

Case Studies

Healthcare Solutions

Weight Monitoring System

Overview:

The Weight Monitoring Software is a Windows application with Bluetooth support for enabling electronic communication between patients and practitioners.

This software has been developed to provide following benefits to the healthcare system:

- Patients are benefited by a very effective and low cost weight monitoring service.
- Practitioners may continuously manage and provide active support to patients in-need
- Additional reinforcement to the patients who are trying to manage their weight related issues
- Reduced healthcare costs by promoting healthy lifestyle

Key Requirements:

- Client Server Architecture
- Secured Transmission of the Data
- Bluetooth integration with the weighing scale
- Alert Mechanism
- Ad-hoc Reporting
- PDA/Mobile Phone Interfaces (Next Phase)

Technology Used:

- C#
- MS SQL Server
- XML Web Services
- .NET Framework 2.0
- Bluetooth

Challenges:

- Encryption of User's data in the database
- Bluetooth connectivity with the weighing scale device
- Report generation for the Weight Monitoring System.
- Stored all the information on local computer in case of internet outage
- Transfer all the information to the server from the local system and retrieve updated information from server as soon as patient computer is connected to the internet

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Our Role:

We follow the basic rooted mantras of software engineering practices - Analysis, Planning, Design, Development, Testing and Deployment.

Define: - First is to define detailed scope of the requirements. This is done through a detailed study by the project manager to know the requirements. This process starts even before the project is awarded to us as our estimates are based on the amount of work involved and technological challenges. To estimate these we keenly study the project and the application scenario in real world before giving a quote

Plan and design: - Once the project is awarded to us, a SRS (Software Requirements specifications), Prototype with supporting High Level Designs (HLD), User Interface, Class Diagram and Database Diagrams are prepared. These design documents and prototype are sent to clients for approval.

Develop: - Upon approval, we start coding. All our codes are well commented and follow naming conventions. We have a well defined multi-tier architecture and each developer adheres to it.

Test: - Testing phase begins with the planning. As soon as HLD is frozen, we prepare test plans and cases. Application is tested parallel to development making sure that there are no errors. Once the development is completed, the application is tested from scratch to make sure all modules are well integrated.

Debug: - The testing results are then converted in actions for debugging and solving the bugs. Once all the bugs are fixed by the developers Quality team verifies the bugs and reports any reproduced bugs. This process continues till all bugs are fixed.

Deployment: - Project leader reviews the application and makes sure that the application fulfils the Service Level Agreement (SLA) and is in line with other functional and non functional requirements. Upon approval application is deployed to the production server.

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