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Library Evaluation and Online booking system at the University of Auckland

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Introduction

The University of Auckland was established in 1883 and is New Zealand’s largest university. The University consists of five campuses; namely the City Campus, Epsom Campus, Grafton Campus, Tamaki Campus and the Tai Tokerau Campus. The University of Auckland has a diverse student body and with over 30,000 students in 2006. Teaching and research is conducted in eight faculties – Arts, Business and Economics, National Institute of Creative Arts and Industries/NICAI (music, sound recording and design, dance, fine and visual arts, architecture, planning and urban design), Education, Engineering, Law, Medical and Health Sciences and Science. There is also a School of Theology, 37 research centres and nine research institutes.

The University of Auckland Library (www.library.auckland.ac.nz) has a decentralised client service with the General Library, which serves the Faculties of Arts, Business & Economics and Science, as well as 10 subject libraries and four Information Commons facilities. The centralised departments, Biblio Centre, Document Delivery, Learning Services and Digital Services, provide system-wide services and support to all libraries. The Information Commons and Learning Services department was established in 2002 as part of the strategic alignment of University Library services and resources. The Information Commons and Learning Services teams are based in the Information Commons locations at the City, Epsom and Grafton campuses. The four teams are:

- Information Commons Helpdesk – responsible for managing learning support service delivery in the Information Commons Group
• Learning Services – providing leadership in information literacy development and coordinating information literacy programmes across the Library system; delivering the Library’s generic course programme
• English Language Self Access Centre – supporting English language development
• Short Loan – responsible for managing the high demand print collection for Arts, Business & Economics, Science and Theology and the electronic course material system-wide.

The Learning Services team works closely with Subject and Client Service Librarians across the Library system to design, develop and deliver the Library’s information literacy programme, initiatives and resources. Responsibility for the subject-based component of the programme rests with the Library’s faculty services teams. Subject (faculty liaison) Librarians work with academic departments and the Learning Services team to tailor and integrate information literacy into the academic curriculum. The generic programme includes courses on the Library catalogue and databases, the Internet, EndNote, student computing and IT facilities, and general research and searching skills.

Establishing a centralised Learning Services team has had a significant impact on the teaching role of the University Library. Not only has it resulted in improved co-ordination of the library teaching programme, it has also facilitated many new information literacy initiatives and collaborations. The initial focus was to bring together the various library-wide information skills activities into a coherent information literacy programme and to improve the overall quality. There has been a significant increase in the number of tailored, hands-on library courses and in total attendance; a substantial increase in the use of Cecil (an online learning system at the University of Auckland) as a delivery platform by library staff; more web-based instructional tools; evaluation of all library courses; increased capability for staff and students to book courses online; improved marketing; and the addressing of the educational needs of librarians in a teaching role through a range of professional development activities. Considerable progress has also been made to align the information literacy programme with institutional plans and priorities. The University of Auckland Information Literacy Policy was approved in March 2006.

What is LEO and what can LEO do?
A significant development in 2002 was the design of a Library Course Evaluation and Online Booking system – LEO. The database is a joint project of the University Library’s Learning Services and Digital Services teams. It allowed the Library to replace an out-dated and unreliable paper-based booking system. Another significant benefit is that it has raised the awareness of library courses amongst students and staff and led to an increase in library course attendance. The database is used to generate official statistics for the University Library Annual Report and for information literacy reporting to CONZUL (Council of New Zealand University Librarians) and CAUL (Council of Australian Librarians).

LEO allows University students and staff to enrol in library courses online, manage their bookings and communicate with Library teaching staff. Course presenters are able to manage their teaching sessions, view feedback, contact course attendees and generate personal statistical reports. Managers can access team-based and individual presenter reports. As a key Library service, LEO is linked from a prominent position on the Library's homepage, LEARN (http://www.library.auckland.ac.nz/) and this high profile has served to raise awareness of the Library’s information literacy programme and associated courses. The LEO public website can be viewed at: http://www.library.auckland.ac.nz/booking/

How was LEO developed?

LEO was designed in house because there was no funding available to purchase a commercial product. The success of LEO has been the result of the collaborative efforts of the Learning Services Team, Digital Services Team, and all Library faculty services teams. The LEO concept was initiated by the Learning Services Team. A small LEO project group was established to brainstorm the basic functions and features of the public and staff administration sites, levels of access, layout etc. Based on the outcomes of the project, the LEO database was designed and constructed by Peter Jansen from the Digital Services Team in early March 2002. All the generic courses offered by the Learning Services Team were gradually entered into LEO as trial data in late March 2002. Since then, the Learning Services and Digital Services teams have worked very closely to continue to develop and improve the system. After a few weeks trial, the first version of LEO was put on the Library website for students to book courses online. The first version of LEO had very basic functionalities such as booking a session online and offline data entry of students’ and presenter’s evaluation forms. In order to introduce LEO to library course presenters, the
Learning Services Team visited all the Library faculty services teams to demonstrate the system and to explain the benefits of using LEO. By the end of 2002, all the library staff members who taught library courses used LEO as their online course booking system and for recording group teaching statistics.

As LEO usage became system-wide, LEO coordinators were appointed to represent each faculty services team in the Library. Regular LEO coordinator’s meetings (5 times a year) have been held since 2004. A LEO coordinator communicates with all other team representatives and liaises with the Learning Services and Digital Services teams to discuss problems, suggestions, improvements and new functions. This extends the responsibility for LEO development from the Learning Services and Digital Services teams to all faculty services teams and significant improvements have ensued since LEO coordinators have been meeting regularly. LEO coordinators also provide training for their team members based on the material produced by the Learning Services team. Coordinators are the first contact person for their team if there are any problems or suggestions, and are supported by the Learning Services team.

Growing appreciation of LEO resulted in more and more requests for additional functionalities. The Learning Services Team established a project team to review and prioritise the requests. At various times, we contracted students and employed a fixed term IT person to assist Peter Jansen to develop new features and improve the System. A number of special projects have been undertaken. These include: standardising LEO course titles; adding standardised university course codes to sessions; the production of various new web reports; the incorporation of weekly course schedules and a yearly calendar; the redesign of LEO’s main interface; an instruction manual etc. Another significant change has been to allow recording of multiple presenters and to distinguish between presenters and rovers. Over the last 5 years, more and more functionalities were added onto LEO and existing ones improved. These new functionalities include: online evaluation forms; many different types of web statistical reports; course booking reminders; a means of contacting enrolled students; the ability to view course bookings; personal weekly and yearly calendars, etc. LEO has been developed as a comprehensive online booking and evaluation system.

**Technical architecture of LEO**
LEO consists of a Microsoft Access database with a web interface. The database has over 20 tables, including tables of courses, sessions, students, presenters, course bookings and course evaluations. The core data, stored as fields in the course and sessions tables, records information about the courses taught under the Library’s programmes and details – such as venue, time and presenter - of each session. Relationships are defined between the database tables. In combination with primary keys on each table, these relationships create constraints which ensure referential integrity is enforced to maintain data integrity. For instance, as each session has a unique identification number, it is not possible to (inadvertently) schedule the same session twice, or to associate a session with more than one Library course.

The web pages use a mixture of HTML, .ASP and Javascript to allow students and staff, and library course presenters to access the database from the library’s web server. Many of the LEO functions – such as course bookings, generating reports – are accomplished through submitting HTML form data to the database, with .ASP used to perform database communication tasks and Javascript to perform validity checks. For example, the reports make use of .ASP subroutines to execute queries on the database which access the required information. This information is then formatted using HTML and presented to the user as a web page. The web interface for the administration side of the bookings system is a largely Javascript-based menu system. This allows for context-relevant menus to be displayed and updated dynamically.

The University of Auckland has an enterprise-wide data repository, Campus Community (PeopleSoft module), which stores both student and staff information. The Library’s Voyager catalogue system downloads data from Campus Community every 10 minutes and LEO downloads information from Voyager’s patron file daily, including names, ID numbers, email addresses and patron status.

The diagram below illustrates relationships between LEO Access tables and the web pages.
Access Database (simplified view)

Public Site for all UoA Staff and Students
http://www.library.auckland.ac.nz/booking/
- List of current courses
- Course bookings
- Check bookings
- Course evaluations

Public Site for Specific Groups
- Academic Staff: http://.../S1Coursepage.asp
- Library Staff: http://.../L1Coursepage.asp
- PhD Students: http://.../PhDCoursepage.asp
- ELSAC: http://.../els1Coursepage.asp

Admin Site
- Add course titles
- Add or edit sessions
- Email students
- View course schedule
- Presenter evaluation forms
- Generate reports
LEO Public View

On the LEO public website, University of Auckland students and staff can select a particular course either from the main dropdown menu or from a recommended list or by a faculty or campus.

University of Auckland students and staff can enrol in a library course online by using their ID number and surname. Courses are listed by title and include a brief description of content and any prerequisites (see below). The list covers all available sessions of both generic courses and those library sessions related to University courses for which bookings are required to manage attendance or generate a roll. Potential attendees are notified if a particular session is full so that they can choose an alternative. Booking options include selection of courses by faculty, by course name or by campus. Teaching venues can be located using links to online maps and PDF versions of the course handouts are available for students to download. An email reminder is sent out the day before to all course presenters and enrolled students, reminding them of the session that they are scheduled to teach or attend.
At time of booking students can submit a learning need or suggestion (see below). The course presenter receives an email notification of the comment immediately after entry and can respond appropriately at the time or within the teaching session. These suggestions can also be viewed online and have been instrumental in improving Library staff’s understanding of student expectations and needs. The function has proved particularly useful in the generic programme, where attendance is voluntary and open to all students and staff.
LEO also enables students and university staff to check or cancel their personal course bookings, and to fill in an online evaluation form at the end of a session. Evaluation data is used in various LEO reporting functions – both statistical and textual. Attendees are asked to select a group they identify with, e.g. undergraduate, and say how they found out about the course. They are also asked to indicate how useful they found the content of the course and to rate the effectiveness of the teaching. Two open-ended questions allow attendees to comment on perceived strengths and weaknesses of the session.

LEO has also been adapted to target special groups of people. It currently enables University academic staff, library staff, PhD students and those wanting to attend an English Language Self-Access Centre course, to enrol in courses on separate LEO online sites. The sites have the same functionality as the main LEO site discussed above.
Students and staff wishing to book library courses can access LEO from the Library’s homepage, LEARN; from selected Library database ‘Connect’ pages; or from links embedded in course-related material. The LEO public booking page is also promoted in various electronic newsletters to targeted groups e.g. International students, postgraduate students; from a dedicated PC in the foyer of the General Library and in other print and electronic publications.

**LEO Admin View**

On the LEO staff administration site, LEO Administrators (Learning Services Team) are able to add new course titles online and to manage presenter and venue listings. Courses are identified as one of five types according to criteria to do with the profile of attendees and the nature of the course: Generic; Course-related (library sessions for University courses); Academic (credit bearing University courses taught by librarians); Orientation; and Training (of Library staff). Course presenters, usually subject (faculty liaison) librarians, request new courses online, providing information such as the title, course description and relevant faculty.

Once a course has been created by administrators, the course presenters are able to add sessions and edit existing sessions via the website. At this level, parameters include particular dates, times and venues; presenter and team identification; university course code association; maximum number of attendees and optional notes. When presenters add or edit a session, LEO enables them to decide if the session is visible on the public booking site, as some sessions or session components for academic courses may not require students to enrol online. LEO allows course presenters to check booking status for a session, e.g. how many people are enrolled for the session and if they are undergraduates, postgraduates, PhDs or staff members. It allows them to email enrolled students to ask them to bring their assignment or reading list to the class; to advise when the class venue or time has to be changed; or to send attendees follow up answers to questions asked in class.

All course presenters can view sessions for a course, and display options include: upcoming sessions; sessions for the current year; all sessions entered for that course. Sessions can be sorted by date, session code, presenter or university course code. The addition of the university course code field at session level has enabled rationalisation of the course title list,
so that umbrella titles can cover courses with similar content but taught to different groups to be merged under one title and reported by university course code. This is dramatically improving the efficiency of the database.

Course presenters use their personal login to view their upcoming teaching course list and their weekly/yearly schedule. They can also fill in the presenter’s online evaluation form for their session, including their own comments and numbers attending the session. It is compulsory for Library teachers and presenters to submit a presenter form with attendee numbers so that accurate statistics can be generated. LEO allows presenter and student evaluation forms to be generated in print, where library teaching is not within a hands-on session, e.g. in a lecture theatre. Data from print forms is subsequently entered into the database.

Main Admin page showing View/Edit session display:

![Edit Session display](image)

Edit Session display:
LEO reports

One of the important features of LEO is to enable the generation of teaching and statistical reports online. There are three different levels of reporting access: Administrator, Library Faculty Services Managers and individual teacher-librarians or presenters. The Administrator can view all types of teaching reports, including: comparison by teams; individual course reports; individual presenter’s report by team; library course/ session reports taught for a specific academic faculty, department or course; course status reports; and clean up reports. Faculty Services Managers can, with their personal login, view all library courses and sessions taught for the academic faculty, departments and university courses that the team serves; view all library courses and sessions that were taught by their team members; access individual teaching reports by each individual team member; as well as their own personal teaching reports. Course presenters can access their personal course reports: library course / session reports that were taught for a specific academic department or an academic course. Clean up reports can be accessed by the Administrator and LEO Coordinators from each faculty services team and serve to identify sessions where presenter form data has not yet been entered.

Below is a summary of the statistical teaching reports.
<table>
<thead>
<tr>
<th>Report name</th>
<th>Report function</th>
<th>Accessed by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session, attendance – all teams</td>
<td>A comparison report of different types of library course sessions and attendance, by each faculty service team and the Learning Services team</td>
<td>Administrator</td>
</tr>
<tr>
<td>Courses – all team</td>
<td>A comparison report of different types of library course titles offered in a certain period of time, by each faculty services team and the Learning Services team.</td>
<td>Administrator</td>
</tr>
<tr>
<td>Presenter’s report by team</td>
<td>Total sessions, hours and attendance of all courses taught in a certain period of time by each teacher-librarian from each faculty services team</td>
<td>Administrator (all the teams); Faculty Services Managers (their own team only)</td>
</tr>
<tr>
<td>Academic Faculty report</td>
<td>Total library sessions, hours and attendance of all courses taught for each academic faculty in a certain period of time</td>
<td>Administrator (all faculties); Faculty Services Manager (their faculty only)</td>
</tr>
<tr>
<td>Academic department report</td>
<td>Total library sessions, hours and attendance of all courses taught for each academic department in a certain period of time</td>
<td>Administrator; Faculty Services Manager; Course presenters</td>
</tr>
<tr>
<td>Academic course report</td>
<td>Total library sessions, hours and attendance of all courses taught for each academic course in a certain period of time</td>
<td>Administrator; Faculty Services Manager; Course presenters</td>
</tr>
<tr>
<td>Course report by team</td>
<td>Details of sessions, attendance of all types of library courses taught by each faculty service team and the Learning Services team in a</td>
<td>Administrator (all team); Faculty Services Manager (their team only)</td>
</tr>
</tbody>
</table>
Below are a few examples of LEO reports.

1). *Academic Faculty Report*, taking the Engineering faculty as an example during the period of 1\textsuperscript{st} Jan – 22\textsuperscript{nd} Oct 2006:
2). Individual course report, taking the Current Contents Database course as an example, during the period of 15th Feb – 15th March 2006:

### Course Report (Evaluation) for Current Contents Database

This report displays information between the start and end dates. Please note that although sessions with no tutor evaluation forms returned are displayed they are NOT included in the totals.

Please select your desired start and end dates. Default dates are the current calendar year.

<table>
<thead>
<tr>
<th>Session Number, date, and time</th>
<th>Presenter(s)/Roever(s)</th>
<th>Bookings</th>
<th>Attendance</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>0100 on 2/21/2006 at 10:00:00 AM</td>
<td>Dalia Han</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>0101 on 2/16/2006 at 20:00:00 PM</td>
<td>Li X Wang</td>
<td>16</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0109 on 2/16/2006 at 3:00:00 PM</td>
<td>Dalia Han</td>
<td>5</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Number of sessions:</strong> 3</td>
<td></td>
<td><strong>TOTALS</strong></td>
<td><strong>13</strong></td>
<td><strong>10</strong></td>
</tr>
</tbody>
</table>

**Presenter’s Evaluation**

- It was good. One of the attendees is library staff who did not fill in the evaluation form. But she said it was good.

**Attendees’ Evaluation**

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The learning outcome was explained and achieved</td>
<td>3</td>
<td>37.5%</td>
<td>5</td>
<td>62.5%</td>
<td></td>
</tr>
<tr>
<td>The course was taught effectively:</td>
<td>3</td>
<td>37.5%</td>
<td>3</td>
<td>37.5%</td>
<td>1      12.5%</td>
</tr>
</tbody>
</table>

**Further Comments:**

**What I liked about this course:**

- general overview was granted
- Handouts to take away for future reference
- it was informal and the tutor was open to all questions
- This course was helpful for me because it covers broad database searching techniques

**What could make this course more effective?**

- Longer sessions to get more out of it
- Some difficulty with LEARN links being down in the database, some jumping around in the structure of the course being taught instead of following through the booklet order, made things a little confusing
- this is a lot of information to absorb in one hour, perhaps 90 minute sessions would be more appropriate
3). Personal report by course, take Authors’s personal report as an example during the period of 20\textsuperscript{th} Feb – 10\textsuperscript{th} March 2006:

The important role of LEO

LEO has played an important role in the University of Auckland. It provides a key Library service to the wider University of Auckland community by offering online booking of courses, and also improves the Library profile. It enables course presenters to have closer contact with enrolled students and staff. The LEO course evaluation reports, including students’ feedback, suggestion and comments for a course, are always used to analyse student needs when redesigning or improving the course.

There has been a significant upward trend in teaching statistics since the establishment of the Information Commons and Learning Services department in 2002.
Participants in group presentations 13409  17924  21606
27797

(Source: CONZUL statistics - www.aut.ac.nz/CONZUL/statistics.htm)

LEO is one of the main factors behind the marked increase in Library course attendance in the last four years. It has raised awareness and facilitated access to Library courses across the University community. Library presenters are better able to record their group teaching efficiently and transparently. They have also been able to access student feedback in ways that have fed back into their teaching. LEO has facilitated the promotion of library courses by providing an easy to use and prominent access point for course information and bookings.

Conclusion

The Library Evaluation and Online Booking system (LEO) is an online booking and reporting system that serves the large and distributed University of Auckland community well. It was developed by two centralized Library teams, Learning Services and Digital Services, working in collaboration. This joint approach has been augmented by ongoing constructive liaison with all Library faculty services teams. The result has been a robust and highly functional system that is heavily used.

LEO brings together key functionalities related to the Library's teaching services: booking and reporting. It comprises an Access database with related web interface; providing a high degree of usability for users and Library staff. The architecture has proved adaptable over time and has accommodated not only an exponential increase in traffic but the incorporation of numerous improvements and new features. LEO's reporting functions are comprehensive and have been developed in response to the rigorous requirements of a major tertiary institution's library.

LEO also serves as a promotional tool and has become an essential component in the Library's teaching services to University students and staff. It enables the recording and evaluation of Library courses in ways that have improved access and raised levels of teaching and learning quality, in an environment where the value of information literacy skills is increasingly recognised as essential to fulfilling the University's goal of empowering graduates to undertake lifelong learning.