



SPORT COMPLEX BOOKING AND RENTAL SYSTEM

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ABSTRACT

The Universiti Malaysia Pahang (UMP) Sport Complex facing problem in booking and rent sport instrument. All record are done by manual recording. This is not efficient and systematic. Another problem in booking is that every time student booking multiple court. Regarding renting instrument system, Sport Complex do not have a complete system to record who has rent the sport instrument and what sport instrument has been rented. Every time a student rent sport instrument in Sport Complex, they only need to putdown the matric card and manual record down what instrument have been rented. By using the Sport Complex Booking and Rental system, it helps staff solve daily workloads in an efficient and systematic manner. All record of booking and rental can be done just within a few clicks of button. Student need to register account before they make a booking and rental. If they do not have account, the system cannot proceed the booking and rental. So, the system will record down the history into database when booking or rental is done. Besides that, staff no need to write receipt again, the system have function to send receipt to student email. All this can makes the work become easier and faster.

ABSTRAK

Universiti Malaysia Pahang (UMP) Kompleks Sukan mengalami masalah tempahan dan pinjaman peralatan sukan. Sumau rekod tentang tempahan dan pinjaman adalah secara manual rekod. Menggunakan manual rekod adalah tidak cekap dan sistematik. Selain itu, mahasiswa dan mahasiswi juga sentiasa menempah gelangan yang berlebihan untuk kawan mereka. Di samping sistem penyewaan alatan sukan, Kompleks Sukan tidak mempunyai suatu system yang lengkap untuk mencatatkan rekod peminjaman alatan sukan. Selain itu, setiap kali mahasiswa dan mahasiswi meminjan peralatan sukan hanya perlu menbagi kad matrik kepada kakitangan Kompleks Sukan dan senaraikan peralatan yang dipinjam. Dengan menggunakan Sport Complex Booking and Rental System, ia boleh membantu kakitangan Kompleks Sukan menyelesaikan kerja secara cekap dan sistematik. Semua tempahan dan pinjaman peralatan sukan boleh disiapkan dalam beberapa langkah sahaja. Selain itu, mahasiswa dan mahasiswi yang mahu tempahan dan pinjaman peralatan sukan, mereka perlu mendafta akaun. Kalau mahasiswa dan mahasiswi tidak mempunyai akaun dalam sistem, sistem itu tidak membenarkan mereka buat tempahan dan pinjaman. Oleh itu, sistem akan rekod semua tempahan dan pinjaman dalam pangkalan data secara automatik. Selain itu, kakitangan Kompleks Sukan tidak perlu menulis resit lagi untuk sesiapa yang buat tempahan. Sebab dalam sistem itu mempunyai fungsi hantar e-mel. Semua ini boleh menjadikan kerja lebih senang dan cepat.

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CHAPTER 1: INTRODUCTION

1.1 INTRODUCTION

Sport Complex is a place that give Universiti Malaysia Pahang (UMP) student to play sport. In Sport Complex, student is able to make booking on badminton court and squash court, rent racket, ball and bicycle. Every time a student make a booking or rent sport instrument, all things are done by manual recording. This is not efficient and systematic.

By using the new developed system, the advancement of computers in our society helps us solve our daily workloads in an efficient and systematic manner. Sport Complex staffs are capable of recording a booking or rental just within a few clicks of button. It can makes the work become easier and faster.

This new system are able to book or rental, look for the available sport facility, black list record, fee record, view the booking history and print history. This system also divide into two status, first status is admin and the second status is normal user. Only admin can fully access the system. For normal user, they only can help student booking and rental only. Every staff need to register first before using the system. All the registration can be done by admin, and it only can modify by admin.

Before student using sport facilities in Sport Complex, they need to register they information into the system at the first time. After student register, they can do a booking or rental as usual. Unless the student has been recorded in black list. When making booking or renting instrument, staff just need to click and choose the facility that listed in the system, and the record will be done. By viewing back the history, staff can find out who has used the facility or instrument in Sport Complex.

1.2 PROBLEM STATEMENT

The operation of the Sport Complex in Universiti Malaysia Pahang has been identified that lies a problem in booking system and rental system. Booking system in Sport Complex do not have a systematic system that can record down the booking and all the booking is done by handwriting. Another problem in booking system is that every time booking student may booking extra court for they friend, it may result in insufficient court to cater all students demand and thus unfair to them. Regarding renting instrument system, Sport Complex do not have a complete system to record who has rent the sport instrument and what sport instrument has been rented. Every time a student rent sport instrument in Sport Complex, they only need to putdown the matric card and manual record down what instrument have been rented. After returning the sport instrument, they can take back their own matric card.

- Every time a student who want to book a court, staff in charge needs to refer back to the record of booking and find out what time is available for booking.
- Student will use other student name to book extra court.
- Student may swap the instrument or return broken instrument. Staff has hard time in recognizing which student is responsible for the rented instrument because there is no systematic record or complete record.

1.3 OBJECTIVE

- To develop a system that help Sport Complex staff have a complete system to manage and solve the problem in booking system and rental system.
- To prevent student to book extra court for other people.
- To have a systematic record and complete record.

1.4 SCOPE

This system is developed for Sport Complex staff as to help them to manage the student booking and rental. It also able to assist staff in referring back the record of facility usage history. This system is only available for those who have register to book court or rent sport instrument in Sport Complex. Those do not have register cannot do any booking or rental in Sport Complex.

CHAPTER 2: EXISTING SYSTEM

2.1 EXISTING SYSTEM DESCRIPTION

There are many University or Sport Complex develop a system for booking and rental around the world. Below is the few existing system of booking sport facility:

- I. Sport & Recreation Centre (SRC)
- II. Sports Facilities Booking System
- III. Institute of Human Performance (IHP) online booking system
- IV. Sports & Recreation Centre Online Booking System
- V. Sports Centre Online Booking System

2.1.1 Sport & Recreation Centre (SRC)

The National University of Singapore (NUS) has used the sport facility booking system call Sport & Recreation Centre (SRC). It is an online sport facilities booking for NUS, and every booking is done at the website. The bottom line for those system is user must be the staff or students in this university.

The pros of SRC system is to prevent outside student use the sport facility in university. It only serves staff and students in university. This system can evade disagreement or conflict because of someone who seizes the sport facility. Only the one who made the booking successfully can use the sport facility. It also show the record of who did the booking and how many person use the sport facility.

The cons of SRC system is user may use other people ID to book an extra sport facility for their friend. This may result in insufficient sport facilities to cater all students and thus unfair to other user. For this booking system, user needs to book within 3 working days before the date of use and cannot book before 7 working days. During this period user also will change their booking timeslot or cancel the booking during the booking time because of emergency, meeting, homework and so on. This will cause other staff or student miss to the booking because they don't know when or who has cancel the booking. Thus, users are not aware of the vacancy of those sports facilities.

Staff and students need to login before booking. At login page, only staff and students that have registered under university can make booking to the sport facility. This is the security that made by SRC to prevent other people in making illegal booking or interfering the booking system. The Figure 2.1 is the login page of the website.

After log into SRC system, it will go to the Making New Booking page where you are able to make booking for the facilities (Badminton, Squash, Table-Tennis and Tennis). For each booking you need choose the date, number of guest and time. Figure 2.2 is the Making New Booking page after login page.

Time is in schedule format, every timeslot is in different colors depending on the booking, reserve and maintenance. This is good for user to compare between available slot and unavailable slot on the time. The Figure 2.3 is the timeslot page after click Continue.

Services & Administrative Services & Office of Student Affairs

NUS

Sports & Recreation Centre

Welcome to
SRC
Online Sports
Facilities Booking

LOG IN
Please login to book sports facilities

NUSNET ID

PASSWORD

With effect from 4 Feb 2013, all chargeable bookings must be paid at the payment counter @ Student Service Centre within 3 working days before the Date of Use.

For example, payment has to be settled on Friday for a booking on the following Wednesday. Reserved

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Figure 2.1: Interface of the Login page for the SRC Online Sport Facilities Booking

NUS

Sports & Recreation Centre

- ▶ [Making New Booking](#)
- ▶ [Cancellation of Booking](#)
- ▶ [Booking Schedule](#)
- ▶ [Reprinting Court Permit](#)
- ▶ [Requesting Rain Compensation](#)
- ▶ [History Viewing](#)
- ▶ [Logout](#)

Making New Booking (Step 1 of 4)

Welcome:

Facilities:

Date of Use (dd/mm/yyyy)

No. of Guest: (Who is Guest?)
(Guest fees: \$2.20 per guest)

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Figure 2.2: Interface of the booking page after login

NUS Sports & Recreation Centre

- ▶ Making New Booking
- ▶ Cancellation of Booking
- ▶ Booking Schedule
- ▶ Reprinting Court Permit
- ▶ Requesting Rain Compensation
- ▶ History Viewing
- ▶ Logout

Making New Booking (Step 2 of 4)

Facility: Badminton (view courts layout) ←

Date of Use: Thu, 21/02/2008 (← previous day | next day →)

No. of Guest: 0

Court	AVL	AVL	AVL	AVL	AVL	AVL	AVL	AVL	AVL	AVL	AVL	AVL	AVL
	CFM	CFM	CFM	CFM	CFM	CFM	CFM	CFM	CFM	CFM	CFM	CFM	CFM
BC1	AVL	AVL	AVL	AVL	AVL	AVL	AVL	AVL	AVL	AVL	BLK	BLK	BLK
BC2	AVL	AVL	AVL	AVL	AVL	AVL	AVL	AVL	AVL	AVL	BLK	BLK	BLK
BC3	AVL	AVL	AVL	AVL	AVL	AVL	AVL	AVL	AVL	AVL	BLK	BLK	BLK
BC4	AVL	AVL	AVL	AVL	AVL	AVL	AVL	AVL	AVL	AVL	BLK	BLK	BLK
BC5	AVL	AVL	AVL	AVL	AVL	AVL	AVL	AVL	AVL	AVL	BLK	BLK	BLK
BC6	AVL	AVL	AVL	AVL	AVL	AVL	AVL	AVL	AVL	AVL	AVL	AVL	AVL

Figure 2.3: Interface of the timeslot page after click Continue.

2.1.2 Sport Facility Booking System

The Hong Kong Polytechnic University has used the Sport Facility Booking System to booking. It is an online sport facilities booking for The Hong Kong Polytechnic University, and every booking is done at the website. The bottom line for those system is user must be the staff or students, staff immediate family members and alumni in this university.

The pros of Sport Facility Booking System is to prevent outside student booking the sport facility in university. The Figure 2.4 is the login page of the website. This system give every user 15 minute to finish booking. After 15 minute, the system will automatically logout. It can prevent someone use your ID when you are not around. It also provide Transfer Booking function to user who need it. User can do the transfer booking to their friend in 4 hours after booking. After 4 hours, user cannot transfer or cancel booking anymore.

The cons of Sport Facility Booking System is user may use other people ID to booking extra sport facility for them friend. Besides, user can unlimited booking the sport facility at the system. This may result in insufficient sport facilities to cater all students and thus unfair to other user.

The screenshot shows the login interface for the Sports Facilities Booking System. At the top left is the logo of The Hong Kong Polytechnic University, with the text 'THE HONG KONG POLYTECHNIC UNIVERSITY' and '香港理工大學' below it. To the right of the logo, the text 'WELCOME to Sports Facilities Booking System' is displayed, followed by navigation links 'HOME | NEWS | HELP'. Below this is a black header bar with the text 'USER LOGIN' in white. The main form area contains the following elements:

- User Type:** Two radio buttons are present: 'Student/Staff' (which is selected) and 'Others'.
- Net ID:** A text input field with a horizontal line indicating the cursor position.
- Net Password:** A text input field with a horizontal line indicating the cursor position.
- Buttons:** Two buttons labeled 'Login' and 'Reset' are positioned below the password field.
- Regulation:** A link labeled 'Regulation' is located to the right of the password field.

 Below the form is a horizontal line, followed by a block of text providing assistance for login issues:

If you cannot login, please find the followings for assistance:
 For PolyU/AS student, HKCyberU student, Research student and Staff, please go to <http://www.polyu.edu.hk/netid/>
 For HKCC and SPEED students, they can only make booking on-site at all sports booking counters.
 For Staff immediate family & other users, please contact PE Section at 2766 6780 or email to spes@polyu.edu.hk

 Below this text is another horizontal line, followed by copyright information:

Copyright 2000-2009 The Hong Kong Polytechnic University Sports Facilities Booking System
 This service is provided by P.E. Section, SAO
 Inquiry Tel. 2766 6780

 A link labeled 'Feedback' is centered below the copyright text. At the bottom left, there is a privacy notice:

To protect your privacy,
 please remember to LOGOUT
 from the system when you
 have finished.

Figure 2.4: Interface of the login page for the Sport Facilities Booking System.

The screenshot shows the 'Make Booking' page of the PolyU website. On the left is a navigation menu with options like 'Notice Board', 'Confirm Booking', 'Inquire Confirmed Booking', 'Make Booking', 'Inquire Booking Made', 'Transfer Booking', 'Cancel Booking', 'Change PIN', 'Request for refund of deposit when leaving PolyU', 'Booking Information', and 'LOGOUT'. A privacy notice is also present. The main content area is titled 'Make Booking' and includes a note about online booking availability. Below this, a user profile for 'CHAN Tai Man' is shown with a deposit balance of \$916. A booking form contains dropdown menus for 'Activity', 'Date', 'Time', and 'Centre', along with 'Check' and 'Back' buttons. A security image with the code 'DJ9y' is displayed, followed by a prompt to input the image code.

Figure 2.5: Interface of the Make Booking page after login

2.1.3 INSTITUTE OF HUMAN PERFORMANCE (IHP) ONLINE BOOKING SYSTEM

The University of Hong Kong (HKU) use the Institute of Human Performance (IHP) online booking system to manage their daily booking for sport facility. It is online sport facilities booking for HKU, and every booking is done at website (HKU portal). The Figure 2.6 is the interface of the HKU portal. The bottom line for those system is user must be the staff or full-time students with IHP sport membership (principal cardholders) of HKU.

The pros of Institute of Human Performance (IHP) online booking system is user no need signup new account for sport facility booking because it is inside the HKU portal. By using User ID login, it can prevent outside student login to the sport facility booking in university. It only serves staffs and students in university. For this system, individual will be limited to a maximum of 7 advance booking with 7 days and one hour session for each. This is to make sure other people can get the booking also.

The cons of Institute of Human Performance (IHP) online booking system is the system will reallocated the booking to other users after 15minute starting time and user are not allow to check-in before 120 minute starting time.

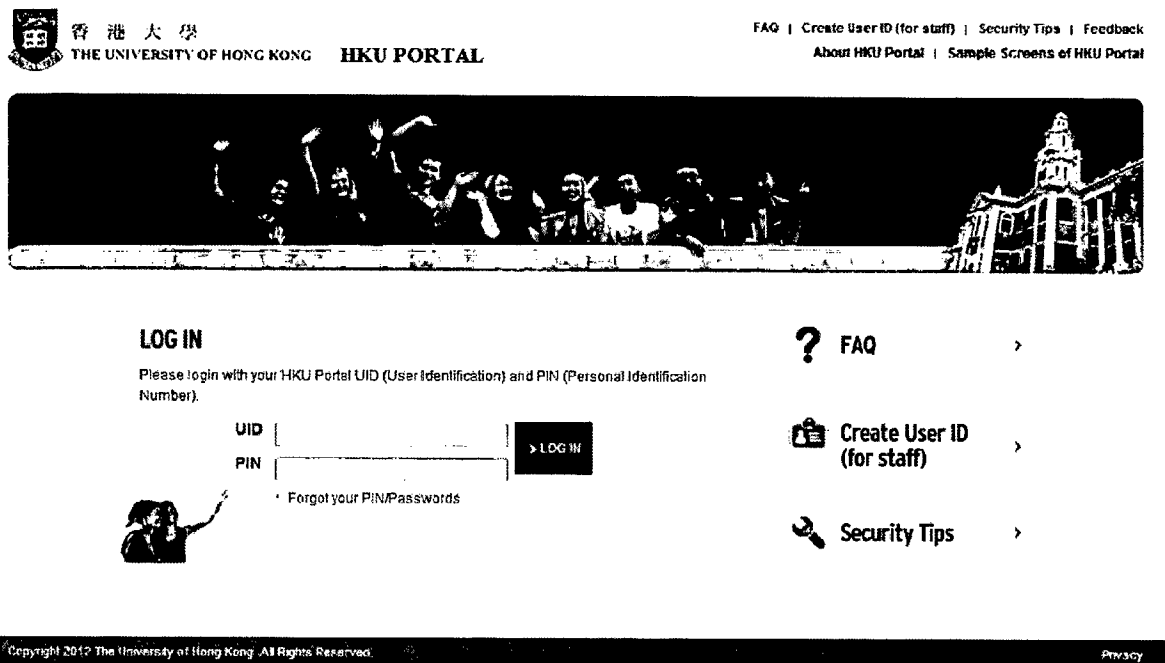


Figure 2.6: Interface of the HKU portal

2.1.4 SPORTS & RECREATION CENTRE ONLINE BOOKING SYSTEM

The Nanyang Technological University (NTU) has used the sport facility booking system call Sports & Recreation Centre Online Booking System. It is an online sport facilities booking for NTU, and every booking is done at the website. The bottom line for those system is user must be the full-time staff members and full-time students who have paid the annual sports fee for this university.

The pros of Sports & Recreation Centre Online Booking System is user can booking in any time. This system is to prevent outside student use the sport facility in university. It only serves staff and students in university. This system can evade disagreement or conflict because of someone who seizes the sport facility. Only the one who made the booking successfully can use the sport facility.

The cons of Sports & Recreation Centre Online Booking System is user may use other people ID to book an extra sport facility for their friend. This may result in insufficient sport facilities to cater all students and thus unfair to other user. This system is not user friendly, in figure 2.7 user need to choose the categories before go to login page and after go to the login page user need choose the domain again.

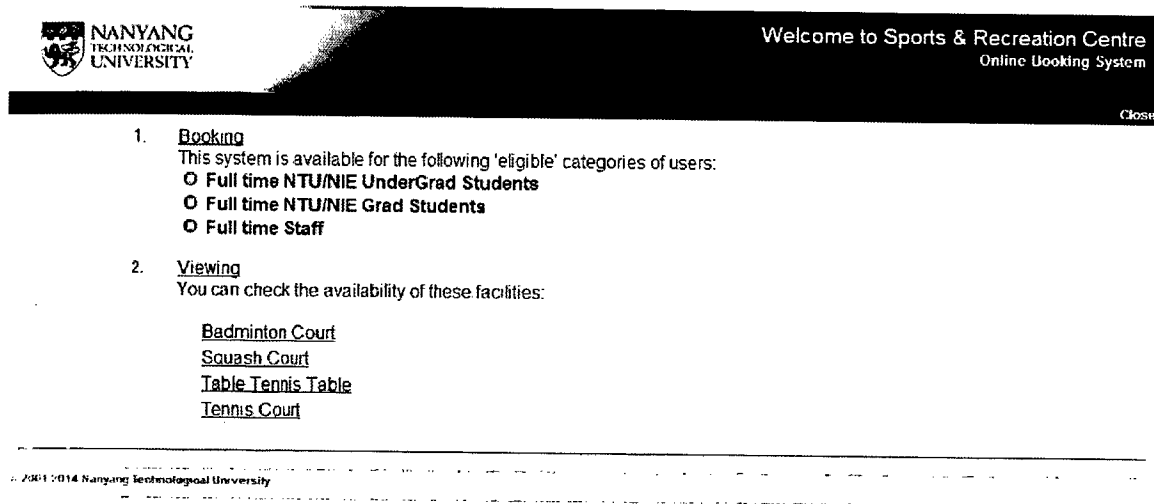


Figure 2.7: Interface of the NTU online booking system

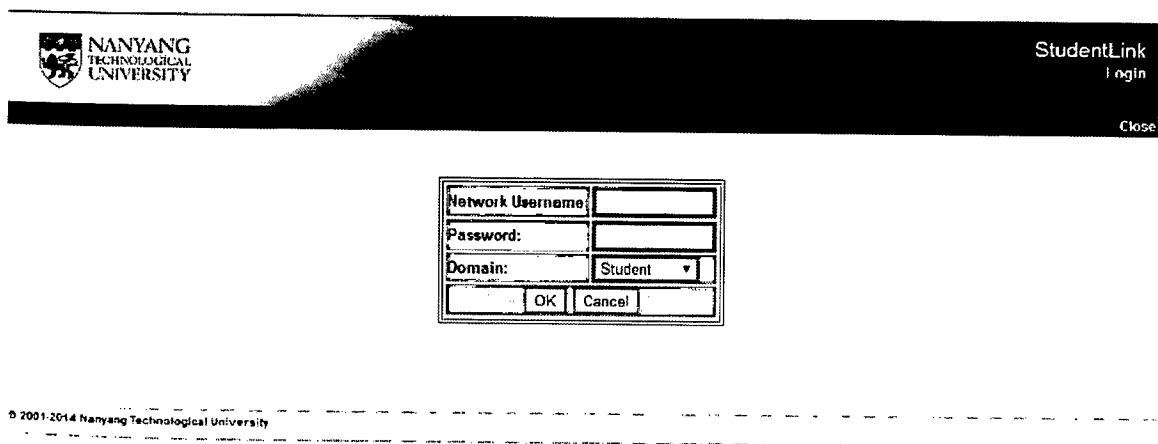


Figure 2.8: Interface of the login page



Close

- Student/Staff are allowed to make only one advance booking session for one facility over a period of 7 days
- Facility: **Badminton Court** | Current | [11 - 18-Apr-2014] | [19 - 26-Apr-2014]

Session (hrs)	Courts / Tables	03 Apr 2014 (Thu)	04 Apr 2014 (Fri)	05 Apr 2014 (Sat)	06 Apr 2014 (Sun)	07 Apr 2014 (Mon)	08 Apr 2014 (Tue)	09 Apr 2014 (Wed)	10 Apr 2014 (Thu)
0900 - 0945	01	XXXX237X	XXXX315H	XXXX428L	XXXX413B	Avail	MAINT	Avail	Avail
	02	XXXX219D	XXXX647J	XXXX990W	XXXX009H	Avail	MAINT	Avail	XXXX887T
	03	XXXX257E	XXXX474D	XXXX950G	XXXX770Q	Avail	MAINT	Avail	XXXX201K
	04	XXXX377L	XXXX290D	XXXX961C	XXXX273K	Avail	MAINT	XXXX366D	XXXX419H
0945 - 1030	01	XXXX605C	XXXX390F	XXXX851F	XXXX372L	XXXX177D	MAINT	Avail	Avail
	02	XXXX832F	XXXX844B	XXXX227E	XXXX268D	Avail	MAINT	Avail	Avail
	03	XXXX034K	XXXX115L	XXXX716P	XXXX395N	Avail	MAINT	Avail	Avail
	04	XXXX645J	XXXX880C	XXXX893G	XXXX366G	XXXX566F	MAINT	Avail	XXXX377L
1030 - 1115	01	XXXX763C	XXXX541A	XXXX968G	XXXX291G	Avail	MAINT	Avail	XXXX763C
	02	XXXX264J	XXXX158E	XXXX150E	XXXX314J	Avail	MAINT	Avail	Avail
	03	XXXX029H	XXXX030E	XXXX940B	XXXX926K	Avail	MAINT	Avail	Avail
	04	XXXX373L	XXXX056C	XXXX379A	XXXX668Q	XXXX649M	MAINT	Avail	Avail
1115 - 1200	01	XXXX217A	XXXX741D	XXXX378G	XXXX450H	XXXX300E	MAINT	Avail	Avail
	02	XXXX711A	XXXX213J	XXXX365W	XXXX739B	XXXX825D	MAINT	Avail	Avail
	03	XXXX681C	XXXX116G	XXXX745E	XXXX019H	Avail	MAINT	Avail	Avail
	04	XXXX478F	Avail	XXXX605K	XXXX461L	Avail	MAINT	Avail	Avail

Figure 2.9: Interface of the Time table

2.1.5 Sports Centre Online Booking System

The Keele University has used the sport facility booking system call Sports Centre Online Booking System. It is an online sport facilities booking for Keele University, and every booking is done at the website. The bottom line for those system is user must be the staff or students for this university.

The pros of Sports Centre Online Booking System is user can booking in any time. This system is to prevent outside student use the sport facility in university. It only serves staff and students in university. The Search function is allows in this system, user just type a few letters on the activity name on the search box and the appropriate activities will be displayed. This system also have change user detail function, user can change them password just click the “change password”.

The cons of Sports Centre online Booking System is user may use other people ID to book an extra sport facility for their friend or user can booking more than one sport facility at the time. This may result in insufficient sport facilities to cater all students and thus unfair to other user.