

# ONLINE STUDENT PERFORMANCE SYSTEM

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*December 11, 2002 – Final Report*

SCHOOL OF INFORMATION  
SCIENCES AND TECHNOLOGY

IST 497C – IT CONSULTING/  
PROJECT MANAGEMENT

## **TEAM 4:**

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# **FINAL REPORT**

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## **Purpose of Final Report**

The final report will review the updated project plan, project status up to this point, and documentation for the Online Student Performance System project. We will also give suggestions to the next team for the next steps in the project.

## **Project Plan**

See Appendix A for the updated project plan. The changes that have been made to the original project plan are listed in the table below.

<b>Project Plan Change</b>	<b>Original Project Plan</b>	<b>Current Project Plan</b>
Deliverable Date for System Design Approval	10/25/2002	12/2/2002
Deliverable Date for Prototype	11/22/2002	12/10/2002
Plan for Gathering User Requirements	-----	Updated questionnaire results

## **Project Status**

As planned, the prototype of the Online Student Performance System is complete. The following features have been tested and function properly:

- Student progress reports are viewable by parent and child as read-only documents
- Login identification and password protect entrance into system
- Teachers have access to update and add projects and students

## **Documentation**

We have made available a CD, which includes the application, database and software needed. Also, we provided a read-me file on the CD for guidance.

## **Next Steps**

A new IST team will be completing the testing and implementation of the Online Student Performance System. We have provided extensive documentation and guidelines for them as well.

See Appendix B – Prototype Issues

See Appendix C – Suggestions for Next Steps

# ONLINE STUDENT PERFORMANCE SYSTEM

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## APPENDIX A

### UPDATED PROJECT PLAN

## **INTRODUCTION**

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### **Purpose of Plan**

The project plan will define the Online Student Performance System project, including information on user requirements, system development strategies and the project approach.

### **Background Information about the Project**

This project initiative came about in response to a request by Dr. Mark Toci to modify the Centre Learning Community Charter School's student assessment standards. Currently, students are assessed based on their performance in several areas on a single form about every six weeks. The forms are printed and sent to the students' homes through the mail after they are completed. This project is the first attempt to automate the assessment process in the school and make it a web-based system.

### **Project Approach**

A team leader will manage the project. This team leader will be responsible for creating weekly status reports, assigning roles and tasks, and acting as a liaison between the team and our contact, Dr. Mark Toci, at CLC. Each member of the team will be responsible for a variety of tasks and/or objectives.

The project will initially have the characteristics of a prototyping project. The needs of the client will be assessed and a web application will be developed based on those needs. After a period of development, the prototype will be delivered to the client for feedback. Adjustments can and will be made if the client deems them necessary for the success of the project.

Various technologies will be implemented throughout the project. These technologies will be chosen for their functionality, ease of use, expandability, and cost. The two main technologies to be used will be MySQL and PHP server technologies. By combining these two, a web application can be developed to deliver secure, dynamic web pages to clients.

## **GOALS AND OBJECTIVES**

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### **Business Goals and Objectives**

#### **Goal:**

- To enhance the parent's awareness of the child's learning experience.
- To document children's progress.
- To make it easier for teachers to record progress of students.

#### **Objective:**

- To provide online access to progress reports so parents and students can access them at any given time.
- To allow teachers to complete and update progress reports online.

### **Project Goals and Objectives**

#### **Goal:**

- To fulfill the needs of our client within our capabilities.
- To follow team objectives and complete assignments as scheduled.

#### **Objective:**

- To develop an online system providing read-only progress reports to parents and children.
- To create a password protected system so parents and child can only access their designated account.
- To develop a feature in which teachers can update progress reports and then the previous reports will be archived and viewable as read-only.
- To present a prototype of the new system by the end of the project term in December.

## **SCOPE**

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### **Scope Definition**

The new system will contain the following features:

- Student progress reports will be available online for parents and child as a read-only document
- Each student/parent will have a login identification and password to secure each individual's progress
- Teachers will have access to update student reports
- Every updated report will be archived and viewable as read-only
- Email notifications will be sent out to parent when their child's progress has been changed

Client aspirations that will not be included in our scope include the following:

- Changing format of the progress report
- Updating student progress on PDA

The team intends on presenting a project prototype by the end of the term in December.

### **Plan for Gathering User Requirements**

Initial gathering of client needs and user requirements will be obtained through the use of interviews with the client, analysis of the current system, and through user feedback.

The main requirements were gathered in our first two meetings with Dr. Mark Toci, the client contact and director of CLC. Dr. Mark Toci provided the team with a copy of the current form used to evaluate student performance and progress. He also demonstrated how this form is used as a database where the actual student data is stored. It is his intention to make this database accessible online.

The users of the system we intend to develop will be the teachers, the students, and the parents of those students. Feedback from the parents was obtained through the use of a survey questioning the willingness to use this system. The students and parents will accept the new system because it allows for more up-to-date student information. They will no longer have to wait for teachers to mail out reports or consult with the teachers to gauge student performance.

The new team's next step for gathering requirements will be user testing. User feedback from that prototype will help in the future development of the system.

The user requirements collected throughout the project will be recorded in the project journal as they are collected and compiled. Reports will be generated based on the requirements and these reports will guide the development of the application.

### **Technical Data/Application Architecture**

There will be few tools used to develop the system. These tools include MySQL, Macromedia Dreamweaver, PHP technology and the Apple X-Serve already in place at CLC. A database will be created in MySQL on the server that acts as the backbone of the application. The database will be accessed through the Web via PHP/HTML pages. Security for the site will be based on cookies and levels of site access depend upon the username and password supplied at the login.

### **Budget & Cost/Benefits Analysis**

According to our application architecture, there is no need to purchase additional software for the existing system. Also, we already have in-house software packages that we will be using to do the implementation of a prototype design.

### **Risk Management**

We will manage risks by reevaluating the existing risks every time our team meets. Apart from reviewing the existing risks, we will continually identify new ones too. Each team member should think about any possible risk at all time. Our list of risks below can always be extended.

<b>Risk Event</b>	<b>Cost of Event</b>	<b>Likelihood of Event</b>	<b>Mitigation Strategy</b>
Loss of Internet connection	Unavailable to look for project resources	Low	Use dial-up or work at computer labs
Software failure	Delay of work	None or very little	Work at computer labs
Incompatibility of application and system	Developed application cannot run	Low	Configure system
Client out of town	Delay of work	None or very little	Plan ahead
Team member unable to work	Delay of work	None or very little	More responsibility per team member
Loss of data	Delay of work	Low	Frequent backup

### **Project Products/Deliverables List**

<u>Deliverable</u>	<u>Priority</u>	<u>Completion Date</u>
1. Non-Disclosure Agreements	Medium	9/12/2002
2. Project Plan	High	10/1/2002

3. Statement of Work	Medium	10/1/2002
4. Milestone Status Reports	Low	Bi-weekly
5. System Design Approval	High	11/20/2002
6. Prototype	High	12/11/2002
7. Final Presentation	High	12/11/2002

### **Milestones**

This project will take on check points that will allow the team and client to know how close we are to being on schedule and also to establish short term goals for the project team. These checkpoints are defined as milestones. Each milestone is directly linked to an important deliverable. Our team will have milestone status reports that will inform the client on progress made upon each milestone reached.

The first milestone, that has already been reached, was the initial client meeting. At this initial client meeting, our project team met with Dr. Mark Toci to determine a more specific scope for the entire project, to obtain a more detailed description of the actual project, and also to obtain answers to some preliminary questions our project team felt necessary. We met on September 19, 2002 at the Centre Learning Community Charter School with Dr. Mark Toci from 5:30 to 6:15pm. A key part of the initial meeting was to sign and distribute our non-disclosure agreements.

The second milestone is upon completion of the project plan. After thoroughly discussing the project with Dr. Mark Toci on the initial meeting and also on September 24, 2002, and outlining the scope and timeline of the project, we completed the formal project plan. This milestone took approximately two weeks for all members of the project team to accomplish the project plan. The project plan was completed and delivered by the first of October.

The third milestone was reached when approval of our system design was obtained. Upon completion of the system design, the project team showcased the design to the client and made any changes necessary specified by the client. When all necessary changes and corrections were made, our project team obtained approval and reached the third milestone. The system design was completed by October 18, 2002 and the approval of the design was obtained on November 20, 2002.

The last milestone will be reached with the completion of the Prototype. Before completion of the prototype, the group established all details of the technical aspects that the project entailed. All databases and web applications are “complete enough” to show an accurate portrayal of how the final project should look and operate. The prototype followed all guidelines agreed upon in the project plan. This milestone took one week longer due to the extension of the design approval. The prototype will be presented during the final presentation on December 11, 2002. This time will be used to display the prototype to Dr. Mark Toci and all other parties involved. Feedback will be taken into consideration accordingly in order for the next team to continue the project.

### **Impacted Business Areas**

The business processes of the Centre Learning Community Charter School will not change drastically; however, there will be certain changes to specific business areas.

Obviously, the main change will be prevalent in the IT part of the charter school. After implementation of the project in its entirety, a need for system administration will become a higher priority. Since this project requires a large amount of updatability and maintenance, someone to run and oversee the system is a necessity.

This project will also affect the classroom. By making the student-teacher evaluation a much easier process, teachers and students alike will have more time to dedicate to learning and teaching. This project will positively affect the collaboration between student and teacher.

Finally, the communication between teacher and parent will positively change at an extreme level. Now parents will be able to access their student's evaluations much easier than before the implementation and will most likely find the outcome rewarding. Therefore the Charter School's communication business area will have a drastic positive change.

## **ASSUMPTIONS**

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### **Project Assumptions**

There are several assumptions we have made about the project that will be necessary for its proper completion. We are assuming that all students and their parents have access to a computer and the Internet. They also must have at least a basic knowledge of using the Web. We also assume that Dr. Mark Toci and all other necessary teachers have enough knowledge about the system to complete, update, and change the form's layout if necessary. We assume that the school can host the database on its on server. Finally, we are assuming Dr. Mark Toci is flexible with regards to the choice of programs to be used to develop the system.

## **CONSTRAINTS**

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### **Project Constraints**

There are many constraints that must be accounted for while undertaking this project. The principle constraints are time and budget. Other constraints include the limited variety of technology available, security issues, aligning with school policies and procedures, skill levels of the client's IT support, and other resource availability.

There is a very limited time frame for the completion of the project and the scope must reflect that constraint. The team should not take on anything that they feel cannot be completed within the given timeframe. Thus, we believe our scope is defined well enough to avoid any major scope creep and time extensions.

## **QUALITY MANAGEMENT APPROACH**

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### **Activity Reviews**

Activity Reviews will be conducted before each Milestone Completion is reported to Dr. Mark Toci and to Professor Brian Cameron. Activity reviews will take place on or before the following dates:

<u>Activity Review</u>	<u>Date</u>
1. Project Plan Review	9/30/2002
2. System Design Review	11/20/2002
3. Prototype - Test Plan for Team	12/11/2002
4. Prototype – Test Plan for Users	12/11/2002
5. Final Presentation Review	12/11/2002

### **Tools and Techniques**

We use Microsoft Project, a powerful, flexible project management tool, to help us control this project. It helps us schedule and track all of our tasks so we can stay on top of their progress.

There is no software package needed to test our prototype.

### **Test Approach**

To test our developed prototype, we will have to create a list of the features of the application. Then we will have to test each feature with possible inputs to see if the output is as expected.

We also plan for Dr. Mark Toci to test the application prototype. This will help us obtain user feedback and tend to any arising issues.

### **Performance/Quality Standards**

Our prototype must run on the existing web server and consume a reasonable amount of memory so the server can efficiently server other applications. As this application will expose to the Internet, security is another important issue that we are highly concerned and intend to accomplish.

### **Training**

Training will not be offered during this term of the project.

# **PROJECT MANAGEMENT APPROACH**

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## **Work Breakdown Structure (WBS) Gantt Chart**

See Appendix

## **Basis of Estimates**

The metric estimates in the WBS have been generated by the following criteria:

- Each team member is assuming 5 hours of work per week to complete project assignments on time.
- Two weeks are allotted for planning the project. This includes conducting the initial meeting, defining requirements and completing the Project Plan.
- The team plans to take three weeks to design the system and have it approved by the client.
- The team is assuming it will take one month to develop the database and interface for the prototype.
- One week is assigned for testing the prototype.
- One week is needed to prepare for the final presentation of the system prototype.

## **Project Standards**

Status reporting – each individual has agreed upon contacting the project manager on Thursday of each week to inform the team of their project assignment status. The weekly status team report will then be sent out to all the team members and to Professor Brian Cameron on the following Friday.

Staff meetings – weekly meetings will be held on Sunday evenings to complete team assignments and to discuss problems or issues faced on individual assignments. Short team discussions and preparation meetings will be held after classes on Tuesdays and Thursdays at 3:45pm.

Product review acceptance criteria – product reviews by the team will be held on Sunday meetings. After each Milestone Completion the client will receive a milestone completion deliverable. The client will then review the product and accept or decline project developments.

Celebration criteria – after each Milestone Completion the team will be rewarded for what they have learned and accomplished.

Executive Committee Status Report – See Appendix

## **Resource Plans**

Internal Resource Commitment Plan – The following students have committed to work on the project: Michelle Ramey, Mick Lerlop, Tony D’Elia, Matt Gorbsky and Jason Crosby.

External Resource Acquisition Plan – Professor Brian Cameron, the IST 497C professor has committed to oversee our project status on a weekly basis.

### **Project Roles and Responsibilities**

Michelle Ramey – Team Leader  
Jason Crosby – Team Member  
Tony D’Elia – Team Member  
Matt Gorbsky – Team Member  
Mick Lerlop – Team Member

The team leader is responsible for project status reports, monitoring project assessment and due dates, leading staff meetings and documenting observations, discussions and accomplishments.

All team members, including the team leader, are responsible for completing project assignments, attending staff meetings, and contributing their ideas and efforts to a successful project.

### **Change and Issue Management Approach**

In order to assure that any major changes or issues in the project’s scope, timeline, budget, or resources are accepted or resolved, the project team will immediately contact Dr. Mark Toci to discuss the issue. Then the team will set up a meeting to discuss a resolution or alternative approach.

### **Communications and Control Approach**

To assure that the team maintains the Project Plan, each member will be accessible by email or telephone to report any problems or updates to the project’s status. The project manager will update the plan each time a change is made to the scope of the project. The team manager will complete a status report each week which will be distributed to all team members as well as Dr. Mark Toci and Professor Brian Cameron. Project meetings will be held at least once a week in addition to bi-weekly meetings with the client to discuss progress. If any severe issues arise, Professor Brian Cameron and Dr. Mark Toci will be notified.

### **Implementation Approach**

Since our goal for the project is to develop a working prototype for the application, our research and applications for the project will be given to the project team that follows us

to implement the application into the school's database server. The project team will be responsible for migrating all data from the prototype into the database that will host it. Then, the project team must train any necessary school staff members in the required steps for maintaining and supporting the application once it is running on the new server.

## **APPROVALS**

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### **Sign-off Sheet**

I have read the above Project Plan and Final Report and will abide by its terms and conditions.

Executive Sponsor: \_\_\_\_\_ Date

IST 497 Professor: \_\_\_\_\_ Date

Project Team Leader: \_\_\_\_\_ Date

Project Team Member: \_\_\_\_\_ Date

Project Team Member: \_\_\_\_\_ Date

Project Team Member: \_\_\_\_\_ Date

Project Team Member: \_\_\_\_\_ Date

## **PROJECT PLAN APPENDIX**

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### **Executive Committee Status Report**

Scope Update – The team will present a system prototype by the end of the project term in December. The project will consist of a secure online student performance system in which parents, children, and teachers can follow the child's progress.

Schedule Updates – The team plans to have the system design approved by November 20, 2002 and the prototype presented by December 11, 2002. Testing will occur prior to presenting. The final presentation to deliver the system prototype is planned to be completed by December 11, 2002.

Staff meetings and client meetings will be held when necessary. Status reports will be directed to Professor Brian Cameron weekly and to Dr. Mark Toci after each milestone completion.

Status Since Last Update – Between each status report, at least one staff meeting will be held, team member status reports will be reported to the team leader and weekly status reports will be given to Professor Brian Cameron.

These procedures will help foresee or deal with any arising issues or problems in an effective manner.

Plans for Coming Time Period (Current Team) – The team's next step is to finalize and present our prototype to Dr. Mark Toci.

Plans for Coming Time Period (New Team) – The team's next step is to perform user testing, fix any existing errors and implement application. Documentation will be given to the new team in order for them to continue and complete the project.

Budget Updates – As mentioned in the Project Plan, the team has no intention of purchasing hardware or software. The team will utilize provided resources.

Issues – The team will attend to any issues that arise. Professor Brian Cameron and Dr. Mark Toci will remain informed of the project status to prevent these issues from leading into severe problems.

Risks – Strategies have been addressed to prevent existing risks from occurring. At each staff meeting, the team plans to review existing risks while also addressing any new issues.

# ONLINE STUDENT PERFORMANCE SYSTEM

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*December 11, 2002 – Final Report*

## APPENDIX B PROTOTYPE ISSUES

## PROTOTYPE ISSUES

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The issues that need to be addressed in order to complete the prototype phase are listed below.

**File:** students/students\_library/my\_profile.inc.php

**To be addressed:** File needs form validation and error handling. Also, the program currently only updates the first name, last name, and email. Additional functionality is required.

**File:** teachers/feedback/feedback.php

**To be addressed:** Needs email function to be included to send comments to webmaster via email. Currently, no email function is included.

**File:** teachers/teachers\_library/my\_profile.inc.php

**To be addressed:** File needs form validation and error handling. Also, the program currently only updates the first name, last name, and email. Additional functionality is required.

**File:** teachers/teachers\_library/students.inc.php

**To be addressed:** Currently, this function displays all students in a single page. This could potentially cause problems when the list of students grows to be very large. A possible fix for this could be to limit the number of students displayed at once. Also, there is no form validation or error handling. A confirmation should also be added when deleting students to ensure students are not accidentally deleted.

**File:** teachers/teachers\_library/projects.inc.php

**To be addressed:** As with list of students, this function displays all projects on a single page. It may be better to limit the number of projects displayed at a time. Also, the file needs form validation and error handling.

**File:** teachers/teachers\_library/teachers.inc.php

**To be addressed:** As with list of students, this function displays all teachers on a single page. It may be better to limit the number of teachers displayed at a time. Also, the file needs form validation and error handling. Also, as of now, any teacher can change any information. It may be necessary to set access levels or limit teachers to only being able to edit certain students. Changes to the database structure may be required to complete this.

**File:** teachers/teachers\_library/records.inc.php

**To be addressed:** File needs error handling and form validation.

**File:** teachers/projects/projects.php

**To be addressed:** File needs error handling and form validation. Also, a confirmation when deleting projects would help ensure projects are not deleted by accident.

**File:** teachers/students/students.php

**To be addressed:** File needs error handling and form validation. Also, a confirmation when deleting students would help ensure students are not deleted by accident.

**File:** teachers/teachers/teachers.php

**To be addressed:** File needs error handling and form validation. Also, a confirmation when deleting teachers would help ensure teachers are not deleted by accident.

**Added Feature:** Email notification

**To be addressed:** Application needs an added feature for when a student's assessment has been added to or updated. Parents will automatically receive an email notification regarding the change.

The PHP files are heavily commented in. Refer to the files for additional information regarding missing functionality.

# ONLINE STUDENT PERFORMANCE SYSTEM

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*December 11, 2002 – Final Report*

## APPENDIX C

### SUGGESTIONS FOR NEXT STEPS

## **SUGGESTIONS FOR NEXT STEPS**

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The purpose of this section is to provide suggestions for the IST team's next steps in the project, in order for a smooth team transition. The next steps may be as follows:

- Documentation is provided in the Appendix of the Project Plan. This documentation provides the necessary steps in order for the application to be ready for implementing. Most additions to the code consist of validating or error handling. Also, one feature must be added to the application. This feature is the email notification. Whenever a teacher updates or adds a project to a student's records, the parent is notified via email.
- A CD is provided to the team with the project we have completed thus far. The CD includes the DB, application files and necessary software. Also, a read-me file is included in order for them to properly install and set up the application.
- After making changes and testing the application, a next step should include user testing. (Read 'Gather User Requirements' in the Project Plan) A possible testing sheet could be filled out by several parents or teachers to make sure the user requirements are sustained.
- After all the user requirements are fulfilled, the team may have time to look at the features that were not originally included in the scope, such as changing the format of the progress report and updating student progress on PDA. We decided not to include these options in our scope due to time constraints. The team may want to consider these options, with respect to time, when you complete their Project Plan. It is to Dr. Mark Toci and the team's discretion if these should be included.
- If there are no additional changes, implementation would be the next step. The team will be responsible for migrating all data from the prototype into the database that will host it.
- Then, the project team can train any necessary school staff members in the required steps for maintaining and supporting the application once it is running on the new server.