8 COLLATE utf8\_general\_ci NULL DEFAULT NULL

After this change the webmaster rewrote the series of question mark strings by using *phpMyAdmin* and the problem was resolved.

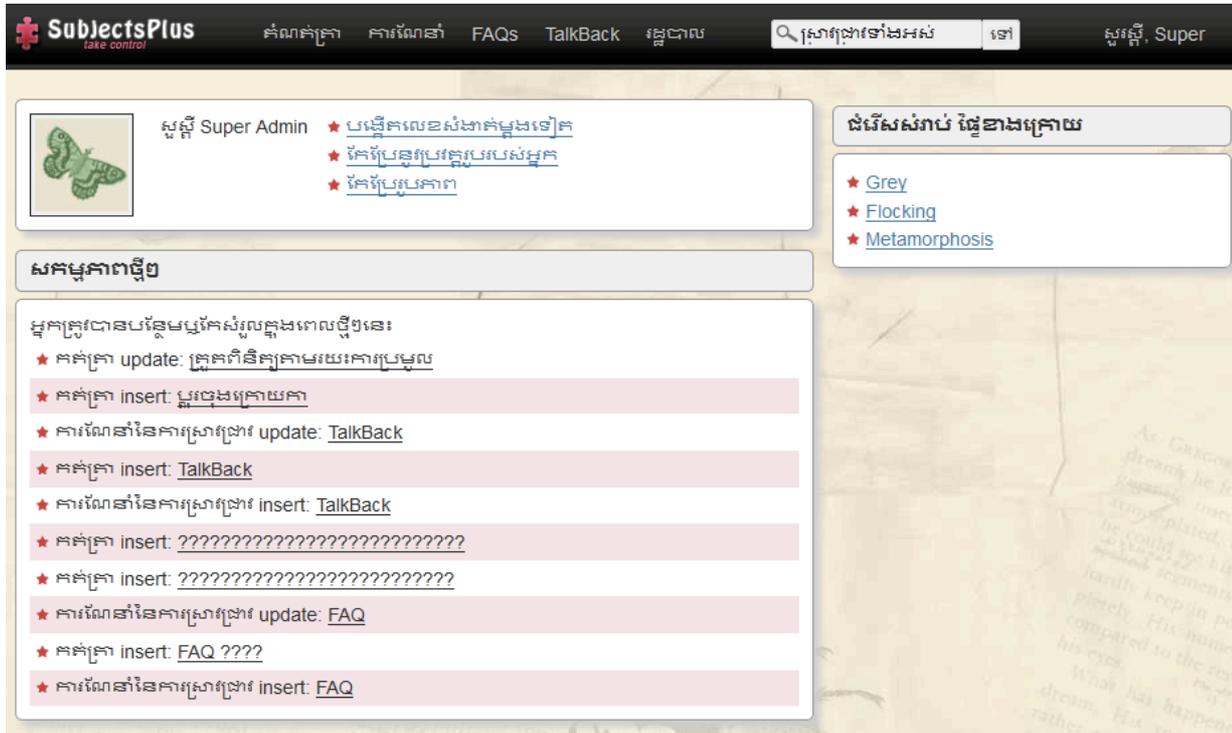


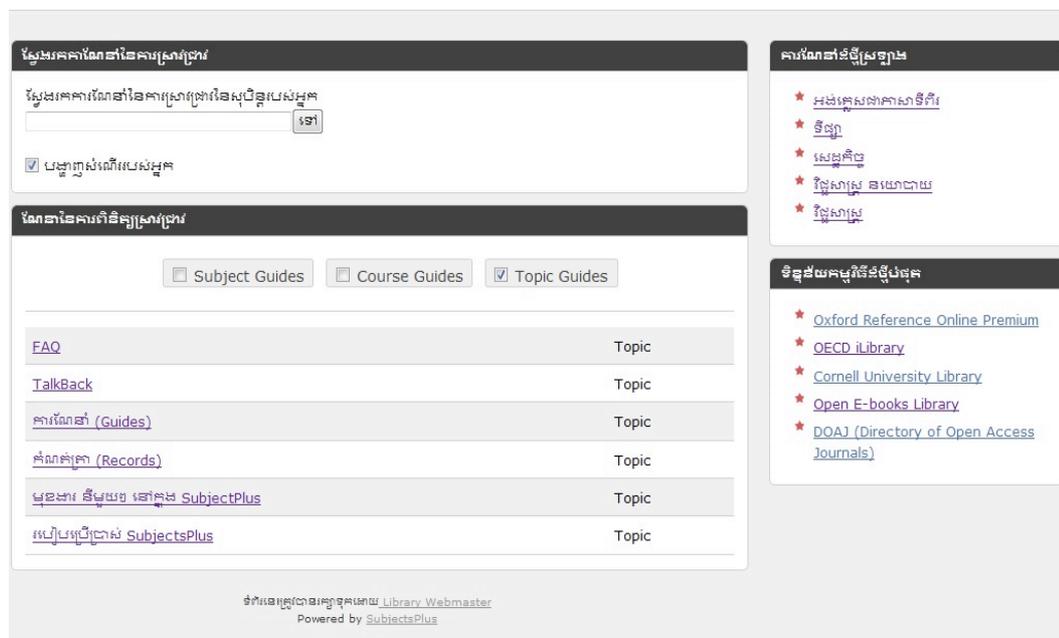
Figure 1. SubjectsPlus interface showing some words had not been translated into Khmer.

# LIVE SITE

Currently SubjectsPlus is running live on the Zaman University Library website:  
<http://library.zamanuniversity.edu.kh/sp/subjects/index.php>

The team has implemented a series of topic guides which explain how to use SubjectsPlus in the Khmer

## SubjectsPlus

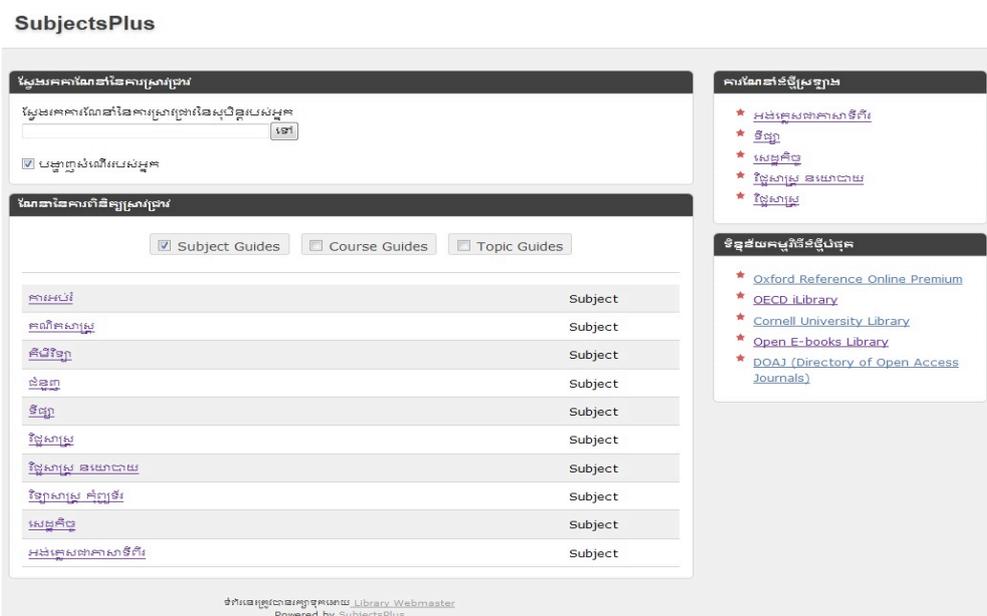


language (see Figure 2).

Figure 2. Screenshot of the live website showing 6 topic guides in Khmer.

The team has also implemented 10 subject guides: Business, Chemistry, Education, Computer Science, Maths, Physics, Political Science, Economics, Marketing, and English as a Second Language. Figure 3 shows a screenshot of the entry page to the 10 subject guides.

Figure 3. Screenshot of the live website showing 10 subject guides in Khmer.



## EVALUATION AND DISSEMINATION

After completing the SubjectsPlus website, the team informed the members of the Cambodian EIFL consortium (Cam-Eifl) members by email about the website. Additionally, the consortium members were provided with a username and password for the system, so that they could add subjects and enrich the SubjectsPlus resource. Unfortunately, no feedback was received by this route.

Between August 2012 (when the site was first made live) and November 2012, the site received around 50 hits from Zaman University students, despite not being formally publicised.

In 2011 the e-resources subscribed to by Zaman University were accessed by around 500 users. In 2012 this increased to around 950 resources accessed, largely due to an increase in October 2012. It is possible that this increase could be attributed to the implementation of SubjectsPlus – however, the equivalent figure for the first 11 months of 2013 is just over 200 resources accessed. We asked the team at Zaman what they thought about this.

They said that there is a lack of a research culture among students in Cambodia – students use Wikipedia or the physical library for assignments (this may explain the lack of interest from other members of Cam-Eifl). Hence Zaman University is beginning a campaign to encourage their students to make greater use of the e-resources available to them. Additionally, they are encouraging lecturers to ask students to put at least one reference in each assignment from an online source that is available in the Zaman University SubjectsPlus guides.

Certainly this is not a localised issue – despite only having around 200 English-speaking students, the usage statistics for e-resources that EIFL has gathered demonstrate that the usage at Zaman University is higher than most other institutions in the country. There is also an issue that almost no research articles are published in Khmer, preventing those who do not speak English from accessing these resources.

Zulfi Erken says of the usage data “We hope that the usage will increase in long term - the site is being promoted via the library's Facebook account, as well as emails to inform and encourage Cam-Eifl members to participate, contribute and help the library to inform others about SubjectsPlus. But expecting a difference [in e-resources usage statistics] in the short term was a mistake and the result is frustration.”

## REFLECTION AND LESSONS LEARNED

The team at Zaman University library have learned many things from this project. When asked to describe one thing they would draw out as a lesson for others to be aware of, the mentioned the server level language support issue – this was the first time they has used Khmer language support on an Ubuntu server. They do reflect that working on this issue widened their knowledge of language support.

Another reflection from the Zaman team relates to the EIFL SubjectsPlus Community site (<http://splus.pbworks.com>) which they say is a great idea for a web based open source tool. They say the community should be larger, and the message should be spread that the tool has a very valuable function despite the relative simplicity of its implementation and use. They suggest that the development community could very easily make it integrate perfectly with Drupal, for example.

