

Electronic Assertive Community Treatment



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Mission Statement:

To develop a mobile communications solution that will effectively enable 10 members PACT team, working in an urban or rural setting to constantly communicate with each other.

Project Overview

- The Assertive Community support team (ACT) works with the mentally-ill people.
- The volunteers are very mobile in terms of their work. The project enables them to modify and access clients' data efficiently, which decreases paperwork and provides more time for the client.
- Electronic Assertive Community Treatment (eACT) is a project that brings together the ACT team and their patients by efficient means through wireless communication.

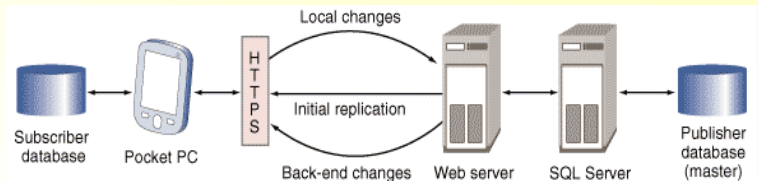
Current Work

- Development of a **back-end database**:
 - initially built in Microsoft Access
 - imported into Microsoft SQL Server 2000
 - currently working on further improvement of the design.
 - contain essential health information
- Development of **front-end Graphical User Interface (GUI)** for the Pocket PCs:
 - allow information to be appended, modified, or deleted via a handheld device.
 - changes will automatically be synced to the main database
 - currently being designed using Visual Studio .Net 2003
- **Semester Goal**: To make a working prototype of the database interface with the GUI.

Reference

- **National Alliance for the Mentally Ill (NAMI)** is a nonprofit, grassroots, self-help, support and advocacy organization of consumers, families, and friends of people with severe mental illnesses. It works to achieve equitable services and treatment for more than 15 million Americans living with severe mental illnesses and their families.
- **Program of Assertive community Treatment (PACT)** provides comprehensive, locally based treatment to people with serious and persistent mental illnesses. PACT is not a linkage or brokerage case-management program but instead, it provides highly individualized services directly to its consumers. PACT recipients receive multidisciplinary, round-the-clock staffing of a psychiatric unit, but within the comfort of their own home and community.

Proposed Model



http://www.fawcette.com/vsm/2003_10/magazine/features/thews/default_pf.aspx

Figure 1. View the Merge-Replication Process.

The handheld device opens an HTTP/HTTPS connection to the SQL CE IIS virtual directory. The SQL CE object (SSCESA20.dll) contacts the Merge Agent on the Distributor SQL Server. The Merge Agent merges changes and sends updates back to the handheld device (through SSCESA20.dll).

- The master database will be contained on an SQL Server which can be accessible to IIS (Web Server).
- When the initial replication occurs, each Pocket PC will have a local copy of the database created through SQL CE. This will keep track of database changes and additions that occur throughout the day.
- When that client is re-synched, the master database is updated with the changes/additions each client made.
- The Pocket PC communicates to the server through HTTPS, which will allow for secure communication from one end to the other.
- In order to handle discrepancies when the database is modified by several clients, SQL merge replication will be used.

Problem Identification and Issues

In Fall 2003, the team met with the PACT team to incorporate their ideas to their design. The initial version of the database was completed by the end of the semester.

Some issues to be addressed are as follows:

- The interface between server and client, updating database in real time via the web
- User friendly front end GUI.
- Encryption, authentication and access control ensuring security and privacy of medical records.
- Getting sample data from PACT to improve on the current model.
- Logging mechanism to resolve discrepancies in the database.
- Budget of the customer.