GEMS (Gateway to Electronic Media Services) is the result of NTU Library’s commitment to developing a premier digital library. After several months of planning and development, GEMS was finally launched on 28th April. The support and assistance the Library received from CITS (Centre for IT Services) is instrumental to GEMS’ success.

GEMS is closely integrated with the existing NTU IT infrastructure. Verification of users can be done through students’ matriculation cards or staff cards. These cards also function as cashcards and can therefore facilitate payment through C-ONE. Digital resources that were already available from various sources were consolidated with newly acquired ones. The medium of delivery of resources by Media Department was also modernised and replaced with a digital mode of delivery.

Designed to be used in a web environment, services provided through GEMS are easily accessible. The dynamic nature of GEMS’ design allows for scalability and expandability in incorporating future changes and additions of new services. Highlights of GEMS are:

- One-stop access to all electronic resources including audio-visual in the Library
- Management of electronic database of NTU publications
- Personalisation of information

GEMS has already been set up on 100 PCs in Library 1, Library 2 and Media Department. When the GEMS login screen appears, key in your user ID, ie. staff ID or student matriculation number, and your Stafflink or Studentlink password.

Please remember to logoff after use.
GEMS is designed with the aim of providing an one-stop access to a wealth of knowledge and information for staff and students. A variety of resources such as online databases, CDROM databases, electronic journals, multimedia CDROMs, audio-visual, electronic books and Internet resources are offered.

Audio-Visual (AV)

Operations of Media Department were replaced by new facilities offered on GEMS. Requests and playback of AV materials, such as LDs, VCDs, audio CDs, DVDs, audio and video cassettes, are now electronically transmitted to the workstations.

To view an AV title, select the Audio-Visual button. Use the Keyword Search to identify the title required. (See Diagram 1)

Where available, a scanned cover of the title will be found at the preview screen. (See Diagram 2)

To proceed with viewing the title, click Launch.
Video title viewing comes with the appropriate media player controls such as play, pause, rewind and forward.

Since the Audio-Visual module does not require any additional cabling other than network cables, this service can be offered to all network points on the campus.

**Multimedia CDROM**

To view a multimedia CDROM, select the *Multimedia* button. Use the *Keyword Search* to locate the title required. Click the *Launch* button and the required files will be automatically installed onto your PC. The installation process will take a minute or two. When completed, the programme will be activated.

Brightness, contrast and volume controls are available from GEMS. When finished, the system will automatically uninstall the programme before returning to the GEMS menu screen.

Due to copyright issues, a number of multimedia titles cannot be digitised. Users will be prompted to borrow CDROMs at the counter of the Media Dept.

The use of IT for teaching is also promoted by the extension of media services to lecture theatres. GEMS is fully integrated with the existing Video-On-Demand server.
Databases & E-journals

Select the Databases & E-journals button. An alphabetical listing of titles is possible by clicking the letters A to Z. Look up the subject listings if you are uncertain of the titles available.

For example, click the subject Economics and all titles related to business will be displayed. The type of material is indicated at the end of the title.
(See Diagram 4)

If you need to search for a specific CDROM, online database or electronic journal, use the Keyword Search button.

Type your keyword in the box provided and select the type of material required.
(See Diagram 5.)

All online databases, electronic journals and network CDROM databases are available via GEMS. There are certain CDROMs that do not run on the network. These standalone titles are less frequently accessed and kept in the Resource Department.

Access to CDROM databases is similar to multimedia CDROM. The system will automatically install and uninstall the programme needed to run the title.

If a title is frequently used, you may click the MyFavourite button and the link will be added to your MyFavourites menu at MyNTU.

OPAC

OPAC is accessible from GEMS. If electronic resources are retrieved from the search, the results will indicate that these titles are available via GEMS.
(See Diagram 6 on page 5)
Click the access via GEMS link (as shown in Diagram 6) and you will be brought to GEMS. GEMS will prompt for a valid user ID and password entry which is necessary for authentication purposes. After authentication, launch the title from GEMS.

侥幸 Cross Media Search

A cross media search is the most comprehensive catalogue search.

In the following example, a search on technology development will retrieve all records from the Library OPAC as well as E-Docs, the electronic database of NTU publications.

Diagram 6

An example of a Cross Media Search
Management of Electronic Documents

As NTU becomes increasingly established, more publications will be produced by NTU staff and students. The Library hopes to build an electronic database of NTU publications where staff and students deposit their academic reports or papers electronically to GEMS. Besides being a repository of NTU publications, essential reading material will be managed in the module where available.

Electronic Submission

Publications such as Final Year Projects (FYPs), Applied Research Projects, theses and dissertations, etc., can be electronically submitted to GEMS.

For example, a student who has completed his FYP selects the E-Docs button. He clicks the Submit Document link (see Diagram 7) and he will see Diagram 8.

Diagram 7

To submit his FYP, he can either drag and drop his report into the Submit Document icon or double click the icon where he can select the file from his folders on his PC.

The system will take some time downloading his file to the GEMS server. When this is finished, the student will proceed to enter the details of his submission.
Once the information has been entered and submitted, the report is automatically delivered to his supervisor. (See Diagram 9)

When the supervisor logs in to GEMS and selects E-Docs, he must click the Administer Document link to view documents submitted to him by his students. (See Diagram 10)

If the supervisor is satisfied with the submission, he has to tick the Select box and click Approve Selected (see Diagram 11). The system will generate an email to inform the student that his submission has been approved.

If errors are detected by the supervisor and he does not endorse the report, he will delete the document and the system automatically generates a message box for an email to be sent to the student. (See Diagram 12)

After the student makes the necessary amendments, he will resubmit the report again.
Search Facility

Documents in the E-Docs database can be retrieved either through a keyword search or specific field search.

Keyword Search:

The text of documents submitted is indexed by the system. Type any keyword to retrieve all documents containing the terms. The search can also be confined to a particular type of document. For example, a search on DBS with the category FYP checked will only retrieve FYPs. (See Diagram 13)

Click the title hyperlink and the full text of the FYP selected will be displayed.

Field Search:

Select the type of document to search. To find a document by title, enter as shown in Diagram 14.

Many of the electronic documents are in PDF format. Install Adobe Acrobat on your PC to enable the viewing of these documents.
Personalisation of Information

The dynamic design of GEMS facilitates the personalisation of user profile. Individuals are able to pick their preferences for relevant information to be delivered specially to their account.

Subject Interest

Whenever a new user logsins, he will be prompted to select his subject interest. He can choose any subject from the drop-down window and add the subject to the list. Subsequent changes to an individual’s personalised profile can be done privately from the user’s account.
(See Diagram 15)

At present, information briefs on

- new additions to the library collection, the arrival of new books, journals, CDROM and audio-visual titles; and
- new and interesting internet resources that match the user’s specified areas of interest will be delivered.

He can determine how regularly, eg. daily, weekly or monthly, updates on E-Docs are to be delivered. Under each catalogue of E-Docs, select the field to search or type the keyword in the summary or title field.
(See Diagram 16)

Personalised Desktop

Every user can also configure his own desktop. Users can specify an alias that the system can use to greet him and a preferred email address that enables the system to email information to him. He can decide upon his own preferences of menus and display the menus he wants to see. A list of all the menus and applications that are accessible to the user will be displayed at profile setting.
(See Diagram 17 on Page 10)
For staff, the following menus are available.

**What's new**
- Events
- News around campus

**MyCourse**
- Office of Professional Attachment
- Professional Internship
- Professional Attachment
- School of MIS

**MyCalendar**
- **CITS** - information on in-house course information and course schedule
- **Library** - information on Library Instruction and Training
- **Personnel Office** - information on staff training system

**MyAccount**
- **Bursar's Office** - information on Electronic Pay Advice System, IRAS E-filing and salary deduction
- **CITS** - information on Administration System access application, PIN change and computer account application
- **Library** - checking of membership account
- **Personnel Office** - information on consultancy work records, holiday leave application, personal data system and staff suggestions scheme

**MyResources**
- CDROM and online database and electronic journals selected by users
- CIP (Company & Institution Profiles)
- CITS Services
- Library Services
- Video-on-demand service

**MyCampus**
- **Bursar's Office** - Research Directory services and information on tender debarment
- **CED** - Job Request form
- **CITS** - Instruction Room Booking
- **Estate Office** - telephone directory and Work Requisition form
- **Library** - Library Request forms

Contents available to students differ from staff. Here is a sample of information presented to students.

**MyCourse**
- Application for scholarship
- Examination and convocations provides information on examination results, examination seating arrangement and review of examination results
- Industrial/Professional Attachment or Professional Internship displays the Attachpal Newsletter, OPA resource centre web page and the Special Leave Application form.
- Practicum
- Subject Registration provides information on the application for Business minor, subjects registered, vacancies, degree audit, STARS and streaming
- Survey/subject option

**MyCalendar**
- Academic calendar
- Diary of student activities

**MyAccount**
- Administrative procedures & services
- Change PIN
- Change of personal particulars
- ECA record system
- Financial assistance scheme
- Request for Letter of Certification

**MyResources**
- CDROM and online database and electronic journals selected by users
- CIP (Company & Institution Profiles)
- CITS Services
- Library Services

**MyCampus**
- NTU Cashcard
- Career information and job placements
- Endowment Fund and Alumni Affairs
- Facilities
Other Services

Internet
Users are able to access the Internet to search for other useful resources.

Booking
Currently, online booking for GEMS workstations at Media Department, Resource Department at Library 2 and Library Instruction Room are enabled from network PC anywhere on campus. Where necessary, booking can be implemented on all GEMS workstations at the Library so that users will be prohibited from monopolising PCs for their own use and thus allow for a fairer spread of PC usage among users. (See Diagram 18)

Submit a booking for workstation and the screen in Diagram 19 appears. Fill in the workstation number, date, duration and starting time before submitting the request.

If you are not sure of the location of workstation, click search and a map will be displayed as shown in Diagram 20.

The system will immediately prompt you if the workstation is not available. An alternative item will be recommended for your consideration.
Staff may also book specific titles for viewing during lectures at the lecture theatres or at Media Department’s Group Viewing Room. Search for the title from the Audio Visual option. Select the title required and click the Book button at the preview screen as shown in Diagram 21.

Immediate confirmation of requestor’s booking status will be known, i.e., if booking for a particular time slot or particular GEMS workstation has been successful. Cancellation of booking can be done through the same module too.

Chinese Support
GEMS supports searching, i.e., inputs in Chinese, and viewing in Chinese.

Click the button to launch WinMass. Chinese CDROM titles can be played-back from the server to GEMS workstations. Support for Internet access of Chinese sites is also provided. Currently, WinMass is only provided on selective workstations within the Library.

Help
You are able to seek assistance without having to physically approach the librarians. Online help is available from the GEMS workstations within the Library. Click the Help button at the top bar and a message box will appear. This box allows two way communications via chat. (See Diagram 23)

From the library administrator, librarians are able to give screen-specific guide. For PCs accessing GEMS outside the library, request for help is generated as an email to the Resource Department.