



PUBLICATION DIVISION  
UNIVERSITY OF CALICUT

# E-resources and E-learning: Challenges and Opportunities for Libraries

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# E-book Management with Calibre Software

Jamsheer N.P.

## Abstract

Keeping pace with technology is a big challenge for modern libraries. Reading habits and requirements of library users are changing. Libraries have to provide access to varying forms of information available. In addition to the conventional book lending, users should be given access to e-resources. This article examines how to manage e-books in a library using calibre e-book management software. Calibre software can be used in libraries for developing e-book based content server, archiving news, converting e-book formats etc.

**Keywords:** E-book management, Calibre, E-book Content Server, E-book Collection Manager, E-resources

## 1. Introduction

Libraries have been playing the role of a provider of learning resources to the learning communities. Drastic changes in the technology and the way internet is evolving has changed the attitude of users towards learning resources. The role of libraries as a facilitator by providing access to the electronic resources like e-journals and e-books using the modern technology is widely encouraged. According to Linda Ashcroft, the past few years have seen a growth in the provision of electronic resources in both academic and public libraries. Many of the initial issues regarding the introduction of e-journals, such as raising user awareness, bundling, proliferation of passwords and consortia purchase, have been resolved and they have become a firm provision in academic libraries in many countries.

E-books provides many advantages, views Armstrong. There is no need of physical space and hence the problem of shelving or re-shelving doesn't arise. E-books cannot be damaged or mutilated; stock taking or missing will not be a problem. The most important advantage is that, the same book can be used by many at a time. If the e-books are made available through library the portal, users need not have to visit the library to access books.

There are many applications for managing music, pictures and documents online or at one's desktop. But, e-book management applications are very rare. People usually store their e-books as files in computer or storage devices. When, the collection of books grows, retrieval and classification becomes a nightmare. Managing e-books as a personal collection or in a library is not an easy task.

## 2. E-Books

The book is not the same anymore; it has changed shape and some has even become "invisible". There is no need for carrying physical book in one's bag. Today, technology has reached a stage where, even a mobile phone or e-book reader can carry thousands of e-books in one's pocket. Oxford Dictionary defined e-book "as a book that is displayed on a computer screen or on an electronic device that is held in the hand instead of being printed on paper."

For the purpose of this article a general definition provided by Armstrong et. al. (2002) is used. "Any piece of electronic text regardless of size or composition (a digital object), but excluding journal publications, made available electronically (or optically) for any device (handheld or desk-bound) that includes a screen."

### 2.1. Open Access E-books

Fayaz Ahmad Loan defines open access e-book as a book in electronic or digital form that is available on the public internet free of charge, which can be read on a computer, laptop, or e-book reader. The Project Gutenberg is the pioneer of free e-books. The Project Gutenberg defines its philosophy as "to make information, books and other materials available to the general public in forms a vast majority of the computers, programs and people can easily read, use, quote, and search." (Project Gutenberg, 2012)

Millions of DRM free (Digital Rights Management) books are available in various digital repositories and digital libraries. It may be noted that several classic books can be downloaded from Internet Archive free of cost as their copyright has expired. Selecting free e-books from these repositories and creating an e-book library would encourage usage of e-books among the

tablets. Different devices have introduced different e-book file formats. As described by allmybooks e-book manage software, book reading has got more sophisticated and acquired many different forms. Now there are all sorts of d readers for all possible e-books formats; many possess smart phones and just ordinary mobiles which allow installing e-readers to mobiles, so that one can read any time anywhere you like: on a bus, in a taxi, in the subway, in a park, etc. Sad a result of such book formats diversity and love of reading, a mess in ones digital library has become an everyday reality.

At present major companies like Apple, Sony, Nook, Amazon has come up with the popular e-book reading devices and i have introduced their own e-book file formats. Managing e-books of different formats has become a challenge for libraria

**Table 1** -Major E-book Formats

Format	Filename extension	Open standard
Kindle	.azw	No
DjVu	.djvu	Yes
EPUB (IDPF)	.epub	Yes
Multimedia e-book	.exe	Yes
FictionBook	.fb2	Yes
HTML	.html	Yes
Microsoft Reader	.lit	No
eReader	.pdb	No
Plucker	.pdb	Yes
Portable Document Format	.pdf	Yes
Mobipocket	.prc, .mobi	No
PostScript	.ps	Yes
Tome Raider	.tr2, .tr3	No
Plain text	.txt	Yes

Storing e-books systematically and retrieval of the same is not an easy task. There are many digital library software Integrated Library management software available, but these are not designed to manage e-books effectively. Lynn Sil Connaway and Heather L. Wicht discovers in their study regarding usage of e-books that there are no standards for development and distribution of e-books; therefore libraries must support multiple formats, software, hardware acquisition, purchasing, and usage models. This presents daunting challenges in integrating e-books into academic library acquisition, discovery, and delivery systems.

### 2.3. Software for E-book Management

There are plenty of e-books available in the internet, what is required is an application which can be used for managing collection. Important among them are eBook Library Software, KooBits, Blio, Alpha eBooks Manager, All My Books, Cx GutenPy. These applications let manage collection, create catalogs, read e-book etc. For example, GutenPy is an application to make use of the wonderful collection offered by the Project Gutenberg. It lets access the Gutenberg books, and one can download and read it on the computer. Compared to other e-book managing software, the advantage Calibre is that, it is a solution for various e-book related activities. It is a viewer, organizer, converter, news fetcher, cc manager etc. The application listed above does many of these functions, but a single application which offers all these is Calibre.

### 3. Calibre E-book Management Software

Kovid Goyal, the developer of the Calibre software defines it as a free and open source e-book library management application developed by users of e-books for users of e-books (2012). Unlike other digital library applications and library automation software, Calibre is very simple. Its design is very attractive and almost all the major options are accessible right from the main window.

Calibre is a comprehensive suite of tools for e-book requirements designed in a user friendly interface. It has got an all-in-one reader, e-book converter, news fetcher, manager and utility to share the library over internet. An important feature of calibre is its simplicity and user friendliness. Users require no prior training or introduction in using calibre. Calibre is available free of cost under the GNU General Public License v3, and it is available in Linux, Windows and Macintosh platforms.

#### **4. Working with Calibre**

Installation of calibre in Linux has simple steps. Calibre website provides a command to download and install the software on computers having internet. There are other methods of installations. One can install using the source tar file, or use repositories provided by Ubuntu like Linux distributions. Upon starting the calibre for the first time, it asks for a folder to store the e-book collection, choose the folder carefully. Calibre stores its database files and the e-books in the selected folder. To take back up of the e-book library, copy the entire e-book library folder and store in a safe location. To work with the calibre library in another computer, simply place the library folder in to the location of the new computer.

##### **4.1. Adding Books to the Collection**

Usually books or e-books are added to the collection by individually selecting the items. But in calibre, the task of adding books to the collection is simple and the same can be done in bulk also. Individual books can be added to the collection by simply dragging to the calibre window. To add multiple books to the collection, or same book in multiple e-book formats, click on the add book icon from the main window, and then select the required option from the pop up list. The list provides addition of books in bulk. Collection of e-books in multiple formats gets added automatically within seconds. Calibre provides one more option to add e-books to the collection. Set up a directory to store e-books and provide name of that directory in the preference. Any file put into the folder will be automatically added to the e-book library.

Managing large collection of e-books from a single computer is not easy and recommendable. In such situations, books can be added remotely by uploading from client computers to the already set folder using ftp or any other file transfer protocol. Calibre needs to be rebooted to get these books added to the collection. Advanced features in the preference window helps checking duplication of uploaded files with the e-books already in the collection. Converting the e-book in to a given format while automatically adding to the library can also be attained by selecting the appropriate option in the settings.

##### **4.2. Working with the Metadata**

Calibre manages its collection using e-book metadata. Calibre is intelligent enough to fetch metadata from the e-books added. In addition to the embedded metadata, calibre attempts to go out to the internet to fetch metadata on the basis of available identifiers like ISBN, Amazon book id, Google id or Gutenberg id. Metadata of books can be edited easily from the main window. Bulk editing of the metadata is also possible in calibre. Search and replace tab in metadata edit window let bulk editing of metadata more convenient and time saving.

Calibre has a built in metadata harvesting utility. It can download metadata and book cover individually or in bulk from Google, ISBNDB, Amazon, Open Library, Over Drive etc. Downloaded metadata includes many details including comments contents etc. Another feature of calibre is that it allows customization of available metadata fields. In addition to the fields available, one can add custom fields through settings in the preference window. For example, by default calibre doesn't have the subject field. In order to add an additional field go to the preferences, and add custom fields by choosing add your own columns option. The order in which the columns are displayed can be changed by dragging to the required position. Right click on a column gives options like sorting the entire books on the basis of a particular column, hide a column from the display etc.

Many standard library automation software and digital library software provides tool to compile a catalog of the library collection. Such catalog can be used to import into other applications or can be used to create a union catalog. Calibre also has the option to create a catalog of the entire library. The exported catalog can be used for integration with other applications. The catalog exported in Bibtex format is imported into the Zotero reference management software and the same is working fine. Calibre can export catalog in the following formats.

BIB, CSV, MOBI, XML, AZW3, EPUB.

##### **4.3. Search and Browse Facility**

The quick search bar provides basic search facility, and the search can be narrow down using properties like publisher, title, author, Language, File format etc. Calibre has advanced search facility to find out book using metadata of the e-book. Tag Browser provided in the main window allows browsing books on the basis of language or any other properties described in the metadata fields. The cover browser utility gives the facility to browse books using book cover as if in a book shelf.

##### **4.4. Conversion of E-book File Format**

The e-book industry is a vast one for its broad base and its consequently vast variety of new formats, devices, platforms, distribution models, and rights management strategies, views Fisher and Rick Lugg (2001). People use dedicated e-book

reader, computers, mobile phones and tablets for e-book reading. Hence the requirement of the users will be different from one another. Moreover different devices and reading applications support for a limited number of e-book formats. If the e-books are converted according to the user's requirements the library can attain maximum efficiency. Calibre has the e-book converting feature.

Calibre can convert books from a huge number of formats to a huge number of formats. This facility is highly helpful as one can convert to the format according to the user's e-book reading device or taste. Calibre supports the conversion of many input formats to many output formats. It can convert every input format in the following list, to every output format given below.

#### **Input Formats**

CBZ, CBR, CBC, CHM, DJVU, EPUB, FB2, HTML, HTMLZ, LIT, LRF, MOBI, ODT, PDF, PRC, PDB, PML, RB, RTF, SNB, TCR, TXT, TXTZ

#### **Output Formats**

AZW3, EPUB, FB2, OEB, LIT, LRF, MOBI, HTMLZ, PDB, PML, RB, PDF, RTF, SNB, TCR, TXT, TXTZ

The conversion engine of calibre has lots of powerful features. It can rescale all font sizes, ensuring the output e-book is readable no matter what font sizes the input document uses. It can automatically detect/create book structure, like chapters and Table of Contents. It can insert the book metadata into the e-book file.

#### **4.5. Syncing with E-book Readers**

E-books in the library collection can be shared in many ways. One method is to directly sync with user's reading device like smart phones, tablet or commercial e-book readers. Calibre will detect most of the major e-book reading devices and android based tablets and phones. While transferring the e-book to the user's device, it can identify and convert according to the device supported format. This facility will be of great use as librarians can provide e-books to the users in the format supported by their reading devices.

#### **4.6. Downloading News from the Web and Converting it into E-book**

Calibre can be used for downloading the news from websites or RSS feeds, and the same can be converted to an e-book. The news compiled includes not only the summaries, but the full article. As of version 0.9.12 there are 1395 news sources. Users can add more news sources through plugins, and these plugins can be added to the calibre software by sending it to the developers. One need not have to download these news items manually. Calibre has the feature to schedule it on the basis of periodicity and download items at a preferred time of the day. Librarian can send these downloaded news items to the users on the basis of their taste right from the calibre window.

#### **4.7. Comprehensive E-book Viewer**

Calibre has a built-in e-book viewer that can display all the major e-book formats available. It has full support for Table of Contents, bookmarks, CSS, a reference mode, printing, searching, copying, customizing the rendering via a user style sheet, embedded fonts, etc.

### **5. Calibre in Libraries**

Calibre is actually designed to be used as personal e-book managing software. The built-in features like web server, email server, metadata harvesting and the control over metadata qualifies this as a good tool in libraries. Many services like Project Gutenberg provides e-books free of cost, and there are DRM Free e-books which can be stored in the library so that users can read at library or copy and read it at their convenience.

#### **5.1. Content Server**

Kovid Goyal the creator of calibre developed this wonderful tool with a web browser which can be used for converting it to a content server. Users can access e-books library through the Local Area Network (LAN) of an institution or through the internet. While enabling the content server, providing same book in different common formats like epub, pdf, html, and text will be helpful for users.

Content server configuration lies in the sharing settings in the preferences. Access to the content server can be restricted by user id and password authentication. If the library doesn't want to provide entire collection through web, access can be limited to a particular collection. For libraries having large level installation, the calibre content server can be managed using the inbuilt command line tools through terminal.

Calibre's web interface allows the users to access e-book library over the net. Homepage has both browse and search features, one can browse books on the basis of newest, language, author, publisher etc. Basic search interface provides a simple interface to search a book using title, author, publisher or any other attribute of the e-book.

## 5.2. Share E-books by E-mail

Calibre has the facility to share books over email quickly. Email server of the institution or general email accounts can be used here. Calibre has inbuilt support for Gmail and Hotmail email services. Go to the Preference, then choose sharing books over email settings and provide email server details or Gmail account details and password. After providing the email server details next step is to add email addresses of the users to whom the email is to be sent. Once the settings are provided, one can test the email by clicking on the test email button provided in the same configuration window. To send the e-books over email, select a book from book list, right click and choose email id from the list.

## 6. Limitations of Calibre

A major limitation of calibre software is its lack of full text search facility. Calibre doesn't support full text search of the e-book. Addition of the full text search facility would be an added advantage to the software. Since calibre is more or less a graphical user interface (GUI) driven program, a host of functions are done using the calibre graphical user interface. As of now, calibre web interface let search/ browse of e-books. Addition of more utilities to the web interface will make it a powerful content server. Since calibre is not primarily meant for libraries, many of the metadata standards like MARC, Dublin Core are not supported.

## 7. Conclusion

Instead of providing the link of various e-book websites, it will be more helpful to give users some books, so that they can carry and read the way they wish to. Calibre is definitely a good tool to manage e-books in the library. With the features available in calibre like the inbuilt web server, metadata harvesting etc., it's a promising and a must know tool for librarians.

As stated by Lynn Silipigni Connaway and Heather L (2007), although there are still barriers to the adoption of e-books in academic libraries, e-books provide an opportunity for librarians to offer the academic community what they want – direct access to full-text content.

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