Generating Collections of Summary Data on the Web with Built-in Navigation

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Common Institutional Research Problem

- We have lots of data.
- How do we make it available for others to see and use?

Publish data on the web

- It’s not difficult to put data on the web
- It is difficult to put a lot of data on the web in a way that people can find what they are looking for.

Institutional Summaries

- Starts with an automatically generated index page with links to sets of related reports:

Humboldt Institutional Summaries	
Applicants	Multi-year and to-date information about applicants
Enrolled Students	Multi-year census and to-date summaries of student registration
Student Demographics	Multi-year sex, age, origin, and ethnicity of Fall students

Each report has links to other reports in the set

Applicants Report Options	
Time frame	To-date Final
Semester	Fall Spring Summer Academic year
Cohort	Applicants Admits Confirmed Registered

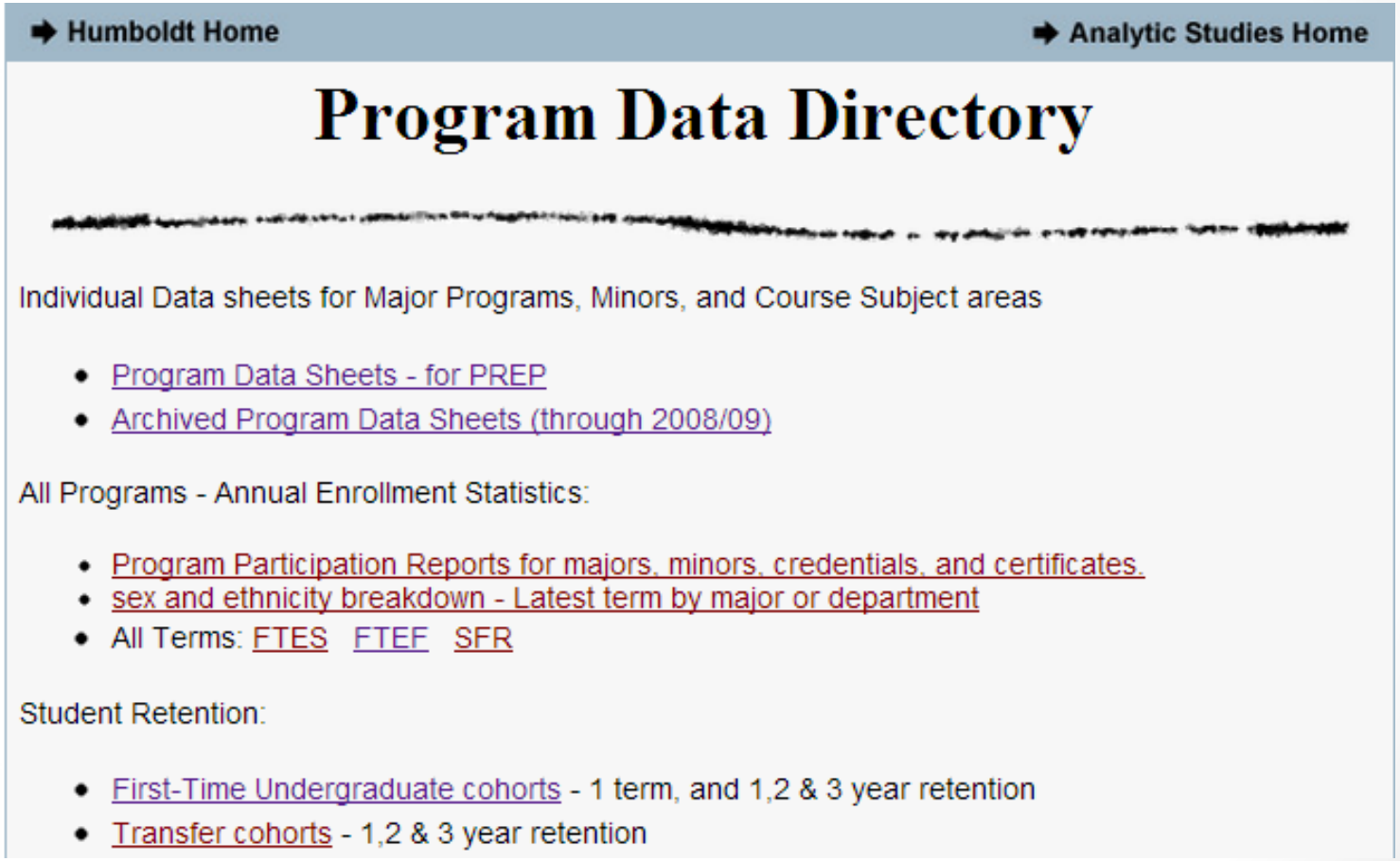
To-date Fall Applicants
report generated: 29-OCT-12

Applicant type	Fall 2006	Fall 2007	Fall 2008	Fall 2009	Fall 2010	Fall 2011	Fall 2012	Fall 2013
First-time UG	1,374	1,587	2,447	2,382	3,046	2,388	2,450	2,941
Lower-div xfer	66	66	91	68	143	1	112	12
Upper-div xfer	340	370	388	422	1,033	862	691	916
Returning UG	8	8	6	12	48	37	17	29
Masters	10	12	30	17	54	29	14	26
Credential	3	1	4	1	8	4	4	2
Second Bachelor	12	13	12	17	10	9		
Unclassified PB		1		2		3		1
Transitory		2	1					
Totals	**1,813**	**2,060**	**2,979**	**2,921**	**4,342**	**3,333**	**3,288**	**3,927**

Alternate approaches

- PDF files with HTML indexes
- Automated HTML files and indexes
- Interactive database-driven web reports

Example from our web site of HTML index page leading to…



➡ Humboldt Home ➡ Analytic Studies Home

Program Data Directory

Individual Data sheets for Major Programs, Minors, and Course Subject areas

- Program Data Sheets - for PREP
- Archived Program Data Sheets (through 2008/09)

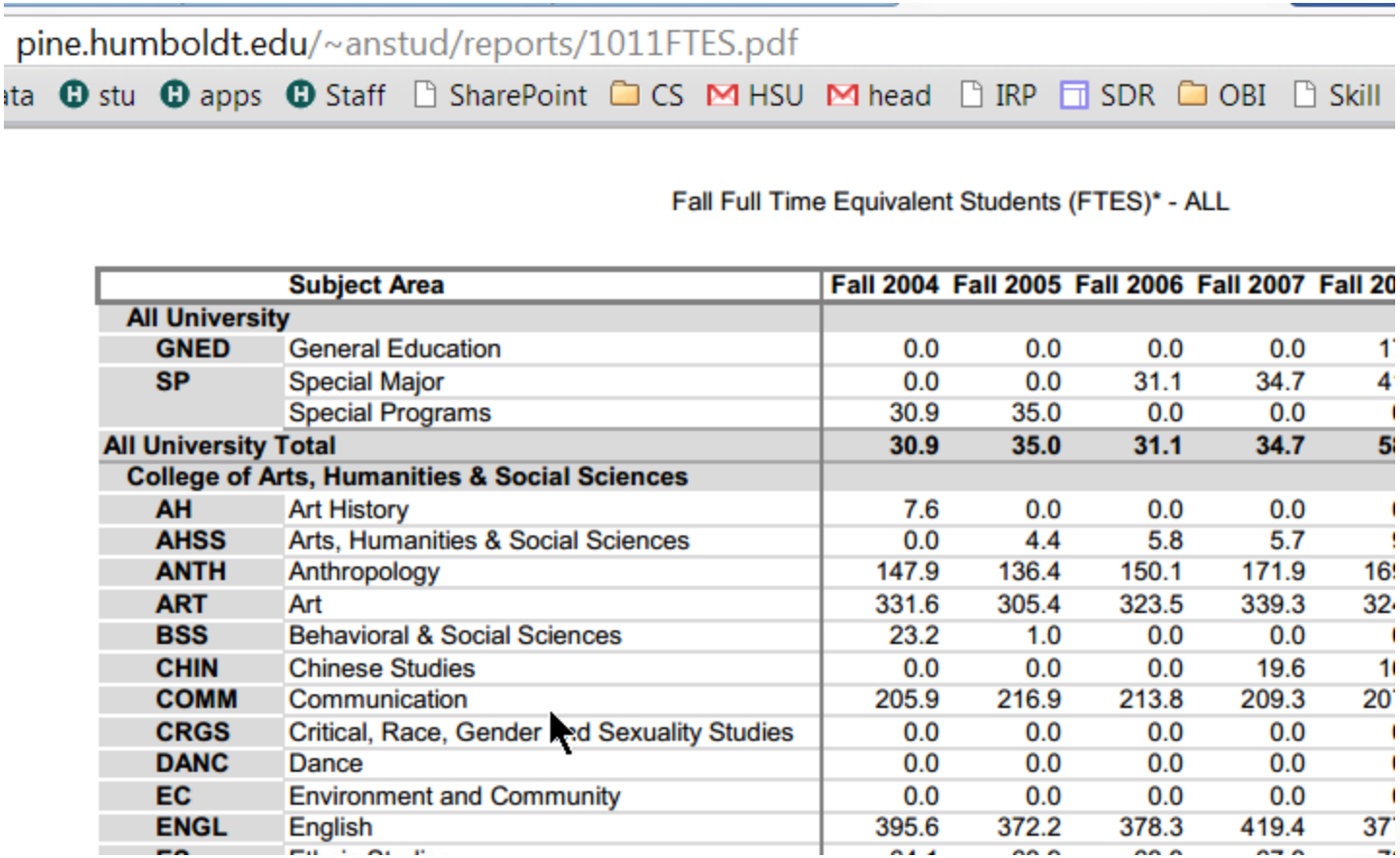
All Programs - Annual Enrollment Statistics:

- Program Participation Reports for majors, minors, credentials, and certificates.
- sex and ethnicity breakdown - Latest term by major or department
- All Terms: FTES FTEF SFR

Student Retention:

- First-Time Undergraduate cohorts - 1 term, and 1,2 & 3 year retention
- Transfer cohorts - 1,2 & 3 year retention

… a pdf file



Fall Full Time Equivalent Students (FTES)* - ALL

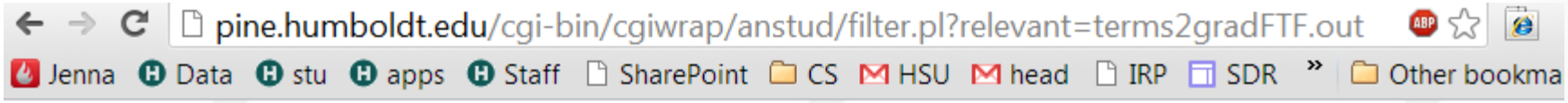
Subject Area		Fall 2004	Fall 2005	Fall 2006	Fall 2007	Fall 20
All University						
GNED	General Education	0.0	0.0	0.0	0.0	1
SP	Special Major	0.0	0.0	31.1	34.7	4
	Special Programs	30.9	35.0	0.0	0.0	
All University Total		**30.9**	**35.0**	**31.1**	**34.7**	**5**
College of Arts, Humanities & Social Sciences						
AH	Art History	7.6	0.0	0.0	0.0	
AHSS	Arts, Humanities & Social Sciences	0.0	4.4	5.8	5.7	
ANTH	Anthropology	147.9	136.4	150.1	171.9	16
ART	Art	331.6	305.4	323.5	339.3	32
BSS	Behavioral & Social Sciences	23.2	1.0	0.0	0.0	
CHIN	Chinese Studies	0.0	0.0	0.0	19.6	1
COMM	Communication	205.9	216.9	213.8	209.3	20
CRGS	Critical, Race, Gender and Sexuality Studies	0.0	0.0	0.0	0.0	
DANC	Dance	0.0	0.0	0.0	0.0	
EC	Environment and Community	0.0	0.0	0.0	0.0	
ENGL	English	395.6	372.2	378.3	419.4	37

PDF files and HTML indexes

- Every time you create a new report, you have to modify the index page.
- If you publish enough reports, it gets complicated to create index pages.
- PDF files are difficult to use in secondary analysis, such as Excel spreadsheets.

First step - automated production of HTML files

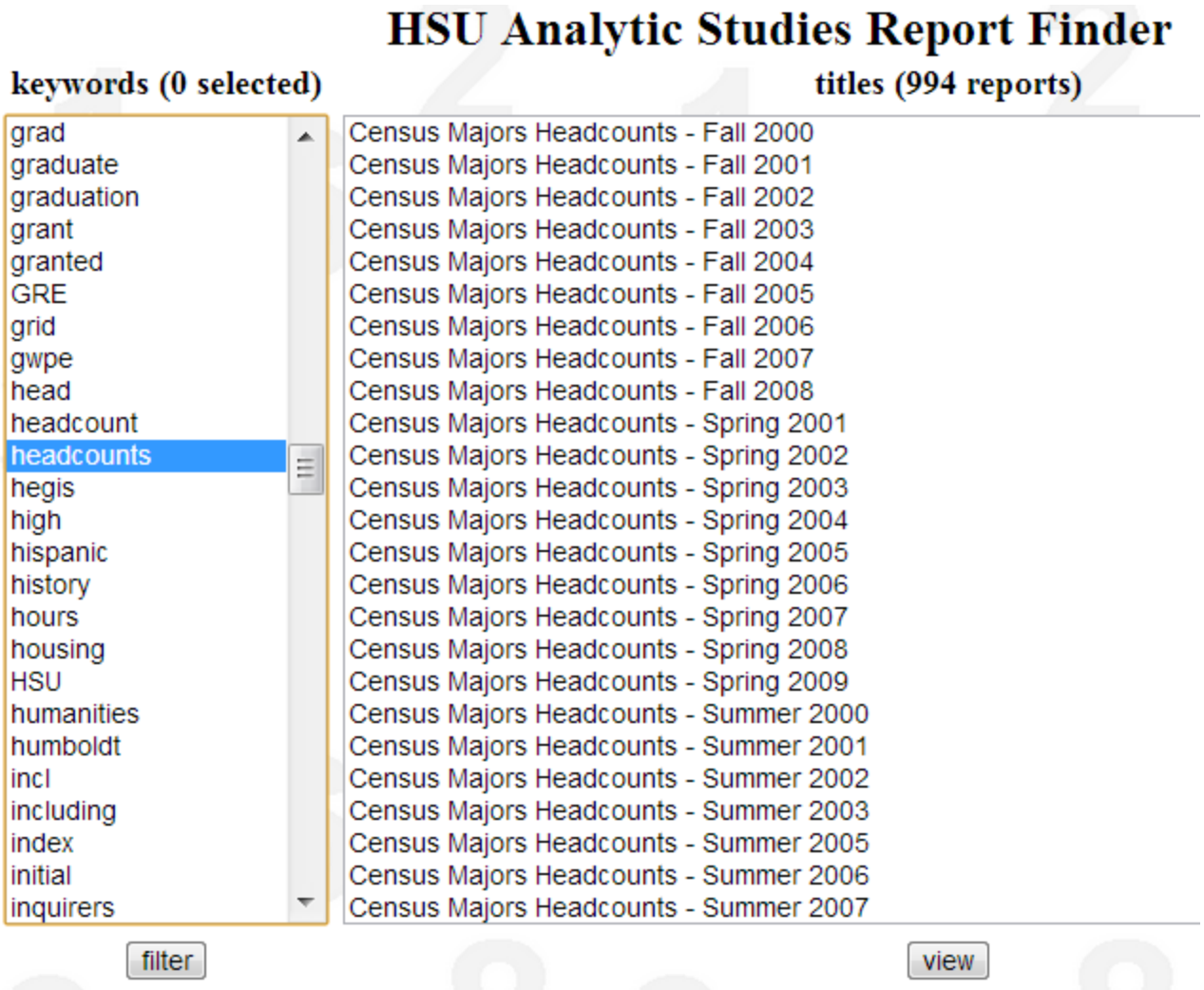
Server-side scripting (perl) to convert text output to HTML tables, instead of PDF files.



Freshmen Bachelor's Degree Summary from AY 05/06 through AY 08/09
terms2gradFTF report generated: 05-JAN-10

DEGREE	Total Degrees Granted	Average terms enrolled	Avg term Units	Avg Total Units
BA	1,029	10.1	15.1	149.9
BS	559	11.1	14.8	161.6

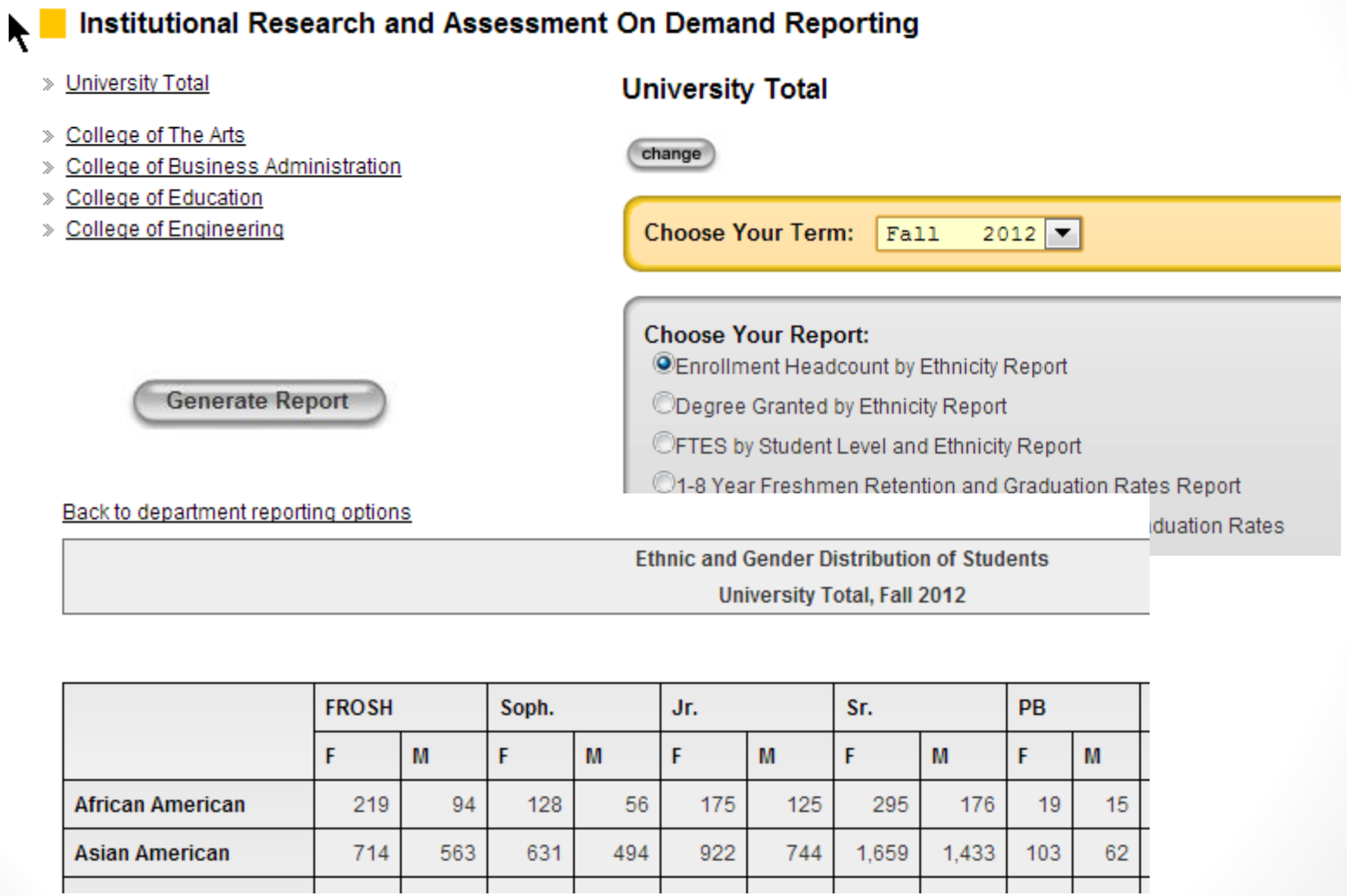
Second step - automated search



Problems with automated HTML and web page search

- Eventually too many files with similar names
- Difficulty of using the Search tool with too many keyword choices

Dynamic web reports



Institutional Research and Assessment On Demand Reporting

- University Total
- College of The Arts
- College of Business Administration
- College of Education
- College of Engineering

University Total

change

Choose Your Term: Fall 2012

Choose Your Report:

- Enrollment Headcount by Ethnicity Report
- Degree Granted by Ethnicity Report
- FTES by Student Level and Ethnicity Report
- 1-8 Year Freshmen Retention and Graduation Rates Report

duation Rates

Generate Report

Back to department reporting options

Ethnic and Gender Distribution of Students
University Total, Fall 2012

	FROSH		Soph.		Jr.		Sr.		PB	
	F	M	F	M	F	M	F	M	F	M
African American	219	94	128	56	175	125	295	176	19	15
Asian American	714	563	631	494	922	744	1,659	1,433	103	62

Dynamic web pages

- Some of these tools are expensive
- Complicated – have to connect a database to active web pages
- May be slow, while database initializes and runs queries
- User may have to specify parameters every time you want a particular report
- Usually, you can’t link to the data from an Excel spreadsheet

Features of Institutional Summaries

- Consistent interface and navigation
- Users can easily find very specific data
- Configured via a simple database
- The data being reported can come from flat files or relational/dimensional databases
- The output is a set of simple, static HTML pages
- Quick navigation - no server-side processing
- Can be automated to produce a large number of reports daily

HUMIS

- Index page www.humboldt.edu/anstud/
- Report pages
- Navigation block, options rows, and options
- Links to a number of related pages
- Since links work in combination, a small number of links allows you to navigate to many web pages (example: 9 links on Enrolled Student pages allows navigation to 96 reports.)

System to generate Institutional Summaries

- the HTML behind each web report page
- the SQL scripts that generate the data in the reports
- the configuration database
- the process that generates the web reports

HTML behind the web page

```
<!DOCTYPE html>
<HTML>
<HEAD><TITLE>Enrolled Students reports</TITLE></HEAD>
<LINK rel="stylesheet" type="text/css" href="genstyle.css">
<BODY>

<TABLE>
   <TR><TH COLSPAN=2> Enrolled Students Report Options</TH></TR>
   <TR><TH>Level</TH>
       <TD>All  
           <A HREF="enr-UFHTR.html">Undergrad</A>  
           <A HREF="enr-MFHTR.html">Masters</A>  
           <A HREF="enr-CFHTR.html">Credential</A>
       </TD>
   </TR>
   <TR><TH>Semester</TH>
       <TD>Fall  
           <A HREF="enr-ASHTR.html">Spring</A>
       </TD>
   </TR>
</TABLE>

<TABLE width=100%>
   <TR> <TH colspan=20> Fall Headcount To-date by Student type</TH> </TR>
   <TR> <TH> Student type</TH> <TH> Fall 05</TH> <TH> Fall 06</TH> <TH> Fall 07</TH> </TR>
   <TR> <TH> Continuing  </TH> <TD>   5,027</TD> <TD>   4,832</TD> <TD>   4,903</TD> </TR>
   <TR> <TH> Returning   </TH> <td>      91</TD> <TD>     110</TD> <TD>     109</TD> </TR>
</TABLE>

</BODY>
</HTML>
```

Oracle SQL to create the report

```
SELECT sex,
       sum(case when term='2054' then hc end) f2005,
       sum(case when term='2064' then hc end) f2006,
       sum(case when term='2074' then hc end) f2007,
       sum(case when term='2084' then hc end) f2008,
       sum(case when term='2094' then hc end) f2009,
       sum(case when term='2104' then hc end) f2010,
       sum(case when term='2114' then hc end) f2011,
       sum(case when term='2124' then hc end) f2012
FROM dm_erss
WHERE semester = 'Fall'
GROUP BY sex
ORDER BY sex;
```

SEX	F2005	F2006	F2007	F2008	F2009	F2010	F2011	F2012
F	4107	4115	4199	4230	4358	4295	4323	4356
M	3353	3319	3573	3570	3596	3608	3723	3760
sum	7460	7434	7772	7800	7954	7903	8046	8116

HUMIS database

- Data sources (view)
- Configuration tables
- Options and report parameters
- Queries/views
- Functions
- Report generation
- Future enhancements

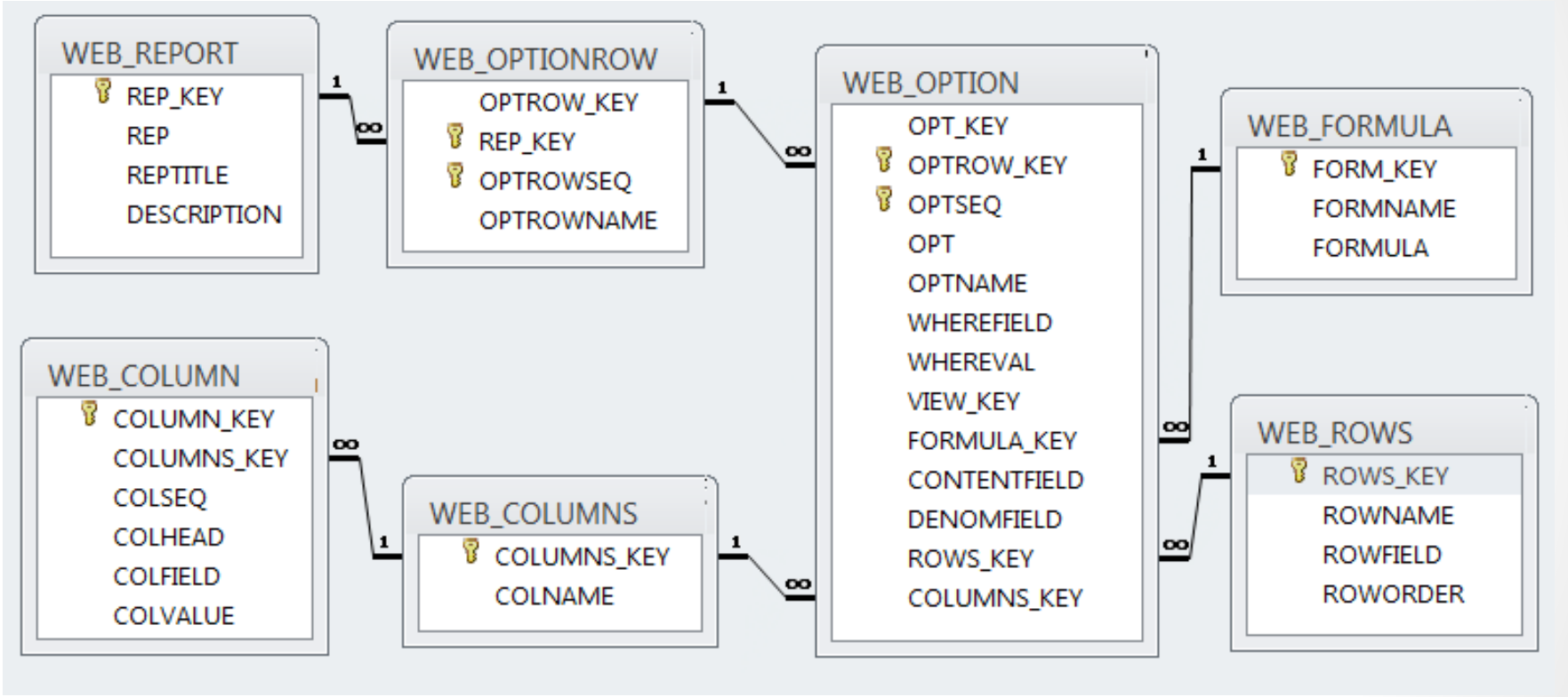
Sample data source

app_td

TERM	SEMESTER	ACADYEAR	APPTYPE	APPTYPENO	HCAPP	HCADMIT	HCCONFIRM	HCREG	AFTERCENSUS
2072	Spring	2006	Transitory	10:	1	1	0	0	Y
2062	Spring	2005	Masters	06:	1	0	0	0	Y
2092	Spring	2008	Second Bachelor	08:	1	0	0	0	Y
2052	Spring	2004	Masters	06:	1	0	0	0	Y
2082	Spring	2007	Upper-div xfer	03:	1	0	0	0	Y
2052	Spring	2004	Masters	06:	1	0	0	0	Y
2132	Spring	2012	Second Bachelor	08:	1	0	0	0	
2072	Spring	2006	Masters	06:	1	0	0	0	Y
2092	Spring	2008	Second Bachelor	08:	1	1	0	0	Y
2092	Spring	2008	Second Bachelor	08:	1	0	0	0	Y
2122	Spring	2011	Masters	06:	1	0	0	0	Y
2054	Fall	2005	Transitory	10:	1	0	0	0	Y
2122	Spring	2011	Second Bachelor	08:	1	0	0	0	Y
2112	Spring	2010	Returning UG	05:	1	0	0	0	Y
2074	Fall	2007	Masters	06:	1	0	0	0	Y
2082	Spring	2007	Masters	06:	1	0	0	0	Y
2112	Spring	2010	Returning UG	05:	1	0	0	0	Y
2082	Spring	2007	Credential	07:	1	0	0	0	Y
2074	Fall	2007	Returning UG	05:	1	0	0	0	Y
2062	Spring	2005	Unclassified PB	09:	1	0	0	0	Y
2104	Fall	2010	Returning UG	05:	1	0	0	0	Y
2082	Spring	2007	Second Bachelor	08:	1	1	0	0	Y
2084	Fall	2008	Masters	06:	1	0	0	0	Y
2092	Spring	2008	Returning UG	05:	1	0	0	0	Y
2092	Spring	2008	Returning UG	05:	1	1	0	0	Y

Record: 1 of 37334 No Filter Search

Configuration tables



WEB_REPORT table and option rows

WEB_REPORT

REP_KEY	REP	REPTITLE	DESCRIPTION
2	enr	Enrolled Students	Multi-year census and to-date summaries of student registration
3	app	Applicants	Multi-year and to-date information about applicants
4	demo	Student Demographics	Multi-year sex, age, origin, and ethnicity of Fall students
(New)			

WEB_REPORT

REP_KEY	REP	REPTITLE	DESCRIPTION
2	enr	Enrolled Students	Multi-year census and to-date summaries of student registration
3	app	Applicants	Multi-year and to-date information about applicants

OPTROWSEQ	OPTROWNAM	*Click to Add*
1	Time frame	
2	Semester	
3	Cohort	
4	Rows	
5		
6		
7		
0		

REP_KEY	REP	REPTITLE	DESCRIPTION
4	demo	Student Demographics	Multi-year sex, age, origin, and ethnicity of Fall students

web_formula table

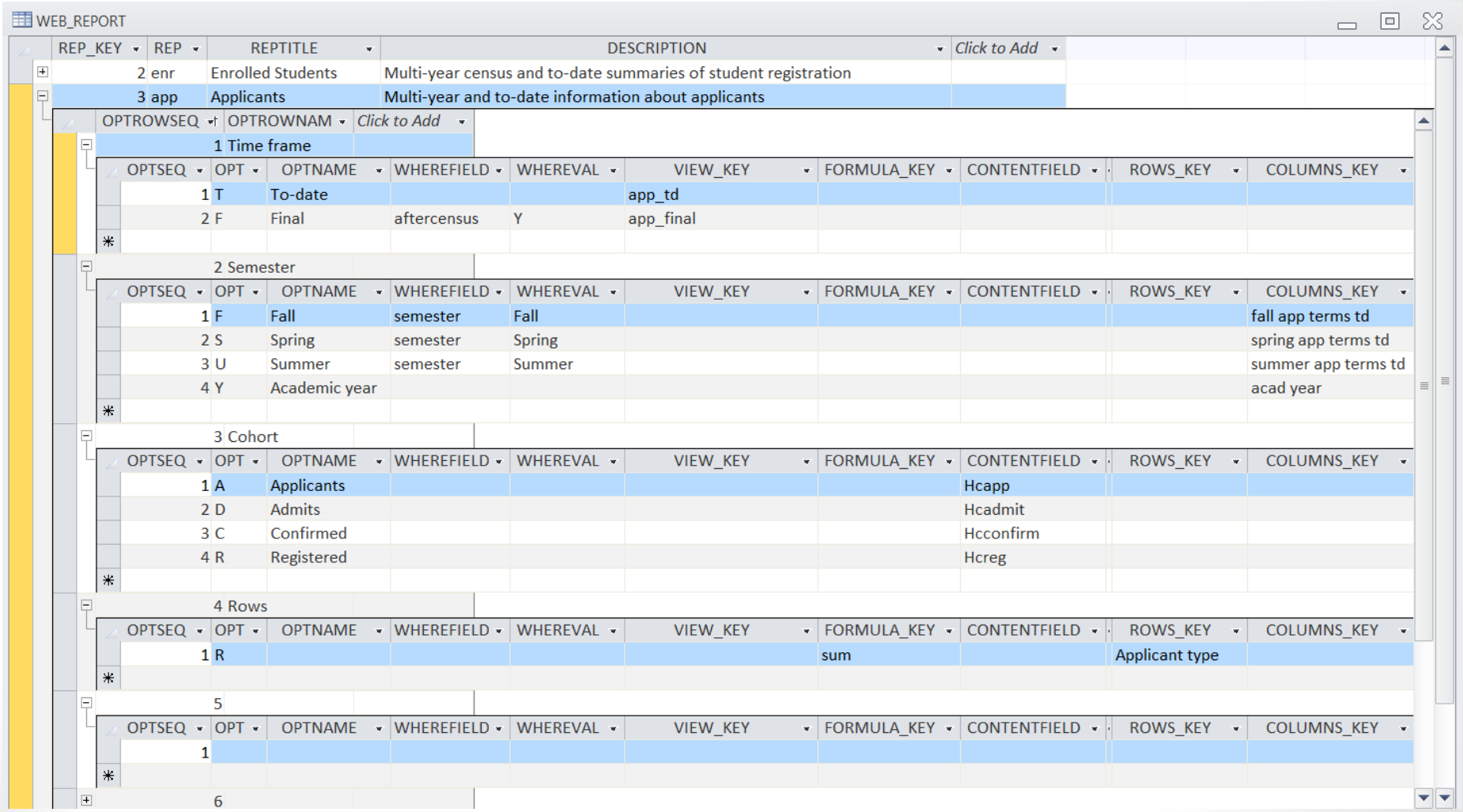
```
SELECT sex,
       sum(case when term='2054' then hc end) F2005,
            ...
FROM  dm_erss
WHERE semester = 'Fall'
GROUP BY sex
ORDER BY sex

SELECT <rowfield>,
       sum(case when <colfield>=‘<colvalue>' then <contentfield> end) “<colhead>”
            ...
FROM  <viewname>
WHERE <wherefield> = ‘<whereval>‘ ...
GROUP BY <rowfield>
ORDER BY <roworder>
```

WEB_FORMULA

	F	FORMNAME	FORMULA
⊞	1	sumAccess	'<td>' & sum(iif(<colfield>='<colvalue>',<contentfield>)) & '</td>' as [<colhead>]
⊞	2	avg.2	'<td>'||to_char(sum(case when <colfield>='<colvalue>' then <contentfield> end) / sum(case
⊞	3	sum	'<td>'||to_char(sum(case when <colfield>='<colvalue>' then <contentfield> end),'99,999')||'
⊞	4	avgAccess	'<td>' & sum(iif(<colfield>='<colvalue>',<contentfield>)) / sum(iif(<colfield>='<colvalue>',<de
⊞	5	avg.1	'<td>'||to_char(sum(case when <colfield>='<colvalue>' then <contentfield> end) / sum(case
*		lew)	

Options and report parameters



WEB_REPORT

REP_KEY	REP	REPTITLE	DESCRIPTION	Click to Add
2	enr	Enrolled Students	Multi-year census and to-date summaries of student registration	
3	app	Applicants	Multi-year and to-date information about applicants	

OPTROWSEQ	OPTROWNAM	Click to Add
1	Time frame	

OPTSEQ	OPT	OPTNAME	WHEREFIELD	WHEREVAL	VIEW_KEY	FORMULA_KEY	CONTENTFIELD	ROWS_KEY	COLUMNS_KEY
1	T	To-date			app_td				
2	F	Final	aftercensus	Y	app_final				

OPTROWSEQ	OPTROWNAM
2	Semester

OPTSEQ	OPT	OPTNAME	WHEREFIELD	WHEREVAL	VIEW_KEY	FORMULA_KEY	CONTENTFIELD	ROWS_KEY	COLUMNS_KEY
1	F	Fall	semester	Fall					fall app terms td
2	S	Spring	semester	Spring					spring app terms td
3	U	Summer	semester	Summer					summer app terms td
4	Y	Academic year							acad year

OPTROWSEQ	OPTROWNAM
3	Cohort

OPTSEQ	OPT	OPTNAME	WHEREFIELD	WHEREVAL	VIEW_KEY	FORMULA_KEY	CONTENTFIELD	ROWS_KEY	COLUMNS_KEY
1	A	Applicants					Hcapp		
2	D	Admits					Hcadmit		
3	C	Confirmed					Hcconfirm		
4	R	Registered					Hcreg		

OPTROWSEQ	OPTROWNAM
4	Rows

OPTSEQ	OPT	OPTNAME	WHEREFIELD	WHEREVAL	VIEW_KEY	FORMULA_KEY	CONTENTFIELD	ROWS_KEY	COLUMNS_KEY
1	R					sum		Applicant type	

OPTROWSEQ
5

OPTSEQ	OPT	OPTNAME	WHEREFIELD	WHEREVAL	VIEW_KEY	FORMULA_KEY	CONTENTFIELD	ROWS_KEY	COLUMNS_KEY
1									

OPTROWSEQ
6

web_rows and web_column(s)

WEB_ROWS

ROWS_KEY	ROWNAME	ROWFIELD	ROWORDER
1	Student type	stype	stutype
2	Applicant type	apptype	apptypeno
3	Class	stulev	stulevel
4	Ethnicity	citeth_erss	citethno
5	Origin	reg	region
6	Original division	origdivision	origdivno
7	Program	program	program
(New)			

WEB_COLUMNS

COLUMNS_KEY	COLNAME
1	acad year
2	spring student terms
3	fall student terms
4	fall app terms td
5	spring app terms td
6	summer app terms td
7	fall app terms final
8	spring app terms final
9	summer app terms final
(New)	

WEB_COLUMN

COLUMNS_KEY	COLSEQ	COLHEAD	COLFIELD	COLVALUE
fall app terms td	1	Fall 2006	term	2064
fall app terms td	2	Fall 2007	term	2074
fall app terms td	3	Fall 2008	term	2084
fall app terms td	4	Fall 2009	term	2094
fall app terms td	5	Fall 2010	term	2104
fall app terms td	6	Fall 2011	term	2114
fall app terms td	7	Fall 2012	term	2124
fall app terms td	8	Fall 2013	term	2134
fall student terms	1	Fall 05	term	2054
fall student terms	2	Fall 06	term	2064

Queries/Views

- options – all options: join report, optionrow, and option tables
- pages – all web pages: join options together seven times
- pageoptions – joins options and pages
- params – group Pageoptions on page to find report parameters
- links – join pageoptions to options to get all links to other reports for each page.
- calc – join web_column to params to produce SQL formulas need to generate data tables

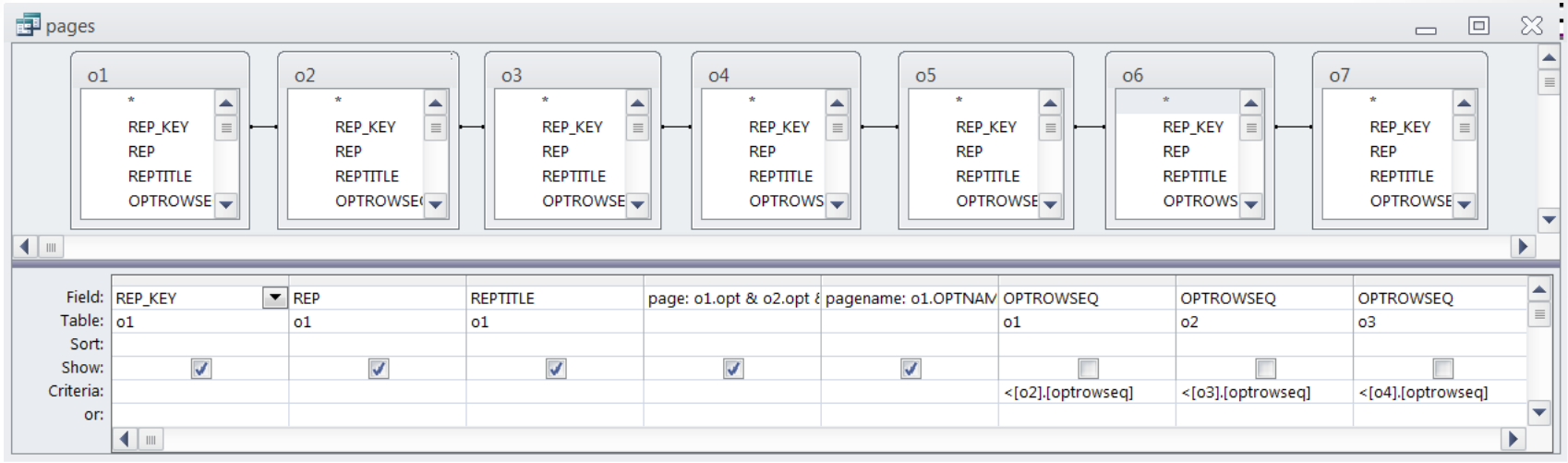
options query

options

REP_KEY	REP	REPTITLE	OPTROWSEQ	OPTROWNAM	OPTROW_KEY	OPTSEQ	OPT	OPTNAME	WHEREFIELD	WHEREVAL	VIEW_KEY
2	enr	Enrolled Students	4	Time frame	Time frame	1	T	To-date			web_student_td
2	enr	Enrolled Students	4	Time frame	Time frame	2	C	at Census			dm_erss
2	enr	Enrolled Students	2	Semester	Semester	1	F	Fall	Semester	Fall	
2	enr	Enrolled Students	2	Semester	Semester	2	S	Spring	Semester	Spring	
2	enr	Enrolled Students	3	Contents	Contents	1	H	Headcount			
2	enr	Enrolled Students	3	Contents	Contents	2	F	FTE			
2	enr	Enrolled Students	3	Contents	Contents	3	R	resident HC			
2	enr	Enrolled Students	3	Contents	Contents	4	S	resident FTE			
2	enr	Enrolled Students	3	Contents	Contents	5	U	unit load			
2	enr	Enrolled Students	1	Level	Level	1	A	All			
2	enr	Enrolled Students	1	Level	Level	2	U	Undergrad	career	UGRD	
2	enr	Enrolled Students	1	Level	Level	3	M	Masters	masters	Y	
2	enr	Enrolled Students	1	Level	Level	4	C	Credential	pbcred	Y	
2	enr	Enrolled Students	5	Rows	Rows	0	R	by Student type			
2	enr	Enrolled Students	6			1					
3	app	Applicants	1	Time frame	Time frame	1	T	To-date			sa.web_app_td_mat
3	app	Applicants	1	Time frame	Time frame	2	F	Final	aftercensus	Y	sa.web_app_cen_m
3	app	Applicants	2	Semester	Semester	1	F	Fall	semester	Fall	
3	app	Applicants	2	Semester	Semester	2	S	Spring	semester	Spring	
3	app	Applicants	2	Semester	Semester	3	U	Summer	semester	Summer	
3	app	Applicants	2	Semester	Semester	4	Y	Academic year			
3	app	Applicants	3	Cohort	Cohort	1	A	Applicants			
3	app	Applicants	3	Cohort	Cohort	2	D	Admits			

Record: 1 of 46 Unfiltered Search

pages query



pages

REP_KEY	REP	REPTITLE	page	pagename
2	enr	Enrolled Students	AFHTR	All Fall Headcount To-date by Student type
2	enr	Enrolled Students	AFHCR	All Fall Headcount at Census by Student type
2	enr	Enrolled Students	AFFTR	All Fall FTE To-date by Student type
2	enr	Enrolled Students	AFFCR	All Fall FTE at Census by Student type
2	enr	Enrolled Students	AFRTR	All Fall resident HC To-date by Student type
2	enr	Enrolled Students	AFRCR	All Fall resident HC at Census by Student type
2	enr	Enrolled Students	AFSTR	All Fall resident FTE To-date by Student type
2	enr	Enrolled Students	AFSCR	All Fall resident FTE at Census by Student type
2	enr	Enrolled Students	AFUTR	All Fall unit load To-date by Student type

Record: 1 of 208 Unfiltered Search

links query and function

links

REP	page	link	OPTROWNAME	OPTNAME	option
app	FFAR	FUAR	Semester	Summer	Summer
app	FFAR	FFRR	Cohort	Registered	Registered
app	FFAR	FFCR	Cohort	Confirmed	Confirmed
app	FFAR	FFDR	Cohort	Admits	Admits
app	FFAR	FFAR	Cohort	Applicants	Applicants
app	FFAR	FYAR	Semester	Academic yea	Academic year
app	FFAR	FFAR	Rows		
app	FFAR	FSAR	Semester	Spring	Spring
app	FFAR	FFAR	Semester	Fall	Fall
app	FFAR	FFAR	Time frame	Final	Final
app	FFAR	TFAR	Time frame	To-date	To-date
app	FFCR	FFAR	Cohort	Applicants	Applicants
app	FFCR	FYCR	Semester	Academic yea	Academic year

Record: 1 of 2912 No Filter Search

function weblinks uses links query

- accepts repkey, page, and rowseq as parameters
- returns a row from the navigation block, including HTML tags
- returns nothing if there is only one option on this row

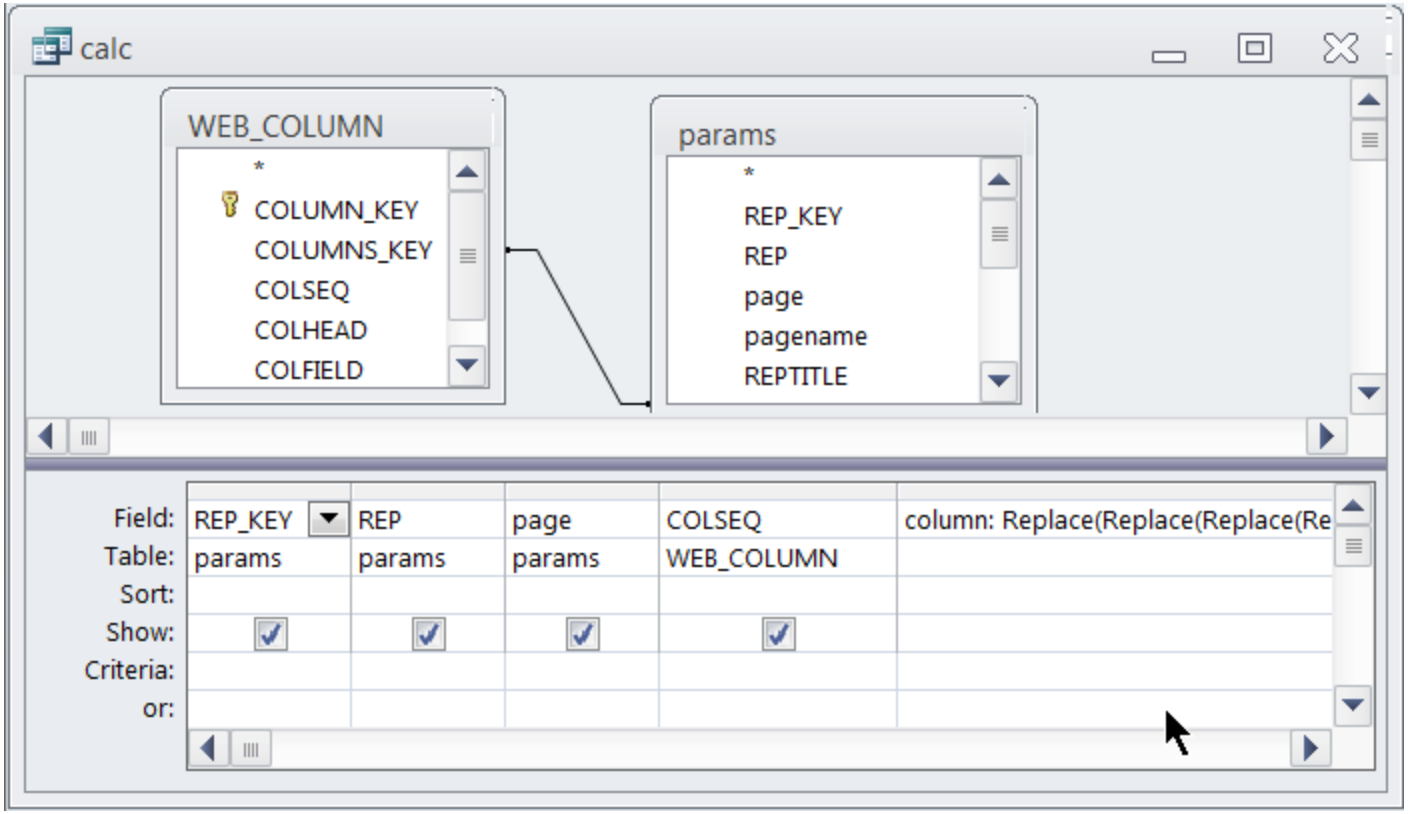
params query

params

REP	page	pagename	VIEWNAME	CONTENTFIELD	ROWFIELD	FORMULA
app	FFAR	Final Fall Applicants	app_final	Hcapp	apptype	'<td>' & sum(iif(<colfield>='<colvalue>',<contentfield>)) & '</td>' as [<colhead>]
app	FFCR	Final Fall Confirmed	app_final	Hcconfirm	apptype	'<td>' & sum(iif(<colfield>='<colvalue>',<contentfield>)) & '</td>' as [<colhead>]
app	FFDR	Final Fall Admits	app_final	Hcadmit	apptype	'<td>' & sum(iif(<colfield>='<colvalue>',<contentfield>)) & '</td>' as [<colhead>]
app	FFRR	Final Fall Registered	app_final	Hcreg	apptype	'<td>' & sum(iif(<colfield>='<colvalue>',<contentfield>)) & '</td>' as [<colhead>]
app	FSAR	Final Spring Applicants	app_final	Hcapp	apptype	'<td>' & sum(iif(<colfield>='<colvalue>',<contentfield>)) & '</td>' as [<colhead>]
app	FSCR	Final Spring Confirmed	app_final	Hcconfirm	apptype	'<td>' & sum(iif(<colfield>='<colvalue>',<contentfield>)) & '</td>' as [<colhead>]
app	FSDR	Final Spring Admits	app_final	Hcadmit	apptype	'<td>' & sum(iif(<colfield>='<colvalue>',<contentfield>)) & '</td>' as [<colhead>]
app	FSRR	Final Spring Registered	app_final	Hcreg	apptype	'<td>' & sum(iif(<colfield>='<colvalue>',<contentfield>)) & '</td>' as [<colhead>]
app	FUAR	Final Summer Applicants	app_final	Hcapp	apptype	'<td>' & sum(iif(<colfield>='<colvalue>',<contentfield>)) & '</td>' as [<colhead>]
app	FUCR	Final Summer Confirmed	app_final	Hcconfirm	apptype	'<td>' & sum(iif(<colfield>='<colvalue>',<contentfield>)) & '</td>' as [<colhead>]
app	FUDR	Final Summer Admits	app_final	Hcadmit	apptype	'<td>' & sum(iif(<colfield>='<colvalue>',<contentfield>)) & '</td>' as [<colhead>]
app	FURR	Final Summer Registered	app_final	Hcreg	apptype	'<td>' & sum(iif(<colfield>='<colvalue>',<contentfield>)) & '</td>' as [<colhead>]
app	FYAR	Final Academic year Applicants	app_final	Hcapp	apptype	'<td>' & sum(iif(<colfield>='<colvalue>',<contentfield>)) & '</td>' as [<colhead>]
app	FYCR	Final Academic year Confirmed	app_final	Hcconfirm	apptype	'<td>' & sum(iif(<colfield>='<colvalue>',<contentfield>)) & '</td>' as [<colhead>]
app	FYDR	Final Academic year Admits	app_final	Hcadmit	apptype	'<td>' & sum(iif(<colfield>='<colvalue>',<contentfield>)) & '</td>' as [<colhead>]
app	FYRR	Final Academic year Registered	app_final	Hcreg	apptype	'<td>' & sum(iif(<colfield>='<colvalue>',<contentfield>)) & '</td>' as [<colhead>]
app	TFAR	To-date Fall Applicants	app_td	Hcapp	apptype	'<td>' & sum(iif(<colfield>='<colvalue>',<contentfield>)) & '</td>' as [<colhead>]
app	TFCR	To-date Fall Confirmed	app_td	Hcconfirm	apptype	'<td>' & sum(iif(<colfield>='<colvalue>',<contentfield>)) & '</td>' as [<colhead>]
app	TFDR	To-date Fall Admits	app_td	Hcadmit	apptype	'<td>' & sum(iif(<colfield>='<colvalue>',<contentfield>)) & '</td>' as [<colhead>]
app	TFRR	To-date Fall Registered	app_td	Hcreg	apptype	'<td>' & sum(iif(<colfield>='<colvalue>',<contentfield>)) & '</td>' as [<colhead>]
app	TSAR	To-date Spring Applicants	app_td	Hcapp	apptype	'<td>' & sum(iif(<colfield>='<colvalue>',<contentfield>)) & '</td>' as [<colhead>]
app	TSCR	To-date Spring Confirmed	app_td	Hcconfirm	apptype	'<td>' & sum(iif(<colfield>='<colvalue>',<contentfield>)) & '</td>' as [<colhead>]
app	TSDR	To-date Spring Admits	app_td	Hcadmit	apptype	'<td>' & sum(iif(<colfield>='<colvalue>',<contentfield>)) & '</td>' as [<colhead>]
app	TSRR	To-date Spring Registered	app_td	Hcreg	apptype	'<td>' & sum(iif(<colfield>='<colvalue>',<contentfield>)) & '</td>' as [<colhead>]

Record: 1 of 208 Unfiltered Search

calc query



column:Replace(Replace(Replace(Replace(Replace([formula],
"<**contentfield**>",[contentfield]),"<**colfield**>",[colfield]),
"<**colhead**>",[colhead]),"<**denomfield**>",Nz([denomfield])),
“<**colvalue**>”,[colvalue])

calc query output

calc

REP	page	COLSEQ	column
app	FFAR	1	'<td>'||to_char(sum(case when term='2064' then Hcapp end),'99,999')||'</td>' "Fall 2006"
app	FFAR	2	'<td>'||to_char(sum(case when term='2074' then Hcapp end),'99,999')||'</td>' "Fall 2007"
app	FFAR	3	'<td>'||to_char(sum(case when term='2084' then Hcapp end),'99,999')||'</td>' "Fall 2008"
app	FFAR	4	'<td>'||to_char(sum(case when term='2094' then Hcapp end),'99,999')||'</td>' "Fall 2009"
app	FFAR	5	'<td>'||to_char(sum(case when term='2104' then Hcapp end),'99,999')||'</td>' "Fall 2010"
app	FFAR	6	'<td>'||to_char(sum(case when term='2114' then Hcapp end),'99,999')||'</td>' "Fall 2011"
app	FFAR	7	'<td>'||to_char(sum(case when term='2124' then Hcapp end),'99,999')||'</td>' "Fall 2012"
app	FFAR	8	'<td>'||to_char(sum(case when term='2134' then Hcapp end),'99,999')||'</td>' "Fall 2013"
app	FFCR	1	'<td>'||to_char(sum(case when term='2064' then Hcconfirm end),'99,999')||'</td>' "Fall 2006"
app	FFCR	2	'<td>'||to_char(sum(case when term='2074' then Hcconfirm end),'99,999')||'</td>' "Fall 2007"
app	FFCR	3	'<td>'||to_char(sum(case when term='2084' then Hcconfirm end),'99,999')||'</td>' "Fall 2008"
app	FFCR	4	'<td>'||to_char(sum(case when term='2094' then Hcconfirm end),'99,999')||'</td>' "Fall 2009"

function webcolumns uses calc query

- accepts repkey, page
- returns the SQL columns needed to generate the data table of a web report

Generation of reports

- In Oracle, the webreps.sql script calls webrep.sql to create a temporary view definition which is then used to output the final HTML page.
- In Access, the VBA subroutine webreps generates all the reports for a particular institutional summary by stepping through the pages query and calling the procedure webrep. This procedure creates a temporary table for each page before outputting the final html page.
- On our Oracle server, we can generate each page in an average of about 1.5 seconds. In Access, it takes about 10 times as long

Future directions

- Replace many of our existing web reports
- Add new summary topics
- Add ability to mix column formats

Starting term	Students	Continue 1 year	Continue 2 years	Continue 3 years
Fall 2000	769	75.8%	61.0%	55.5%
Fall 2001	724	76.4%	61.7%	57.2%
Fall 2002	836	72.1%	58.3%	52.5%
Fall 2003	853	76.0%	62.5%	55.7%

- Optionally add a percentage table
- Automatic graphing

Institutional Summaries Summary

- Static HTML pages provide data that can be more easily used in Excel than PDF files or dynamic pages.
- The approach we have taken allows us to create a large number of web reports easily.
- The navigation blocks on our reports make it possible to easily find and access the data people are looking for.
- If you are interested in implementing something similar, we would be happy to send you our Access database and/or Oracle SQL scripts

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