

Executive Summary

weCare@school

A wireless emergency care information service for schools

Fairfax County Public Schools (FCPS) proposes to undertake an initiative to improve responses to health, safety and security emergencies in schools through more effective, efficient, and timely collection and handling of critical student information. FCPS proposes to develop a web-based application for collecting emergency information from parents and a wireless application for sharing information with first responders. FCPS calls this service *weCare@school*. Although wireless handheld technology is rapidly spreading, there are few applications beyond productivity programs (email, calendars, etc) that exploit this technology. This project provides an innovative approach to delivering emergency-care information via wireless handheld devices and cell phones.

There are over 93,000 public schools and 27,223 private schools in the United States. Safety and security are high-profile issues in both public and private schools. Violence and gangs are growing concerns nationwide. The National Center for Education Statistics School Survey on Crime and Safety reported 1,466,000 incidents of violence, nationwide, in the 1999-2000 school year. FCPS alone had 8,524 suspensions in 2002-03, most due to fighting, disobedience, and attendance. These incidents, plus the increased risk from natural disasters and potential terrorist activities, such as the type experienced in the Washington DC area on 9/11 and the sniper crisis, add urgency to the need to provide first responders with emergency information on students.

Major student information system providers currently do not provide a wireless service such as described in this project. Due to the standards-based approach with web services, these providers could easily replicate the model proposed. As schools learn of the enhanced capability for emergency information services, requirements for these services will accelerate. As a result, the demand for wireless access in schools and enhanced services from telecommunications companies will increase.

FCPS is partnering with webMethods, the Northern Virginia Technology Council Foundation, and Cisco Systems, Inc. to bring the *weCare@school* service to schools and their communities. This team is recognized for its extensive experience in education and technology. FCPS proposes a development process and the use of standards-based technologies that involves stakeholders, ensures a quality solution, and lends itself to replication.

Given the inefficient and cumbersome approaches to emergency care information in use in schools today, the potential improvements are significant. FCPS is confident that the evaluation of this project will validate and quantify the realization of this potential. To ensure an independent and thorough evaluation, FCPS contracted with the Graduate School of Education at George Mason University to conduct the evaluation.

FCPS and its partners look forward to the grant evaluation committee's response.

weCare@school

A wireless emergency care information service for schools

1. Project Purpose

The Problem. There are over 93,000 public schools and 27,223 private schools in the United States—all are concerned about student safety and security. Violence and gangs are growing concerns nationwide. There are approximately 80 confirmed gangs operating in Fairfax County with 1,500 members—half of whom are students in Fairfax County Public Schools (FCPS). The National Center for Education Statistics (NCES) School Survey on Crime and Safety reported 1,466,000 incidents of violence, nationwide, in the 1999-2000 school year. FCPS alone had 8,524 suspensions in 2002-03, most due to fighting, disobedience, and attendance. These incidents, plus the increased risk from natural disasters and potential terrorist activities, such as the type experienced in the Washington DC area on 9/11 and the sniper crisis, add urgency to the need to provide first responders with emergency information on students.

In FCPS today, like many school systems across the country, emergency information on students is collected on paper forms (a blank form is included in the Appendix, page 10). Schools usually collect these forms from parents at the beginning of the school year, then again for every athletic activity in which the students participate, and then again every time students attend field trips (FCPS conducts about 16,000 field trips each year). With over 166,000 students in FCPS, this adds up to a lot of paper and frustration for the parents who must repeatedly fill out these forms. Schools must then maintain this information in rows of binders or manually enter the information into student information databases.

Maintaining emergency information in this manner is daunting, but accessing this information in time of an emergency is truly difficult. For example, if a student is injured in the gymnasium, the physical education teacher runs down to the clinic to get the nurse, who then returns to the gymnasium to assess the student. In these situations it is best not to move the student, so the nurse sends someone back to the clinic or office to locate the student's emergency care information, the individual then returns to the gym again with this information so that the nurse may contact the parents and provide the information to the Emergency Medical Services. FCPS had 1,146 such accidents last year. Challenges like this are compounded further when the incident takes place outside of the school or after normal school hours, as in the cases of field trips and sporting activities, when emergency information on file is not accessible.

Schools clearly have a problem in collecting emergency information on students, maintaining this information and ensuring its accuracy, and accessing this information where and when it is most needed. The letters of support in the Appendix (pages 19-21, 26) provide further examples and validate this situation.

The Solution. FCPS proposes to develop a service called *weCare@school*: a wireless emergency care information service for schools. *weCare@school* would enable parents to securely access emergency care information on their students via a web-based application and to identify updates—reducing the need for the emergency care form and ensuring accurate information.

weCare@school would also enable first responders in schools (police officers, nurses, principals, assistant principals, etc.) to securely access emergency care and location information on students via wireless, handheld devices and cell phones.

The examples below illustrate how emergency information would be handled with *weCare@school*:

- At the beginning of the school year, a parent with three students previously enrolled in the school could log into a web application, review the emergency care information already on file with the school, then indicate changes regarding a new contact or allergic condition for a student. The application would route these changes to a school employee for review and approval. Upon approval, the application commits the changes to the student information database.
- During a medical emergency, whether in a hallway, cafeteria, gym, or on school grounds, a school nurse could access a student's emergency medical information on a wireless device or cell phone at the site of the incident.
- If a medical emergency occurs on a school bus or field trip, the bus driver or chaperone can use a cell phone to access emergency contact information. FCPS averages one medical emergency per week on a school bus.
- When a principal, assistant principal, or police officer encounters a student who appears to be out of class, they can use a wireless device to access the student's class schedule and photograph, then escort the student to class. If the individual is not a student in the school, then they can be removed from the building.
- If a school is in a lock-down situation and a group of students are confined or trapped in a room, then a school official could use a handheld device to obtain a listing of students scheduled to be in that room.

The Outcomes. The primary objectives of *weCare@school* are to improve the efficiency of collecting and maintaining emergency care information on students; to improve the accuracy of emergency care information; and to improve the accessibility and timeliness of emergency care information for first responders in schools. Achieving these objectives would further result in timely care of students in emergency situations and timely communication with parents. Ultimately, these factors lead to safer and more secure schools.

Given the inefficient and cumbersome approaches to emergency care information in use in schools today, the potential improvements are significant. FCPS is confident that the evaluation of this project, described later, will validate and quantify the realization of this potential.

Most, if not all, school systems share this need to better handle emergency care information. Thus replication of this capability is essential. To that end, FCPS will use standard-based approaches and technologies to develop, document, and deliver the *weCare@school* service such that it can be replicated by other student information and telecommunications service providers. Furthermore, FCPS and its partners will advocate this capability to providers and schools through our industry and school contacts, as well as publications in journals such as eSchool News and Converge magazine.

FCPS will also provide visibility for this service via local and national school board associations. Based on experience with these groups, FCPS is very confident that this will rapidly become a high-demand service for schools. This demand, in turn, will accelerate the demand for wireless access in schools, increased services from telecommunications companies, and development on new wireless applications. As Cisco Systems, Inc. states in their letter of support (Appendix page 22), *weCare@school* will create long lasting benefits far beyond the FCPS community and is the type of wide-scale technological advance that leads to productivity and job creation.

About FCPS. Fairfax County Public Schools (FCPS), located in Fairfax County, Virginia, is the 12th largest U.S. school district with over 166,000 students attending class in 241 schools and centers. It is a diverse and dynamic school system. Over 47% of FCPS students are in minority groups, 16% enroll/withdraw during the school year, 19% are economically disadvantaged, and 13% have limited English proficiency. Yet FCPS is very successful. Among the 100 largest school districts, FCPS has the highest percentage of students completing high school, 90% of its graduates pursue post-secondary education, and all eligible high schools rank in the top 4% of schools on the challenge index.

FCPS has substantial technology experience. It maintains an information technology infrastructure that includes 70,000 desktop computers, 1,100 servers, 200 LANs, an ATM WAN, and 45 enterprise information systems. In the past year alone, FCPS was named to the CIO Top 100, received an eGov Pioneer Award for online learning, a Governor's Technology Award in data warehousing, and an Application Development Trends' Innovator Award in web services.

2. Innovation

Wireless access points are rapidly spreading through businesses, homes, schools, and other public facilities across the country. The spread of this technology significantly enhances the ability to access information any time, any where. In fact, FCPS expects to have all 241 of its schools and centers wired for wireless in a little over two years. However, other than basic productivity applications like email, calendars, and the web, applications that take advantage of this new medium are lagging. Gartner Research's report *Predicts 2004: Mobile and Wireless* supports this view and states that wireless applications are slow to catch on. Gartner also states that popular applications will be those where the information provided is time-critical.

FCPS recognized the need for ready access to emergency care information many years ago. Several years ago when handheld devices began to proliferate, FCPS began investigating approaches for using these devices to access student information. FCPS surveyed the major student information system vendors to find that there was very little activity in this area. FCPS did explore with one vendor the possibility of using handheld devices with a data synchronization strategy to access student information. In the end, FCPS did not consider this approach to be viable due to the fact that sensitive student information could not be secured sufficiently since it had to be saved on the handheld devices—which are prone to loss. Furthermore, the technologies for integrating with back-end student information databases were not reliable.

Though today, major student information system providers are still lagging in this area, with the evolution of handheld devices and cell phones, the spread of wireless access, and the advent of web services, FCPS believes a solution is at hand. To validate this concept, FCPS recently partnered with webMethods to conduct a proof-of-concept demonstration. In one week, the team successfully demonstrated the ability of a wireless handheld device and a cell phone to invoke a web service over an encrypted communication channel. A web service was used to authenticate to an active directory. Then another web service retrieved emergency contact information on a student and returned this information over the encrypted communication channel for display on the handheld device and cell phone. The evolution of cell phones to run applications and access digital services is very promising since cell phones have the added advantage of accessing information where wireless access points are not available.

FCPS recently received Application Development Trends' Innovator Award in the Web Services category for its use of web services in application integration. *weCare@school* takes the use of web services even further, that is, to wireless devices and cell phones. Furthermore, this use of wireless applications to integrate with back-end systems is at the forefront of demonstrating the true potential of wireless.

3. Community Involvement

The primary users and beneficiaries of *weCare@school* are parents and first responders in schools. First responders include school staff, such as principals, assistant principals, physical education teachers, bus drivers, and school security. It also includes personnel from external agencies, including nurses from the County Health Department and police officers from the County Police Department. The Appendix, page 11, enumerates the groups of potential end users. FCPS and its partners will strive to develop a service that recognizes the needs of these diverse groups.

Partnerships. FCPS sought partnerships with webMethods, the Northern Virginia Technology Council (NVTC) Foundation, and Cisco Systems, Inc. Letters of support from each partner are in the Appendix (pages 22-24, 28).

webMethods is the leading independent provider of integration software. It delivers the industry's most comprehensive platform for enterprisewide integration, including complete support for enterprise web services. webMethods will be involved throughout this project to provide expertise on wireless application development and integration based on web services.

NVTC Foundation is a charitable 501(c)(3) organization affiliated with the NVTC, a membership association for the technology community in Northern Virginia. The NVTC Foundation encourages corporate efforts to give back to the community and support initiatives that include a technology component. The NVTC Foundation will assist FCPS in its outreach to parents, particularly for low-income families.

Cisco Systems, Inc. is a nationwide leader in the telecommunications industry that provides infrastructure services to businesses and school systems across the country. Cisco will assist

FCPS by leveraging their expertise and contacts in the telecommunications industry to promote advancement and awareness of wireless handheld technologies.

Support for End Users. With a significant investment in technology and experience in deploying new technologies, FCPS has long recognized the need for end user support and training. To that end, FCPS established standard support and training resources. This includes school-based support and training specialists to deal directly with school staff in learning and using technology to meet their needs. It also includes a professional help desk to answer calls and coordinate troubleshooting activities. The help desk is further supported by teams of technology specialists.

The *weCare@school* project will develop training and support materials. It will then train the school-based training and support specialists in a train-the-trainer fashion. The team will also work with schools and the NVTC Foundation to provide information and workshops for parents. The NVTC Foundation established computer clubhouses around the county, targeted to provide access to low-income families. FCPS will use this service to reach out to low-income parents so they may take advantage of this opportunity. FCPS will also develop an informational video for parents. FCPS will broadcast the video on its cable channel, at workshops, and over the Internet via streaming technology.

Stakeholder Involvement. Understanding the needs of end users and obtaining their buy-in are essential to delivering a successful solution. This is best accomplished by involving stakeholders throughout the process. FCPS will accomplish this by establishing several structures:

- A Steering Committee that will oversee and direct the project. The committee will include individuals with the authority to commit resources. It will include leadership members of FCPS departments and partners.
- A Users Advisory Group that will provide input and feedback on end user requirements and the suitability of the solution. It will consist of representatives from the external agencies cited above, principals associations, and the County Council of Parent Teachers Associations.
- Focus Groups that will be used to understand the needs of specific groups of users, such as parents, nurses, police officers, and school-based staff.

Sustained Commitment. As indicated in the Statement of Matching Funds, the success of this effort is not dependent on large financial or in-kind services from its partners. Rather it depends on maintaining a collaborative relationship with partners and stakeholders. FCPS enjoys long-lasting relationships with its partners as they are mutually beneficial relationships. As a progressive school system, partners benefit from FCPS' experience in education and visibility. Likewise, FCPS benefits from the partners' experience in technology and the community. These strong relationships are reflected in the partners' letters of support, Appendix pages 22-24, 28.

4. Evaluation

Evaluation Strategy. FCPS' approach is to establish baseline data from the schools and parents prior to a pilot implementation of the *weCare@school* service. The baseline data will be gathered through interviews and focus groups representative of the range of users. The pilot will be conducted at ten schools for a period of three months. Data will be gathered throughout the pilot

and compared to the baseline results. A final evaluation will be conducted after deployment of the service to all schools

Evaluation Questions. The focus of the evaluation will be on the objectives cited in the outcomes in Section 1: to improve the efficiency of collecting and maintaining emergency care information on students; to improve the accuracy of emergency care information; and to improve the accessibility and timeliness of emergency care information for first responders in schools. The data will include both quantitative and qualitative measures focused on the following questions:

- How many parents updated emergency information online, how often? Was it easy to use?
- How many parents did not use the online capability? What were the impediments?
- How much effort was required to update the information online versus manually?
- Was the emergency care information kept up to date and accurate?
- At the time of an incident, was the wireless device used to access emergency information? If not, why?
- Where was the wireless device used?
- Did the wireless device provide useful information? What other information was needed?

Data Collection and Analysis Plans. The planned evaluation activities are included in the project timeline, Appendix page 14. The plan includes collection, analysis, and reporting tasks at three points: at project initiation for baseline data, during the pilot deployment, and after the final deployment.

Funds for Evaluation. The evaluation is funded at \$55,000 based on a quote provided by the evaluator. This cost includes the fees of the evaluators for all tasks and materials.

Evaluators. The independent evaluation will be conducted by the Graduate School of Education at George Mason University. The principal evaluator is Dimiter Dimitrov, Associate Professor of Evaluation, Measurement, and Statistics. Professor Dimitrov will be supported by his graduate student. The Appendix, page 12, includes a brief biography of Professor Dimitrov.

Final Evaluation Report. Professor Dimitrov's team will produce an interim, as well as a final evaluation report. The interim report will be based on the pilot. The final evaluation report will encompass the whole project. FCPS will also contribute to a final report to document lessons learned throughout the project.

5. Project Feasibility

Technical Approach. As described in Section 2, Innovation, FCPS plans to leverage wireless and web services technologies to develop the *weCare@school* service. The Appendix, page 13, illustrates the architecture. A key component of the architecture is the webMethods Mobile server. webMethods Mobile is a platform for secure, reliable, and flexible delivery of real-time information over wireless networks based on industry standards. It is network and device independent. It provides the ability to connect handheld devices to enterprise systems; and it provides an application development toolkit for provisioning wireless, handheld applications.

Note that FCPS selected webMethods for its integration abilities via a competitive solicitation process.

Another key component is the use of web services. Web services are an industry standardized method for accessing applications and data via the web. FCPS will use web services to retrieve and update emergency care information in its student information database.

Web services will also play a key role in the web-based application used by parents. In this case, the web application will invoke web services to retrieve information on the parent's students and to submit changes into a workflow process. After a school employee reviews the specified changes, a web service will be used again to update the student information database.

FCPS recognizes that it would be unrealistic to completely eliminate the use of paper forms. Thus *weCare@school* will also have the ability to process and produce paper-based information. For example, when school nurses turn a student over to Emergency Medical Services, they will be able to invoke a command from the wireless device to print the information on a designated printer for the medical service personnel.

Based on the emphasis in using standards-based technologies and practices, FCPS is confident that other providers could produce similar services. Furthermore, this solution can serve as a model for other wireless applications—particularly the ability for wireless applications to integrate with back-end information systems.

Applicant Qualifications. FCPS is unlike most school systems in that it possesses significant technology development and support resources. It has over 300 technical staff to draw on for enterprise initiatives. Its abilities have been recognized by inclusion in the CIO Top 100 and numerous other awards (identified in Section 1, About FCPS).

For this effort, FCPS will form a multidisciplinary project team. It will include hardware, software, database, network, wireless technology, security, communications, training, and support specialists matrixed from the Department of Information Technology and other organizations. Mr. Ted Davis, the project director, will lead this effort for FCPS. A brief biography for Mr. Davis is included in the Appendix, page 12.

Project Implementation and Completion. FCPS will employ its established process for the exploration, development, and support of *weCare@school* to ensure its success. The Appendix, page 14, illustrates this process. The Appendix, page 16, also includes a detailed timeline for this 36 month effort.

Key features of this process include involvement of stakeholders throughout the process, evaluation of alternative solutions, a focus on internal and external communication, active tracking of progress, incremental development and deployment strategies, extensive testing (including scalability), continual evaluation, and early attention to supportability and training. This process also features open visibility to management and documentation of all key deliverables.

Privacy and Security. Due to the sensitive nature of student information, security of that information is paramount. To that end, FCPS will ensure that all data communications are encrypted, no sensitive data will be stored on handheld devices, access to the applications require authentication, role-based authorization levels restrict access to data, and users will receive security training. Furthermore, FCPS will contract with an independent security firm to evaluate security risks of the solution and to recommend mitigation strategies to ensure human subject protection.

Sustainability. FCPS' strategy for sustaining this solution, as done with all successful solutions, is to institutionalize its development, support, training, and stakeholder groups. These groups do not go away at the end of a project. Rather, FCPS continues to collect information on needs and feedback on solutions, it then continually enhances the solutions, support, and training. FCPS also rolls recurring project costs into its funding baseline to ensure financial viability.

The primary recurring costs in this effort include ongoing staff support, annual software and hardware maintenance, and wireless data communication charges. FCPS reviewed these recurring charges with respect to its current baseline and determined that the additional costs for future baselines are within acceptable limits.

Dissemination. FCPS enjoys high visibility and regard in education and technology across the country. President Clinton once described FCPS as a "lighthouse district" for K12 school systems. FCPS can leverage this visibility and the reach of its partners to draw national attention to *weCare@school*. At a minimum, FCPS will prepare publications for national education journals, such as eSchool News and Converge magazine, produce an informational video, share information with local and national school board associations. Information will also be disseminated through the partners' forums, including Cisco's offer to establish an annual technology meeting with education, technology, municipal, and emergency services leaders.

6. Project Budget

As outlined in the budget narrative, the estimated cost of this project is nearly \$1.3 million. The primary drivers influencing this cost are the effort to develop the wireless and web-based applications and the scale of FCPS. The development costs are necessary to ensure a high-quality solution. As stated before, this process includes extensive involvement with stakeholders, incremental development, and extensive testing.

Much of the remaining costs are driven by the size of FCPS. This effort assumes that the wireless solution will be provided to 1,263 first responders and support specialists. The web-based application will be made available to approximately 100,000 parents. The costs associated with the handheld devices, cell phones, software licenses, and communications charges are directly dependent on the number of end users.

Note that the letter of support from Cisco includes an offer of pro bono services valued up to \$250,000. As this service is not a required cost associated with the implementation plan, it is not included in the budget narrative or Statement of Matching Funds. However, FCPS will gladly pursue this very generous offer to leverage Cisco's extensive expertise in this field.

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EMERGENCY CARE INFORMATION

In case of an emergency, the school staff will contact 911.

Every attempt will be made to contact a parent, a guardian, or a designated emergency contact.

STUDENT INFORMATION																														
Last:	First:	Middle:	Date of Birth:	Gender <input type="checkbox"/> M <input type="checkbox"/> F	Bus No.:																									
School Name:		ID No.:	Teacher or Counselor:																											
HEALTH INFORMATION																														
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<p>Please list three persons we may call if the parent(s) or guardian cannot be reached who have your permission to make decisions concerning your child in the event of an emergency. Please check the box if this person also has your permission to pick up your child from school.</p> <table style="width: 100%; border: none;"> <thead> <tr> <th style="width: 30%;">Name of Person</th> <th style="width: 20%;">Relationship</th> <th style="width: 20%;">Language</th> <th style="width: 30%;">Telephone</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> _____</td> <td>_____</td> <td>_____</td> <td>(____) _____</td> </tr> <tr> <td><input type="checkbox"/> _____</td> <td>_____</td> <td>_____</td> <td>(____) _____</td> </tr> <tr> <td><input type="checkbox"/> _____</td> <td>_____</td> <td>_____</td> <td>(____) _____</td> </tr> </tbody> </table>						Name of Person	Relationship	Language	Telephone	<input type="checkbox"/> _____	_____	_____	(____) _____	<input type="checkbox"/> _____	_____	_____	(____) _____	<input type="checkbox"/> _____	_____	_____	(____) _____									
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PHYSICIAN INFORMATION																														
My child's medical care is provided by _____ (name of doctor, clinic, or HMO) (____) _____																														
My child's medical coverage is provided by _____ (health insurance company, assistance program, HMO, etc.) (____) _____																														

The school has my permission, in an emergency when I cannot be contacted, to take my child to the emergency room of the nearest hospital, and the hospital and its medical staff have my authorization to provide treatment that a physician deems necessary for the well-being of my child.

PARENT or GUARDIAN SIGNATURE: _____ DATE: _____

SS/SE-3 (7-03) Distribution: White-School Canary- Clinic Copy- Copy as needed for other school activities

weCare@school End Users

The primary users of *weCare@school* are parents and first responders to health, safety, and security incidents in schools. There are approximately 100,000 parents in FCPS. Table 1 below lists the first responders that will be addressed in this initiative. *weCare@school* will be provided to training and support specialists, in addition to the first responders, so that they may effectively provide training and support. FCPS will also provide one spare device for each of its 241 schools and centers.

Table 1. End Users Included in the Grant	
Category	Count
Principals	202
Assistant Principals	303
School Security	64
School-Based Police Officers	42
Public Health Nurses	53
Clinic Room Aides	190
Training Specialists	116
Support Specialists	52
Schools and Centers	241
Total	1,263

Table 2 below lists other potential users. These users are not included at this time to limit the costs. FCPS is confident that once *weCare@school* becomes visible in schools, it will become a high-demand item. Thus FCPS will work with the schools and their Parent Teacher Associations to fund the additional devices and licenses that would be needed.

Table 2. End Users Not Included in the Grant	
Category	Count
Physical Education Teachers	679
Athletic Directors	23
Coaches	1,163
Bus Drivers	1,251
Total	3,116

Leader Biographies

Ted Davis, Project Director

Ted Davis is the Director of Knowledge Asset Management in the Department of Information Technology, Fairfax County Public Schools. Mr. Davis is responsible for enterprisewide information services. He is responsible for implementing and maintaining information systems that cover every major function of the school system, including student information administration, instruction, special education, continuing education, personnel, payroll, facilities, food services, transportation, and more. He has personally overseen the implementation, upgrade, or replacement of over 20 systems in the past seven years.

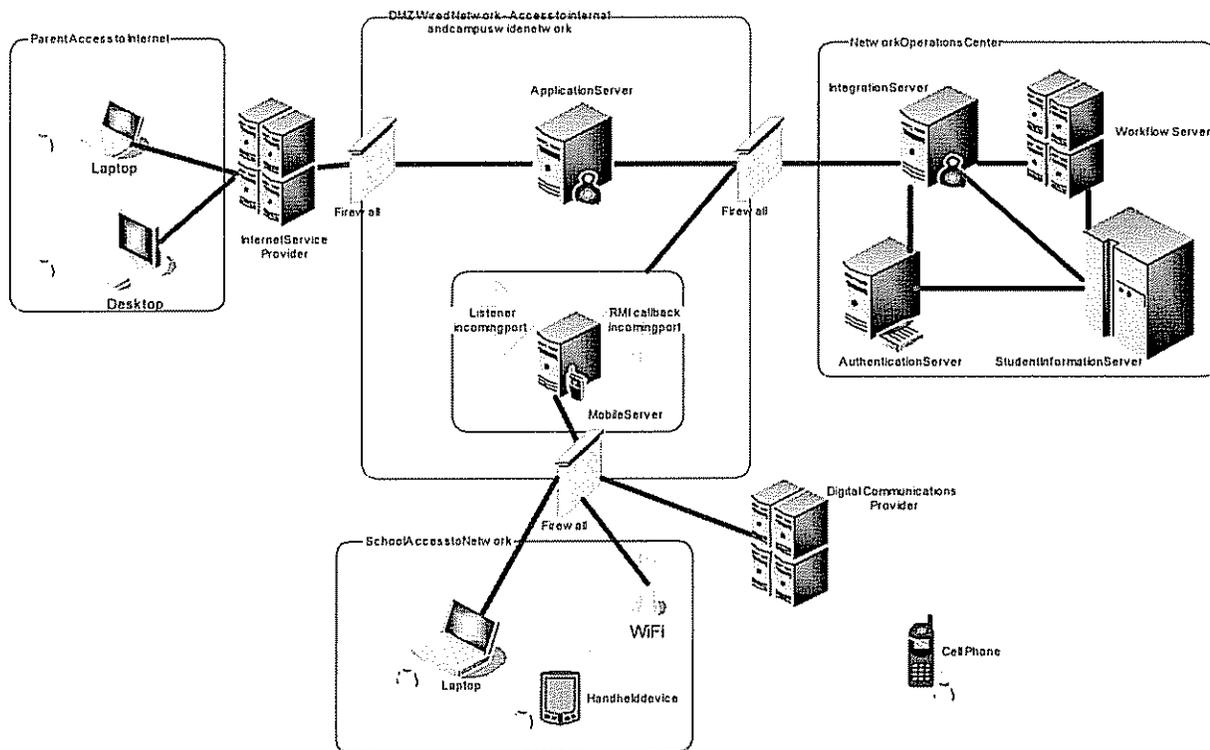
Some of Mr. Davis' significant accomplishments while at FCPS include establishment of the FCPS technology support model, introduction and adoption of project management practices, establishment of competitive procurement models, and re-architecting FCPS' enterprise application infrastructure. These accomplishments contributed to the CIO Top 100, Governor's Technology, and Application Development Trends Innovator awards.

Mr. Davis also demonstrated the ability to replicate technology achievements in other school districts. For the Education Decision Support Library (EDSL), a data warehouse for educators, he negotiated partnerships with Oracle, Informatica, Crystal Decisions, and Insystech to enable other school districts to access EDSL via an application service provider. In the first six months of this program, five school districts began using EDSL. Mr. Davis expects 15 more school districts to begin using EDSL in the next year.

Dimiter Dimitrov, Principal Evaluator

Dimiter Dimitrov is an Associate Professor of Evaluation, Measurement, and Statistics in the Graduate School of Education at George Mason University, Fairfax, Virginia. Dr. Dimitrov's area of expertise and teaching includes Evaluation & Research, Classical & Modern Measurement Theory, and Statistical Methods in Education. His work in this field is represented with over 60 publications in professional journals and presentations at educational research conferences. Dr. Dimitrov has an outstanding record in service to the profession. Currently, he is a Director of the Division for Educational Research & Methodology with the Midwestern Educational Research Association. He is also the Associate Editor/Editor Elect for the prestigious professional journal *Measurement and Evaluation in Counseling and Development*. Dr. Dimiter has also participated as an evaluator in numerous projects. A recent example is the *Evaluation of Grading System for Third Year Medical Students* sponsored by the College of Medicine, Northeastern Ohio Universities.

weCare@school Architecture

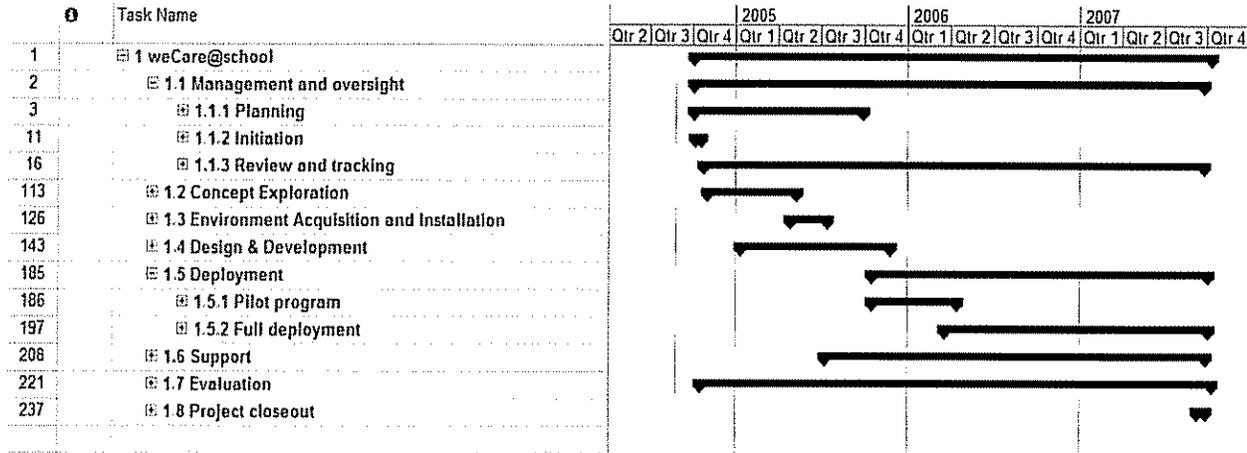


The diagram above illustrates the components of the parent and wireless applications of *weCare@school*. A parent accesses the application over the Internet via their Internet Service Provider. The parent application is served to the parent via an Application Server in FCPS' DMZ area. To gain access to the application, parents must authenticate. The application server passes the parent's credentials to the Integration Server via a web service. The Integration Server validates these credentials against the authentication server.

After a parent authenticates, the Application Server invokes a web service to obtain their students' emergency information. The Integration Server handles the web service and pulls the student information from the Student Information Server. The Application Server presents this data to the parent in a pre-populated emergency care form. At this point a parent may specify changes to the data. The Application Server passes the changes to the Workflow Server via the Integration Server as a web service. The appropriate school-based staff is notified of the change via email. Upon approval, the Workflow Server updates the student data in the Student Information Server via the Integration Server.

When a school-based user needs to access the emergency information for a student, like the parent, they must authenticate. The authentication process is similar to that stated above except that the interaction with the user is handled by the Mobile Server. After the user authenticates, they can request information on a student by invoking a web service. The Mobile Server passes the web service to the Integration Server, which in turn pulls the information from the Student Information Server.

Project Lifecycle Model



The screenshot above provides a high-level view of the lifecycle for *weCare@school*. The project spans 36 months beginning in October 2004. The lifecycle consists of overlapping phases described below. The detailed timeline is provided on the pages 16-18.

Management and Oversight. Management and oversight spans the entire project and consists of three major activities. The *Planning* activity is based on the approach that an overall plan is established for the project. As the project progresses, detailed plans are developed for each phase of the project. The *Initiation* activity focuses on team formation and the establishment of roles and responsibilities. This plan includes the formation of a multidisciplinary project team, a steering committee, and users advisory group. The *Review and tracking* activity consists of the continual review and adjustment of project progress. It includes biweekly project team meetings and quarterly steering and advisory meetings.

Concept Exploration. Concept exploration focuses on the definition of user needs, identification of alternative solution strategies, and the evaluation and selection of the recommended solution concept. It includes interviews with key stakeholders and focus groups. Key deliverables include the requirements document and concept document. The concept document includes the solution architecture.

Environment Acquisition and Installation. Environment acquisition and installation focuses on establishing the infrastructure necessary to develop, test, train, and deploy the proposed solution. It includes capacity planning, technology selection, establishment of contract vehicles, purchase, and installation of the environment. The key deliverable includes the network architecture of the environment.

Design & Development. Design and development focuses on the creation of the proposed solution. It includes activities for process modeling, design specification, component development, and testing. Performance and scalability testing are conducted, in addition to functional and system testing. This phase also includes the development of end user training. Key deliverables include the design specification, test plans, and training materials.

Deployment. Deployment focuses on delivering the solution to end users. This includes end user training. To mitigate risk, FCPS follows an incremental deployment strategy. This includes deployment to ten schools as part of the pilot program. The purpose of the pilot is to gather feedback on the solution and to see how the solution performs in the field. The full deployment is also broken down into two deployments. This is necessary to manage the scale of FCPS' environment. The key deliverable includes a report on the pilot program.

Support. The support phase focuses on the establishment and initiation of support procedures. Definition of support requirements begins during the design and development phase. It includes a review of the solution and development of support procedures. Support specialists are oriented to the solution and support procedures. Support is then initiated in time for the pilot deployment. The key deliverable includes the support procedures.

Evaluation. The evaluation phase focuses on establishing the validity of the proposed objectives. It includes data collection, analysis, and reporting activities. It begins early in the lifecycle with the collection of baseline data. This is accomplished through participation in the stakeholder interviews and focus groups. Evaluations are conducted for the pilot deployment and the full deployment. Key deliverables include the pilot and final evaluation reports.

Project Closeout. This phase focuses on completing the project. It includes settling financial accounts, providing feedback to project participants, and documentation of lessons learned. This phase also includes recommendations for future expansion and a celebration of the project's success.

weCare@school Project Timeline

Task Name	Duration	Start	Finish
1 weCare@school	788 days	Mon 10/4/04	Wed 10/10/07
1.1 Management and oversight	776.25 days	Mon 10/4/04	Tue 9/28/07
1.1.1 Planning	258 days	Mon 10/4/04	Wed 9/28/05
1.1.1.1 Review scope and project plan	4 hrs	Mon 10/4/04	Mon 10/4/04
1.1.1.2 Elaborate Concept Exploration plan	3 days	Tue 10/5/04	Thu 10/7/04
1.1.1.3 Elaborate Evaluation plan	3 days	Tue 10/5/04	Thu 10/7/04
1.1.1.4 Elaborate Acquisition plan	3 days	Mon 4/25/05	Wed 4/27/05
1.1.1.5 Elaborate Design & Development plan	3 days	Mon 4/25/05	Wed 4/27/05
1.1.1.6 Elaborate Support plan	3 days	Tue 7/5/05	Thu 7/7/05
1.1.1.7 Elaborate Deployment plan	3 days	Mon 9/26/05	Wed 9/29/05
1.1.2 Initiation	10.25 days	Wed 10/6/04	Wed 10/20/04
1.1.2.1 Prepare team materials	6 days	Wed 10/6/04	Wed 10/13/04
1.1.2.2 Form project team	4 hrs	Mon 10/11/04	Mon 10/11/04
1.1.2.3 Form steering committee	2 hrs	Mon 10/18/04	Mon 10/18/04
1.1.2.4 Form users advisory group	2 hrs	Wed 10/20/04	Wed 10/20/04
1.1.3 Review and tracking	760.25 days	Tue 10/26/04	Tue 9/25/07
1.1.3.1 Project team meeting	760.25 days	Tue 10/26/04	Tue 9/25/07
1.1.3.2 Steering committee meeting	455.25 days	Mon 2/7/05	Mon 11/6/06
1.1.3.3 Users advisory group meeting	465.25 days	Mon 2/14/05	Mon 11/13/06
1.2 Concept Exploration	137 days	Mon 11/1/04	Tue 5/10/05
1.2.1 Define requirements	115 days	Mon 11/1/04	Fri 4/8/05
1.2.1.1 Interview key stakeholders	30 days	Mon 11/1/04	Fri 12/10/04
1.2.1.2 Setup focus groups	5 days	Mon 12/20/04	Fri 12/24/04
1.2.1.3 Conduct focus groups	30 days	Mon 1/17/05	Fri 2/25/05
1.2.1.3.1 School admin staff	8 days	Mon 1/17/05	Wed 1/26/05
1.2.1.3.2 Police officers and school security	8 days	Thu 1/27/05	Mon 2/7/05
1.2.1.3.3 Nurses	8 days	Mon 2/7/05	Wed 2/16/05
1.2.1.3.4 Parents	8 days	Wed 2/16/05	Fri 2/25/05
1.2.1.4 Document requirements	45 days	Mon 2/7/05	Fri 4/8/05
1.2.2 Develop solution concept	15 days	Thu 3/31/05	Wed 4/20/05
1.2.3 Review requirements and concept	10 days	Mon 4/18/05	Fri 4/29/05
1.2.4 Refactoring	10 days	Wed 4/27/05	Tue 5/10/05
1.3 Environment Acquisition and Installation	67 days	Wed 4/27/05	Thu 7/14/05
1.3.1 Determine hardware sizing and capacity	10 days	Wed 4/27/05	Tue 5/10/05
1.3.2 Select platforms	11 days	Tue 5/10/05	Tue 5/24/05
1.3.2.1 Servers (Dev Test Train & Prod)	5 days	Tue 5/10/05	Mon 5/16/05
1.3.2.2 Wireless PDAs	5 days	Wed 5/11/05	Tue 5/17/05
1.3.2.3 Cell phones	10 days	Wed 5/11/05	Tue 5/24/05
1.3.2.4 Application development tools	5 days	Wed 5/19/05	Tue 5/24/05
1.3.3 Purchase platforms	6 days	Fri 5/20/05	Thu 5/26/05
1.3.3.1 Servers (Dev Test Train & Prod)	5 days	Fri 5/20/05	Thu 5/26/05
1.3.3.2 Wireless PDAs	5 days	Fri 5/20/05	Thu 5/26/05
1.3.3.3 Cell phones	5 days	Fri 5/20/05	Thu 5/26/05
1.3.3.4 Application development tools	5 days	Fri 5/20/05	Thu 5/26/05
1.3.4 Install and configure platforms	10 days	Fri 7/1/05	Thu 7/14/05
1.3.4.1 Servers (Dev Test Train & Prod)	10 days	Fri 7/1/05	Thu 7/14/05
1.3.4.2 Wireless PDAs	1 day	Fri 7/1/05	Fri 7/1/05
1.3.4.3 Cell phones	1 day	Fri 7/1/05	Fri 7/1/05
1.3.4.4 Application development tools	1 day	Fri 7/1/05	Fri 7/1/05

weCare@school Project Timeline

Task Name	Duration	Start	Finish
1.4 Design & Development	230 days	Mon 1/10/05	Fri 11/25/05
1.4.1 Train team on base technologies	10 days	Mon 1/25/05	Fri 5/6/05
1.4.2 Develop process model	20 days	Mon 5/2/05	Fri 5/27/05
1.4.3 Develop architecture	15 days	Mon 5/9/05	Fri 5/27/05
1.4.4 Develop component designs	40 days	Fri 5/27/05	Thu 7/21/05
1.4.4.1 Handheld application	12.5 days	Fri 5/27/05	Tue 6/14/05
1.4.4.2 Cell phone application	5 days	Fri 5/27/05	Thu 6/2/05
1.4.4.3 Parent application	40 days	Fri 5/27/05	Thu 7/21/05
1.4.4.4 Account management	20 days	Fri 5/27/05	Thu 6/23/05
1.4.4.5 Integration with student information system	10 days	Fri 5/27/05	Thu 6/9/05
1.4.5 Review design	5 days	Fri 6/24/05	Thu 6/30/05
1.4.6 Refactoring	10 days	Fri 7/1/05	Thu 7/14/05
1.4.7 Develop and unit test components	60 days	Thu 7/14/05	Wed 10/5/05
1.4.7.1 Handheld application	15 days	Thu 7/14/05	Wed 8/3/05
1.4.7.2 Cell phone application	15 days	Thu 7/14/05	Wed 8/3/05
1.4.7.3 Parent application	40 days	Thu 7/14/05	Wed 9/7/05
1.4.7.4 Account management	25 days	Thu 8/4/05	Wed 9/7/05
1.4.7.5 Integration with student information system	25 days	Thu 8/4/05	Wed 9/7/05
1.4.7.6 Refactoring	20 days	Thu 9/8/05	Wed 10/5/05
1.4.8 Testing	71 days	Thu 6/30/05	Thu 10/6/05
1.4.8.1 Develop test plan	5 days	Thu 6/30/05	Wed 7/6/05
1.4.8.2 Develop test procedures	10 days	Thu 7/7/05	Wed 7/20/05
1.4.8.3 Establish test environment and data	5 days	Wed 8/10/05	Tue 8/16/05
1.4.8.4 Conduct system testing	10 days	Wed 8/17/05	Tue 8/30/05
1.4.8.5 Conduct integration testing	10 days	Thu 8/25/05	Wed 9/7/05
1.4.8.6 Conduct performance (load) testing	15 days	Thu 8/25/05	Wed 9/14/05
1.4.8.7 Conduct acceptance testing	10 days	Fri 9/16/05	Thu 9/29/05
1.4.8.8 Refactoring	15 days	Fri 9/16/05	Thu 10/6/05
1.4.9 Security audit	20 days	Fri 9/30/05	Thu 10/27/05
1.4.10 Develop documentation and training	230 days	Mon 1/10/05	Fri 11/25/05
1.4.10.1 Develop information/promotion materials	190 days	Mon 1/10/05	Fri 9/30/05
1.4.10.1.1 Fact sheets	5 days	Mon 1/10/05	Fri 1/14/05
1.4.10.1.2 FAQs	5 days	Mon 1/10/05	Fri 1/14/05
1.4.10.1.3 Web site	10 days	Mon 1/17/05	Fri 1/29/05
1.4.10.1.4 Video	15 days	Mon 9/12/05	Fri 9/30/05
1.4.10.2 Develop user documentation	15 days	Fri 9/30/05	Thu 10/20/05
1.4.10.2.1 Employees	10 days	Fri 9/30/05	Thu 10/13/05
1.4.10.2.2 Parents	15 days	Fri 9/30/05	Thu 10/20/05
1.4.10.3 Develop end user training	20 days	Mon 10/10/05	Fri 11/4/05
1.4.10.3.1 Employees	15 days	Mon 10/10/05	Fri 10/28/05
1.4.10.3.2 Parents	20 days	Mon 10/10/05	Fri 11/4/05
1.4.10.4 Refactoring	15 days	Mon 11/7/05	Fri 11/25/05
1.5 Deployment	514 days	Mon 10/17/05	Thu 10/14/07
1.5.1 Pilot program	130 days	Mon 10/17/05	Fri 4/14/06
1.5.1.1 Order handheld devices	5 days	Mon 10/17/05	Fri 10/21/05
1.5.1.2 Select pilot schools and users	1 day	Tue 11/29/05	Tue 11/29/05
1.5.1.3 Orient pilot participants	10 days	Tue 12/6/05	Mon 12/19/05
1.5.1.4 Gather pilot school configuration data	10 days	Tue 12/6/05	Mon 12/19/05
1.5.1.5 Configure handheld devices	5 days	Tue 12/6/05	Mon 12/12/05

weCare@school Project Timeline

Task Name	Duration	Start	Finish
1.5.1.6 Load pilot school data/accounts	3 days	Tue 12/20/05	Thu 12/22/05
1.5.1.7 Train pilot program users	5 days	Mon 1/9/06	Fri 1/13/06
1.5.1.8 Conduct pilot	60 days	Mon 1/16/06	Fri 4/7/06
1.5.1.9 Solicit feedback	29 days	Tue 2/28/06	Fri 4/7/06
1.5.1.10 Refactoring	20 days	Mon 3/20/06	Fri 4/14/06
1.5.2 Full deployment	404 days	Mon 3/20/06	Thu 10/4/07
1.5.2.1 Order handheld devices	5 days	Mon 3/20/06	Fri 3/24/06
1.5.2.2 Gather school configuration data	10 days	Wed 3/22/06	Tue 4/4/06
1.5.2.3 Load school data/accounts	10 days	Tue 3/28/06	Mon 4/10/06
1.5.2.4 Train the trainers	10 days	Mon 4/10/06	Fri 4/21/06
1.5.2.6 Spring 1	35 days	Mon 4/24/06	Fri 6/9/06
1.5.2.6.1 Train school-based staff	25 days	Mon 4/24/06	Fri 6/9/06
1.5.2.6.2 Parents	35 days	Mon 4/24/06	Fri 6/9/06
1.5.2.8 Spring 2	119 days	Mon 4/23/07	Thu 10/4/07
1.5.2.8.1 Train school-based staff	20 days	Mon 4/23/07	Fri 6/1/07
1.5.2.8.2 Parents	25 days	Fri 6/3/07	Thu 10/4/07
1.6 Support	580 days	Mon 7/11/05	Fri 9/28/07
1.6.1 Define support requirements	10 days	Mon 7/11/05	Fri 7/22/05
1.6.2 Develop support procedures and documents	26 days	Mon 7/25/05	Fri 8/26/05
1.6.2.1 Employees	10 days	Mon 7/25/05	Fri 8/5/05
1.6.2.2 Parents	15 days	Mon 8/8/05	Fri 8/26/05
1.6.3 Onsite support specialists	5 days	Mon 8/12/05	Fri 8/18/05
1.6.4 Instate support model	1 day	Thu 12/1/05	Thu 12/1/05
1.6.5 Level 1 - Site-based support (pilot)	103 days	Thu 12/1/05	Mon 4/24/06
1.6.6 Level 2 - Central-based support (pilot)	103 days	Thu 12/1/05	Mon 4/24/06
1.6.7 Level 1 - Site-based support (full)	174 days	Tue 1/30/07	Fri 9/28/07
1.6.8 Level 2 - Central-based support (full)	174 days	Tue 1/30/07	Fri 9/28/07
1.6.9 Level 3 - Application maintenance	477 days	Thu 12/1/05	Fri 9/28/07
1.6.10 Server administration	376 days	Fri 4/21/06	Fri 9/28/07
1.7 Evaluation	778 days	Mon 10/18/04	Wed 10/10/07
1.7.1 Baseline assessment	110 days	Mon 10/18/04	Fri 3/18/05
1.7.1.1 Design measures and collection mechanisms	5 days	Mon 10/18/04	Fri 10/22/04
1.7.1.2 Collect baseline measures	85 days	Mon 11/1/04	Fri 2/25/05
1.7.1.3 Analyze results	10 days	Mon 2/28/05	Fri 3/11/05
1.7.1.4 Prepare baseline report	5 days	Mon 3/14/05	Fri 3/18/05
1.7.2 Pilot evaluation	110 days	Mon 12/12/05	Fri 6/12/06
1.7.2.1 Review measures and collection mechanisms	5 days	Mon 12/12/05	Fri 12/16/05
1.7.2.2 Collect pilot measures	60 days	Mon 1/16/06	Fri 4/7/06
1.7.2.3 Analyze results	15 days	Mon 4/10/06	Fri 4/28/06
1.7.2.4 Prepare initial evaluation report	10 days	Mon 5/1/06	Fri 6/12/06
1.7.3 Final evaluation	48 days	Mon 8/6/07	Wed 10/10/07
1.7.3.1 Review measures and collection mechanisms	3 days	Mon 8/6/07	Wed 8/8/07
1.7.3.2 Collect final measures	7 days	Thu 8/9/07	Fri 8/17/07
1.7.3.3 Analyze results	5 days	Thu 8/23/07	Wed 9/26/07
1.7.3.4 Prepare final evaluation report	9 days	Fri 9/28/07	Wed 10/10/07
1.8 Project closeout	15 days	Mon 9/10/07	Fri 9/28/07
1.8.1 Lessons learned review	8 days	Mon 9/10/07	Wed 9/19/07
1.8.2 Develop final report	13 days	Wed 9/12/07	Fri 9/28/07



April 14, 2004

Technology Opportunities Program
U.S. Department of Commerce
Washington, DC

Attention: Grant Applications Committee

It is my pleasure to offer this letter of support for the Technology Opportunities Program (TOP) grant application being made by Fairfax County Public Schools and to describe some of the ways in which wireless handheld devices, with emergency care application, would benefit our school system.

I am the principal of a diverse middle school with 860 students. The need to be "ready" with student information is called upon numerous times during the school day. Here are some examples:

- A physical education class was practicing on our track. One of the students fell and was badly injured. While someone stayed with the student, the coach was obliged to come back into the building, contact the front office where the emergency care cards are housed, and have someone try and reach the student's parents and call an ambulance.

A coach, with a wireless device containing the student's information, could have quickly called the student's emergency contact, called an ambulance, if necessary, and provided emergency medical information on the student to the ambulance attendants – all without ever leaving the track area or the student.

- Schools are experiencing increased gang activity. Teachers, administrators, and School Resource Officers (police officers assigned to schools) frequently patrol school hallways to keep them safe. Sometimes students are in the hallway when they should not be, and they are stopped and questioned. However, the person stopped in the hallway is not always a student and might be on school property without authorization, possibly impersonating a student with the intent to contact a fellow gang member or to do harm to someone.

A wireless device could have quickly displayed a list of students in the school, a student's picture and class schedule, or by process of elimination helped determined that someone should not be on school property.

- Another value to wireless devices is that student emergency care information could be updated online by the parent and immediately made available to a school. Previously, the Emergency Care Card was filled out by the parent at the beginning of the school year and rarely updated.
- During a fire drill a teacher noticed that a student was missing from her class. She quickly informed the administration. A conversation ensued about whether the child has left early with a parent or whether they might still be in the building. Once back in the building the attendance officer checked the school early dismissal information and found that the child had indeed left with a parent for a doctor's appointment.

With a wireless device the administrator could have checked the attendance immediately and prevented misplaced concern over a missing child.

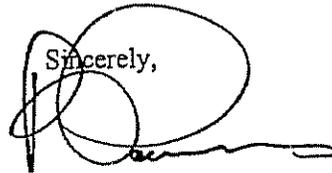
- During a team meeting of the seventh grade core teachers a decision was made to set up a conference with the parents of a troubled student. The counselor agrees to retrieve the parent information when she gets back to her office and set the meeting up with the parent.

With a wireless device the administrator could access parent information on the spot so that the team could schedule the meeting with the parents while all the parties involved are still present.

- A special education student who is prone to life threatening, grand mal seizures suddenly collapses during her general education physical education class and begins to have a seizure. Although the P.E. teacher does not have a special education background, the teacher uses a wireless device to access the student's medical information and the emergency response procedures outlined by her physician. The teacher also uses the wireless device to contact the parents and physician, all without leaving the gym area and the students. When the ambulance arrives, the teacher is able to give the emergency medical technicians (EMTs) the proper information. The parents, having been already notified, are on their way to the hospital to meet their child, while the physician sends the hospital with specific information about the student's condition.

Timely access to current information is what all schools need. Parents have entrusted the school system with keeping 166,000 students safe. Wireless handheld devices would give us a real advantage.

Sincerely,

A handwritten signature in black ink, consisting of several loops and a long horizontal stroke at the end.

Roberto A. Parnas
Principal



FAIRFAX COUNTY

DEPARTMENT OF HEALTH

Administrative Office
10777 Main Street, Suite 203
Fairfax, Virginia 22030-6903

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TDD: (703) 591-6435

April 13, 2004

Technology Opportunities Program
U.S. Department of Commerce
Washington, DC 20230

Attention: Grant Applications Committee

It is my pleasure to offer this letter of support for the Technology Opportunities Program (TOP) grant application being made by Fairfax County Public Schools and to describe some of the ways in which wireless handheld devices, with the emergency care application, would benefit school nurses and clinic room aides.

I supervise public health nurses (PHNs) and Clinic Room Aides (CRA's) assigned to work in schools. PHN's and CRA's provide services to students who have health needs such as school injuries, asthma, diabetes, cancer, and severe life threatening allergies. Specific examples from a typical day are:

- A teacher calls from the gymnasium to report that a student is feeling faint and is unable to walk to the clinic. The clinic room aide (CRA) goes to the gym to assess the student's condition. A determination is made to contact the student's family so the student can be taken to her family physician. However, the aide returns to the clinic, to get the student's emergency contact numbers, and call the family. An aide, carrying a wireless device with emergency care information when he/she went to the gym, could have provided a more timely notification to the family.
- A new student is showing signs of stress due to the loss of a parent, a resulting move to this area, and acclimation to a new school and new friends. In addition, the student took a part-time job and is having difficulty juggling school and job responsibilities. Situations like this are not uncommon in high school, and a student doesn't realize he or she is on overload until the stress takes a toll. The nurse needed to contact the student's parent, but the emergency care card, for the new student, had not been finalized by the parent and submitted to the school. An online solution would have given the parent an option that would have quickly provided the school with the needed information.

Whatever the need for emergency information, the students' well-being is the primary focus of our business. To have the information when we need it, and be able to communicate promptly with the parents would enable us to serve our students the best way possible.

Sincerely,

Sandy Graumann
Assistant Director of Patient Care Services



Cisco Systems, Inc.

Woody Sessoms
Vice President
Mid-Atlantic Area
5275 Parkway Plaza Blvd.
Suite 100
Charlotte, NC 28217
Tel: (704) 357-5100
Fax : 704-357-5166

April 13, 2004

Nitin Pradhan
Chief Information Technology Architect
Fairfax County Public Schools
4414 Holborn Avenue
Annandale, Virginia 22003

Mr. Pradhan,

Cisco Systems Inc. ("Cisco") is pleased to actively participate in your upcoming *weCARE@FCPS* (Wireless Emergency Care) initiative and we fully support the associated grant requests that Fairfax County Public Schools ("FCPS") are seeking from the National Telecommunication and Information Administration. We believe that this project will allow FCPS and Cisco to further leverage our longstanding partnership for the betterment of students, parents and community as well as dramatically enhancing the ability of first responders to meet emergency needs.

Of particular interest to Cisco is the potential to extend your solution as a best practice throughout the education community. Specifically, here in the Mid-Atlantic States, I see an opportunity to leverage the lessons learned from your project and have it serve as an example of the innovative ways schools and first responders can respond to an emergency situation and provide highly effective services and communications

In support of your efforts, Cisco proposes the following:

- The continued support of Cisco's local Systems Engineer and Account Manager to leverage Fairfax County Public Schools' multimillion dollar 802.11 wireless and network infrastructure for integration with the *weCARE@FCPS* project through their review of data networking configurations and recommendations with respect to technology or product configurations/additions.
- For a twelve to eighteen month period, Cisco will offer pro bono consulting services of Mr. William Fowler, a manager with the Cisco's Internet Business Consulting Group. Mr. Fowler's total engagement with FCPS is valued at \$250,000.
- Cisco will coordinate meetings and discussions between FCPS and Cisco's industry partners, particularly in the areas of telecommunications and wireless phone technologies, for the continued advancement of handheld devices to be used as part of the *weCARE@FCPS* project.
- At FCPS' request, Cisco will facilitate an annual technology meeting with education, information technology, municipal and emergency services (such as EMT and Fire) leaders to review advancements in the field of emergency response and to discuss best practices with the goal of assisting in the continued evolution of the *weCARE@FCPS* project.

The level of innovation and the criticality of the needs addressed in this project is consistent with Cisco's perception of Fairfax County Public Schools as a true leader in education and community. FCPS'



leadership role with this program will create long lasting benefits far beyond the reaches of your local community.

At Cisco, as pioneers of new technologies, we have seen the benefits to communities in terms of services, productivity and job creation that result from wide scale technological advances and the applications that drive them. There is no doubt that *weCARE@FCPS* is such an application.

Thank you again for including Cisco Systems in this leading edge solution for communications, security and community unification.

Sincerely

A handwritten signature in black ink, appearing to read "Woody Sessoms". The signature is fluid and cursive, with a prominent initial "W" and a trailing flourish.

Woody Sessoms
Area Vice President ,US Sales, Cisco Systems, Inc.

webMethods

Global Business Visibility

Technology Opportunities Program
U.S. Department of Commerce
Washington, DC 20230

Attention: Grant Applications Committee

April 16, 2004

Dear Committee Members:

webMethods, Inc. the industry's first Web services infrastructure company is pleased to provide this letter of support and commitment to our partner Fairfax County Public Schools in the pursuit of a fiscal year 2004 Technical Opportunities Program (TOP) grant.

We recognize the leadership role that the United States Department of Commerce's National Telecommunications and Information Administration (NTIA) plays in delivering programs that spur innovation, encourage competition and help create jobs. The TOP program is an excellent vehicle for our partner the Fairfax County Public Schools to demonstrate how new telecommunications and information technologies can provide benefits to the education and public sector communities across the nation.

weCare@school is a wireless, emergency-care information service for public schools built on webMethods Mobile technology. It will allow first responders to have access wirelessly to emergency care and location information during medical, safety and security incidents. Parents will also have access to and will be able to update emergency care information for their children securely and efficiently. Key users such as principals, school resource officers (police officers), County nurses and school bus drivers will also have access to critical student information securely via a wireless handheld device such as a PDA or a cell phone. This will increase the safety and well being of our County's children.

webMethods, Inc. is proud to support our partner Fairfax County Public Schools in this request for a grant award from the Technology Opportunities Program and is including an in kind contribution of mobile training that is valued at \$10,000. If your office has any questions please do not hesitate to contact me at 703.251.7155.

Best Regards,



Bob Jones

Director, Government Business Unit



FAIRFAX COUNTY
PUBLIC SCHOOLS

Office of the Superintendent
Burkholder Administrative Center
10700 Page Avenue
Fairfax, Virginia 22030

April 20, 2004

U. S. Department of Commerce
Technology Opportunities Program
1401 Constitution Avenue, NW
HCHB, Room 4096
Washington, DC 20230

Dear Sir or Madam:

Fairfax County Public Schools wholeheartedly endorses the grant application for *weCare@school*. It is increasingly important for schools to provide a safe environment for their students. Therefore, enhancing our ability to maintain and access emergency information would be of immense value to school administrators and staff. Since *weCare@school* would be replicable in other school districts across the country, this innovative project will use technology to provide a very practical solution to a national problem.

I hope that U. S. Department of Commerce gives favorable consideration to the proposal outlined by the project director, Ted Davis. If you have any additional questions about *weCare@school*, please contact Mr. Davis by telephone at 703-329-7444 or by e-mail to Ted.Davis@fcps.edu.

Sincerely,

A handwritten signature in black ink that reads 'Brad Draeger'.

Brad Draeger
Interim Superintendent

BD/cm

FAIRFAX COUNTY POLICE DEPARTMENT

4100 CHAIN BRIDGE ROAD, FAIRFAX, VIRGINIA 22030-7002



April 16, 2004

Technology Opportunities Program
National Telecommunications and
Information Administration
U.S. Department of Commerce
1401 Constitution Avenue, N.W.
HCHB, Room 4096
Washington, D.C. 20230

To Whom It May Concern:

I am writing to endorse Fairfax County Public Schools (FCPS) grant application under the Technology Opportunities Program for the weCare@school Project. The use of wireless communication in emergency situations is vital to a large and diverse system serving 166,000 students.

weCare@school will allow first responders in schools including police officers to access student emergency care information via wireless Personal Digital Assistants (PDAs) and cell phones. This enables school staff and emergency personnel to work together to access information instantly when and where it is needed the most.

As the Chief of the Police Department that services FCPS, I believe this technology will give us a considerable advantage in protecting and serving the students and families in our district. I hope you will find this proposal to be as worthwhile as I do.

Sincerely,


Suzanne G. Devlin, Lt. Colonel
Chief of Police

SGD/sej

GEORGE ALLEN
VIRGINIA

204 RUSSELL OFFICE BUILDING
WASHINGTON, DC 20510-4604

(202) 224-4024
(202) 224-5432 (FAX)

<http://allen.senate.gov/email.html>



COMMITTEES:
COMMERCE, SCIENCE, AND
TRANSPORTATION
FOREIGN RELATIONS
SMALL BUSINESS AND
ENTREPRENEURSHIP

United States Senate

April 16, 2004

Technology Opportunities Program
National Telecommunications and Information
Administration
United States Department of Commerce
1401 Constitution Avenue, NW
HCHB, Room 4096
Washington, DC 20230

Dear Sir or Madam:

I am writing in support of Fairfax County Public Schools' (FCPS) grant application under the Technology Opportunities Program. The weCare@school Project will prove to be an invaluable tool for a large school system in emergency situations.

weCare@school allows first responders in schools including police officers, nurses, principals, and assistant principals to instantly retrieve student information on hand held PDAs or cell phones. Student schedules and family contact information will be available anywhere on school grounds where an emergency could occur.

I urge you to give the Fairfax County Public Schools' application every fair and favorable consideration. This project will help FCPS to better serve and protect its 166,000 students. Please keep my Central Virginia office informed as to the progress and the ultimate result of this application.

With warm regards, I remain

Sincerely,

George Allen

GA/emh

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507 EAST FRANKLIN STREET
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(703) 435-3446 (FAX)



DAN BANNISTER
CHAIRMAN

April 19, 2004

Technology Opportunities Program
U.S. Department of Commerce
Washington, DC

Attention: Grant Applications Committee

It is my pleasure to offer this letter of support for the Technology Opportunities Program (TOP) grant application being made by Fairfax County Public Schools (FCPS) for a wireless, emergency care information service. I believe that this service demonstrates the great potential of wireless technology in providing valuable services in public schools and the community.

I represent the Northern Virginia Technology Council Foundation. The Foundation is a charitable 501(c)(3) organization affiliated with the Northern Virginia Technology Council (NVTC), a membership association for the technology community in Northern Virginia. NVTC has more than 1300 member companies representing over 170,000 employees. NVTC membership includes companies from all sectors of the technology industry including information technology, software, Internet, ISPs, telecommunications, biotechnology, bioinformatics, aerospace and nanotechnology, as well as the service providers that support these companies.

The NVTC Foundation was founded to encourage and facilitate corporate efforts to give something back to the community. The Foundation specifically looks for community initiatives based in Northern Virginia that include technology as an important component in their mission. The goal of the Foundation is to ensure that the current advances in technology help to improve the quality of lives in this region.

NVTC Foundation recognizes that wireless technology is at a tipping point. Wireless access is spreading rapidly and offers potentially significant benefits to the public, as well as the telecommunications industry. The service proposed by Fairfax County Public Schools is at the forefront of demonstrating and delivering on the promise of wireless technology for the public good. NVTC Foundation plans to work closely with FCPS to ensure access to this wireless emergency service for low income communities in Northern Virginia through its Computer Club House program.

In 1999, the Northern Virginia Technology Council established the first Computer Clubhouse at Gum Springs area in Northern Virginia in an effort to increase computer literacy among children in low-income communities by providing them with access to computers and technology after school. Since then, two more clubhouses have been

NORTHERN VIRGINIA TECHNOLOGY COUNCIL FOUNDATION

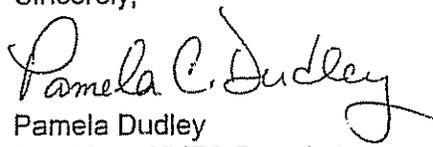
2214 ROCK HILL ROAD • SUITE 300 • HERNDON, VIRGINIA 20170
703.904.7878 • FAX: 703.904.8008 • WWW.NVTC.ORG



DAN BANNISTER
CHAIRMAN

opened at Bailey's Crossroads and the Willston Multicultural Center. These Computer Clubhouses serve over 800 students, and are strategically located in community and multicultural centers where many kids come after school. Volunteers from NVT C member companies come to the centers regularly to help children do their homework, teach computer classes, and serve as mentors. The Foundation has plans to open nine more Club Houses in the upcoming years. The emergency services that FCPS is proposing in the TOP grant should be made accessible through all the computer clubs. This will help bridge the digital divide for low income families. I therefore strongly support the FCPS grant application and encourage US Department of Commerce to consider NVT C Foundation's support for the Computer Club Houses program for the FCPS TOP grant application.

Sincerely,


Pamela Dudley
President, NVT C Foundation

NORTHERN VIRGINIA TECHNOLOGY COUNCIL FOUNDATION

2214 ROCK HILL ROAD • SUITE 300 • HERNDON, VIRGINIA 20170
703.904.7878 • FAX: 703.904.8008 • WWW.NVTC.ORG