

# **Systems Development & Maintenance**

## **Major Accomplishments for FY 2011-2012**

Following are the Major Accomplishments for FY 2011-2012 for Systems Development & Maintenance:

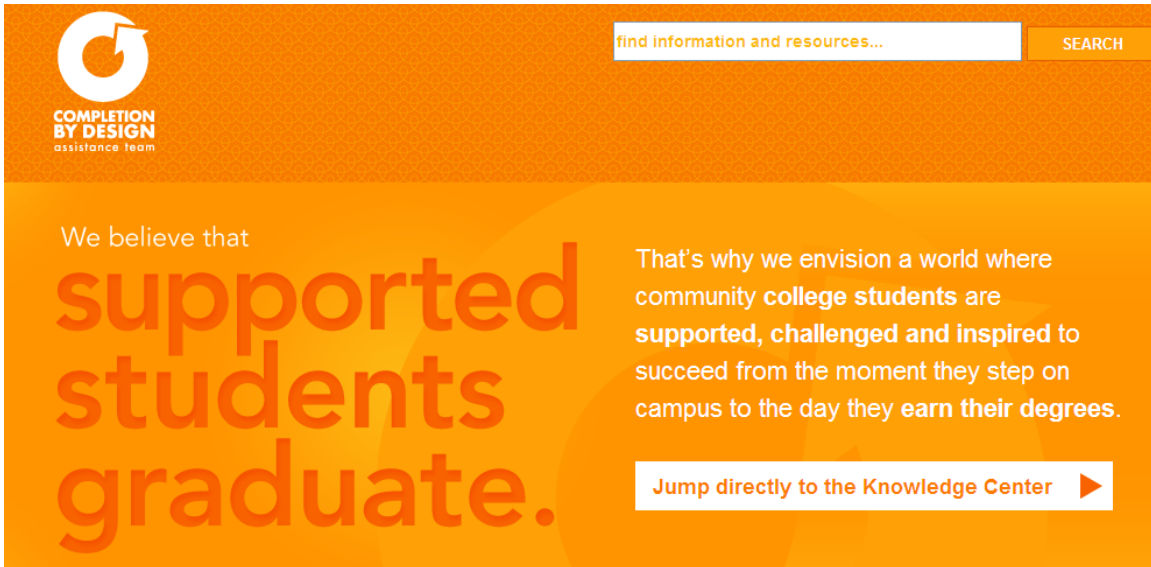
- Support **Completion-by-Design** and **Next Generation Learning Challenge** Related Activities
- Enhance Colleague Functionality
- Enhance **My Academic Plan** Software
- Enhance/Maintain Custom Software
- Support Semester Conversion Process
- Enhance Forms Central and Forms Control
- Support Business Operations
- Conduct Feasibility Studies and Support Software Evaluations
- Develop New Custom Software Applications

### **Support Completion-by-Design and Next Generation Learning Challenge** Related Activities

This project focused on providing data and analysis support for Sinclair's "Completion Agenda." During fiscal year 2011-2012, Sinclair received major grant support from the Bill and Melinda Gates Foundation and from EDUCAUSE to support efforts to increase the completion rate of students.

The Manager of Web Systems served on the Completion by Design core implementation team. In addition, the Manager of Web Systems served as the principal investigator for the EDUCAUSE Next Generation Learning Challenge grant. This individual is a key manager within the Systems Development and Maintenance department, and consequently, the time devoted to grant efforts has significantly influenced the time devoted to other items contained within this plan.

The objectives of the Next Generation Learning Challenge grant have been completely realized. The Student Success Plan software developed by Sinclair over the last decade has been released to the "open source" community. In addition, members of Web Systems staff have attended, as vendors, seven national conferences to promote the use of the open source software. Third party vendors have been identified and trained to provide implementation and support services for clients adopting the open source model.



**Qualitative/Quantitative Return on Investment:** The Next Generation Learning Challenge grant has firmly established Sinclair as an active, and important, contributor to the “open-source” community. Through these grant efforts, Sinclair is now an official member of the long-standing, and important, SAKAI group; and our membership will give the college entre to influential leaders within this group.

**Cost savings/Cost avoidance:** There has been an indirect savings realized from the NGLC grant in that Sinclair staff time will not need to be used to support SSP software now that the open source organization is in place. Likewise, Completion by Design activities play directly into support for the “completion agenda” that seems to be guiding thinking about current higher education funding. While it is not possible to put a precise number on the direct benefits of these activities, it is clear that both are closely linked to tangible economic forces impacting Sinclair.

**Target Completion Date:** June 2012

**Actual Completion Date:** June 2012

## **Enhance Colleague Functionality**

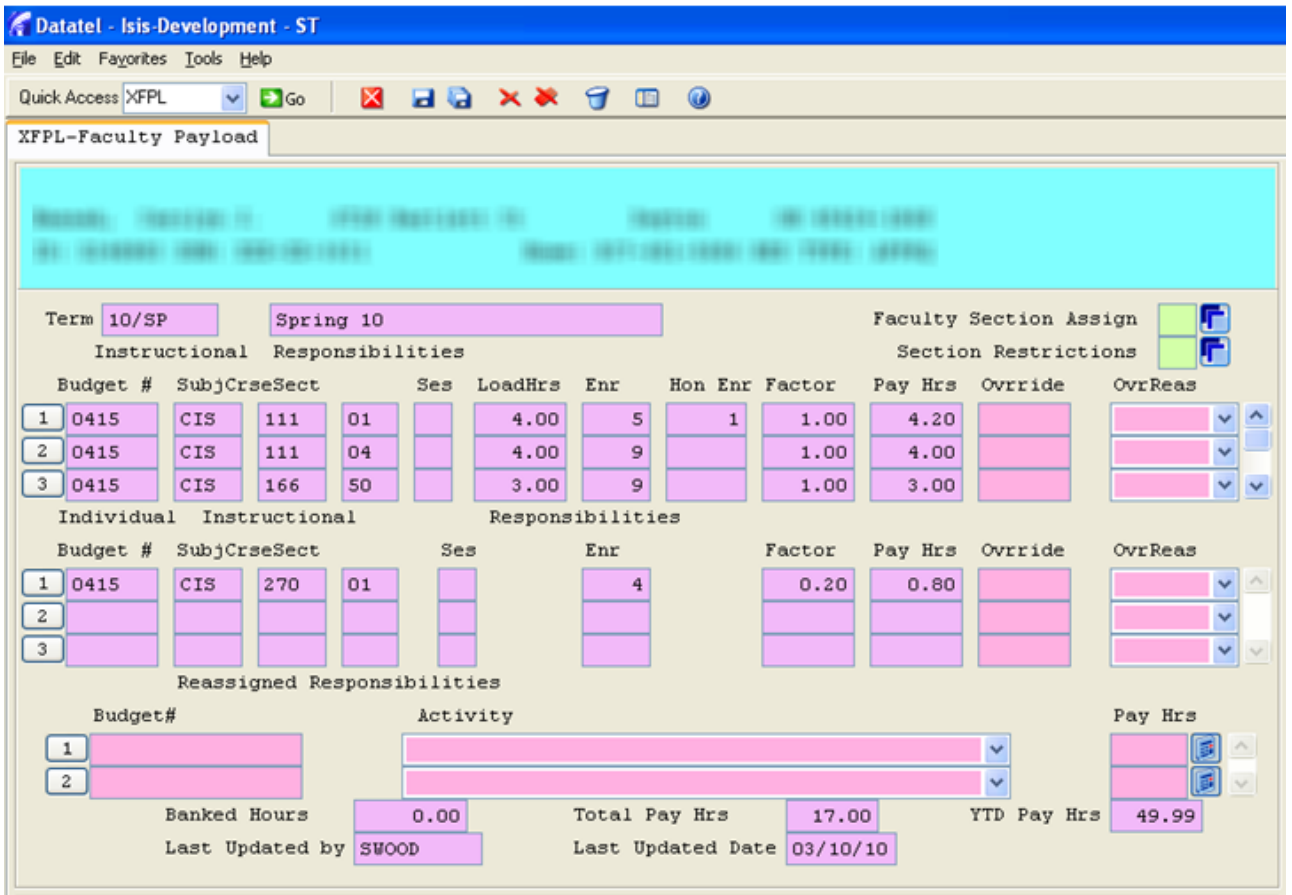
Colleague is the software name for Sinclair’s ERP system. It is the core software used to process student enrollment, registration, and academic records. In addition, Colleague software supports all of Sinclair’s business functions such as human resources, financials, and payroll. Colleague is a commercial product available from Ellucian Corporation.

This project involved making changes to Colleague that enhance functionality and reduce costs for Sinclair. The project is a continuation of activity that has

been underway over the last several years to pare the amount of custom software used within Sinclair's ERP system.

Several activities were completed within the scope of this project. These include:

- The Administrative Systems unit linked the Colleague faculty payload process to the Colleague payroll process in order to reduce the need for manual data entry between systems.
- Administrative Systems worked with the Bursar's office and the Accounting office to identify alternatives to using paper checks for disbursing financial aid refunds to students. As a result of this effort, the Accounting Office is now in a position to make strategic decisions with respect to future disbursement methods.
- Web Systems developed linkages between Sinclair's locally developed schedule creation software and the "shopping cart" feature of Colleague's registration module. This link allows a direct connection between a student's course selection activity and the finalizing of registration for these selections.
- Administrative Systems has developed an automated import process from the Bookstore's attendance verification system to the Colleague payroll system. This process has eliminated the need for payroll staff to hand enter wage and hour information for hundreds of temporary Bookstore employees hired to support the student Bookstore rush at the beginning of each quarter.



**Figure 1** ERP screen from faculty payload, information to be loaded directly into payroll

**Qualitative/Quantitative Return on Investment:** Perhaps the greatest benefit arising from these efforts is the support that Colleague enhancements give in assisting students toward their degree completion goals. For example, the schedule planning/Colleague linkage is a major support for students' staying on their degree plans. Since the plans guide the scheduling tool and the scheduling tool guides the Colleague registration process, students have to actively work to select courses that are off plan.

**Cost Savings/Cost Avoidance:** There are no direct cost savings/cost avoidance factors associated with this project.

**Target Completion date:** May 2012

**Actual Completion Date:** June 2012

## Enhance My Academic Plan Software

My Academic Plan (MAP) is locally developed software that is designed to provide students with a clear roadmap of their academic program. Additionally, once plans are developed, the plans guide students through their course selection process. The underlying goal of MAP is to keep students focused on completion of their degree goals and to minimize the amount of time needed for degree completion.

The screenshot shows the Sinclair's MAP Maker interface. At the top, there are tabs for 'debug', 'sds debug', 'Program Viewer', and 'Help/Feedback'. Below these are navigation tabs: 'Home', 'Search Results', 'Academic', 'Remarks', 'Transcript', 'Current Schedule', and 'Planning Tool'. The 'Academic' tab is active.

Fields for student information include:

- Registration Status: N
- GPA: 3.363
- Credit Hours Attempted: 170
- Credit Hours Earned: 178
- Transfer Hours: 0
- Academic Standing: Dean's List
- Academic Restrictions: (dropdown menu)
- Academic Programs: (dropdown menu)
- Residency Status: Employee in State

**Placement/ACT Scores**

Type	Score	Status	Date
Arithmetic Placement	45	A	05/24/93
Math Placement	28	A	05/24/93
Reading Placement	46	A	05/24/93
Writing Placement	37	A	05/24/93

**Financial Aid Status**

Fafsa Filed	Awarded	Term Award Status	Transmitted Date

Intended Program of Study from the Admissions Application

**Figure 2** Sample screen from MAP showing tab options across top of screen

MAP has had a multi-year development cycle that culminated in fiscal year 2011-2012 when the software was moved into full production. The software has been completed and put into production for the development of the academic plan and the linking of the plan to the courses selected prior to registration.

Web Systems developed an automated connection between the courses selected using Sinclair's schedule development software and the actual registration process that takes place within the Colleague ERP software. To accomplish this end, Web Systems worked with the software vendor, Ellucian, to develop an automated system for logging into a student's Colleague account. This automated login was paired with a behind-the-scenes transfer of data from the schedule development software to the "shopping cart" feature within

Colleague. Students are now able to move seamlessly from the locally-developed schedule development software to the registration module within the commercial vendor's ERP system..

**Qualitative/Quantitative Return on Investment:** One of the biggest of the “Big” challenges facing Sinclair is the ability to demonstrate to external constituencies that public resources are being used efficiently to support important public policy goals. The availability of a quantitative link between students' stated goals (as expressed in their MAP plan) and the students' actual course selection behavior gives Sinclair an extremely valuable tool that can be used to demonstrate support of public policy goals.

**Cost savings/Cost avoidance:** The primary benefit realized from this project is support for state and national completion agendas. These agendas emphasize the importance of students completing degrees and certificates that connect to employable skills. My Academic Plan is one of the most important resources Sinclair has available to keep students on track for degree/certificate completion.

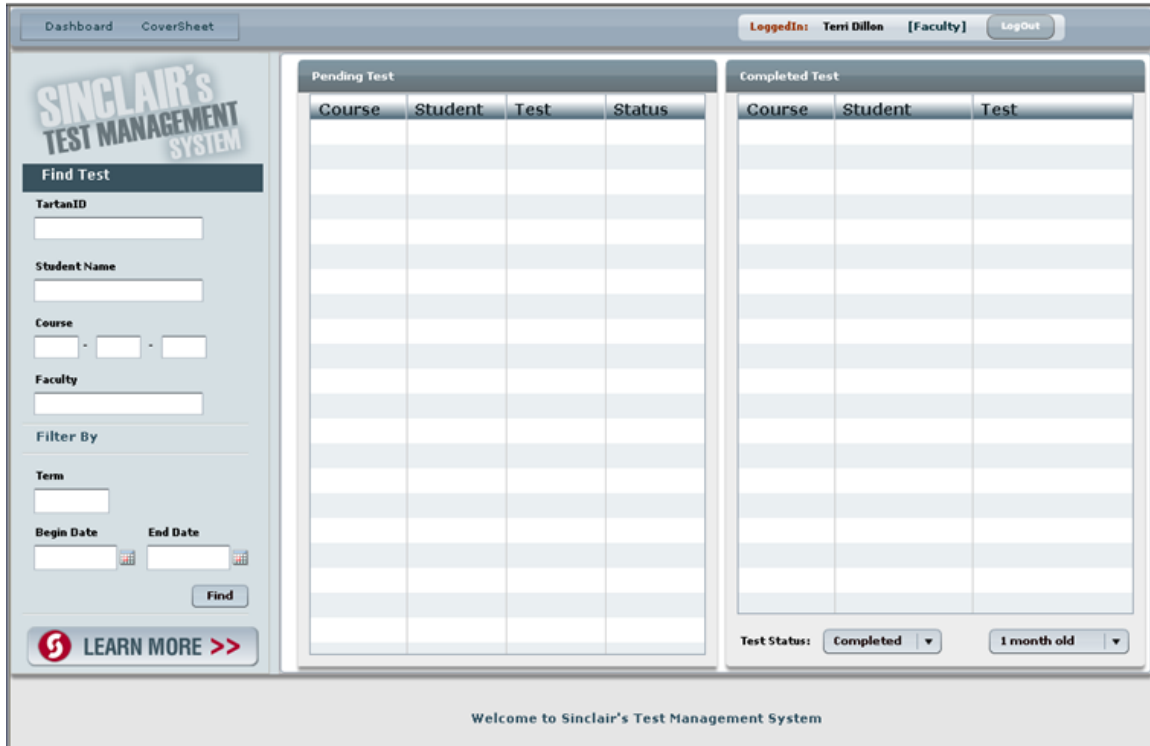
**Target Completion Date:** January 2012

**Actual Completion Date:** February 2012

### **Enhance/Maintain Custom Software**

Sinclair's Web Systems unit has, over the years, created several custom software applications that have become central to the successful operation of various Sinclair offices. The Curriculum Management Tool (CMT) and the test management system are two primary examples of these custom applications.

This project involved investment of time and effort to add enhancements to each of these applications. CMT was enhanced by adding a teaching syllabus feature. This feature supports a single, consistent syllabus to be used for all offerings of the same course throughout Sinclair's curricula. While this feature allows ample opportunity for faculty to place their unique signature on the expectations communicated through the syllabus, it also assures that essential and common institutional expectations are also included. This feature makes a significant contribution to the goal of providing students with consistent and timely information concerning academic expectations.



**Figure 3** Sinclair's Test Management System is used to monitor operations within Sinclair's Testing Center

CMT was also enhanced by adding an automated link between the data stored in CMT and the course information recorded within the Colleague ERP system. When CMT was first created, the Registration and Student Records office wished to maintain a final visual check over approved curricula prior to entry into the ERP system. As confidence in the accuracy of CMT data has increased, this office has now agreed to directly import data from CMT into Colleague. The Administrative Systems unit of Systems Development & Maintenance has modified the electronic file transfer feature of the Colleague system to accept and import data elements generated from the CMT software.

The test management software is a solution created for the Testing Center to manage the authentication of individuals using the center's services and to assist in the secure transfer of test data between teaching faculty and the center. This component of the project added additional security to the test exchange features and extended the range of the software beyond the physical boundaries of the Dayton campus' testing center.

**Qualitative/Quantitative Return on Investment:** The focus of all of the efforts within this project has been to enhance the efficiency and accuracy of data exchange across different software platforms. In each case, the automated

exchange reduces the probability of error in keying data, and this reduction in error directly reduces the amount of data rework that would be required from incorrect entry.

**Cost savings/Cost avoidance:** The cost of the project is more than offset by increases in efficiency resulting from improved accuracy and reduced clerical time needed for data entry.

**Target Completion Date:** June 2012

**Actual Completion Date:** June 2012

## **Support Semester Conversion Process**

Semester conversion is one of the most extensive and important institutional transitions currently underway at Sinclair. Fiscal year 2011-2012 represents the final year of a multi-year transition process. Sinclair will convert to semesters in August 2012, and this year presented the final opportunity to prepare information systems for this fundamental change.

All departments within Systems Development & Maintenance are significantly affected by the semester transition, with the major burden of the work falling within the Administrative Systems unit. This unit has, over the last several years, cataloged and changed all of the custom code within the Colleague software to bring it into compliance with the changes required by semesters. In this final preparation year, Administrative Systems vigorously and thoroughly tested all of these changes to assure correct operation. Additionally, Administrative Systems led the multi-department testing efforts to assure that software and processes between business units operate as expected.

Web Systems has transitioned CMT from a quarter to a semester version. In addition, Registration and Student Records made the decision to change registration protocols with the conversion to semesters, and this decision required that Web Systems modify processes within the course scheduling software.

Both units have successfully completed their required semester transition assignments. Registration for the first semester (Fall 2012) began on May 23, 2012, and the process came off virtually without a hitch.

**Qualitative/Quantitative Return on Investment:** It is expected that the transition to semesters will be revenue neutral.



**Cost savings/Cost avoidance:** Adoption of a semester calendar will synchronize Sinclair with the academic calendar of all other public higher education institutions in Ohio. The long term effect will be to improve coordination of academic course work between institutions and thus improve student transferability and success.

**Target Completion Date:** April 2012

**Actual Completion Date:** May 2012

### **Enhance Forms Central and Forms Control**

Forms Central is a software application developed several years ago to assist Sinclair in a transition to paperless business operations. The software allows both web and electronic forms to be linked to approval workflows, thus eliminating the need to complete, copy, transport, and store paper versions of business forms. Since introduction, the application has experienced significant acceptance within the Budget office, Human Resources, and the Grants office.

This project called for the expansion of the software to a wider range of forms. Additionally, the project called for the cataloging of Sinclair's entire inventory of forms with the goal of removing obsolete forms from circulation. Examples of forms that can be moved into the electronic workflow include forms associated with the employee hiring process, consolidated budget development forms, and budget transfer forms. The project successfully accomplished the transfer of all college forms to the Forms Central software.



supplied point-of-sale software. Each additional feature required an assessment from Administrative Systems as to the Colleague changes needed to link these features to Colleague functionality. Once these linkages were identified, Administrative Systems modified and tested the Colleague code associated with each change.

Business Services changed parking vendors during Fiscal year 2011-2012. Since parking lot access is tightly linked to the Tartan One-card system supported by Administrative Systems, this change required that Administrative Systems train new parking personnel on system use, reporting, and troubleshooting. Additionally, Business Services conducted site visits and vendor demonstrations of new parking control equipment. Administrative Systems participated and supported these efforts.

**Qualitative/Quantitative Return on Investment:** Business Services has set a target of improving parking services while reducing the overall costs of providing these services. Actual anticipated savings are available for that functional area.

**Cost savings/Cost avoidance:** The Sinclair Business Services department completed renegotiations of Sinclair's parking contract during the current fiscal year. The new contract resulted in substantial cost savings to Sinclair. The support identified in this project is one of the major factors contributing to the success of this contract transition.

**Target Completion Date:** October 2011

**Actual Completion Date:** October 2011

## **Conduct Feasibility Studies and Support Software Evaluations**

Fiscal year 2011-2012 was the third, and final, year for the current contract Sinclair has with Blackboard Corporation for their learning management software called Angel. While the demands of semester conversion precluded the possibility of actually switching LMS vendors early in fiscal year 2012-2013, a strategic decision needed to be made by that time regarding long-term commitment to Blackboard. If there will be a long-term commitment, then an extended contract can be negotiated for future years. If a switch to another vendor is anticipated, then a transition strategy will need to be in place.

In conjunction with Sinclair's Distance Learning department, Systems Development and Maintenance conducted a study of the learning management software options available at the conclusion of the Blackboard contract. This study determined that the best, near-term course of action would be to renew the LMS contract with Blackboard for a three year period. During this period, Sinclair's Corporate Services would enter into an LMS hosting arrangement with

the other premier LMS provider, Desire-2-Learn, and this Corporate Services opportunity would be used to evaluate Desire-2-Learn features as a successor to the Blackboard LMS three years from now. Additionally, this lag in the implementation of a different LMS would be clearly separated, in time, from semester conversion activities.

**Qualitative/Quantitative Return on Investment:** The flexibility and responsiveness of the College's LMS is tightly linked to our ability to rapidly change and to implement innovative methods for delivering course content. It is a strategic tool that can spell the difference between instructional stagnation and responsiveness to market-driven change.

**Cost savings/Cost avoidance:** Virtually all of Sinclair's course offerings are connected to the College's LMS in some manner. A change in such a system will involve a multi-year planning horizon and the expenditure of several hundreds of thousands in direct costs.

**Target Completion Date:** June 2012

**Actual Completion Date:** June 2012

## **Develop New Custom Software Solutions**

As constituent groups were interviewed in preparation for this plan, it became very clear there is a continuing desire for Sinclair to invest in the creation of custom software solutions. The strategic value of previous applications such as CMT and the Student Success Plan (SSP) has been recognized, and multiple offices would like to see the benefit of customized software extended to their own operations. Unfortunately, this increasing demand comes at a time of shrinking resources and competing strategic initiatives. Sinclair's commitment to the "Completion Agenda" and its previous acceptance of changes such as semester conversion have drawn Systems Development and Maintenance resources away from creation of customized software and toward support for these critical initiatives. During fiscal year 2011-2012, the following software development took place:

- Web content management systems were evaluated and the decision was made to replace the existing system with one possessing a much wider feature set. The implementation of this replacement took place during fiscal year 2011-2012. The change of content management systems offers an excellent opportunity to address the need to combine the features of the staff-oriented web pages of our.sinclair.edu with the student-oriented web pages of my.sinclair.edu. However, since the combination of my.sinclair and our.sinclair changed the login default times for staff, and the combination significantly affected how internal communication messages are structured, this activity needed to be

accomplished in close coordination with Sinclair's Marketing unit and needed to follow their lead as to the timing for its implementation.

**Qualitative/Quantitative Return on Investment:** The implementation of a replacement Content Management System has enhanced web site maintenance and has increased the ability to maintain consistent website standards across all of Sinclair's web messages.

**Cost savings/Cost avoidance:** Successful implementation of the software installations of this project resulted in improved handling of web content, enhanced utilization of physical space, and better matching of employee skills to required duties. Each benefit on its own, and certainly all three combined, offset the anticipated costs of this project.

**Target Completion Date:** June 2012

**Actual Completion Date:** June 2012