



Version 5.1

**Information Sheet**

**Overview of Library  
Management Solutions for  
IT staff**

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## **1. Introduction**

The objective of this document is to demystify the installation and maintenance of the Amlib\* library management system for IT staff.

This document looks at the IT components and different IT configurations management system fit together.

The examples within this document relate to Amlib, a library management system, which is found in schools, colleges, healthcare, law firms, public libraries, public libraries, commercial libraries and specialised libraries.

## 2. The Library Management Solution Components.

### The Fully Web Based Solution

This configuration enables the library staff to manage their library and perform all the functions of acquisitions, cataloguing, enquiry management, serials, circulation management, reporting and systems administration from a web browser in an Internet/Extranet or Intranet.

Amlib library software can be configured as a fully web based solution, which means that the core Amlib modules need to be installed on MS-Windows web servers and both librarians and patrons access the library records from web browsers.

A standard installation set up procedure allows all the core modules to be installed on your web servers very quickly and efficiently.

Once installed the library software administrators use their web browser to configure the functionality they wish to activate and can deactivate those components, which are not required using the 'supervisor' module.

If you would like IT staff to undertake this task, the librarians can authorise IT staff to perform administration functions. Certain tasks such as the configuration of the SMTP server for sending emails fall within the realms of IT staff.

#### What are the core modules?

**Authorities** - enables libraries to define the key attributes of the library items (known as 'tags'). These attributes are stored in a giant thesaurus, which allows searching by key word, by phrase and by pattern matching (as in the LIKE construct within SQL). The thesaurus can also contain photos (e.g. author photos) and define relationships ('See' and 'See Also' facilities). Utilities are provided for exporting and importing information in recognised formats i.e. XML, MARC 21, XML MARC, CSV formats and uploading of photographs.

**Borrowers** - detailed management of all library Borrowers including 'Special Interest' profiles (SDI) and uploading of photographs. Utilities are provided for importing/exporting borrower records with external solutions.

**Catalogue** - utilises full MARC 21 format standards (but you could use your own standard) with an easy to use interface. It also features online Z39.50 searching of other libraries and databases simultaneously (e.g. search Public Libraries, Universities and Library of Congress in a single search) then select records in search results to import immediately into Amlib database.

**Circulation** - complete management of all library loans, returns, reserves and location transfers.

**Content Enrichment** - enabling the Amlib Catalogue to be automatically linked to online enrichment content (cover images, table of contents, author notes, reviews, etc.) from Syndetic Solutions, Content Café (Baker & Taylor) and Amazon.

**Enquiries Management** - allows users to raise queries directed to library staff from the OPAC and for library responses to be viewed from within the user's personal area.

**Finance** - features detailed reporting of financial transactions and orders, including invoices and budgeting.

**Interlibrary Loan** - librarians can quickly place ILL requests and reserves for library patrons, and manage the circulation of ILL items.

**Mobile Library** - allows the library to utilise computers on the bookmobile(s) to accurately track circulation usage at each stop.

**Orders / Acquisitions** - complete order processing together with budget reports, commitments and expenditures.

**Periodicals Management** - flexible serials management of all library subscription materials; includes issue prediction scheduling.

**Reports & Statistics** - flexible and comprehensive reporting module operating across all Amlib modules and features automatic notice generation and production of notices via email.

**Reviews** - patrons and librarians can provide star ratings and reviews via a web OPAC (if this facility is enabled)

**Self Check Out** - patrons can check out their own materials with selected security features and can operate as a stand-alone module or in conjunction with other SIP2 compliant Self Check & Security and Telephone Renewal systems.

**Stock Item Management** - manages all items within the database, as well as online stock take.

**Supervisor** - enables the administrator to customise Amlib system settings.

**Open Public Access Catalogue (OPAC)** - enables patrons to access the library's catalogue, place reservations, renew their loans, view their reading history, see fines due, submit suggestions and rate/review the items via the Internet or an organisation's Intranet.

**Virtual Document Exchange (VDX)** - the process of managing interlibrary loans can be time-consuming. With VDX the documents involved in interlibrary loan activities are generated automatically. A patron with a web browser can search a remote library catalogue, directly request an item and arrange collection from their local library in one operation without the intervention of any library staff. Amlib supports VDX.

**Z39.50 Client module** - enables your patrons to search for items in external libraries through your OPAC within a "multi-library database" search using the Z39.50 standard.

**Z39.50 Server module** - enables other libraries to include your database within a "multi-library database" search using the Z39.50 standard.

## The Full MS-Windows Solution

All of the components in the Amlib fully web based solution can also be configured to work on MS-Windows workstations connected to the library information database.

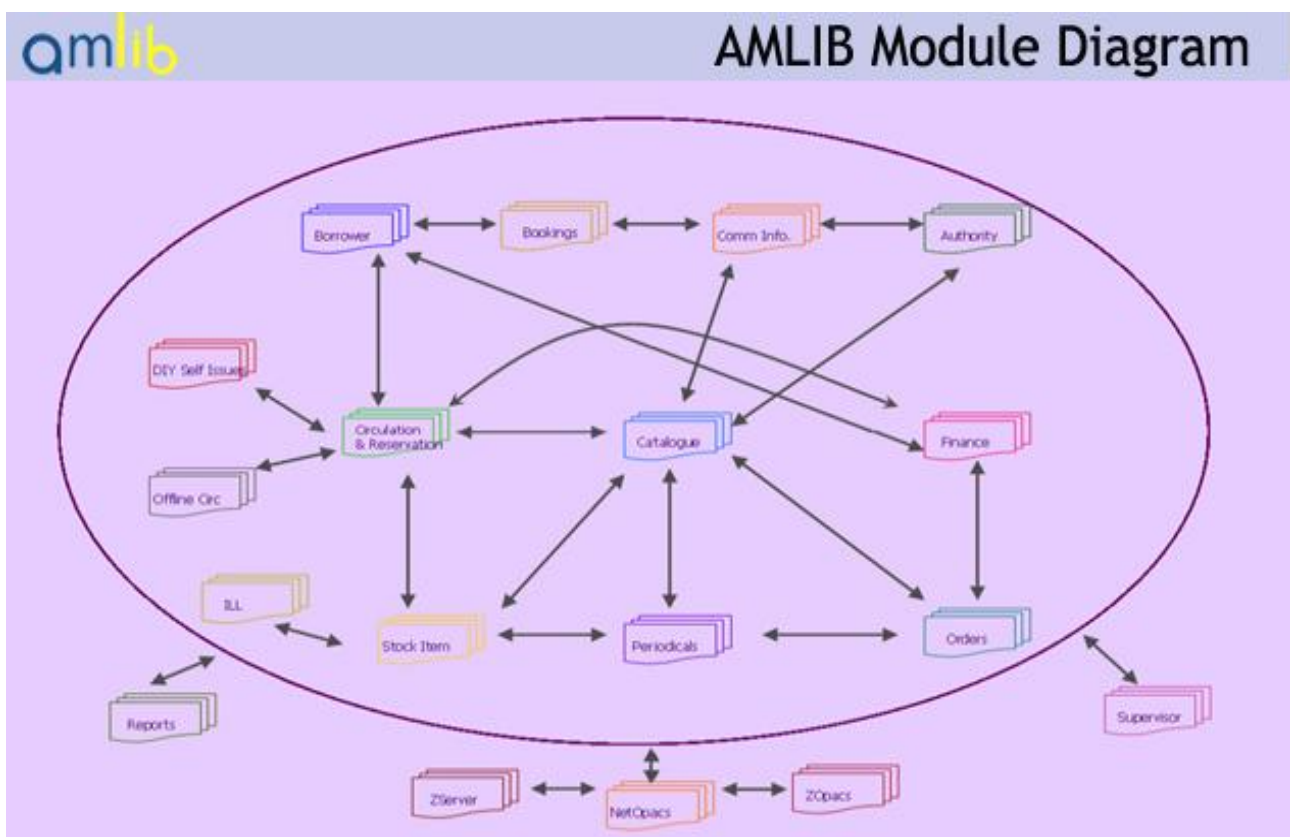
For some groups of users such as secure establishments for young offenders and prisons, fully web based solutions are simply not an option, since the use of web browser poses a security threat.

Some additional modules are available as MS-Windows solutions. These solutions are designed to allow the library to work in specific situations and to ensure library operations can continue at all times:

**Offline Circulation** - continued operation of Circulation from a local PC workstation or laptop when a server failure occurs during regular library hours. Some libraries simply are unwilling to tolerate 'downtime' i.e. network upgrades and failures, web server upgrades and failures, hardware upgrades and failures. The offline circulation module can kick in, so that the impact of such events is minimised. Normal circulation activities are run from a standalone PC until the main library database can be accessed, at which point all transactions are transferred swiftly and efficiently.

**Offline Inventory Control** - scanning items for stock take during regular library hours.

**Self Issue Equipment and Library Management Devices** - many devices, which are of great interest to libraries such as RFID, electronic tagging, bar code check in/out devices and hand-held stock analysis devices typically connect directly to a MS-Windows workstation client/server solution rather than a web browser mechanism.



The above diagram demonstrates how all the Amlib modules communicate with each other. This applies to both the MS-Windows and web application server components.

## The Hybrid MS-Windows and Web Based Solution

Amlib library software allows you to use both MS-Windows and web based Amlib modules at the same time.

Since both the web based and MS-Windows Amlib solutions offer very similar functionality, whether you use a web browser or a MS-Windows solution is down to the personal preferences of library staff.

Organisation policies, working practices, concerns over security and the sensitivity of information frequently mean that **budgeting, finance and ordering modules** are MS-Windows solutions rather than being fully web browser based.

You can not escape the fact that hardware, networks, web servers, database servers require maintenance and may fall over. If you are using a fully web browser based solution and you want library circulation activities to continue in a relatively uninterrupted manner, you should install the **Offline Circulation** module on library PCs.

Simple devices such as memory sticks can be used to transfer the bibliographic data very rapidly to the library PCs, if you have a network failure, for example. When the network is restored the transactions stored in the local PCs can update the main library records.

## The Web Server Installations

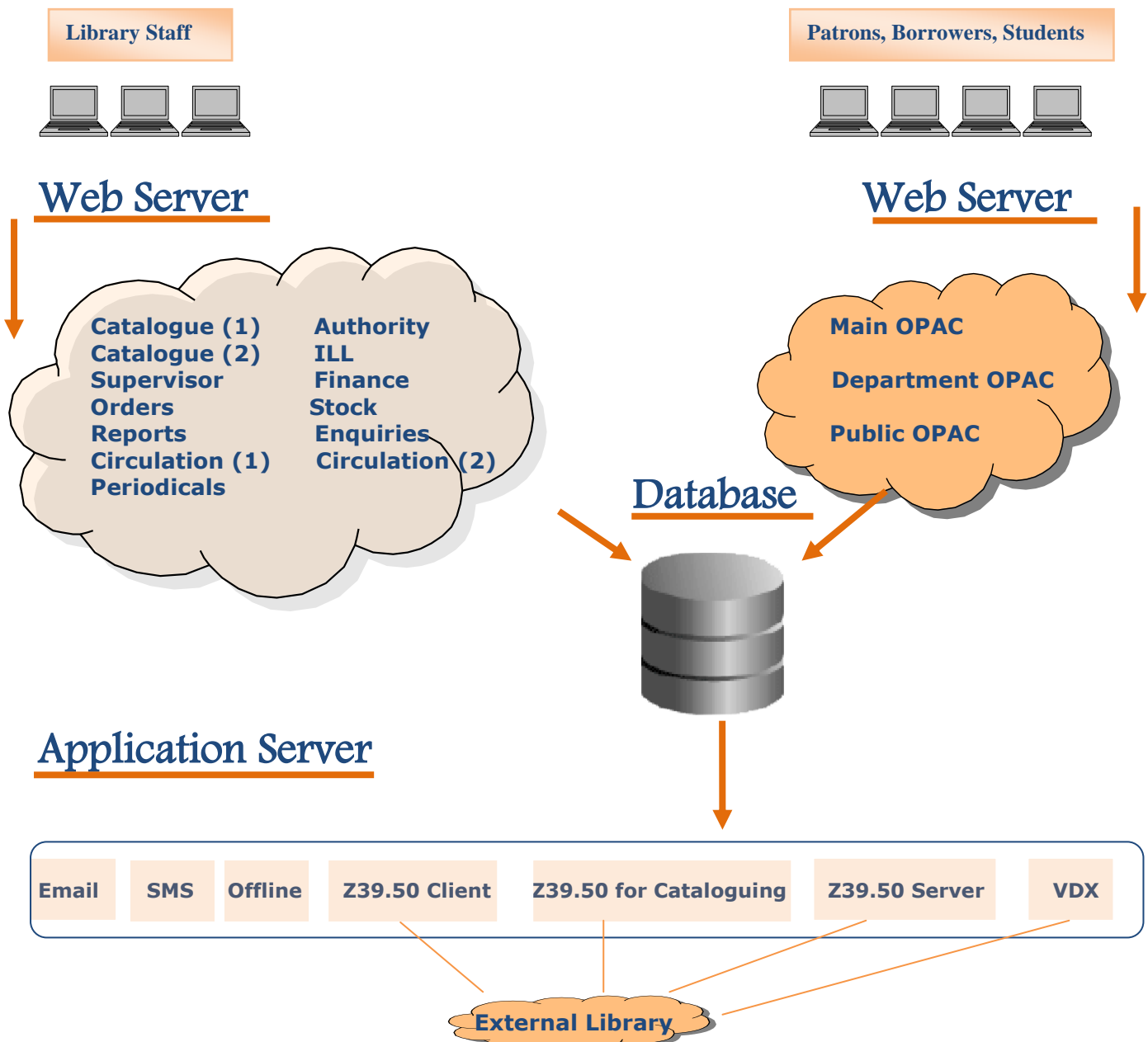
When you run the installation procedure for AmlibNet (the web version of Amlib), the Amlib web applications are installed and 'ready to go' on your web servers in a very straightforward manner.

Each of the AmlibNet modules is installed by default both as a MS-Windows service and as an application.

These modules are designed to service each other transferring information as required by the nature of the transactions being undertaken by the librarians and patrons.

For larger volumes of user you can set up multiple copies of the services to match your usage profile. Utilities are provided to allow you to manage this very easily.

Example:





In the above configuration, additional multiple catalogue and circulation services have been configured to reflect a library, which makes extensive use of these two services.

In very large installations the web servers will contain many versions of each service.

The above architecture provides the scalability to support the large state libraries in the USA with union catalogues managed by large numbers of librarians. The Amlib library software is totally scalable.

## Shared Services

When groups of libraries get together to share the costs and the tasks of looking after libraries, there is great scope for savings in licence fees and the introduction of new working practices.

In the example below of a shared school/college solution:

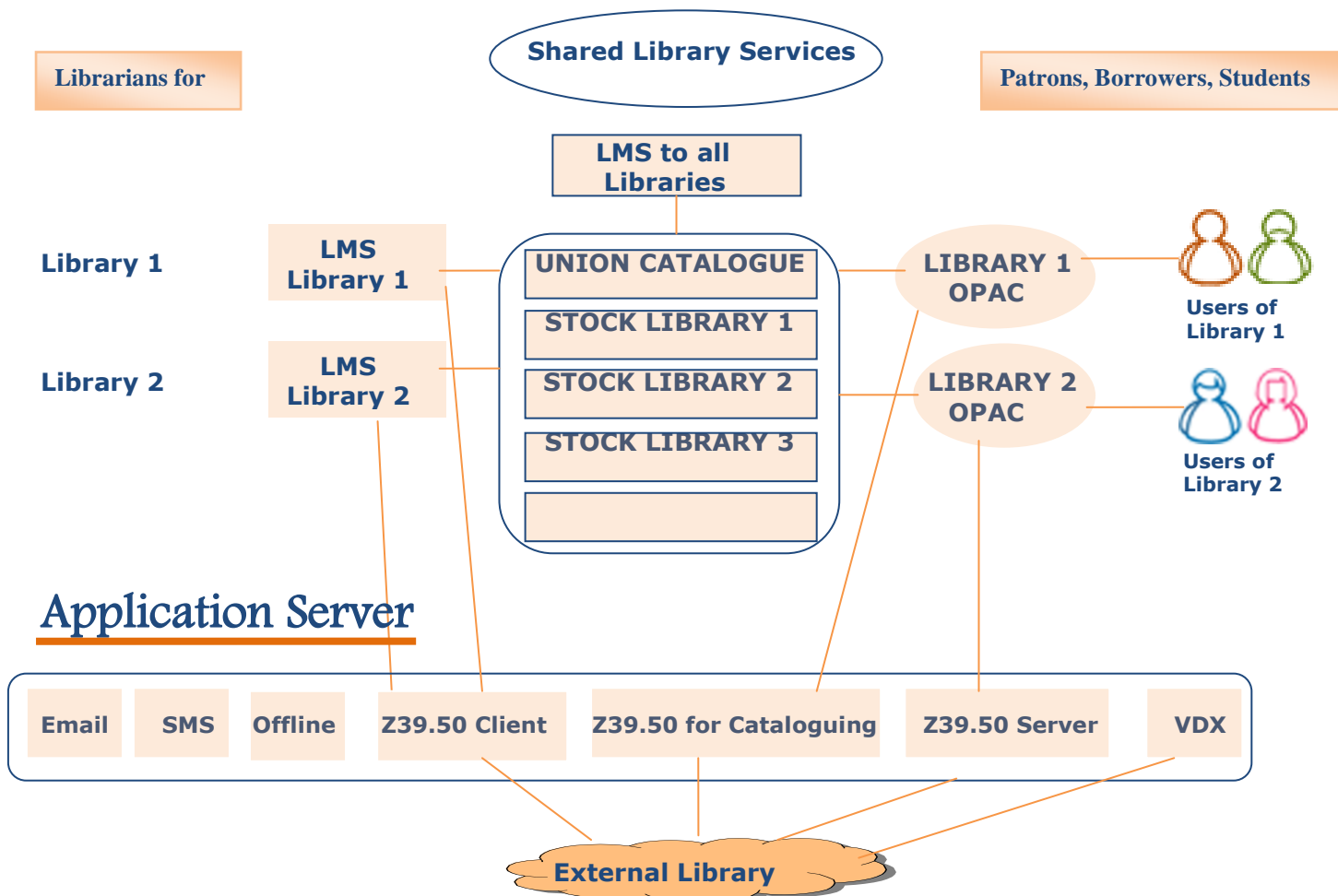
a) **each school/college retains its own identity by having their own web browser based Online Public Access Solutions (OPAC).**

b) **librarians skilled in cataloguing can coordinate the cataloguing activities of multiple school/college libraries**, when perhaps the schools/colleges could not justify the use of such skills as individual organisations.

c) **the replication of cataloguing activities can be reduced by allowing all the schools and colleges to share a common catalogue.**

d) the cost of expensive components such as Z39.50 connectivity modules allowing patrons to search for items in external libraries through their local library service. **Amlib implements Z39.50 as a service, which can support a huge population of patrons – the cost of a Z39.50 service is the same whether you have 300 users or 30,000 users.**

Diagram:



In the above example we have two libraries, who are sharing a common catalogue with a little help from some shared librarian staff. Each library may however be working independently and only see their own stock items, and their staff only see their own libraries items in their OPACs.

## **The Configuration of 'Google' Style Contents Searches With Bibliographic Record Searches.**

### **Traditional Searches of Bibliographic Records**

Central to any library management system is the 'catalogue' and the 'bibliographic records'. At the heart of the catalogue is a thesaurus of terms, which can be searched in a number of ways:

- a) Key word searches. Amlib provides 'full contents searching on all the bibliographic records'.  
( A keyword search for 'post van' would locate items written by 'Laurens van Der Post')
- b) Phrase searches. This can produce a much more definitive and shorter search results than a keyword search.  
(A phrase search for 'post van' would not include the items written by 'Laurens van Der Post')
- c) Partial word searches. Entering the first few letters of keywords helps to shorten lookup lists. This search technique is also used to search bibliographic information.
- d) 'SEE' and 'SEE ALSO' relationships allow a librarian to demonstrate their cataloguing skills. The librarian can define relationships to make results more inclusive. For example, if you are searching 'European History', you want results including 'French History', 'English History', 'German History' etc.. Equally entering a search for 'Canines' should return information on dogs.
- e) Z39.50 is a protocol specifically designed to allow library management solutions to talk to each other. Through this protocol, librarians can search and import the catalogue definitions from other libraries, patrons can search each external libraries, and you can make your library records accessible to external organisations.

### **'Google' Style Contents Searches**

'Google' has opened people's eyes as to how a person can access information quickly through its website search engines. You can make your library software catalogue searchable from Google, if you generate a website and publish your bibliographic records to the internet. You can then use tools such as 'Google' analytics to determine the interest in different sections of your library catalogue.

Amlib reporting solutions can help you achieve this and ensure that your library is searchable even when your library system or network is down for housekeeping tasks.

With the advent of eBooks and eJournals, patrons can now read a book or periodical directly from their PC without the need to check items in or out. If you are conducting research you can search your 'online' library of eBooks, eJournals, research documents, white papers and special collections of online documents by using a 'Contents Search'.

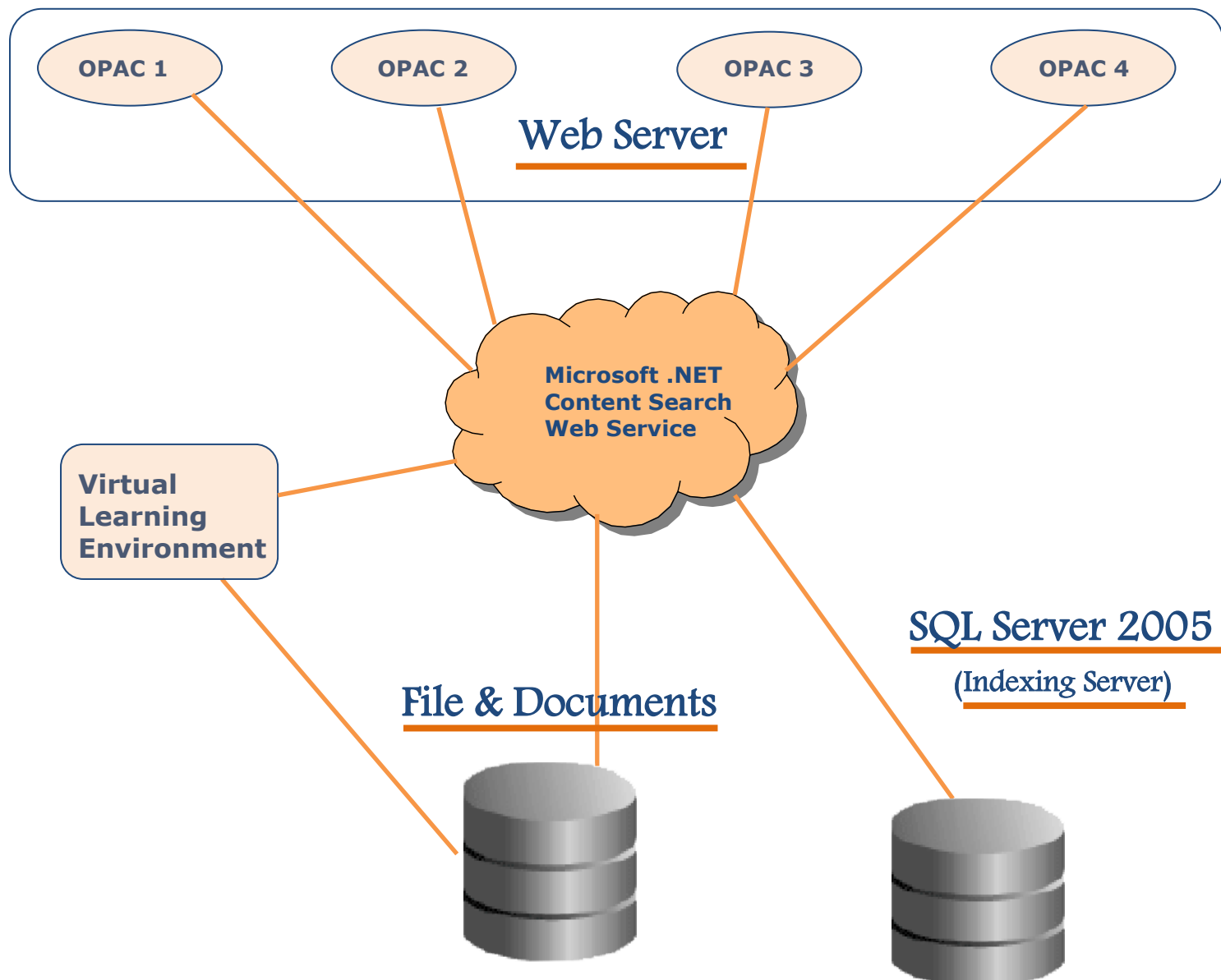
A 'Contents Search' means that from a web browser you can remotely search the actual text for keywords within the pages of the eBooks, eJournals, MS-Word, websites and PDF documents.

The ANS Contents Search Engine is an optional component, which integrates with Amlib to provide 'Contents Searching' of online materials.

Diagram:

Web browser workstations, web server + Microsoft .Net security, contributor vetting solution + contents search engine, file server of PDFs, word documents, database server with SQL Server

Patrons, Borrowers, Students



In the above diagram, users through their OPACs are using a powerful full-contents search engine to provide keyword contents searches on a file server of documents in MS-Word, PDF and HTML format. The SQL Server 2005 server is used to provide an indexing service for all the files and documents, which you would like to configure for viewing through the OPACS

The items may have been placed on the file server by a Virtual Learning Environment or they may have been put there by another mechanism. ANS can provide a web browser based tool to enable authorised staff, who wish to upload information from home or remote locations, to do so.

If users have information repositories such as Share Point or Lotus Notes, ANS can provide searching facilities on these environments through providing modified web services incorporating the application programmer's interfaces from these respective tools.

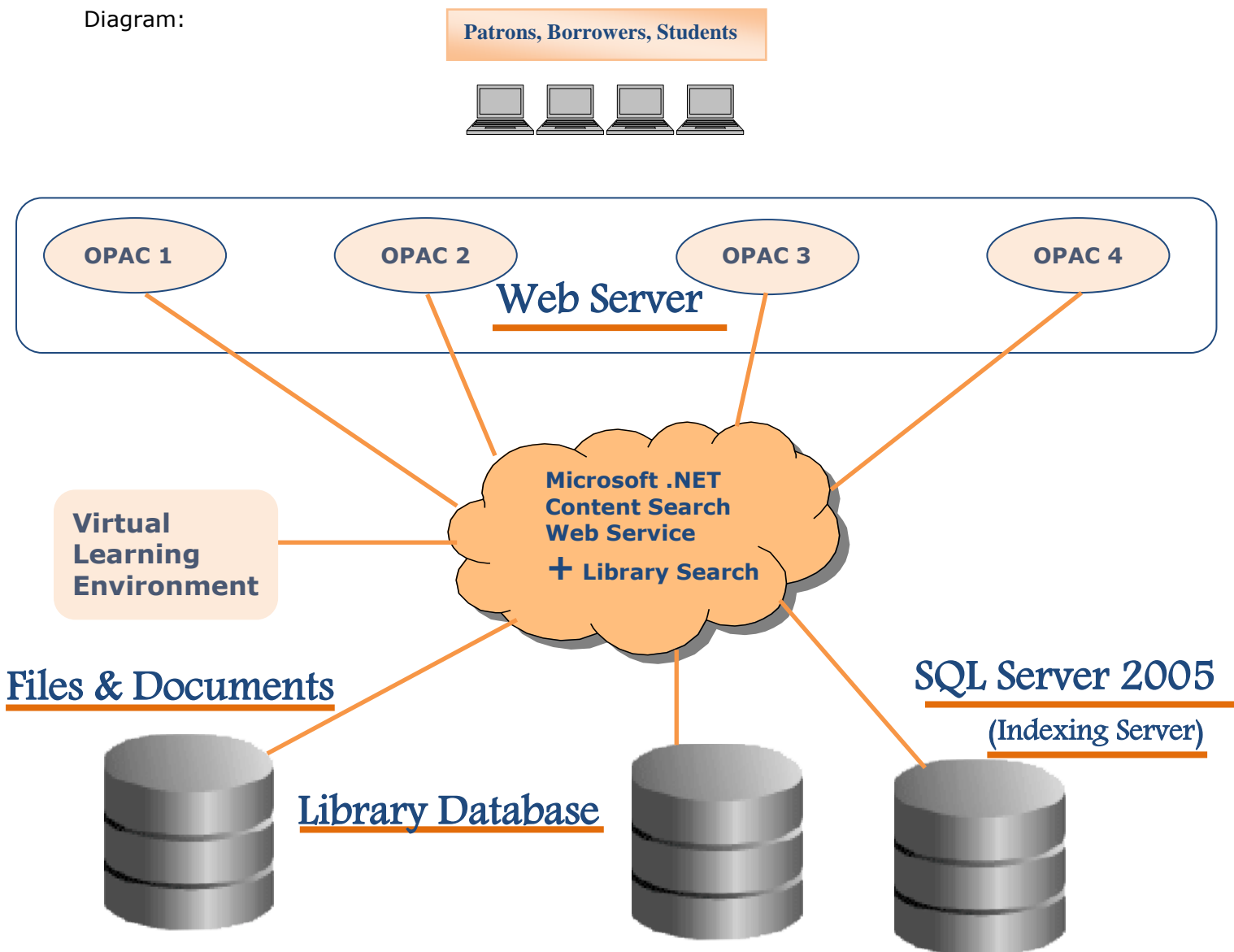
## Combining 'Google' Style Contents Searches with Bibliographic Record Searches

We are now seeing students and researchers wanting to combine the traditional library searches with the 'Contents Search' engine.

For example: A researcher in modern architecture could use the traditional library search to obtain a list of periodicals (and articles) between publication dates. In one search you can combine this with a 'contents search' of the pages within the periodicals and then with one further click, the periodical is opened.

Amlib can be used in conjunction with 'contents search' engine to provide a short list of information sources to look at further for an audience, which increasingly wants information faster and more quickly.

Diagram:



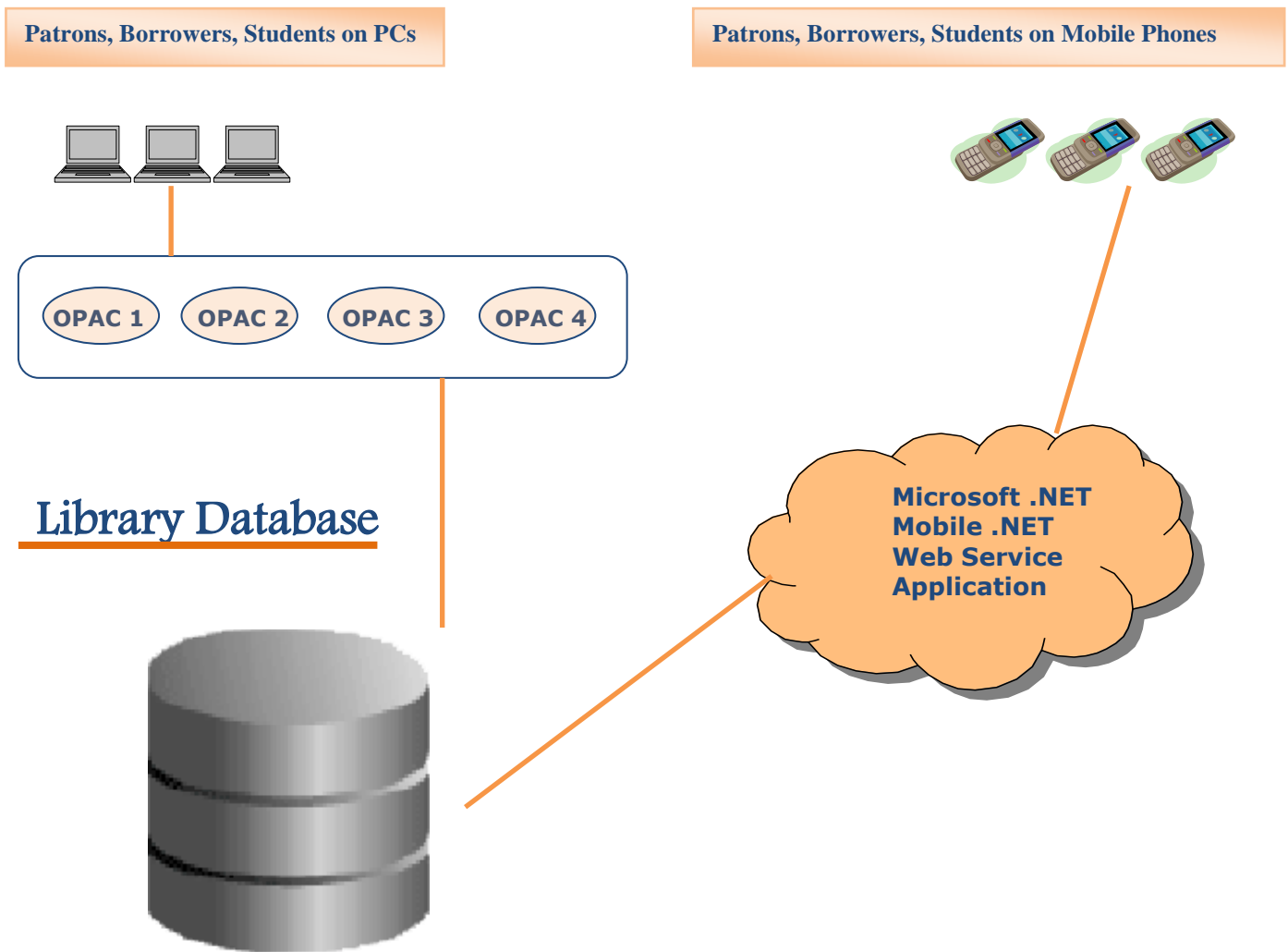
## Mobile Phones

Libraries can use the mobile phone to communicate with their patrons, and patrons can use their mobile phone to communicate with their library catalogue.

Amlib library software can send librarians defined SMS messages to patrons informing them of overdue items or simply reminding them to return items before holidays and important diary dates.

ANS has developed the capability to use a mobile phone to allow a patron to query the library catalogue and to reserve and renew items from their mobile phone. This technology uses web services built on Microsoft mobile .Net technology.

Mobile phones provide a mechanism to make your library more accessible to patrons with mobility and accessibility issues.



## Checking URL Links for Dead/Incorrect Links

Within a library containing online components such as PDFs, RSS feeds, bloggs, research papers, websites, MS-Word documents, online art, plans and architectural drawings, the access to these solutions may well be controlled via a URL, which is stored in the catalogue.

If these type of items are in the catalogue you need to ensure that the URLs are up-to-date. It is likely that some of these URLs may become dead links or require changing.

To help the librarian identify dead links, Amlib has a report designed to print out all the links in the library database. This report is called 'auth856.qrp'.

You can then use a link checker (such as the W3C link checker: <http://validator.w3.org/checklink> ) to verify the accuracy of all the links held within the library catalogue.

## Multilingual Libraries

With the world becoming more cosmopolitan, libraries are now holding bibliographic records in many different languages. Traditionally UK libraries have used the western European character sets, which contain relatively few characters and their bibliographic records have been limited to these characters.

But when you have a library, which needs to hold Polish, Czech, Arabic, Mandarin, Japanese, and Thai and has to support all these alphabets, you need a different approach. The huge range of characters can not be held electronically within a single byte, which can only represent up to 256 characters.

To assist with this Unicode has been born. But unfortunately not everybody has signed up to the same standard. Web server components usually work with the UTF standards (UTF-8, UTF-16 and UTF-32), while Microsoft SQL Server, for example, support another standard known as UCS2.

In the example of Microsoft SQL Server (UCS2) and web servers (UTF), there are a few characters, which have different electronic representations. Examples of this are some Polish and Czech characters.

For these characters there has to be some translation taking place when web servers are manipulating 'awkward' characters. This can be either undertaken by the library software or third party 'middleware', which usually resides on the server.

However sometimes this middleware does not exist and clients purchasing library solutions are stuck. A good example of this are web solutions written in PHP talking to the Microsoft SQL Server database, who need to hold combinations of western and eastern European character sets including Cyrillic, Polish and Czech.

**The good news is that the Amlib library system does not suffer from these problems.**

The Unicode versions of Amlib are entirely written using Microsoft technologies.

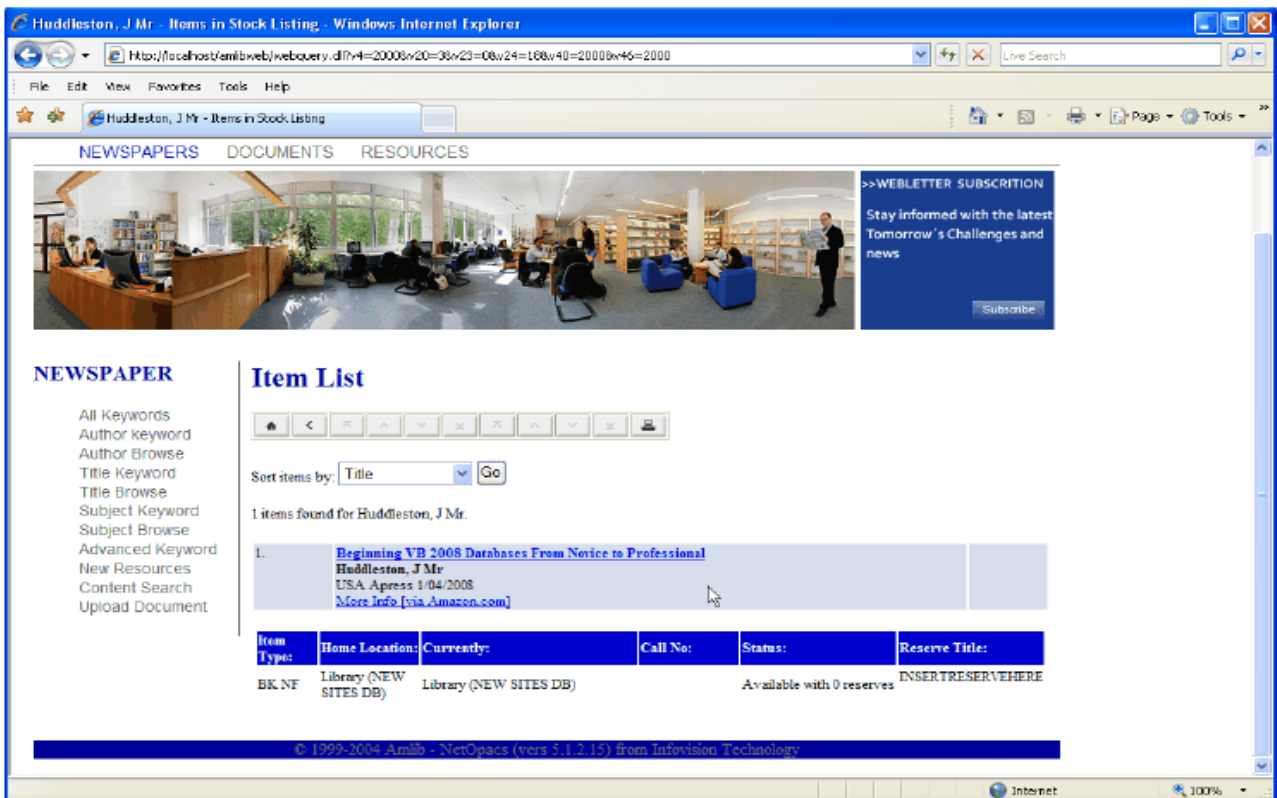
As well as the character translation the definition of Unicode is also responsible for the sort sequence. For example in a bibliographic list of all items you expect the list of items to be sorted with the Mandarin titles grouped separately from the English titles – a true implementation of 'Unicode' such as Amlib ensures that this happens.



Diagram: An Arabic NetOPAC interface:



Diagram: The same NetOPAC showing the information in English. Note how the Arabic NetOPAC has to support right to left characters, and Arabic users naturally scroll from right to left to read a web page.



## Extending Amlib

Amlib's library system is extremely easy to tailor. The colours and fonts are all controlled by 'cascading style sheets', which means that you can make one change and the interface will change through a web page, set of web pages or even the entire website or OPAC.

All OPAC screens are standard HTML so they can be edited using any HTML editor.

Because Amlib is so easy to tailor, users within the Amlib user group sometimes use the Amlib portal to publicise what they have done and exchange components.

Examples of this include clients, who have integrated facilities taken from the 'LibraryThing' into their Amlib solutions such as 'Tag Clouds'.

Amlib publishes the full database schema for all its products and allows third party products to query the database directly.

For more information re the above, or our library system, please [Contact Us](#)\* or telephone +44(0)1256 300 790

\* [Link](#)