

Enhancing Medical Curriculum Management Using Web-based MCMP

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Abstract. In this paper, we present an account of a web-based Medical Curriculum Management Platform (MCMP) that provides a flexible and comprehensive e-management environment designed to assist administrative personnel in the management and facilitation of the hybrid learning process within a medical education environment. The system provides a platform to underpin the development of a web-based multi-dimensional curriculum, and it facilitates the pedagogical mission of the faculty by providing students, staff, and administration with essential tools to access information critical to the operation of the curriculum seamlessly and effortlessly. Many of the functions provided by the system, such as students' group/rotation roster and an overview of the entire curriculum, cannot be achieved manually; while others are designed to enhance communication, facilitate group interaction, and provide timely feedback on assignment submission and logbook records. All functions can be accessed, and various kinds of information can be processed and posted, with minimal effort by the users. The MCMP is an extensive and complex system that positively enhances the learning environment and facilitates communication within the Faculty.

Keywords: administration, e-management, medical education, hybrid learning.

1 Introduction

This paper reports on a web-based management software system that embraces, from an administrative perspective, an innovative approach to the creation and management of complex organizational data within a medical education environment, and the retrieval and use of this data in a simple way. The system was constructed in response to the desire of the Faculty of Medicine to ensure that the organization and management of the curriculum as a whole was centralized in the Faculty rather than distributed in a disparate manner across the various teaching departments. An additional aim was to separate, as much as possible, the functions of pedagogy and of administration within the learning environment. Pedagogy was identified as clearly the domain of faculty, and it was felt that reducing their time spent on administrative

tasks would positively impact learning by allowing academic staff and students to devote more time to curricular activities.

However, the success of this innovative approach to curriculum was significantly dependent on the contributions of administrative staff in facilitating the organizational arrangements necessary to ensure that staff and students were not only in the right place at the right time, but also had access to essential learning assets. Thus the role of administration was extended to assume organizational responsibility for the entire curriculum, and it was recognized that comprehensive management support was essential. It was therefore decided that the development of a web-based management system would be the most efficient way to proceed.

The challenges faced in the development of such a system embraced questions such as how to use technology to:

- develop a robust curriculum management structure to provide the necessary data/information via a central platform;
- provide easy accessibility to the data/information;
- make the organizational structure transparent to all stakeholders;
- improve the management of administration and learning assets (repositories of learning objects/outcomes, teaching materials, timetables, students' work and assessment, and so on);
- Provide a collaborative learning environment for students.

Web-based course management technology is now commonplace in higher education. There are as many as 109 different course management software packages on the market. Several studies have evaluated and compared various aspects of these tools focusing on what these products can do, not what these products need to do, or can do well. [1] Although established environments such as WebCT and Blackboard have been invaluable in enhancing the presentation modes that facilitate learning, and have consequently broadened our concepts of the possibilities of web-based learning environments, their major focus is the provision of an e-learning environment and the delivery of course materials at the individual course level. The new medical curriculum was prefaced on the management of the curriculum across all year levels and across multiple credentials. Medical education embraces a wider learning community than that normally envisaged in the development of online learning platforms. Medical students learn within an environment that is constantly varying. Learning takes place in and around lecture theatres, laboratories, tutorial rooms and hospital wards, as well as via on-site experiences and a multitude of other exposures that all contribute to the understanding of the discipline, and of the profession, of medicine. Current educational-support technology fails to adequately cope with the challenges of maintaining, in an effortless way, the necessary interactions and information essential to facilitating the creation and management of a medical educational learning environment. [2]

2. Necessitation to support the new curriculum

Medical education provides a particularly unique learning environment because of its multi-faceted nature. From this perspective, it may well provide a template for

emerging multi-dimensional initiatives within the wider educational environment. It is particularly unique in that the notion of 'classroom' is extraordinarily dynamic. A medical curriculum is extremely complex, with teaching and training activities scheduled in multiple locations arranged across various academic departments, hospitals and wards. For selected groups of students, various teaching activities need to be arranged on the same day but in different locations and time-slots. Since many members of the medical teaching staff are also practicing doctors in the teaching hospitals, it is quite common that changes to course schedules have to take place whenever urgent medical cases arise. This necessitates regular updating of teaching schedules, which, as a consequence, impacts on the schedules of students. Student group arrangements need to be updated or changed according to the different modules (or time periods) and teaching programs the students are undertaking. This rescheduling of teacher and student programs is a complex process that is particularly demanding on time and personnel resources.

The profiles of those involved in a medical education programme are many and varied, and include not only students and lecturers (who can be practicing doctors, specialists, nurses and so on), but also university administrators and hospital staff. The complexity of a curriculum programme involving such a diverse range of stakeholders and constantly varying factors necessitates an extremely efficient administration system, in which the role of the administrators is particularly crucial to the successful management and implementation of the educational programme.

Due to the complexities of time and location, traditional updating methods made it difficult to establish clear and effective communication among departments. If course coordinators, course designers and senior managers of faculty wanted to get an overview of the entire curriculum arrangement, they had to obtain and consider multiple documents from different departments. The difficulty of simply gathering the relevant information meant that course content overlap often occurred despite the best efforts of the responsible management. Under traditional curriculum management organization, lecturers basically taught their subject areas, and had little chance of getting to know or understand what was being taught in other departments or in different student years. A sample of an old timetable is shown in Fig. 1.

The Medical Curriculum Management Platform (MCMP) was developed to cater for these diverse and demanding requirements. It was designed not only to provide easy access to data for various users, but also to make the entire medical curriculum transparent for the whole learning community. This system reflects a unique approach from an administrative point of view to the management of a medical education curriculum.

3. Overview of the MCMP Model

The Medical Curriculum Management Platform was designed for the Faculty to facilitate management of the new curriculum activities, as well as to embrace information technology to reduce the administrative workload.

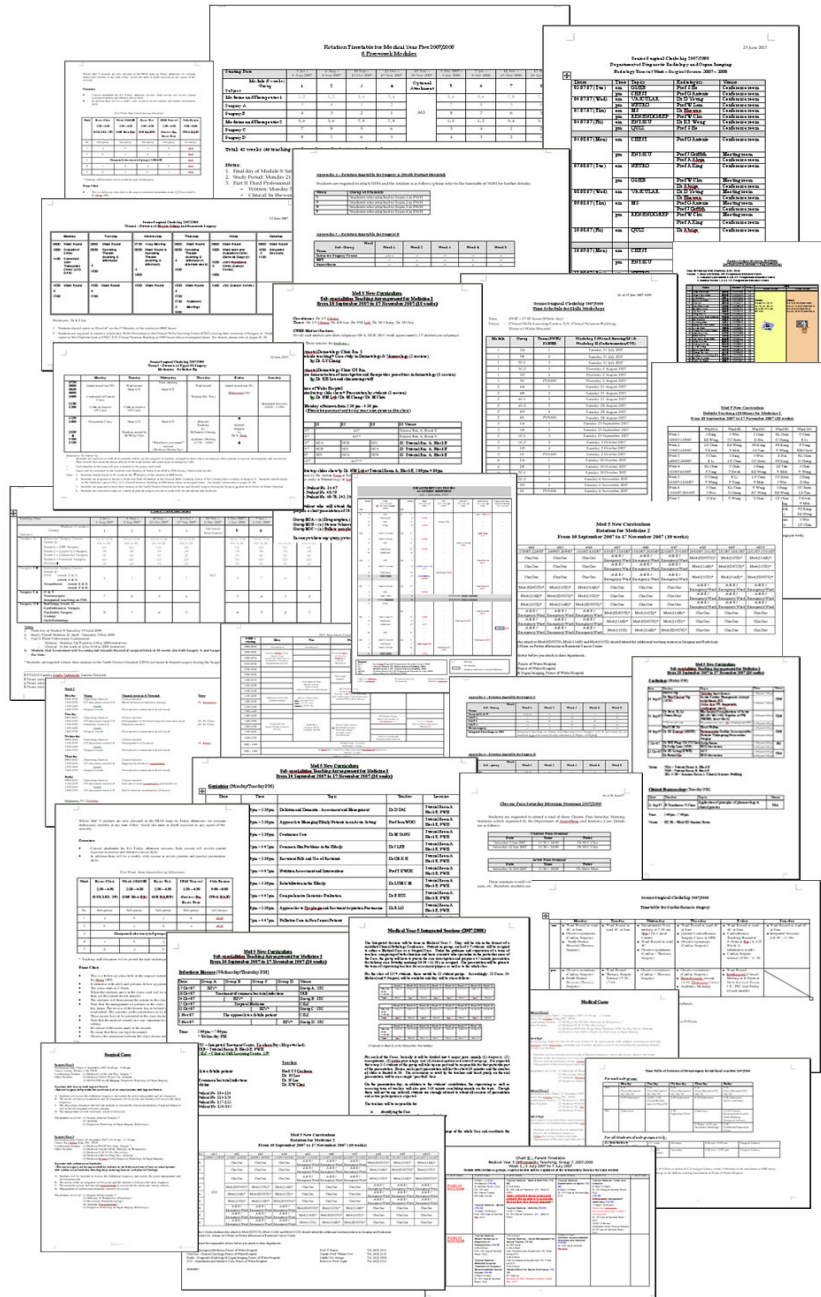


Fig. 1. Sample of an old timetable

The MCMP was developed as a platform for students, lecturers and administrators to share learning, teaching and administrative information. The primary aim was to facilitate the management of the personnel and resources involved in medical education environment rather than to focus on the pedagogical programme of the degree. It is not an e-learning system, and does not provide features to create learning planning, learning activities design, or learning flow control. However, it does provide a link function to other e-learning systems provided by the university; as well as a platform for student collaboration, and for teachers to distribute learning materials and view students' work.

The system serves four different types of user, namely, students; lecturers (professors, lecturers, tutors, adjunct tutors); administrators; and site administrators.

The general functionalities of the system are extensive; some examples include:

- providing a web-based GUI for ease of interaction with the database;
- providing user interfaces that are intuitive and easy to use with help documentation;
- providing users with an overview of all courses within the curriculum;
- providing a function for the administrator to create and post announcements for specific student years or lecturers;
- providing a function to allow the administrators and lecturers to upload or distribute teaching materials to specific students;
- allowing users to use the Form to Mail function to create a HTML form that sends email to specific student groups, lecturers or administrators;
- standardization of all the course information from faculty and departments.
- providing a Teaching Event calendar and table to enable users to easily check their teaching/learning schedules;
- providing functionalities to assist administrator and lecturer to manage their teaching schedule more easily.
- providing a platform to collect student assignments, distribute them to relevant lecturer, and also providing a marking function for placing the assessment marks.
- creating a centralizing platform to provide a single sign on function for lecturer & student thus laying foundation for access other e-learning tools.
- providing a reporting function to generate students exam results.

The MCMP provides multiple user interfaces. It is designed to allow students, lecturers and administrators to view data from their different perspectives. The MCMP interface is primarily divided into three modes:

➤ **Administrator mode:**

The administrator mode displays the GUI for the department administrators and site administrators to manage the website and its contents. The content of each user interface in this mode is dependent on the type, and the granted access control, of the administrator. Each administrator can only access those modules that they are allowed to use. Top-level functions available on administrator home page include:

Lecturer Information	Check and update related teacher schedules.
Student Information	View students' group allocation and send group email. Check student logbook, and exam result.
Other Timetable	Check other teaching and activity schedule across students, years, panel, department, teaching hospitals when needed.
SSM Program	Check student assignment.
Event Management	Add/delete, edit and search course info and its schedule.
Teaching Material	Upload/download teaching material; search other teaching material from the central teaching database.
Assignment dropbox	Collect student assignment submissions and distribute to lecturers.
Announcement	Make an announcement to target group teachers and students. They can delete and edit an announcement made by themselves.
Forum	View and participate in forum
Communication	Search contact information of Faculty. Send mass email and a selected group email.
Resource	Many other additional resources can be found from here.
Site map	Get to know site structure at a glance.

A sample administrator page, which expands the Student Information menu to highlight sub-menu Grouping/Photo/Emil (Year 3), is shown in Fig. 2.

➤ **Lecturer mode:**

The lecturer mode displays the GUI for lecturers to view their own schedules and the teaching schedules of other years or panels. The interfaces are designed to support lecturers in the management of their teaching activities and their communication with students, administrators and other members of staff. Top-level functions available on lecturer home page include:

Handbook	View student's handbook from year 1-5
My Timetable	View personalized timetable and activity arrangement
Other Timetable	Oversee curriculum arrangement and its schedule cross department, panel, teaching hospital, and student years.
Student Information	Check students' group allocation, send group email, and view student result under their supervising. Searching student info.
SSM Program	View students' SSM assessment report and give a mark or comments on it.
Student assessment	View students' assessment submission.
Logbook	View students' logbook who under their supervising.
Teaching Material	Upload/download teaching material; search teaching material crossing entire faculty.
Announcement	Get and view announcement related to themselves.
Forum	View and participate in forum
Communication	Search contact information of Faculty. Send mass email and a selected group email.
Resource	Get additional resource for teaching and learning.
Site map	Get to know site structure at a glance.

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(M) WONG Kwai Lung, Francis (MIT) Account Data Handbook

Home SiteMap Contact Logout
March 6, 2008 17:07:01

Administrator menu

- Administrator Information
- Lecturer Information
- Student Information
 - Grouping/Photos/Email
 - Profiles
 - Assessment
 - OG Formative Assessment
 - Result
 - Search
 - Event management
 - Other Timetables
 - SSM Programme
 - Teaching Materials
 - Communications
 - Announcements
 - Forum
 - Resources

Student Information
Student Group for Year 5

145 stud. totally, all name list here.

Clinical grouping 1

	01	02	03	04	05	06	07	08	09	10	11
Main group 1	AB CDE	BC DE	ABC DE	ABC DE	ABC DE	ABC DE	ABC DE	ABC DE	ABC DE	ABC DE	ABC DE
Surgery 1	II II	II II	II II	II II	II II	II II	II II	II II	II II	II II	II II
Subj. A	II II	II II	II II	II II	II II	II II	II II	II II	II II	II II	II II
Subj. B	abcd	abcd	abcd	abcd	abcd	abcd	abcd	abcd	abcd	abcd	abcd
Subj. C	abcd	abcd	abcd	abcd	abcd	abcd	abcd	abcd	abcd	abcd	abcd
Subj. D	abcd	abcd	abcd	abcd	abcd	abcd	abcd	abcd	abcd	abcd	abcd
Skills Workshop	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2	1 2
Decision Analysis	1A 1B 1C 1D 1E 1F 1G 1H 1I 1J 1K 1L 1M 1N 1O 1P 1Q 1R 1S 1T 1U 1V 1W 1X 1Y 1Z	2A 2B 2C 2D 2E 2F 2G 2H 2I 2J 2K 2L 2M 2N 2O 2P 2Q 2R 2S 2T 2U 2V 2W 2X 2Y 2Z	3A 3B 3C 3D 3E 3F 3G 3H 3I 3J 3K 3L 3M 3N 3O 3P 3Q 3R 3S 3T 3U 3V 3W 3X 3Y 3Z	4A 4B 4C 4D 4E 4F 4G 4H 4I 4J 4K 4L 4M 4N 4O 4P 4Q 4R 4S 4T 4U 4V 4W 4X 4Y 4Z	5A 5B 5C 5D 5E 5F 5G 5H 5I 5J 5K 5L 5M 5N 5O 5P 5Q 5R 5S 5T 5U 5V 5W 5X 5Y 5Z	6A 6B 6C 6D 6E 6F 6G 6H 6I 6J 6K 6L 6M 6N 6O 6P 6Q 6R 6S 6T 6U 6V 6W 6X 6Y 6Z	7A 7B 7C 7D 7E 7F 7G 7H 7I 7J 7K 7L 7M 7N 7O 7P 7Q 7R 7S 7T 7U 7V 7W 7X 7Y 7Z	8A 8B 8C 8D			
Saturday Morning Workshop											
Seminars											
Medicine 1 1											
MED 1	M01 M02 M03 M04 M05 M06 M07 M08 M09 110 M11	M12 M13 M14 M15 M16 M17 M18 M19 M20 M21 M22 M23 M24 M25 M26 M27 M28 M29 M30 M31 M32 M33 M34 M35 M36 M37 M38 M39 M40 M41 M42 M43 M44 M45 M46 M47 M48 M49 M50 M51 M52 M53 M54 M55 M56 M57 M58 M59 M60 M61 M62 M63 M64 M65 M66 M67 M68 M69 M70 M71 M72 M73 M74 M75 M76 M77 M78 M79 M80 M81 M82 M83 M84 M85 M86 M87 M88 M89 M90 M91 M92 M93 M94 M95 M96 M97 M98 M99 M100	1 2 3 4 5	6 7 8 9	1 2 3 4 5	6 7 8 9	1 2 3 4 5	6 7 8 9	1 2 3 4 5	6 7 8 9	1 2 3 4 5
Bedside teaching (1st five weeks)											
Bedside teaching (2nd five weeks)											
Resp	II II III	II II III	II II III	II II III	II II III	II II III	II II III	II II III	II II III	II II III	II II III
Dermat	1A 1B	1B 1C	2A 2B	2B 2C							
Neuro	a b	c d	a b	c d							
Medicine 2 1											
MED 2	M01 M02 M03 M04 M05 M06 M07 M08 M09 M10 M11	M12 M13 M14 M15 M16 M17 M18 M19 M20 M21 M22 M23 M24 M25 M26 M27 M28 M29 M30 M31 M32 M33 M34 M35 M36 M37 M38 M39 M40 M41 M42 M43 M44 M45 M46 M47 M48 M49 M50 M51 M52 M53 M54 M55 M56 M57 M58 M59 M60 M61 M62 M63 M64 M65 M66 M67 M68 M69 M70 M71 M72 M73 M74 M75 M76 M77 M78 M79 M80 M81 M82 M83 M84 M85 M86 M87 M88 M89 M90 M91 M92 M93 M94 M95 M96 M97 M98 M99 M100	1 2 3 4 5	6 7 8 9							
Wards											
Rheumatology											
Infectious Disease	a b	c d									
Other grouping 1											
Integrated Session	1B1 1B2 1B3 1B4 1B5 1B6 1B7 1B8 1B9 1B10 1B11 1B12 1B13 1B14 1B15 1B16 1B17 1B18 1B19 1B20 1B21 1B22 1B23										

3 Student group photo for Department Surgery - Upload Student Photos

Upload photos: Group A: Send email to this group of students

Upload photos: Group B: Send email to this group of students

Upload photos: Group C: Send email to this group of students

Upload photos: Group D: Send email to this group of students

Upload photos: Group E: Send email to this group of students

Upload photos: Group F: Send email to this group of students

Upload photos: Group G: Send email to this group of students

Upload photos: Group H: Send email to this group of students

Upload photos: Group I: Send email to this group of students

Upload photos: Group J: Send email to this group of students

Upload photos: Group K: Send email to this group of students

Upload photos: Group L: Send email to this group of students

Upload photos: Group M: Send email to this group of students

Upload photos: Group N: Send email to this group of students

Upload photos: Group O: Send email to this group of students

Upload photos: Group P: Send email to this group of students

Upload photos: Group Q: Send email to this group of students

Upload photos: Group R: Send email to this group of students

Upload photos: Group S: Send email to this group of students

Upload photos: Group T: Send email to this group of students

Upload photos: Group U: Send email to this group of students

Upload photos: Group V: Send email to this group of students

Upload photos: Group W: Send email to this group of students

Upload photos: Group X: Send email to this group of students

Upload photos: Group Y: Send email to this group of students

Upload photos: Group Z: Send email to this group of students

Fig. 2. A administrator homepage

➤ **Student mode:**

The student mode displays the GUI for students to allow them to access their own schedules, logbooks, exam results, and other learning-related activities. The interface content for each student is dependent on their study year and their learning group. Top-level functions available on student home page include:

Handbook	View student's handbook from year 1-5
Timetable	View personalized timetable and activity arrangement
Personal Information	Check students' group allocation, send group email, peer evaluation, etc.
SSM Program	Input and upload SSM assignment.
Assessment	View and update their case report and log book
Teaching Material	Download teaching material
Announcement	Get and view announcement related to themselves.
Forum	View and participate in forum
Communication	Search contact information of Faculty.
Resource	Get additional resource for teaching and learning.
Site map	Get to know site structure at a glance.

A more comprehensive summary of the functionality of the student mode is provided by viewing the flow-chart (Fig. 3).

The flowcharts for lecturer and administrator interfaces are decidedly similar to the student interface, but those users have more comprehensive access rights. Two functions included in the administrative mode that highlight the scope and comprehensiveness of the MCMP functionality are the Teaching Event management and Module/Panel Mark management features. The dynamic nature of the day to day timetable means that, at various times, major changes need to be made to scheduled classes. The Teaching Event management feature ensures that any changes can be made smoothly and effortlessly.

The Teaching Event management feature is designed to:

- show updated teaching events and provide an overview of the schedules of each teaching group;
- provide an interface where administrators can easily create teaching events for specific student groups in a particular frequency period (e.g., once only, once per week, every weekend, once per module, etc.);
- allow administrators to modify event content and update variables (e.g., location, time, date and tutors) when schedules need to be refined.

The scope of this feature is captured in Fig. 4.

Management of results is an important and sensitive aspect of any assessment system. It impacts on both students and lecturers, and thus makes a significant contribution to user satisfaction with the overall management system. The Module / Panel Mark management feature is designed to:

- assist administrators in the management of student results (the system allows on-line input of results, upload of results using an upload function in Excel format, as well as distribution of results to Faculty and students);

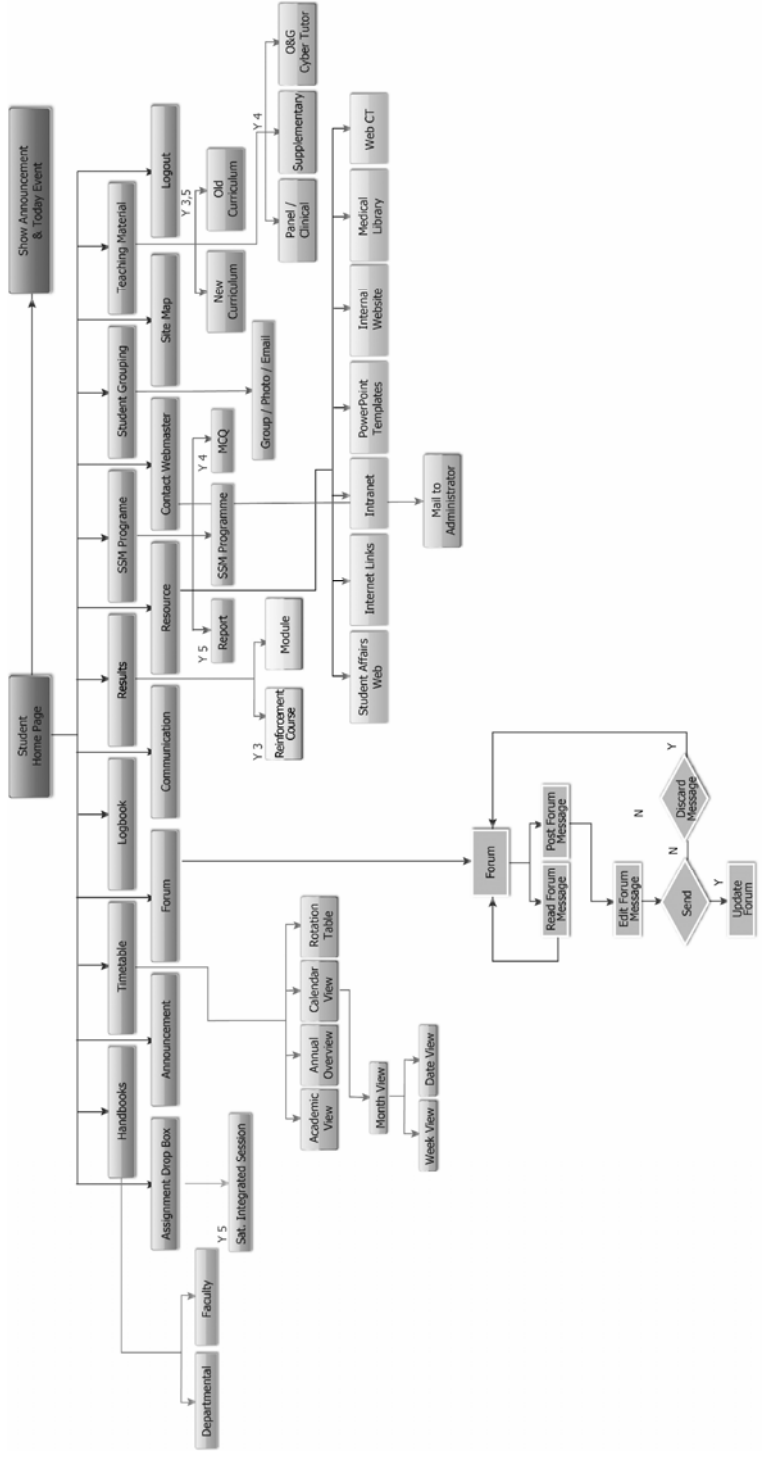



Fig. 3. System flowchart of student homepage



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Home Sitemap Contact Logout

March 6, 2008 17:13:52

Administrator menu

- ▶ Administrator Information
- ▶ Lecturer Information
- ▶ Student Information
- ▶ Event management
- ▶ User Calendar
- ▶ **Event Edit**
- ▶ Other Timetables
- ▶ SSM Programme
- ▶ Teaching Materials
- ▶ Communication
- ▶ Announcements
- ▶ Forum
- ▶ Resources

Event Management - Event Edit

Edit Event / **Add Event** / **Duplicate Event**

Study Department involved: MED / Module / Period: 1

Year: 5

Start Time (hh:mm): 08:00 / End Time (hh:mm): 17:00

Description: / Tutor/Lecturer: / Student sub-group: /

Venue: / Remark: /

Please select subject:

To show this subject and topic only

Selected detail as follows:
 (Subject) topic : -, and period from 08:00 to 17:00.
 Description (abbreviation) : / ()
 Student group involved :

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Jul 07	SST [Cardio](30) SST [Clin-Phar](3) SST [Dermat](36) SST [Endo](15) SST [Ger](30) SST [GI/Liver](12) SST [Neuro](39) SST [Resp](21) Wards [1st Rd] Wards [2nd Rd] Ward[(675)]	SST [Dermat](30) SST [Ger](6) SST [Resp](6) SST [Resp](6) Wards [1st Rd] Wards [2nd Rd] Ward[(135)]	SST [Endo](15) SST [Ger](24) Wards [1st Rd] Wards [135] Wards [2nd Rd] Ward[(135)]	SST [Clin-Phar](3) SST [Dermat](6) Wards [1st Rd] Wards [135] Wards [2nd Rd] Ward[(135)]	SST [Neuro](39) SST [Renal](6) SST [Resp](15) Wards [1st Rd] Wards [135] Wards [2nd Rd] Ward[(135)]	SST [Cardio](30) SST [GI/Liver](12) Wards [1st Rd] Wards [135] Wards [2nd Rd] Ward[(135)]	(All Sat) # / #
Wk 1	SST [Cardio](6) SST [Clin-Phar](3) SST [Renal](3) Wards [1st Rd] Ward[(135)]	Wards [1st Rd] Ward[(27)]	Wards [1st Rd] Ward[(27)]	SST [Clin-Phar](3) Wards [1st Rd] Ward[(27)]	SST [Renal](3) Wards [1st Rd] Ward[(27)]	SST [Cardio](6) Wards [1st Rd] Ward[(27)]	# / #
Wk 2	SST [Cardio](6) SST [Dermat](3) SST [Endo](3) SST [Renal](6)	SST [Renal](3) Wards [1st Rd] Ward[(27)]	SST [Endo](3) Wards [1st Rd] Ward[(27)]	SST [Dermat](3) Wards [1st Rd] Ward[(27)]	SST [Renal](3) Wards [1st Rd] Ward[(27)]	SST [Cardio](6) Wards [1st Rd] Ward[(27)]	# / #

Fig. 4. Add Event(s) page for administrators

- provide on-line report viewing and report printing function (administrators can print out the student examination report for faculty use).

The scope of this feature is captured in Fig. 5 and Fig. 6.

The Teaching Event management and Module/Panel Mark management features are invaluable in reducing the workload of administrators and providing a standardized framework for the centralization and presentation of data.

4. Implementation

4.1 Student perspective

A medical curriculum is translated into a teaching programme by means of system panel and skill modules, medical clerkship, surgical clerkship and rotation among clinical departments. Students are divided into several core groups according to clinical rotation, and then sub-divided into sub-groups under each rotation. Each student therefore usually has more than five identities and needs to deal with group members from different panels.

Not surprisingly, the manual preparation by each student of a daily schedule was an involved and time-consuming process. Students had to check handbooks from different panels and then prepare their own timetables. As even those classes in the same panel or clerkship are independently categorized into different sub-topics and listed in separate tables, students experienced great difficulty in preparing their timetables at the beginning of each school year. The MCMP relieves these difficulties by preparing a timetable for each student dynamically according to their rotation period.

Students can check schedules and contact group members online via forums and group email. Student logbooks can also be updated online. The online logbook was especially designed to collect and store data relating to the procedures and examinations that students have taken part in during their medical and surgical clerkship. This data can be a useful reference for teachers and administrators when monitoring student progress and suggesting further activities relevant for each student.

4.2 Lecturer perspective

Lecturers in the Medical School are not only teachers but also doctors in the hospital. Their daily schedule is tight and the time that they have available for students is limited. It is hard for lecturers to contact students after class as students disperse to other classes or other panels. It is also difficult for lecturers to remain up-to-date with the academic progress of their students.



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Account Detail  Handbook

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Administrator menu

- ▶ Administrator Information
- ▶ Lecturer Information
- ▼ Student Information
 - ▶ Grouping/Photos/Email
 - ▶ Profiles
 - ▶ Assessment
 - ▶ OG Formative Assessment
 - ▶ Result
- ▶ Regulation
- ▶ Reinforcement Courses
- ▶ Upload Module Grades
- ▶ Module Grades
- ▶ Search
- ▶ Event management
- ▶ Other Timetables
- ▶ SSM Programme
- ▶ Teaching Materials
- ▶ Communication
- ▶ Announcements
- ▶ Forum

New Panel Result Page

Select Teaching Panel : PGIN2

Please wait

Student Name	Student ID	Panel	Score	Mark	Recommended Grade	Rank
Li Cindy Shantong	04500492	PGIN	25.00	83.33	A-	1.00
Ng Hoi Yan	05808291	PGIN	24.00	80.00	A-	1.00
Cheng Wai Yeung Rechar	05821551	PGIN	26.00	86.67	A-	1.00
Leung Sze Yin Agnes	06500103	PGIN	19.00	63.33	C	4.00
Cheung Him Yee Joyce	06500284	PGIN	21.00	70.00	B-	3.00
Lam Chun Leung	06500512	PGIN	23.00	76.67	B+	2.00
Chan Chun Ming	06500774	PGIN	20.00	66.67	C+	4.00
Hui Cheuk Man Oliwia	06505643	PGIN	26.00	86.67	A-	1.00
Ng Peter Yau Tak	06518934	PGIN	24.00	80.00	A-	1.00
So Chak Yu	06519501	PGIN	22.00	73.33	B	3.00
Lau Yiu Chung	06519762	PGIN	23.00	76.67	B+	2.00
Yuen Tsz Yau	06521641	PGIN	25.00	83.33	A-	1.00

Fig. 5. Student exam report for administrators

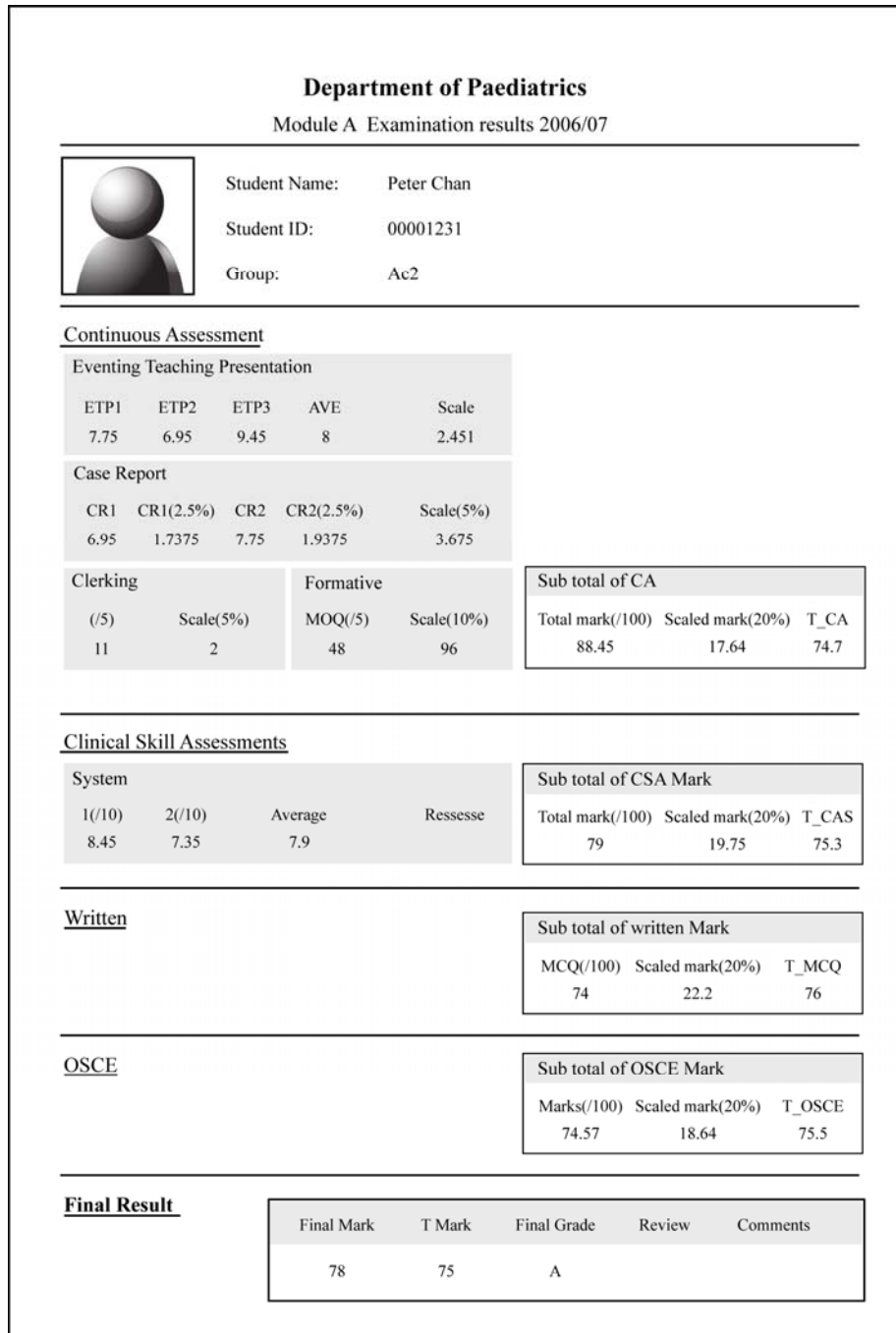


Fig. 6. Layout of printed student report

The MCMP relieves these problems by providing an extensive web-based collection of student curriculum information, such as student photographs, grouping structures, contact information, logbooks, assignments and event schedules. Lecturers can easily retrieve information about the students in their classes directly from the web.

The MCMP's online forum also provides a platform for lecturers and students to communicate and keep in touch. This is important as both lecturers and students have extensive teaching/learning and hospital responsibilities which make it hard to schedule face-to-face appointments.

4.3 Administrator perspective

The MCMP recognizes that administrative staff play an important role in the functioning of the whole curriculum by performing clerical tasks and data entry, serving as a bridge between students and lecturers, and generally making sure that work and communication occur efficiently and speedily. An important aspect of this communication involves the liaison between departments. With MCMP, all student information related to the curriculum is collected together in one platform, thus enabling administrative staff to easily retrieve the information they need.

Communication is further facilitated as administrative staff can simply post announcements to the web using MCMP announcement tools. Announcements can be posted to a specific audience (e.g. Year 2 and Year 3 students and teaching staff). If amendments are needed, administrative staff edit MCMP announcements online after they have been posted. Through MCMP, administrative staff also update schedules and distribute exam results to a target audience in real-time. These tools help administrators deal efficiently with their day-to-day work responsibilities and simplify communication with lecturers and students distributed over a large number of locations.

Feedback from administrative staff indicates that the MCMP assignment submission function has also proved helpful in simplifying their work and saving time. Administrators no longer need to email students individually or collect assignments through a collection box, but can simply check online to ascertain whether students have handed in assignments or not. If students need to be reminded of assignment due dates, it is no longer necessary for administrative staff to telephone them using possibly outdated contact lists, as announcements can now be posted or sent as emails to selected individuals or groups of students.

The scope of this feature is captured in Fig. 7 and Fig. 8.





5. Conclusion

The MCMP is an unique and innovative administrative platform that has increased the efficiency of the medical department and decreased the workload and work hours of both staff and students. The MCMP helps lecturers to communicate more easily with students and administrative staff to work more efficiently. It also enables students to organize and schedule their daily routines with less time and effort. The result is that

throughout the whole department less time and resources are wasted and more time can be spent on teaching and studying. Although the MCMP was not developed to provide new methods for e-teaching and e-learning directly – this requires initiatives from the teaching staff themselves – it does provide support for e-learning in as much as it is able to access any back-end system. What the MCMP has done is to centralize curriculum information from different departments so that all users – students, lecturers and administrative staff – can easily retrieve the information they require online, rather than by making phone calls or sending memos to different departments. The information collected in the MCMP is extensive and complex, it positively enhances the learning environment and facilitates communication within the Faculty. The MCMP provides an essential platform to underpin any educational pedagogy.

Labour Summary	
Labour onset at	4 hh, 0 mm.
First stage :	13 hr, 25 min.
Second stage :	0 hr, 17 min.
Third stage :	0 hr, 10 min.
Membrane rupture :	9 hr, 7 min.
Induction :	<input type="radio"/> Yes <input checked="" type="radio"/> No <input type="checkbox"/> ARM <input type="checkbox"/> Syntocinon <input type="checkbox"/> Artificial rupture of membranes <input type="checkbox"/> Others : none
Augmentation of labour :	<input checked="" type="radio"/> Yes <input type="radio"/> No <input checked="" type="checkbox"/> ARM <input checked="" type="checkbox"/> Syntocinon <input type="checkbox"/> Artificial rupture of membranes <input type="checkbox"/> Others :
Physiological support :	<input checked="" type="radio"/> Yes <input type="radio"/> No <input checked="" type="checkbox"/> IV fluid <input type="checkbox"/> Blood
Analgesic :	<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="checkbox"/> Entonox <input checked="" type="checkbox"/> Pethidine <input type="checkbox"/> Epidural anaesthesia <input type="checkbox"/> Others :
Fetal heart monitoring :	<input checked="" type="radio"/> Yes <input type="radio"/> No <input checked="" type="checkbox"/> Continuous CTG <input type="checkbox"/> Intermittent Dopstone
	<input checked="" type="radio"/> Normal vaginal delivery <input type="radio"/> Operative <input type="radio"/> Vaginal breech delivery
	<input type="checkbox"/> Forceps <input type="checkbox"/> Ventouse Indication of Operation delivery:
	<input type="checkbox"/> Spontaneous <input type="checkbox"/> Assisted

Fig. 7 Student on-line assessment

Vaginal Examination No.	Time	Cervical Dilatation	Presenting Point	Flexion	Rotation	Station	Function
1	08:35	2	Vertex	blank	unknown	S-2	Edit Delete
2	12:40	4	Vertex	blank	 ROA	S-2	Edit Delete
3	14:45	6	Vertex	Flexed	 LOA	SLevel	Edit Delete
4	16:45	8	Vertex	Flexed	 DOA	S+1	Edit Delete
5	17:25	10	Vertex	Flexed	 DOA	S+1	Edit Delete

[Refresh page](#)

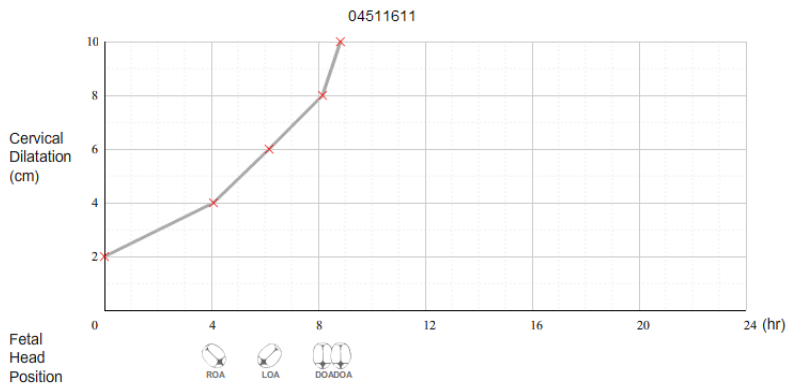


Fig. 8 Student on-line OBG Case Report

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