

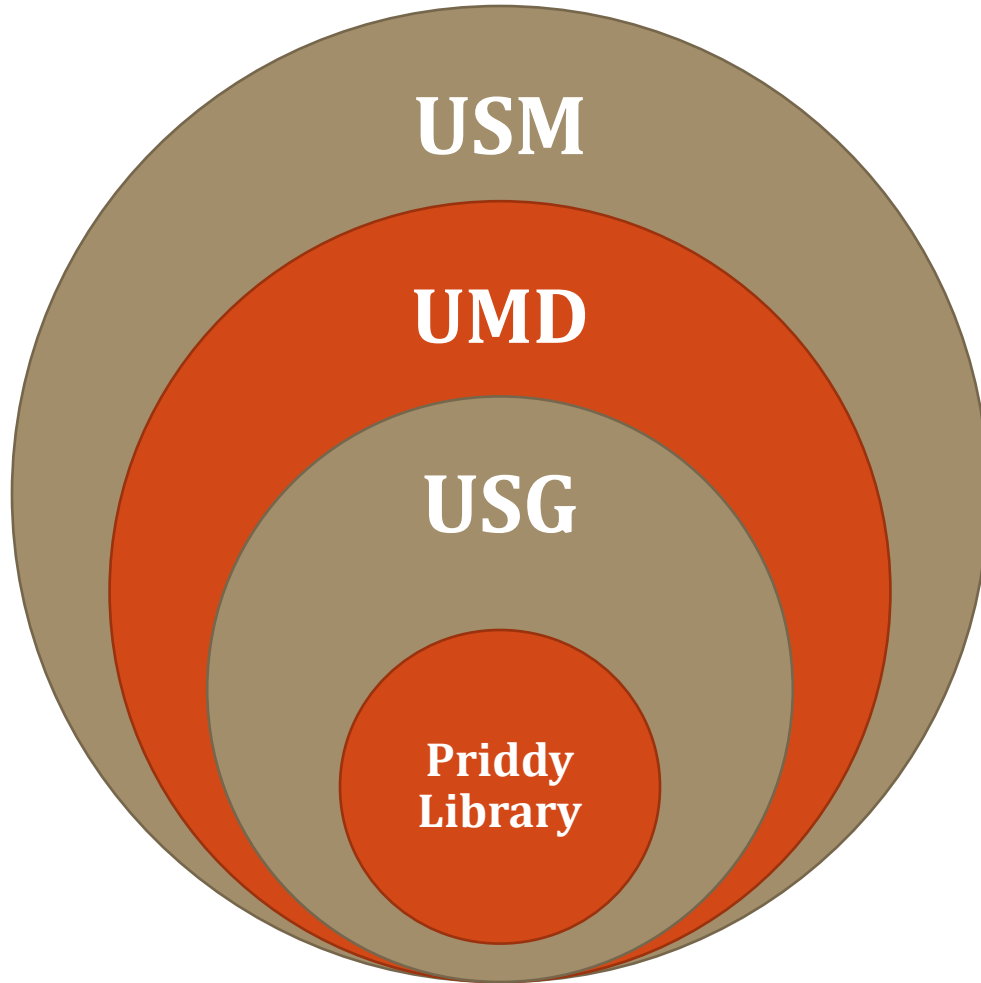
Thinking Big in a Small Library Implementing Low-Cost Solutions

Madhu Singh
Priddy Library, Universities at Shady Grove,
University of Maryland
Email: madhus@umd.edu

Outline

- Who We Are...
- Challenges of a small campus with limited budget
- Assessment of resources and needs
- Opportunity to collaborate, be creative, & build partnership
- Development and implementation of low cost-solutions
 - Course Reserve System
 - Equipment Management System
 - Statistics Application – iPad Data Gathering Tool
- Outcome (benefits)

Who we are...



- Priddy Library
- Universities at Shady Grove (USG)
- University of Maryland (UMD)
- University System of Maryland (USM)

University of Maryland (UMD)



UNIVERSITY OF MARYLAND

UNIVERSITY LIBRARIES

Search the UMD Libraries website Google™ Custom Search ×

Sunday, March 1, 2015

McKeldin	10:00AM - 05:00PM
Art	CLOSED
Architecture	01:00PM - 05:00PM
Chemistry	12:00PM - 05:00PM
EPSL	12:00PM - 05:00PM
Media Services in Hornbake	01:00PM - 05:00PM
Special Collections in Hornbake	01:00PM - 05:00PM
MSPAL	01:00PM - 05:00PM
Shady Grove	See here for hours

Libraries & Spaces ▾ Find & Cite ▾ Services ▾ I am a ... ▾ Help ▾ About ▾ My Accounts ▾

[University of Maryland Libraries](#)

[McKeldin Library \(Main Library\)](#)

[Architecture Library](#)

[Art Library](#)

[Engineering & Physical Science Library](#)

[Hornbake Library](#)

[Michelle Smith Performing Arts Library](#)

[Priddy Library \(Universities at Shady Grove\)](#)

[White Memorial Chemistry Librar](#)

Universities at Shady Grove (USG)



The Priddy Library at USG



University System of Maryland Institutions

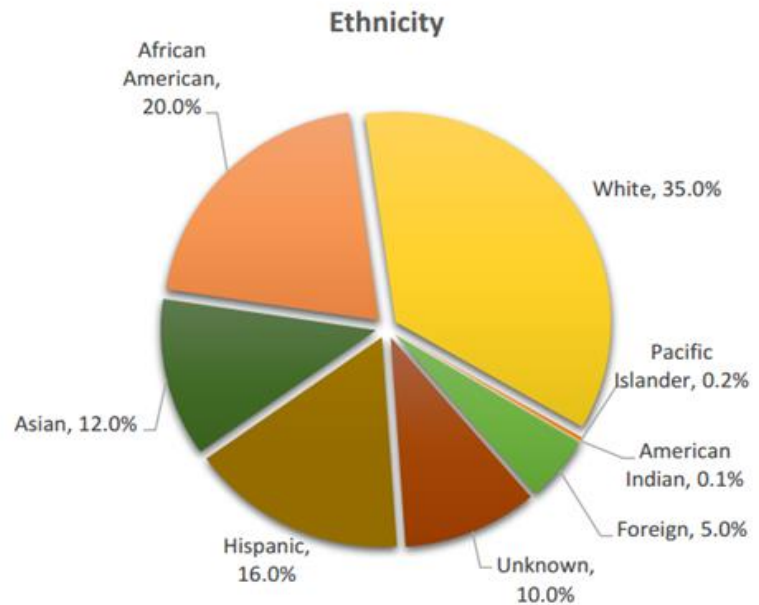
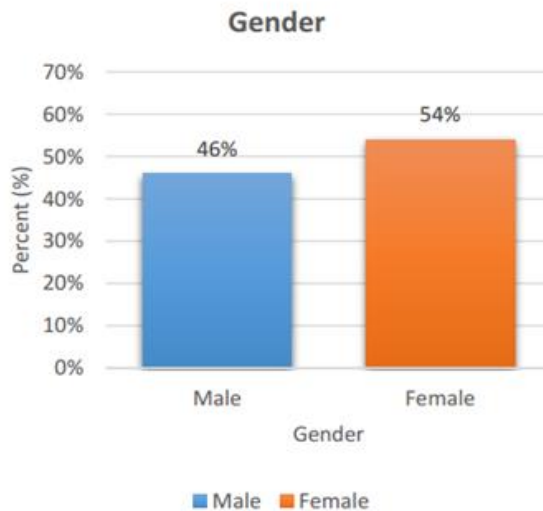
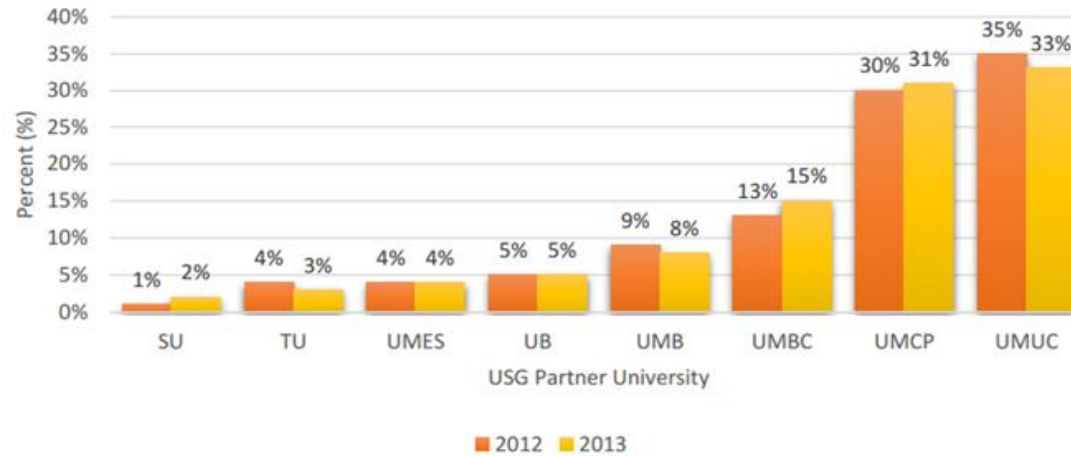
- Bowie State University
- Coppin State University
- Frostburg State University
- Salisbury University
- St. Mary's College of Maryland
- Towson University
- University of Baltimore
- University of Maryland Baltimore
- University of Maryland Baltimore County
- University of Maryland, College Park
- University of Maryland Eastern Shore
- University of Maryland University College

USG Partner Institutions

- Bowie State University
- Coppin State University
- Frostburg State University
- Salisbury University
- St. Mary's College of Maryland
- Towson University
- University of Baltimore
- University of Maryland Baltimore
- University of Maryland Baltimore County
- University of Maryland, College Park
- University of Maryland Eastern Shore
- University of Maryland University College

USG Student Profile

Percent Enrolled Students per Insitution

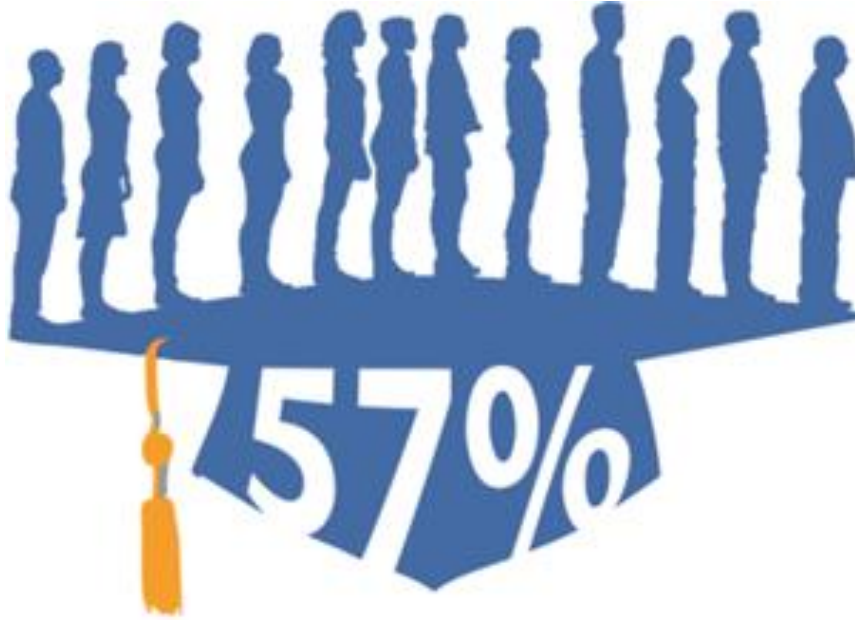


Challenges of a small campus

- Limited Resources
 - Small Library Budget
 - Limited Staffing
- Increased Student Enrollment
- Increased # of People Visiting Library
- Increased Demand for Library Services
 - Borrowing
 - Course Reserve Requests
 - Equipment Loans
 - Library Instructions

Growing Student Enrollment & Budget Constraints

57%



**INCREASE IN STUDENT
ENROLLMENT**

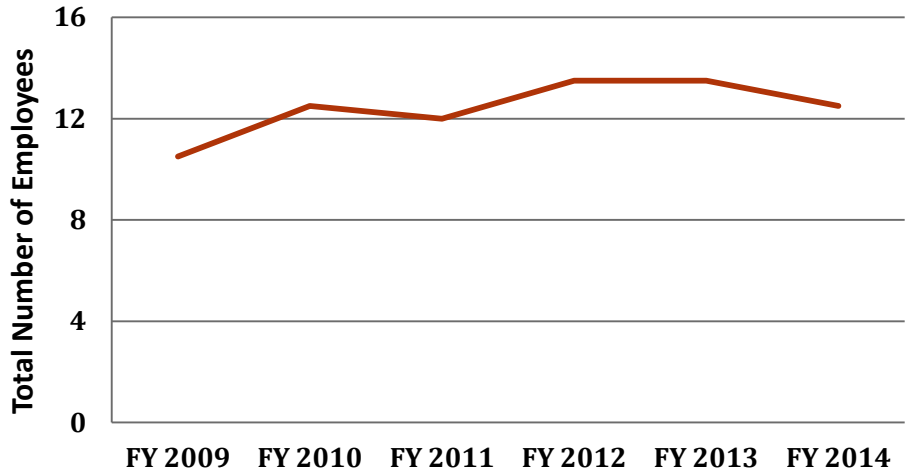


Library Budget



Library Staffing & Hours

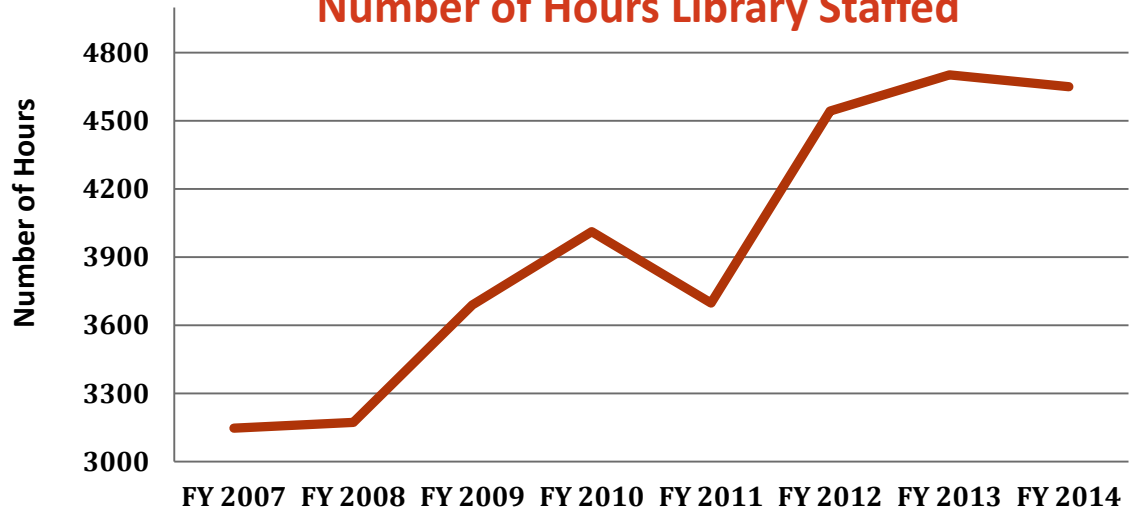
Library Staffing



13%



Number of Hours Library Staffed

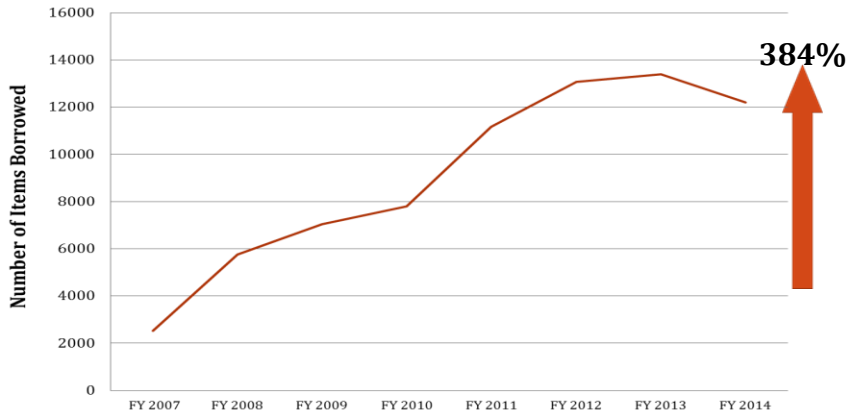


48%

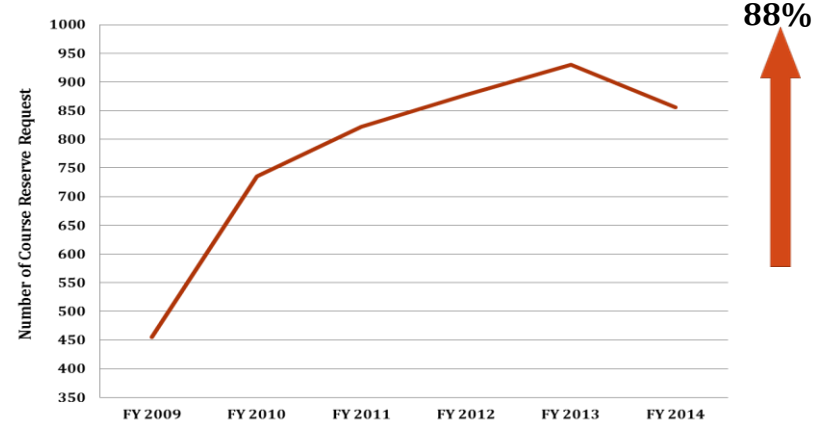


Increase Demand On Library Services

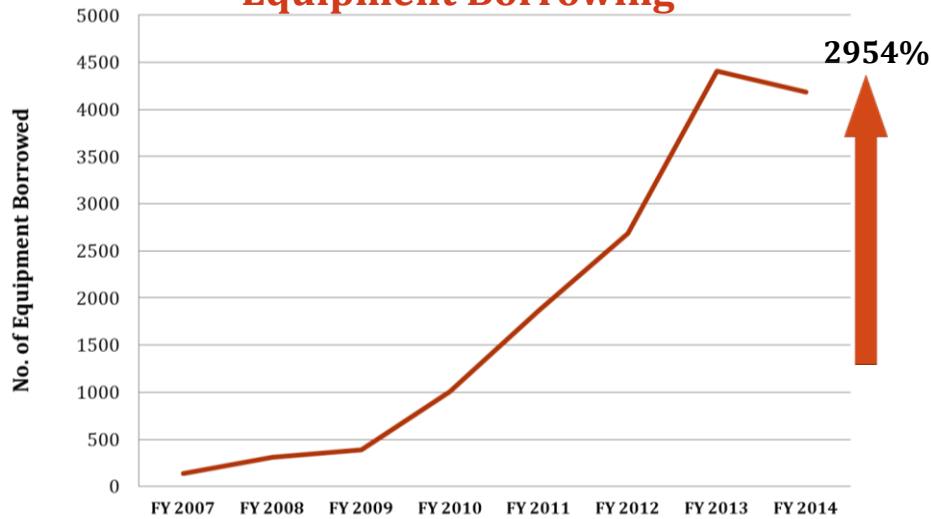
Borrowing Patterns



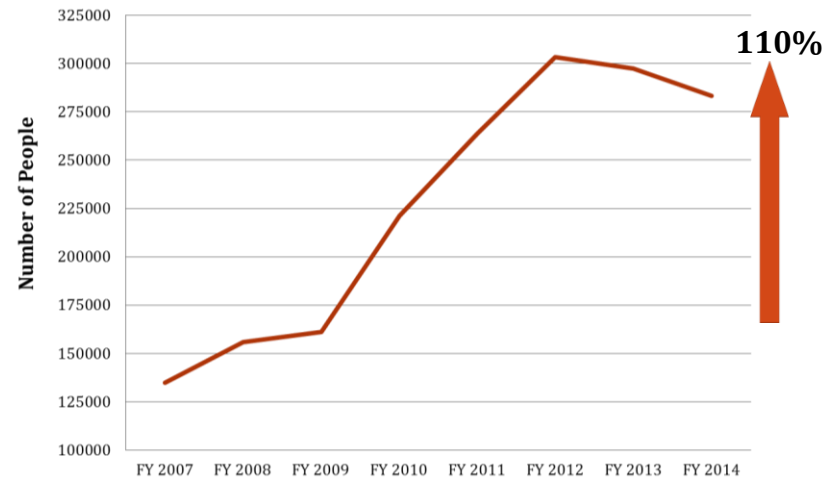
Course Reserve Requests



Equipment Borrowing



Turnstile Gate Count



Bottom Line...

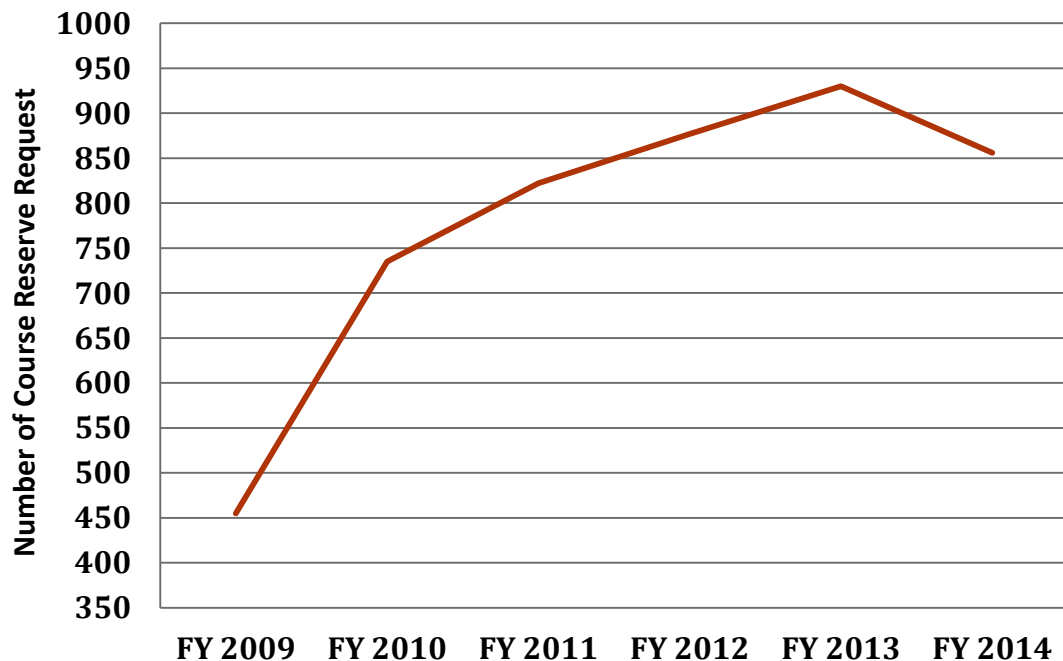
Challenges in Providing Seamless Library Services:

- Course Reserve Service
- Access to E-Resources
- Reference Assistance
- Library Instructions
- Interlibrary Loan Service

Why develop a course reserve system?



Course Reserve Requests



- Different Course Reserve System used at partner institutions
- Priddy Library staff access to the UMCP Course Reserve System only
- Multiple forms of Course Reserve Requests

Pre-made/out-of-the-box application software was NOT the answer

Manual Course Reserve Request Form

FOR SHADY GROVE LIBRARY

Course Name & Number: BMGT 495 5121

Class Day(s)/Room #: 3216

USM University: __ UMUC

Number of Students in Class: 10

Received By (Initials of Library Staff Member): _____

Instructor Name:

Contact numbers: (W)

(H) Cell:

(Email)

Semester: Fall 08
_____ | _____

Loan Period: 3 HRS Other

List items for reserve with full citation. Reserves cannot be processed without a full citation. Each title of a journal article must be listed individually. Use the back or attach a list if necessary.

1. Strategic Management Concepts and Cases, 12th edition (text) Fred R. David, Pearson/Prentice Hall, NJ ISBN:13:978-0-13-601570-3, 2009
2. The World is Flat. A Brief History of the Twenty-First Century, by Thomas Friedman, Picador, NY 2005

Reserve Policies:

1. In accordance with Title 17, U. S. Code, U. S. Copyright Law, **photocopied, copyrighted items can be placed on reserve without copyright permission ONLY if they are being used for the first time and have not been used in previous semesters.** Repeated use requires copyright permission.
2. Photocopied materials **must** include a photocopy of the relevant copyright information (e.g., Library Journal © 1997 by Reed Elsevier, Inc.).
3. The Library will take all precautions necessary to keep reserve materials secure and in good condition. However, the Library cannot be held liable for stolen or damaged reserve items.
4. Requests are processed in the order in which they are received, with priority given to materials for the current semester.
5. Faculty-submitted reserve materials must be retrieved no later than two weeks after the end of the semester. Items left beyond the two weeks will be discarded.

Signature of Instructor:

Date September 9, 2008

Opportunities

Collaborate, Be Creative & Build Partnership



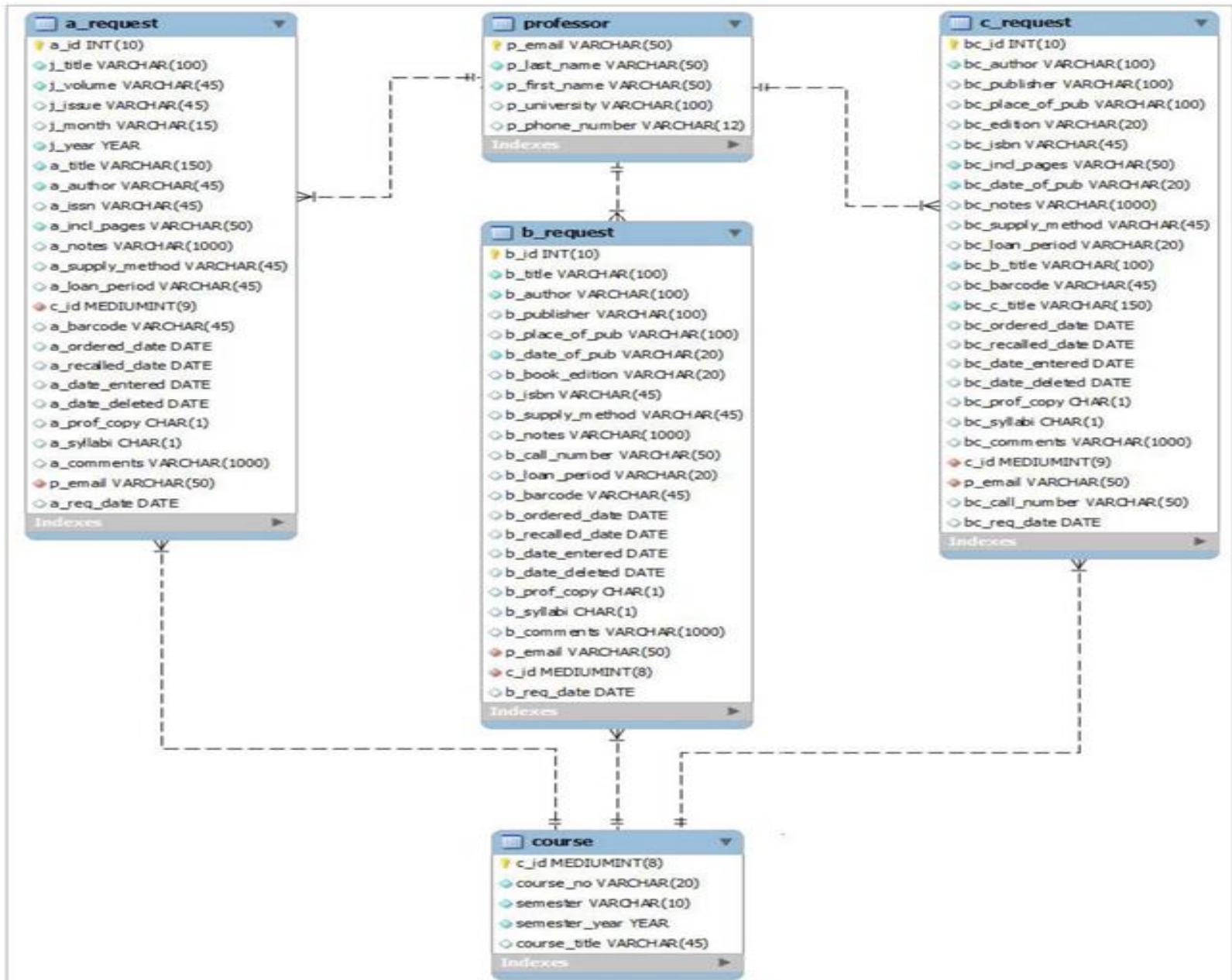
- Challenges turned into opportunity to develop a collaborative culture and build partnerships
- Discussed challenges, identified collaboration opportunities, and brainstormed solutions
- Collaboration Partners:
 - iSchool
 - Organizational Psychology
 - Communication

Development of Course Reserves System



- Collaboration with MIM grad student
- Database structure and entity relationship developed
- MySQL relational database
- PHP and Java Script languages to develop the front graphical user interface
- User-friendly application
- System designed to send an acknowledgement
- Generates an ID# for query purposes
- Allows prompt response to faculty

Course Reserves System: Entity Relationship Diagram





The UNIVERSITIES *at Shady Grove*

PRIDDY LIBRARY RESERVES REQUEST

Instructions for Course Reserves Request:

The course reserves request form is only for Universities at Shady Grove (USG) faculty. USG faculty affiliated with BSU, SU, TU, UB, UMB, UMBC, UMCP, UMES, & UMUC can submit course reserves request for physical materials, e.g., books. The course material will be available to students at the Priddy Library circulation desk. Please submit your requests as early as possible to ensure that material needed for course reserves are available to the students on time. Ordering, cataloging material that are not owned, and recalling materials on loan to patrons take a while which causes further delay in processing the reserves requests. We make all attempts to process course reserves requests promptly, but there is a heavy demand in the beginning of the semester, your request will be processed in the order in which it is received. Provide a copy of syllabus/course reading list to Priddy library course reserves staff or [email](#) it. If you have any questions or need assistance, please call reserves staff at (301) 738-6223/6226 or [email](#) us.



Instructions for E-Reserves Request:

E-Reserves services are available to USG faculty from their home institutions except BSU which does not support E-reserves. To submit E-reserves requests for an article or book chapter, select your institution below and follow the instructions.

[SU E-Reserves](#)

[TU E-Reserves](#)

[UB E-Reserves](#)

[UMB HSHSL E-Reserves](#)

[UMBC E-Reserves](#)

[UMCP E-Reserves](#)

[UMES E-Reserves](#)

[UMUC E-Reserves](#)



COURSE RESERVE REQUEST FORM

[Return to Main Menu](#)

Please read the [Instructions](#) before filling out the Priddy Library Reserves Request Form.

PLEASE NOTE: Fields marked in **red** are mandatory

Search the Priddy Library catalog for book information:

INSTRUCTOR INFORMATION

Last Name *	<input type="text"/>	First Name *	<input type="text"/>
Email *	<input type="text"/>	Phone Number <small>(Format: XXXXXXXXXXX, XXX-XXX-XXXX)</small>	<input type="text"/>
USM University *	<input type="text" value="Please select one"/>		

BOOK REQUEST #1

Course Information

Semester *	<input type="text" value="Summer I"/>	<input type="text" value="2010"/>	Course Title	<input type="text"/>	Course Number *	<input type="text"/>	Loan Period	<input type="radio"/> 2 hrs	<input type="radio"/> 1 day
-------------------	---------------------------------------	-----------------------------------	---------------------	----------------------	------------------------	----------------------	--------------------	-----------------------------	-----------------------------

Book Information

Title * <small>Please do not abbreviate unless your citation is abbreviated</small>	Author(s) * <small>(Last Name, First Name)</small>	ISBN	Edition
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Publisher	Place of Publication	Publication Date *	Call Number
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Additional Information

How will this item be supplied?

- Please have library staff pull the material off the shelves
- I will bring the material to Priddy Library
- Please purchase this item and make it available to my students through course reserves

Notes:
Put any information here that may help us find the item, as well as any other pertinent information.

BOOK REQUEST #2

Back-end of the Course Reserve System



Login

Username

Password

Delete Request

All Columns are Sortable

			Req Date	Req #	Univ.	Sem.	Course	Author	Pub Date	Call #	Barcode
			02-23-15	738254	University of Maryland, Baltimore	Spring 2015	NURS418	Marianne Saunorus Baird, Susan Bethel	2011	RT120.I5 M3644 2011	31430058047723
			02-23-15	278369	University of Maryland, Baltimore County	Spring 2015	SOWK388	Debra Chasnoff	2011	MEDIA HQ1075.5.U6 S77 2011	31430056958467
			02-23-15	406535	University of Maryland, College Park	Spring 2015	CCJS461	Curt R. Bartol, Anne M. Bartol	December 31, 2012	HV6080 .B37 2012	
			02-23-15	382279	University of Maryland, College Park	Spring 2015	CCJS350	Siegel, L.J. and Welsh, B.C.	January 1, 2013	HV9104 .S534 2013	
			02-23-15	158230	University of Maryland, College Park	Spring 2015	PSYC353	Jeffrey S. Nevid, Ph.D., Spencer A. Rathus, Beverly Greene, Ph.D.	July 31, 2013		

Course Reserve System: Request View Page

Book Request # 738254 [02-23-2015]

PROFESSOR INFORMATION	Name: [REDACTED] Email: [REDACTED] Phone: [REDACTED] University: University of Maryland, Baltimore
COURSE INFORMATION	Course: NURS418, Introduction to Emergency & Trauma Semester: Spring 2015
BOOK INFORMATION	ISBN: Title: Manual of critical care nursing : nursing interventions and collaborative management Author: Marianne Saunorus Baird, Susan Bethel Edition: 6th ed Publisher: Place of Publication: Date of Publication: 2011 Call Number: RT120.I5 M3644 2011
ADDITIONAL INFORMATION	Loan Period: 2 hrs Supply Method: Purchase Item Notes:
LIBRARY INFORMATION	Barcode: 31430058047723 Order Date: 02-06-2015 Recall Date: 00-00-0000 Date Entered: 02-23-2015 Date Deleted: 00-00-0000 Professor's Copy: N Syllabi: N Comments: entered 02-23

Edit Request

Delete Request

Course Reserve System: Request Edit Page



The UNIVERSITIES
at Shady Grove

[LOGOUT](#)

Search by:

Article Request #

▼

[ARTICLE REQUESTS](#)

[BOOK REQUESTS](#)

[CHAPTER REQUESTS](#)

Book Request # 278369 [02-23-2015]

Search the Priddy Library catalog for book information: word/s anywhere

PROFESSOR INFORMATION

Last Name

First Name

Email

Phone
Number

(XXX-XXX-XXXX,
XXXXXXXXXX)

University

University of Maryland, Baltimore County ▼

COURSE INFORMATION

Semester

Spring ▼ 2015 ▼

Course
Title

Human Behavior & the Social Environment

Course
Number

SOWK388

Loan
Period

2 hrs 1 day

BOOK INFORMATION

Title

Straightlaced: how gender's got us all tied up

Author

Debra Chasnoff

ISBN

Edition

Place of

No Manual Course Reserve Form

RESERVES REQUEST FORM

FOR SHADY GROVE LIBRARY

Course Name & Number: BMGT 495 5121

Class Day(s) Room #: 3216

USM University: UMUC

Number of Students in Class: 10

Received By (Initials of Library Staff Member): _____

Instructor Name:

Contact numbers: (W)

(H) Cell:

(Email)

Semester: Fall 08

Loan Period: 3 HRS Other

List items for reserve with full citation. Reserves cannot be processed without a full citation. Each title of a journal article must be listed individually. Use the blank or attach a list if necessary.

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Signature of Instructor:

Date September 9, 2008

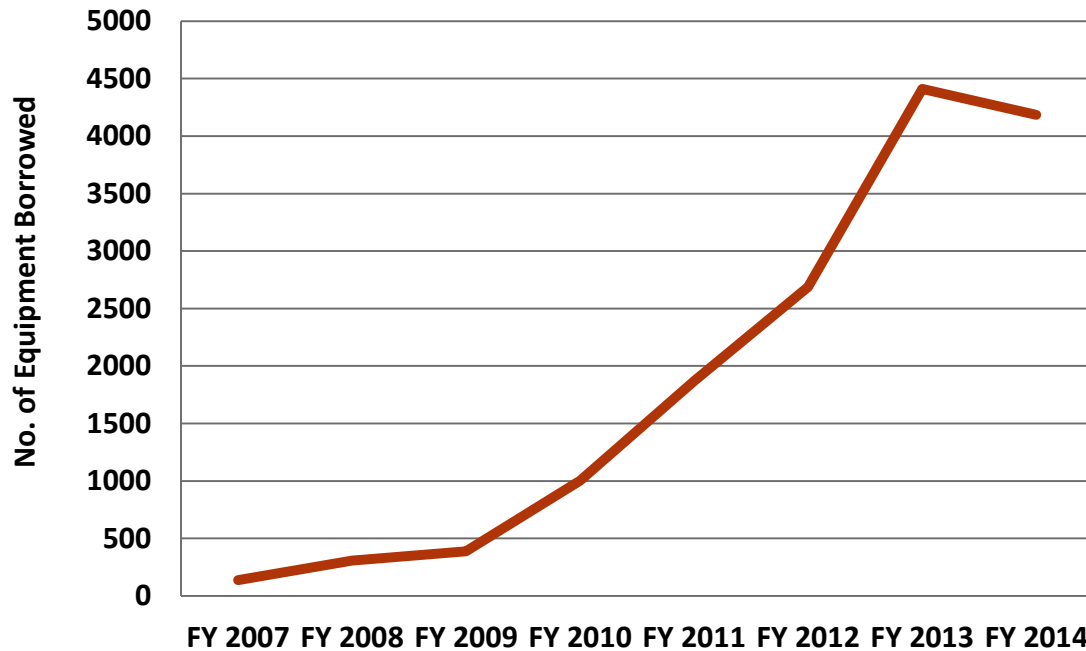
Course Reserve System

A product of collaboration with MIM Program

- One web interface for all 9 partner institutions
- Customized online course reserve system
- Efficient workflow
- Increased productivity

Why develop an Equipment Management System?

Increase in Equipment Borrowing



- Paper Agreement Form
- Reservation via email and/or phone
- Dealing with impatient faculty and student was problematic
- Difficulty in ensuring equipment availability when needed
- Efficient service with limited staffing challenging

For example...



The UNIVERSITIES
at Shady Grove

PRIDDY LIBRARY iPad LOAN AGREEMENT

THIS AGREEMENT, entered into this 5th day of November 2011, is between the Universities at Shady Grove Priddy Library (the "Library") and Elaine King a patron/student of the Library.

WHEREAS the Library is the owner of certain equipment, described in detail on the Equipment Loan Form, and made a part hereof;

WHEREAS the Library permits a patron/student to use Library-owned equipment;

WHEREAS the Library chooses to make available equipment to a patron/student;

WHEREAS the Library wishes to protect the value of equipment checked out to a patron/student;

NOW, THEREFORE, in consideration of the mutual promises and conditions set forth herein, the parties agree as follows:

The Library shall permit the patron/student to check out the iPad until the Library requests the iPad be returned, the patron/student chooses to return the iPad, or the patron/student's Library service is severed, whichever comes first. This time period shall hereinafter be referred to as the "Loan Period".

The patron/student is allowed to borrow the iPad for up to 7 days, the designated Loan Period.

A fine of \$10.00 per day is charged if the iPad is overdue.

A fine of \$40.00 is charged if the iPad is case is damaged or lost.

A fine of \$30.00 is charged if the iPad charger and cable is lost.

The lost iPad fine and replacement cost is \$550.00.

NOTE: Unless all items - case, charger, & cable are returned with the iPad, the lost iPad fine of \$550.00 will be charged.

The patron/student shall not upgrade or downgrade the capabilities of the equipment. The patron/student shall return the equipment to the Priddy Library in the same condition in which it was received. If the patron/student fails to return the equipment on time, he/she may be barred from borrowing equipment in the future.

In the event the Library-owned equipment is damaged due to negligence during the Loan Period, the patron/student shall be responsible for the replacement value and/or repair costs associated with the damage. The patron/student must report all damage(s) or malfunctions to the Library staff when returning the iPad.

In the event the Priddy Library-owned equipment is stolen during the Loan Period, the patron/student shall obtain a police report and turn it in to the Library.

The validity, interpretation and effect of the Agreement shall be governed by the laws of the State of Maryland.

This Agreement contains the entire understanding between the parties. All prior agreements and understandings, oral or otherwise, between the parties are superseded by this Agreement. No modification or amendment of this Agreement shall be effective unless the same shall be in writing, duly executed by all parties hereto.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed and effective on the date above-written.

UNIVERSITIES AT SHADY GROVE PRIDDY LIBRARY iPad INFORMATION

iPad Equipment Check List	Out	In
iPad # <u>27</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
iPad Charger # <u>21</u> w/USB <u>12</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Library ID # _____

Loan Receipt Attached

Patron/Student's Signature: [Signature]

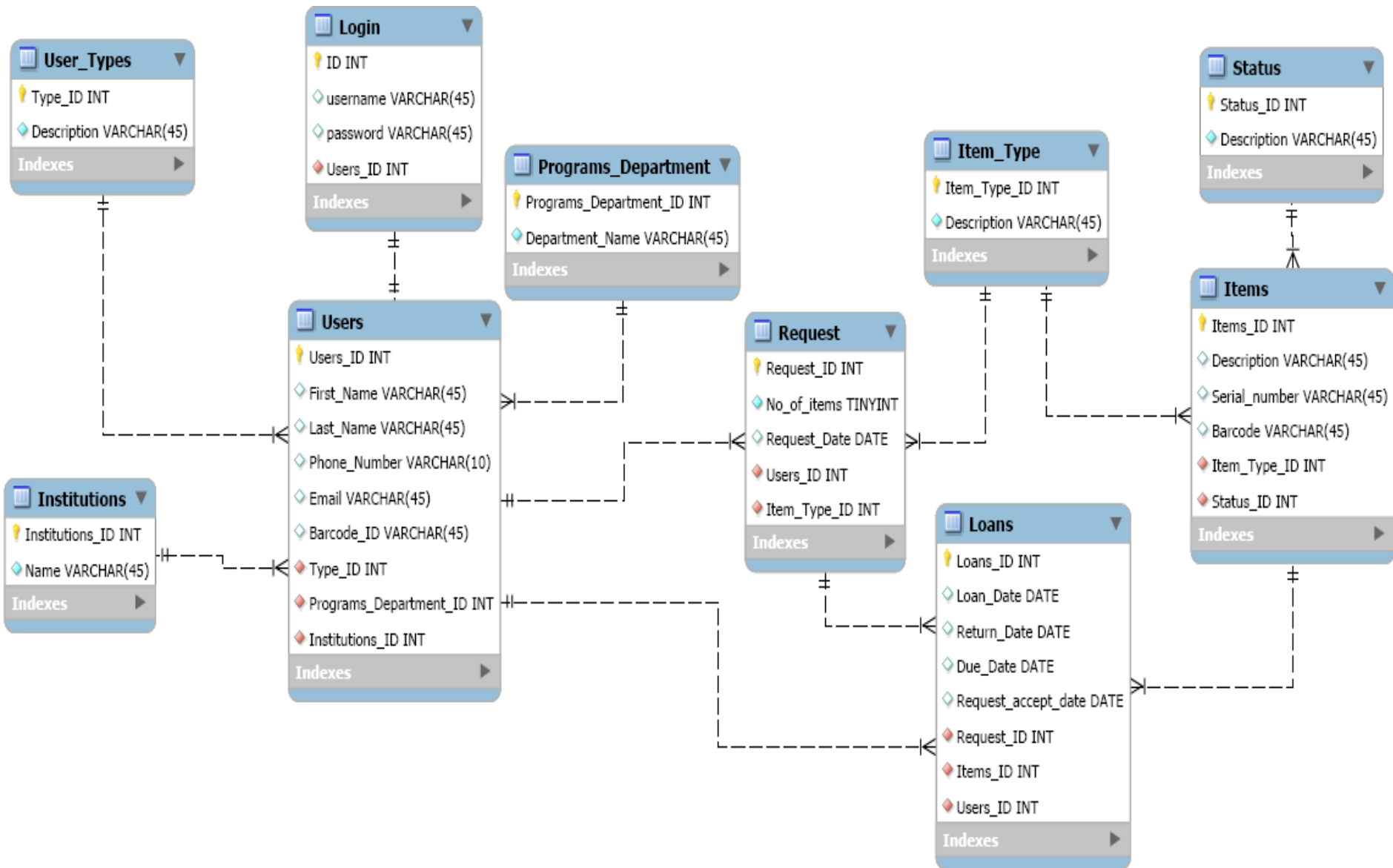
Staff Member's Name: Yareli Torres

Received: Staff Initials: OB Date: 11/14 Time: 330

How did we develop the Equipment Management System?

- Professional Development Pays Off - Staff member took advanced courses
- Brainstormed metadata fields needed in the dataset
- Online Equipment Reservation Form
- Staff mediated equipment booking - modify or delete reservation based on priority
- Patrons notification feature - upon equipment reservation
- Standalone product first, and then synced with ALEPH circulation
- Collaboration with OIT to host the EMS on Server
- Beta testing

Equipment Management System E-R Diagram



EQUIPMENT MANAGEMENT SYSTEM

Equipment Request Form

Autofill

Enter barcode and click "Autofill" if you've requested an equipment before

Item Type:	iPad ▾
Patron Barcode: *	Barcode Number
Click here to find your library barcode number	
First Name: *	First Name
Last Name: *	Last Name
Email: *	Enter a valid email address
Phone Number:	Enter 10 digit phone number
User Type:	Faculty ▾
Institution:	--Choose One-- ▾
Date needed: *	03/06/2015
No. Needed : * (Subject to availability)	1
<ul style="list-style-type: none">- Students can request only one iPad at a time- Faculty requests of multiple iPads should be made atleast one week in advance	
<input type="checkbox"/> I agree to the equipment loan terms and conditions	
<input type="button" value="Submit Request"/>	

Equipment Reservation System: For Staff Use

EQUIPMENT MANAGEMENT SYSTEM

LOGIN

SYSTEM LOGIN PAGE

LoginID:

Password:

Equipment Management System:

View Reservations

Search

First Name	Last Name	Barcode	Email	Phone	User Type	Institutions	Request Date	iPad/Laptop Requested	Action
					Undergrad	UMCP	2015-03-04	1	Details
					Undergrad	UMCP	2015-03-04	1	Details
					Other	UMCP	2015-03-04	1	Details
					Undergrad	UMUC	2015-03-04	1	Details
					Other	UMCP	2015-03-04	1	Details

Details: View Equipment Reservation & Loan Status

Description	Barcode	Loan Date	Return Date	Due Date	Request Date
iPad 2	31430050666223	2014-12-13	2014-12-20	2014-12-20	2014-12-13

Equipment Management System: Edit Page

LOG OFF	
Edit the Ipad Request Information	
Patron Barcode:	<input type="text"/>
Patron ID:	<input type="text"/>
First Name:	<input type="text"/>
Last Name:	<input type="text"/>
Email:	<input type="text"/>
Phone Number:	<input type="text"/>
User Type:	Undergrad ▼
Institution:	UMCP ▼
Date needed:	2015-03-04
Item Type:	iPad ▼
No. of Items :	1
<input type="button" value="Submit Request"/>	

EQUIPMENT MANAGEMENT SYSTEM

HOME REFRESH VIEW REQUESTS VIEW RESERVATIONS REPORTS ADMIN LOGOFF

Equipment Availability: Staff View

Barcode	Call No	Last Return	Loan Date	Due Date	User	Booking Start Date	Booking End Date
31430050665779	iPad 46	2015-03-03	2015-03-03	2015-03-10		-	-
31430050665787	iPad 47	2014-09-11	2014-09-11	2015-05-26		-	-
31430050665803	iPad 48	2015-01-22	2015-01-22	2015-05-26		-	-
31430050665811	iPad 49	2015-02-26	2015-02-26	2015-03-05		-	-
31430050666207	iPad 5	2015-02-26	-	-	-	-	-
31430050665829	iPad 50	2015-02-27	2015-02-27	2015-03-06		-	-
31430050666082	iPad 6	2015-02-18	-	-	-	-	-
31430050666009	iPad 7	2015-03-02	2015-03-04	2015-03-11		-	-
31430050666017	iPad 8	2015-01-15	-	-	-	-	-
31430050666090	iPad 9	2015-01-15	2015-01-26	2015-03-30		-	-
31430050663865	laptop#1	2015-03-04	-	-	-	-	-
31430050663899	laptop#2	2015-03-04	-	-	-	-	-

Equipment Management System: View Request Page

EQUIPMENT MANAGEMENT SYSTEM

HOME VIEW RESERVATIONS REFRESH LOGOFF

Equipment Requests

Search

Patron ID	Request ID	First Name	Last Name	Barcode	Email	Phone	User Type	Institutions	Request Date	Item Type Requested	No Of Items	Action
1279							Undergrad	UMCP	2015-03-04	Laptop	1	 

Equipment Management System: System Admin Page

MANAGE SYSTEM ITEMS

This Manages the items within the system.

MANAGE PROGRAMS/DEPARTMENT

This Manages the Program/Departments.

MANAGE ITEM TYPE

This section Manages Item Type.

MANAGE USER TYPE

This section manages User Types

MANAGE INSTITUTIONS









This section manages Institutions

MANAGE USERS

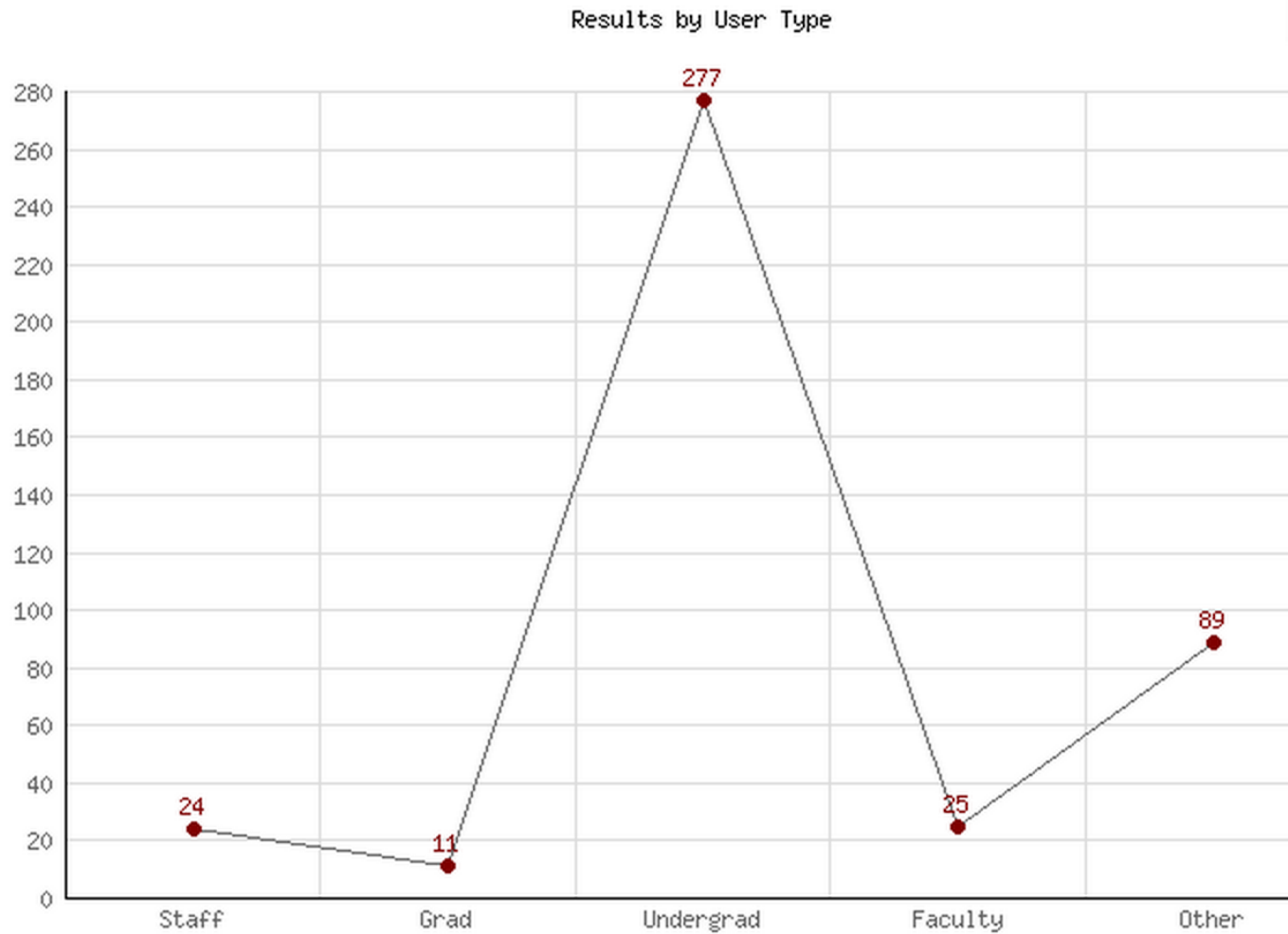
This section manages Users

Add/Change Item Information

Add New item

Item Barcode	Short Description	Serial Number	Item Type	EDIT	DELETE
31430050666025	iPad 32	160818	iPad		
31430050666108	iPad 10	160794	iPad		
31430050666223	iPad 2	160789	iPad		
31430050666132	iPad 20	160799	iPad		

Who is borrowing equipment?



Equipment Management System: A Product of Staff Initiative

- Online equipment reservation form
- View equipment availability in real time
- Increased demand for equipment
- Use of equipment integrated into curriculum
- Expedited work flow
- Staff productivity Increased

Why develop a solution for data collection?

Why develop a Statistics Solution?

- Manual data collection
- Ineffective workflow
- Data gathering time consuming
- Challenges of developing live reports
- Delayed decision making process

Tedious Data Entry Process...

Daily Circulation Statistics (MON - SUN)

MON DAY, DATE MAK 1, 2010

Hour	Patrons in the Library (Include Group Study RM & Exclude Computer Usage)	Computer Usage	# of Group Study Rooms Used		Reference Questions		
					Walk in	Phone	
1-9 am	### 5	1	1	11	2		
1-10 am	###-###-### 11	### ###	10	"	2		
10-11 am	### ### ### ### ###	### ### ###	10	###	5		
1-12 pm	### ### ### ### ###	### ### ###	13	###	5		1
2-1 pm	### ### ### ###	### ### ###	18	### ###	3	11	
2-2 pm	### ### ### ###	### ### ###	11	### 11	3	11	
3-3 pm	### ### ### ###	### ### ###	22	### 111	5	1	
4-4 pm	### ### ### ###	### ### ###	11	### 111	5	1	1
5-5 pm	### ### ### ###	### ### ###	23	### 11	X		
6-6 pm	### ### ### ###	### ### ###	23	### 111	8		
7-7 pm	### ### ### ###	### ### ###	24	### 111	8		
8-8 pm	### ### ### ###	### ### 11	12	### 11	7		
9-9 pm	### ### ### ###	### 4	4	###	5		
10-10 pm	### ### ### ###	### 4	4	###	5		
11-11 pm							
TOTALS							

Daily Equipment Usage		3M Gate Count 801018	One-on-One tutorials	Lib. Inst. by SG Lib	Lib. Inst. By USM
Headphone Usage					
TOTAL	11	Name			

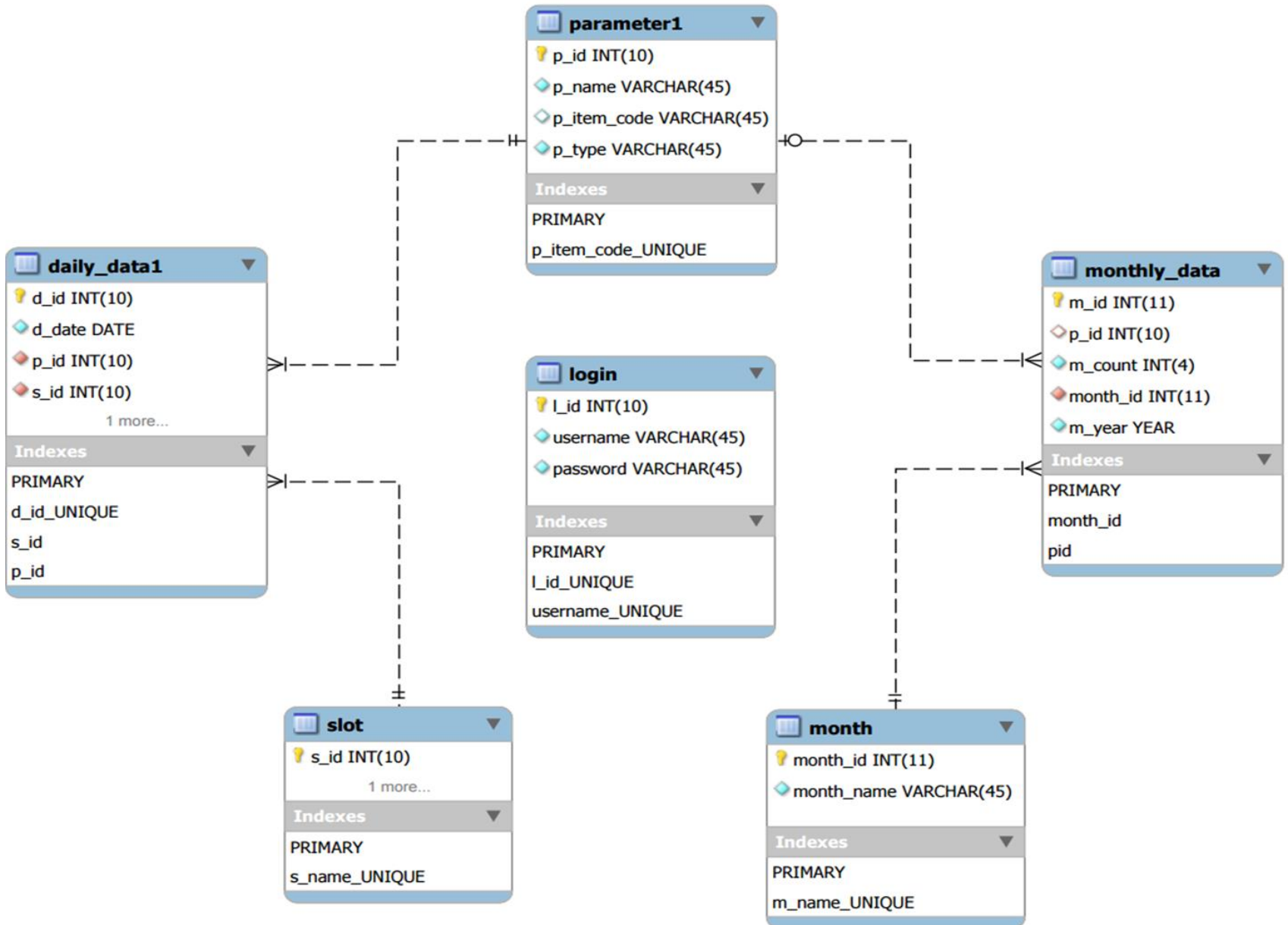
And Computing Process...

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
25	Mon - Fri Stats (October 2009)							Sat - Sun Stats (October 2009)							
26															
27	Hours	Patrons in the Library	Computer Usage	Total (Patrons in the Library)	# of Group Study Rooms Used	Reference Questions walk in	phone	Hours	Patrons in the Library	Computer Usage	Total (Patrons in the Library)	# of Group Study Rooms Used	Reference Questions walk in	phone	
28	8-9 am	137	99	236	33	0	1	9 - 10am	50	11	61	26	2	0	
29	9 - 10 am	327	192	519	78	10	6	10 - 11am	0	21	21	16	3	0	
30	10 - 11am	493	196	689	114	11	5	11 - 12 pm	6	30	36	22	5	1	
31	11 - 12 pm	545	212	757	122	11	5	12 - 1pm	89	51	140	32	2	0	
32	12 - 1 pm	674	289	963	122	14	2	1 - 2 pm	229	63	292	32	5	0	
33	1 - 2pm	961	404	1365	149	10	4	2 - 3pm	254	85	339	37	1	0	
34	2 - 3 pm	921	380	1301	152	11	1	3 - 4pm	254	77	331	29	0	1	
35	3 - 4 pm	1044	407	1451	166	9	2	4 - 5pm	217	64	281	31	2	0	
36	4-5 pm	1079	396	1475	163	6	3	5 - 6pm	203	52	255	29	1	0	
37	5 - 6 pm	1129	377	1506	156	7	1	6 - 7pm	92	29	121	13	0	0	
38	6 - 7pm	954	336	1290	150	7	2	7 - 8pm	87	33	120	10	0	0	
39	7 - 8 pm	843	292	1135	144	6	0	8 - 9pm	61	21	82	9	0	0	
40	8 -9pm	686	237	923	89	3	0	9 - 10pm	0	0	0	0	0	0	

How the Statistics Solution was developed?

- Brainstorming led to ideas for designing the statistics application
- Collaboration with a graduate assistant in developing the metadata fields and E-R-D
- iPad based statistics application for data collection

Statistics Solution: Entity Relationship Diagram



Statistics Solution

An iPad Based Data Collection Tool !

Select the task you want to perform

Enter Records



Enter Daily Data



Enter Monthly Data

View/Edit Records



View Records in Table



Generate Graphs

Select the task you want to perform

Hourly Data Collection

Select the date to enter the data

Enter Records

View/Edit Records



Enter Daily Data



View Records in Table



Enter Monthly Data



Generate Graphs



March 5 2015

Submit

March 5 2015

	General Area Users	Computer Usage	Number of Group Study Rooms	Group Study room users	Room 1200H Quiet Study Room
08:00 am-09:00 am	+ <input type="text"/> -	+ <input type="text"/> -	+ <input type="text"/> -	+ <input type="text"/> -	+ <input type="text"/> -
09:00 am-10:00 am	+ <input type="text"/> -	+ <input type="text"/> -	+ <input type="text"/> -	+ <input type="text"/> -	+ <input type="text"/> -
10:00 am-11:00 am	+ <input type="text"/> -	+ <input type="text"/> -	+ <input type="text"/> -	+ <input type="text"/> -	+ <input type="text"/> -
11:00 am-12:00 pm	+ <input type="text"/> -	+ <input type="text"/> -	+ <input type="text"/> -	+ <input type="text"/> -	+ <input type="text"/> -
12:00 pm-01:00 pm	+ <input type="text"/> -	+ <input type="text"/> -	+ <input type="text"/> -	+ <input type="text"/> -	+ <input type="text"/> -
01:00 pm-02:00 pm	+ <input type="text"/> -	+ <input type="text"/> -	+ <input type="text"/> -	+ <input type="text"/> -	+ <input type="text"/> -
02:00 pm-03:00 pm	+ <input type="text"/> -	+ <input type="text"/> -	+ <input type="text"/> -	+ <input type="text"/> -	+ <input type="text"/> -
03:00 pm-04:00 pm	+ <input type="text"/> -	+ <input type="text"/> -	+ <input type="text"/> -	+ <input type="text"/> -	+ <input type="text"/> -
04:00 pm-05:00 pm	+ <input type="text"/> -	+ <input type="text"/> -	+ <input type="text"/> -	+ <input type="text"/> -	+ <input type="text"/> -

Statistics Solution: Monthly Data View Page


Select the month to enter the data



October ▼ 2013 ▼

Submit

The following data has been submitted successfully for October 2013!

 [Edit Data](#)

Parameters	Count Values
Headphones Usage	231
Laptop and VGA Cables Usage	373
IPad Usage	125
Number of Materials Previewed	17
Number of Reshelfed Items Not on Loan	210
Number of Hours Library is Staffed	494
Number of General Loans	1767
Number of Reserve Loans	574
Number of Holds	312
Number of Materials Transferred	385
Number of Materials Returned	2097
Number of Person Passing Turnstile	39918
Library Instructions by SG Librarians	17

Select the type of view you want to generate



View by Date



View between Dates




View by Month



View by Year

Select the date to view the data


 From
 To

View the data for date between July 1, 2011 and June 30, 2012!

	Total Number of Patrons	General Area Users	Computer Usage	Number of Group Study Rooms	Group Study room users	Room 1200H Quiet Study
08:00 am-09:00 am	3956	2471	1446	379	0	39
09:00 am-10:00 am	8006	5210	2668	831	4	124
10:00 am-11:00 am	12567	8482	3874	1283	8	203
11:00 am-12:00 pm	16118	11234	4566	1496	16	302
12:00 pm-01:00 pm	21003	14833	5754	1869	18	398
01:00 pm-02:00 pm	23928	17332	6110	2073	16	470
02:00 pm-03:00 pm	25769	18868	6381	2195	9	511
03:00 pm-04:00 pm	27102	19747	6717	2188	12	626
04:00 pm-05:00 pm	28394	20614	7151	2248	9	620
05:00 pm-06:00 pm	25338	18595	6185	1945	0	558
06:00 pm-07:00 pm	22893	16823	5583	1817	0	487
07:00 pm-08:00 pm	18586	13746	4443	1528	0	397
08:00 pm-09:00 pm	16020	11812	3879	1371	0	329
09:00 pm-10:00 pm	11170	8195	2730	1008	0	245



View daily data
between dates

Select parameters to generate graphs



Parameter :

General Area Users

From

January

1

2015

To

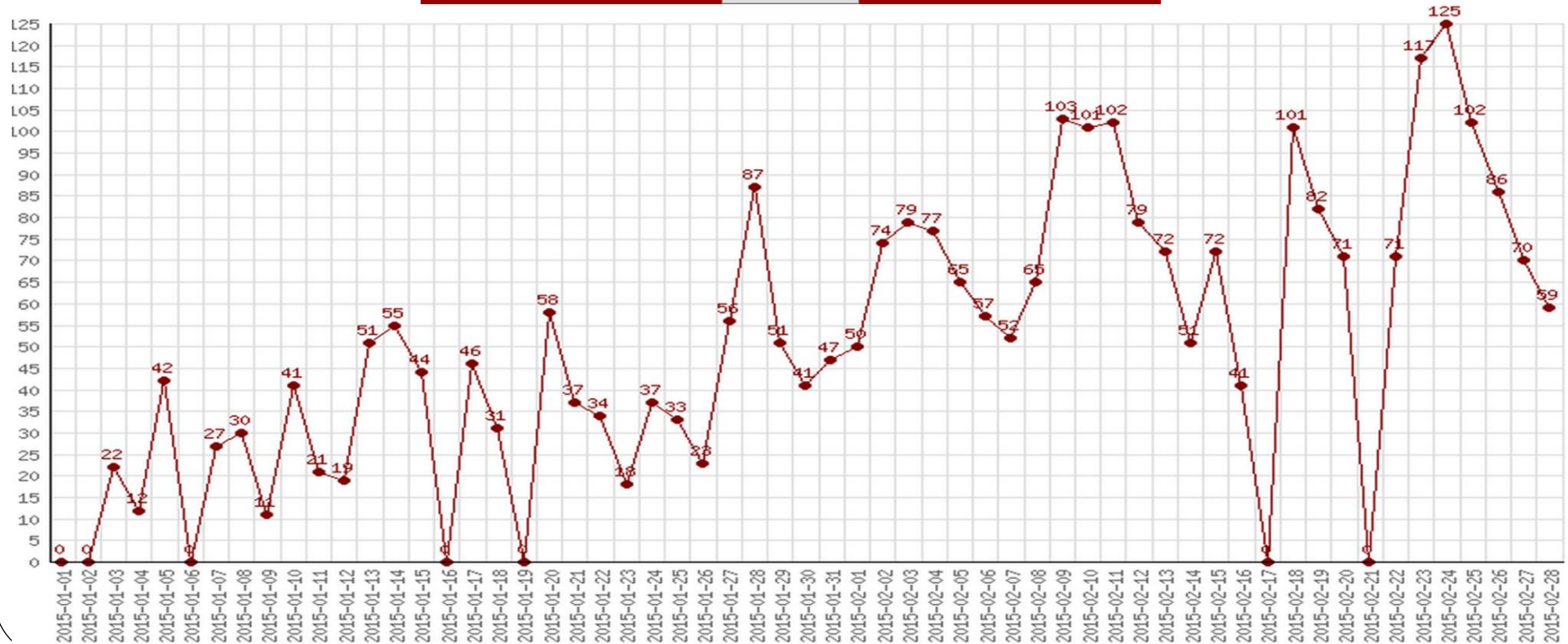
February

28

2015

Submit

Group Study Rooms





View daily/monthly
data over a year

Select the year to view the data



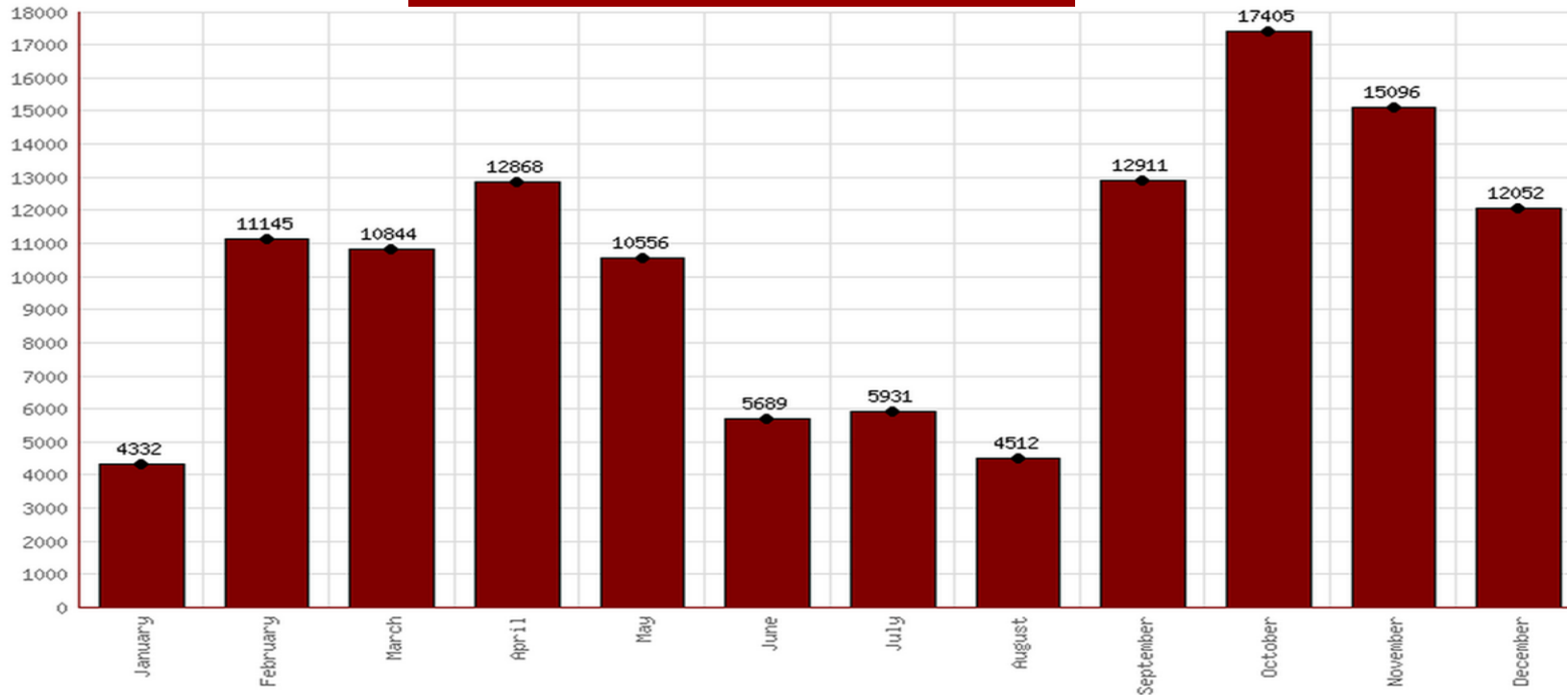
Parameter :

General Area Users

Year : 2014

Submit

General Area Users





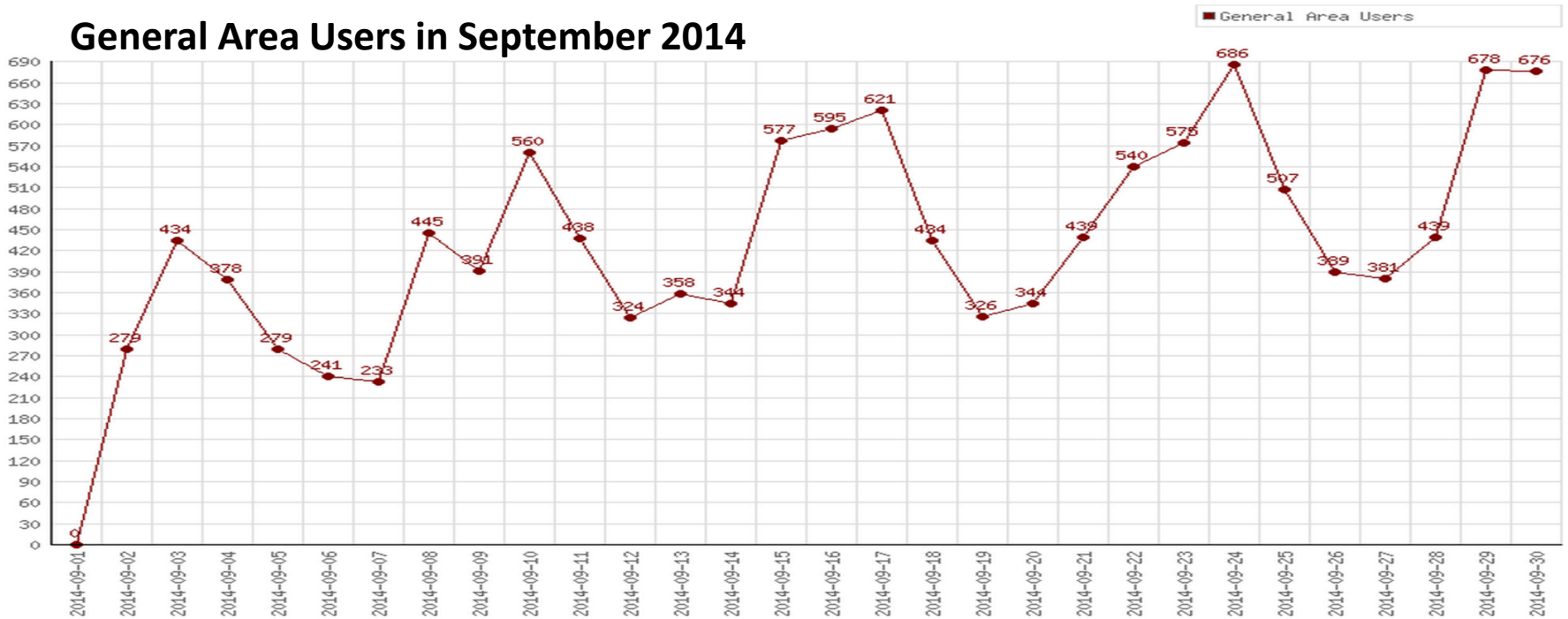
Select parameters to generate graphs



Parameter:
General Area Users
September 2014

Submit

General Area Users in September 2014



No Manual Data Collection!

Daily Circulation Statistics (MON - SUN) MON DAY. DATE MAK 1, 2010

Hours	Patrons in the Library (Include Group Study RM & Exclude Computer Usage)	Computer Usage	# of Group Study Rooms Used	Reference Desk	Questions Phone
8 am	5	1	11	2	
9-10 am	12	10	11	2	
10-11 am	11	10	11	5	
11-12 pm	13	13	11	5	1
12-1 pm	18	18	11	3	11
1-2 pm	11	11	11	3	11
2-3 pm	11	11	11	5	1
3-4 pm	11	11	11	5	1
4-5 pm	11	11	11	5	1
5-6 pm	11	11	11	5	1
6-7 pm	11	11	11	5	1
7-8 pm	11	11	11	5	1
8-9 pm	11	11	11	5	1
9-10 pm	11	11	11	5	1
10-11 pm	11	11	11	5	1
11-12 pm	11	11	11	5	1
TOTALS					

Daily Equipment Usage	3M Gate Count	One-on-One tutorials	Lib. Inst. by SG Library	Lib. Inst. by USM
Headphone Usage	801018			
AC	Name			

Good Bye Computing Process...

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	
25	Mon - Fri Stats (October 2009)								Sat - Sun Stats (October 2009)							
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32	12 - 1 pm	674	289	963	122	14	2	1 - 2 pm	209	63	292	32	5	0		
33	1 - 2pm	961	404	1365	149	10	4	2 - 3pm	254	85	339	37	1	0		
34	2 - 3 pm	921	380	1301	152	11	1	3 - 4pm	254	77	331	29	0	1		
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36	4-5 pm	1079	396	1475	163	6	3	5 - 6pm	203	52	255	29	1	0		
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38	6 - 7pm	954	336	1290	150	7	2	7 - 8pm	87	33	120	10	0	0		
39	7 - 8 pm	843	292	1135	144	6	0	8 - 9pm	61	21	82	9	0	0		
40	8 -9pm	686	237	923	89	3	0	9 - 10pm	0	0	0	0	0	0		

Evidence-Based Decision Making: Library Hours Extend

Library Hours Before 2008

Mon – Thursday	9:00 am - 9:00 pm
Friday & Saturday	9:00 am - 5:00 pm
Sunday	12:00 pm - 4:00 pm

Library Hours Now

Monday – Thursday	8:00 am - 2:00 am
Friday	8:00 am - 12:00 pm
Saturday	9:00 am - 10:00 pm
Sunday	12:00 pm - 2:00 am

Statistics Solution:

A Product of Initiative & Collaboration

- Online data gathering, streamlining the process
- Storage, retrieval as well as display of library usage data into a simple and user-friendly process
- Effective workflow: One-Stop-Shop
- Instant reporting
- Technology-savvy, cost-effective
- Facilitated evidence-based decision making

Benefits of Collaboration:

- Other Projects completed through cross organizational collaboration:
- Collaboration with UMBC Organizational Psychology Department - Environmental Scan
- Collaboration with faculty in communication program – Marketing Assignments (developing brochures, flyers, and video to market library services) Integrated in the course
- Library Website Usability Testing – To assess issues with the library website design in providing seamless access to information to faculty and students from nine institutions
- Other Projects In-Progress: Interactive Dashboard , Website Redesign, and Merged Service Desk Pilot Study
- Priddy Library is offering internship opportunities for the graduate students in iSchool – A great opportunity for students to gain valuable practical experience

User Research: Priddy Library Website Redesign

Pranali Shetty, (pshetty@umd.edu) 12/10/2014



COLLEGE OF
INFORMATION
STUDIES

PROJECT OVERVIEW

The Universities at Shady Grove (USG) Priddy Library serves the needs of students, faculty and staff from nine public universities of the State of Maryland. The Priddy Library serves all of them through the library's website. This mission presents several challenges:

- Current website is overcrowded with information and is not up-to-date.
- They are looking to redesign their current website

To do so, a thorough evaluation of their current website's features and functionality is essential. Further, understanding the user requirements and their experience with the current website would be a valuable insight.

Reference: <http://internships.mim.umd.edu/capstone-project/283-user-testing-library-website-redesign>

OBSERVATION



"Well.. I like the look, It has nice solid colors."

"Can I google it! This is frustrating I cant locate the journal..."

"Websites so not intuitive...No online reservation of rooms?!"

"So, I have used this site before and was taught in class how to look for journals...After that I found it pretty easy"

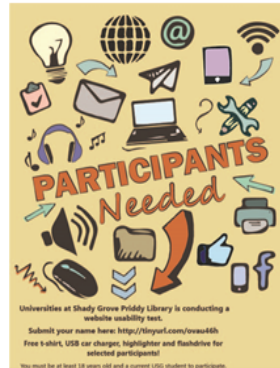
"This website is annoying. How can I not find a basic book?.. Why all the extra segregation!"

Source: <http://www.shutterstock.com/g/henaro>

USER RESEARCH

The techniques used to analyze the website contents and understand its usability along with the steps taken to achieve each one are as follows:

- ❖ Heuristic Evaluation
- ❖ Usability Study
 - Step 1: Design Usability Study Tasks
 - Step 2: Research and pick Usability Study Software (MORAE)
 - Step 3: Take IRB Certification
 - Step 4: Prepare IRB documents for approval.
 - Step 5: Create the user recruitment survey.
 - Step 6: Design the Flyers for the study.
 - Step 7: Schedule Users
 - Step 8: Usability set-up
 - Step 9: Conduct the Study, Post-Survey and Extract Data.



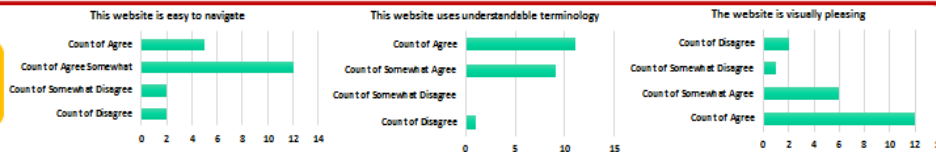
FINDINGS

- Good design and aesthetics.
- Terminology and data on the website is easy to understand and accurate.
- Easy to navigate if one knows how to use it.
- First time users find it very difficult to locate academic books and other journals.
- The structure used to locate academic resources is confusing.

RECOMMENDATIONS

- Train students how to locate the right resources.
- Provide an online video showing users how to locate various academic resources.
- Enhance functionality by adding an online room reservation system.
- Provide a general search bar for accessing all resources (books, journals etc.)
- Front page too crowded. Keep only bullet points and links.

PRELIMINARY ANALYSIS



Irene Munster, Director Priddy Library
Dr. Kathy Weaver, Instructor
Katherine Chan, Library Tech II
Toni Negro: Librarian
Sanjeevani Bhardwaj, Project Manager
Vikesh Chauhan, Graduate Asst. USG

SPECIAL THANKS!



Data (Library Report) Visualization

● Sarika S. Hegde, Prof. Kathy Weaver Faculty, Madhu Singh Investigator ●

ABOUT THE PRIDDY LIBRARY

- The Universities at Shady Grove encompasses nine universities from the University System of Maryland.
- The Priddy Library primarily supports the information and research needs of USG students, faculty, staff offering research assistance, library instructions, books, computers, equipment, and group study rooms, just to name a few.



PROJECT DESCRIPTION

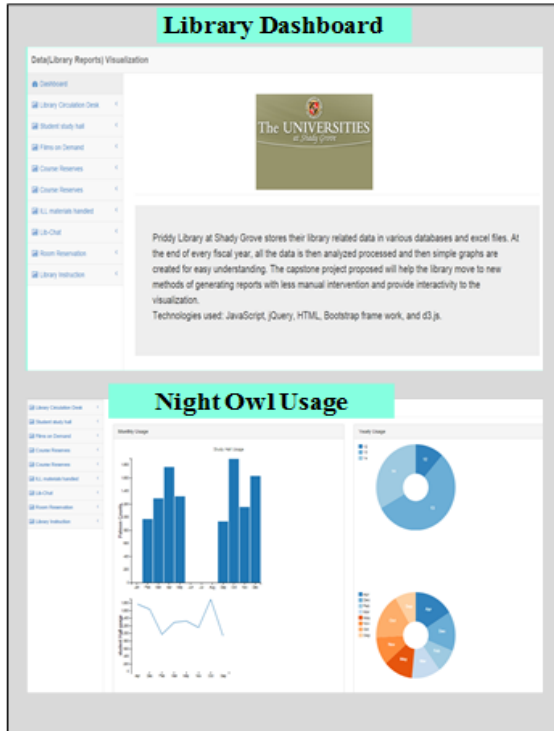
- The goal is to develop a web based application which will read the excel files and demonstrate the visualization based on the values.
- The project tasks would revolve around different library data sources on the spreadsheets. It will require setting up different variables that will help the library administration understand how the library resources are contributing towards students success.

TECHNOLOGIES USED

- D3.js
- dc.js
- crossfilter.js
- Bootstrap framework

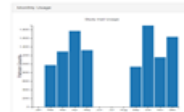
TASKS & DELIVERABLES

- Develop graphs, pie charts, bar charts and provide interactivity
- Lay down framework using bootstrap
- Integrate actual data in graphs



Dashboard components

Bar Graph



The bar chart is plotted with months (ordinal) in x axis and number of patrons in the Y axis

Pie Chart



The pie chart and bar chart interact using the renderlet function. The pie charts are developed using year and month dimension to aggregate patron number

Dashboard components

Line Graph



The line chart creates a representation of frequency of study hall usage across different months of the year

Data Table

Year	Month	Usage	Patrons
2015	Jan	10	15
2015	Feb	12	18
2015	Mar	15	22
2015	Apr	18	25
2015	May	20	28
2015	Jun	22	30
2015	Jul	25	35
2015	Aug	28	40
2015	Sep	30	45
2015	Oct	32	48
2015	Nov	35	50
2015	Dec	38	55

The data table will help display the data depending upon the selection in charts

ACCOMPLISHMENTS

- Implemented graphs and charts for two data sources
- Regularly took feedback from the library staff on the look and feel of the dashboard
- Named the variables and commented the code.

FUTURE SCOPE

- As of now the dashboard has code for navigation panel on every page, which can be replaced by the frames to reduce the lines of code.
- The line chart as of now displays data only for one fiscal year. The code can be worked on to include composite chart that can include more than one fiscal year data at a time.
- The existing charts can be used to complete the 8 other data sources.

Conclusions:

- Developed and implemented three Solutions with very little extra cost to the organization
- Opportunities for staff to grow professionally
- Library serve larger clientele with minimum staffing
- Improved library visibility across the organization
- Opportunities for students gain valuable real life experiences – more competitive for the job market

Resources

- Course Reserves System:
https://github.com/MadhuSingh/Reserves_System.git
- Equipment Management System:
https://github.com/MadhuSingh/Equipment_Management_System.git
- iPad-Based Statistics Application:
https://github.com/MadhuSingh/Statistics_Database.git

Acknowledgment

- Irene Munster – Priddy Library Director
- Dr. Gary White – Associate Dean, Univ. Maryland Libraries
- Dr. Vedat Diker – iSchool Faculty &
MIM Program Director at USG
- Dr. Kathy Weaver – iSchool Faculty
- Siddharth Chokasi – Graduate Student
- Rikin Prekh – Graduate Assistant
- Ambarish Dongre – Graduate Assistant
- Vikesh Chauhan – Graduate Assistant
- Abha Molri - Graduate Assistant
- Katie Chan – Libr. Technician (now at NLM)

THANK
YOU!

QUESTIONS?