



THE COMPUTERWORLD HONORS PROGRAM

CASE STUDY

LOCATION:
*Washington, DC,
United States*

YEAR:
2006

STATUS:
Laureate

CATEGORY:
*Government and
Non-Profit Organizations*

NOMINATING COMPANY:
Deloitte

ORGANIZATION:

Child & Family Services Agency, District of Columbia

PROJECT NAME:

FACES.NET

Summary

The FACES system is a comprehensive statewide automated child welfare information system (SACWIS) that has been in use within the District of Columbia for over six years. In its latest incarnation, FACES.NET is deployed over the internet to expand the reach of its functionality to agency personnel outside of the office and non-agency personnel – allowing the District to move child welfare practitioners closer to those that need them most; the children and families of the District of Columbia.

Introductory Overview

The original FACES application was deployed in the District of Columbia in 1999. Ever since then it has been delivering child welfare case management functionality and management reporting to the case workers and leadership of the District's Child and Family Services Agency (CFSA).

Parallel emerging trends in 2003 – 2004 caused CFSA to begin the reconstruction of the FACES application as a totally web-based application. These trends are as follows:

- The provision of child welfare services, including case management services, is increasingly being delivered by privatized, non-agency entities.
- Social work is a profession that is rarely best delivered at a desk. Shifting case workers from a centralized office and placing them geographically throughout the city allows them to be closer to the communities that they serve and leads to more favorable outcomes for the children and families of the District of Columbia.
- The delivery of appropriate services to children and families increasingly relies upon a coordinated approach across multiple human services government agencies in the District of Columbia.

The overall theme contained within these trends is that a child welfare application must be accessible to more stakeholders, from a more diverse set of geographical locations.

In November 2004, the transition to an entirely web based application began. The new FAC-



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ES.NET was constructed using Microsoft.NET technology, using Service Oriented Architecture concepts to support the tighter integration of functionality and service delivery across multiple human services agencies.

The resulting application, FACES.NET, is accessible to any authorized stakeholder, from wherever there is an internet connection. This allows case workers to spend much more time in the field attending to the needs of their clients, and permits contracted agencies to enter and retrieve information in a more timely fashion and with greater ease.

SACWIS systems are necessarily large and complex. A secondary goal of this project was to enhance the usability of the application in order to reduce the appearance of this complexity to the user community. The agency engaged third party software ergonomics specialists to design a FACES.NET Graphical User Interface that was intuitive, attractive and offered multiple navigation routes to each piece of functionality tailored to the relative skill levels of distinct sets of users.

Benefits

The FACES.NET application was designed to provide case workers and agency administrators with up-to-date information regarding the children and families they care for from wherever there is an internet connection. This geographical freedom, and the systems development approach employed, has generated a number of significant benefits to the stakeholder community such as: more time with children and families, reduction in agency expenses, increased productivity, and improved data sharing with other District human services agencies.

MORE TIME WITH CHILDREN AND FAMILIES:

A successful child welfare system relies upon the entry of accurate, complete and timely information to support the case decisions made and to support subsequent review of those decisions by supervisory staff. Obligating case workers to return to agency offices to perform this data entry takes away from the time they have available to assist the children and families in their care. This system provides efficient and more productive use of time.

Social workers spend a great deal of time at the Family Court between hearings or waiting for hearings. The D.C. Superior Court is in the process of preparing a room with internet access for workers to use FACES.NET. As a result, workers can meet with attorneys and family members at the court before or after hearings and quickly complete necessary documentation and data entry instead of returning to the office. Case plans and visit plans can be composed with family members and attorneys present, which will increase common understanding of expectations for case closure and services to be provided. Additionally, workers will be able to complete contact notes and court reports, or simply review case information, while waiting to participate in hearings. Since these are online reports, workers will no longer have to hand-write notes or case reports in Microsoft Word and transfer the information later; they will be able to do the work on-site which will reduce their duplication of efforts and provide them more time to spend with children and families.

Numerous studies have indicated that favorable outcomes for abused or neglected children are more likely to occur when the case worker engages with those children on a frequent and sustained basis. Although data entry is essential to support accountability for decision making, unless case workers have the ability to fit that data entry task around their field work, it will



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detract from their ability to provide that level of sustained support to the children and families under their care.

About one third of CFSA's foster care cases have full case management provided by private agencies. The workers at those agencies were challenged with maintaining case documentation in FACES because their access was limited to computers at their agencies with VPN access. Private agency workers no longer have to compete for use of the accessible computers to enter data; they can enter data on any internet accessible computer at their office, home or other locations.

The quality of documentation is expected to improve as a result of the accessibility since workers can enter information almost immediately after it occurs. For example, a worker supervising a family visits at a neighborhood collaborative agency can enter the information at the site of the visit or enter requests for services with the parent present. Additionally, a worker can go home after a late night home visit or placement of a child and enter notes in the system while the information is still fresh in their minds, rather than waiting until getting to the office the next day.

After FACES.NET was implemented, we experienced a significant change in the system usage patterns. Previously, system usage had been concentrated in the early mornings, lunchtimes and late afternoons as case workers chose to complete their data entry activities before leaving for their family visits, during their lunch break, or after the family visits had been completed for the day. Following implementation, the system usage became much less 'peaky' as case workers were able to access the system on their laptops from wherever there was an internet connection – eliminating the need to travel back to the office.

REDUCED TRAVEL AND EXPENSE:

The District of Columbia is geographically compact. Nevertheless, significant costs are associated with the travel expenses of case workers traveling between agency offices and family dwellings. The daily travel pattern of a typical case worker previously resembled a hub and spoke. Field visits were punctuated throughout the day with return trips to the office to perform data entry tasks. Under the new system, many of the office visits were eliminated, thereby saving agency travel costs and allowing the case worker to structure their day more efficiently.

Many foster and pre-adoptive homes are located in the neighboring state, Maryland, but the intact families and Child Protective Services cases are within the District. One of the new features provided in FACES.NET allows workers to view a map, as well as a photograph, of District residences. This not only helps workers save time by mapping locations, but provides them with "sneak peek" of the home environment or neighborhood which they are about to enter, thereby promoting worker safety.

The mapping function also enables workers to coordinate their visits geographically, thereby reducing time in the field and travel expenses, while increasing the amount of time spent with children and families.

ENHANCED EASE OF USE LEADS TO GREATER PRODUCTIVITY:

The emphasis placed upon FACES.NET ease of use leads to benefits associated with case worker productivity and the efficiency of that data entry activity.

It is often a goal for application developers to make their software user friendly – this was our goal also. However, in order to truly succeed at this goal, it is important to recognize that the user community is not homogenous. Examples of factors that give rise to user diversity, and the



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challenges that diversity brings, are as follows:

- Case work is often a high turnover occupation. National trends reflect that the profession is stressful and often compensated at relatively low levels. This sometimes leads to high staff turnover among certain sections of the case work staff. The result is a body of case workers with highly divergent levels of comfort with the system – from new hires to old hands.
- Privatization has led to the provision of case management services by individuals who are not a part of the formal child welfare agency organization. These individuals may be harder to reach for system training and may feel less compelled to complete their data entry tasks.
- In an effort to rationalize the data entry responsibilities of case workers, we have explored options to transfer responsibility for that data entry to external entities; such as the recording, by providers of residential services, the entry and exit of children to/from their facilities. These users are required to take on data entry responsibilities that they have never possessed before, within a system that they have never used before. For them, simplicity is paramount.

Given the diversity of our user community, we endeavored to build an application navigation scheme that could support the needs of multiple types of users:

- Experienced users, who knew what screen they needed and wanted to get there as quickly as possible.
- Novice users, who knew what business process they wished to complete, but who did not know which screens were required to complete it.

We believe that this goal has been accomplished. During pre-implementation training, over 80% of users (both novice and experienced) believed that the new FACES.NET user interface would enable them to be more productive than the old one. Since workers are now able to enter more information prior to saving it, and can access previously used screens without having to navigate throughout the system, workers are saving time with their data entry.

In addition to ease of use, FACES.NET enables workers to manage their cases more efficiently. The organizer is a new function in this system and assists with both time management and case continuity. All staff are able to track requests for approval, and at a glance, know whether their submitted request is awaiting approval, has been denied, or been approved. There is a calendar built into the system which allows staff to enter their own reminders. On a more advanced level, there are system generated alerts regarding medical appointments, court hearings, due dates for court reports, and administrative reviews. These alerts follow the case, not the worker, which ensures that important events regarding the safety, permanence and well-being of children are not inadvertently overlooked or missed during case transfers.

FACES.NET provides a new capability for Hotline staff to enter data into a centralized screen as well as an internal note-taking feature. Workers were writing information on self-adhesive notepads or on pieces of paper. Now, the Hotline worker jots down notes in the online system. The notes are available for the Hotline worker to review until the referral has been completed and approved by the supervisor. This reduces misplacement of notes taken on paper, increases accuracy of information, and provides immediate access to the information for completion of the referral.

The global person search in FACES.NET utilizes intelligent search for improved matching of names. This function is no longer limited to only clients, but now includes clients, collater-



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als, providers and staff. This enables the Hotline worker to determine whether there is previous involvement with CFSA and view an individual's association to CFSA.

PROMOTE DATA AND FUNCTIONALITY SHARING WITH OTHER AGENCIES:

FACES.NET is at the forefront of efforts within the District of Columbia to share data between related human services agencies to support a more integrated approach to service delivery. These efforts are known as the Human Service Modernization Program (HSMP) coordinated through the District of Columbia's Office of the Chief Technology Officer. Under HSMP select information gathered by one agency is immediately made available to all related agencies.

Such data sharing is increasingly commonplace among human services agencies. The more accurate and complete a picture we have of a family, the more we are able to predict and prevent unwelcome outcomes and direct our intervention and service delivery in ways that are most likely to be effective. However, FACES.NET takes this a step further. Through our use of Service Oriented Architecture (SOA) principles, FACES.NET is able to share not merely data, but functionality. For example, we recognize that the process of recording an individual's initial contact with our agency bears many similarities to the initial contact procedures followed in other agencies. Using SOA, we can build core initial contact functionality once and share it with as many District agencies as wish to use it – significantly cutting initial development costs and ongoing cost of ownership. This will also provide a more complete and immediate history of clients' interaction with other District agencies and services they are receiving.

In addition to the HSMP portal, medical information from the Children's National Medical Center (CNMC) can be directly imported; information can be imported by the DC Superior Court; and the Metropolitan Police Department can enter information regarding their investigations of abuse which provides more accurate details. The interface with CNMC helps to ensure that children's medical needs are being met in a timely manner, and workers do not have to rely on hard copy medical information alone. Additionally, children's medical appointments and court hearings are uploaded directly to FACES.NET.

The Importance of Technology

The District of Columbia has adopted Microsoft technology as its standard for the creation of large scale systems. Therefore, FACES.NET was constructed using Microsoft .NET technology, based upon an Oracle 9i database.

The choice of Microsoft .NET was important and advantageous for the following reasons:

- The productivity of development staff using Microsoft Visual Studio development tools is measurably greater than when using any of the major J2EE based development environments. The project had an ambitious fixed deadline for completion.
- FACES.NET was largely constructed using C#, within the Visual Studio .NET development environment. Since the system was a translation from our early PowerBuilder based client/server application, it was important that the new development language be closely analogous to the old. C# was selected as the development language since we felt it was the closest to the original PowerBuilder code.
- The user interface is rich. We believe that the integration of rich user interface components is easier within .NET than within J2EE.



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In addition to the selection of .NET as our development environment, the use of SOA principles in architecting the system was a key driver in facilitating the sharing of functionality across agencies.

The final area of significance in technology relates to our decision to employ and integrate third party software components wherever possible to handle generic software functions such as: workflow management, imaging, searching, spell checking etc.

Originality

Child welfare agencies operate within a highly fluid environment. Legislative changes, revisions in best practices for social work procedures and the constant turnover of personnel demand that agencies are prepared to be flexible in the services they deliver to children and families and the way they are delivered by the staff who deliver them. FACES.NET is the only child welfare system in the nation to incorporate a workflow engine to direct case related tasks, reviews and approvals automatically to the appropriate individual within the organization. Furthermore, the workflow engine that was implemented as part of FACES.NET supports user driven configuration changes. Therefore, our response to the environmental changes mentioned earlier involves only user maintainable configuration changes, rather than coding changes – reducing our cost of system ownership.

FACES.NET is the first child welfare system in the nation to incorporate SOA principles in its design. These offer a foundation for the sharing of data and functionality between agencies to promote service delivery that considers all aspects of a family's context to see that the services delivered are appropriate and cost effective.

Even before the transition to FACES.NET, the application was a child welfare leader – one of only a handful of child welfare system in the country to have completed the federal assessment process for these types of systems. After the transformation into FACES.NET, the application is the only Microsoft .NET based child welfare system in the nation, and the only web based application to have completed the federal assessment process and is federally certified.

Success

The FACES.NET project was completed on time and on budget and is currently used by over 1,400 users from within the child welfare agency, the Metropolitan Police Department, the Family Court and providers of child welfare services.

Expanding the system to allow providers to record service delivery information on-line has been a key component in our efforts to accurately compile an understanding of where every child within District custody currently resides. Providers are motivated to complete this information in a timely manner because their payment depends upon it, but it also provides CFSA with immediate information on available placement slots for children. Instances where the location of a child is unknown within the system have dropped by over 60%. In the long-term, this will also aid in ensuring that services are available in geographic locations where they are needed, making them more accessible for children and families.

Our efforts to enhance the system ease of use have paid off in terms of the level of support that our helpdesk and user support teams have had to provide. Instances of support requests for a



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number of the more functionally complex areas have dropped to almost zero – freeing up our staff to assist in the training of new case work personnel.

The agency's comprehensive SACWIS system has the support of the District of Columbia's Deputy Mayor for Children, Youth, Family and Elders, Brenda Donald Walker:

“Over the last three years, CFSA has become a data driven organization, thanks to FACES. There is virtually no area of CFSA that doesn't use FACES as an integral part of its operations – from budget planning and on-line policies, to the hotline, case notes and management reports. I'm so proud of FACES.”

Similarly, agency staff and other stakeholders have shared positive, yet realistic, remarks which demonstrate their shared excitement about FACES.NET:

- “This version of FACES is much easier to navigate, much more intuitive. The look is much nicer. It could be more user-friendly still, but I was a part of the process of developing an MIS at another job and I know you've worked incredibly hard to give us this system. Overall it makes our jobs much easier. Thank you!”
- “I think FACES.NET will take some getting used to, but overall I think it will improve the quality of work that social workers are able to provide to their clients.”
- “I think this is a good system and wish I had the opportunity to work with it more. Good luck to the District and it is definitely in sight with the 21st century!”

Difficulty

One of our primary challenges was to recognize that an n-tiered, web services based application that integrates multiple third party software components is a significantly more complex application to administer than a traditional client/server system in which homogenous blocks of code can be managed and deployed with relative ease.

The tasks associated within code version control, third party code integration, the physical deployment of code to multiple servers and the configuration of those servers demanded skills that were not prevalent within a client/server development environment. This was a challenging, yet rewarding, learning experience; the magnitude of which should not be overlooked.

We did not encounter any resistance.