Design of a Web-Based Care Team Scheduler for PalmCIS

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We are building an extension of the existing Webbased clinical information system at Columbia-Presbyterian Medical Center (CPMC) that enables providers to communicate in a virtual environment. We call it a Virtual Whiteboard¹. We intend to export the features of this application to a wireless PDA (PalmCIS). One of the elements required for this system is accurate information about which providers are covering each patient at any given time. This paper outlines our effort to build a web-based interface that captures the schedule information of clinicians. The application will automatically provide this information for display in the Virtual Whiteboard.

BACKGROUND

Systems analyses of adverse events have identified communication difficulties as a precipitant in both the inpatient² and outpatient settings.³ Implementation of a computerized Signout system may reduce adverse events⁴, and improve the identification of the attending of record.⁵ In a recent survey, we found that physicians and nurses are often frustrated by lack of accurate information about who is on call for a particular patient.⁶

We built a Web-based interface to capture team schedule data to be stored in a database for use by our Virtual Whiteboard application.

METHODS

Through direct observation, we modeled the current manual method used for schedule creation. We then built a database in MYSQL located on a central server. A Web-based interface was designed to duplicate and facilitate the entry of the schedule data. This interface dynamically collects data from forms and processes it in Perl CGI scripts. The processed data are then uploaded to the central MYSQL database in a form usable for two purposes:

- 1) Exporting team schedule information to the Virtual Whiteboard application.
- Returning the data to the original users (the 2) medical teams and nurses) via a Website accessible by all team members.

RESULTS

The data collection view is shown in Figure 1. The graphical display of the scheduler output is shown in Figure 2.

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CONCLUSIONS

Collection of complex clinical team schedules can be accomplished by the method described and may provide an automated mechanism for capturing team coverage for a Virtual Whiteboard application.

Acknowledgments

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