

Citation Management System (CMS)

Client Background

The Customer is a global engineering and manufacturing company with offices in more than 15 countries. Their portfolio of products includes parking meters and services, telecommunication voice and data products and communication solutions for the utility markets.

Client's Challenge

Since the Customer is actually not in the business of citation process management, the requirement was for their customers. So to understand the requirements we worked with the client's process experts to define the requirements and architect an effective solution.

Some of the challenges that the actual customers of our Customer faced with its existing system/process included:

Manual citation: Many of the customers currently issues citations on paper. And then Backoffice personnel has to again either manually maintain that in some other register or book.

Tracking of citation: Sometimes lot of communication is involved against particular citation. In that case it becomes very difficult to keep track of all the communication against the citation.

Scheduling officers: Maintaining a schedule of an officer in a ledger/book is time consuming.

The CMS requirement was three fold. First is Handheld mobile application development, which would be used by on-field officers to issue tickets for parking violation. Secondly, Backoffice web application for managing the customer data and tracking the ticket status/stages and the third one is FrontOffice web application for third party vendors like towing company, arbitration officers and actual violators.

The Our Approach

The Citation Management System (CMS) is designed specifically to address the growing demand for realtime ticket issuance for parking violations for their customers and managing the after issuance process of tracking the ticket.

We worked with the client's process experts to define the requirements and architect an effective solution. We chose an appropriate technology platform to address the challenges faced by the client. We also leveraged the capabilities of newer technology platforms to solve issues faced by the client.

Solution Highlights:

Mobile application: By providing mobile application on handheld device, lot of paper work is reduced for on-field citation officers as well as back-office personnel.

Dynamic Configuration: The system that we built allowed the creation of dynamic user-defined configurations within the system. Thus adding new customers/projects became much easier. Role based security with flexibility of defining security levels per customer.

Security: Different mechanisms were used in the design of the new system to enhance the overall security of the solution - including stronger password policies, greater resilience to most common hacking and hijacking mechanisms and common authorization management.

Real time data synchronization: We provided real time citation data synchronization from handheld device to central server. Lot of work for back-office personnel reduced due to synchronization of data with central server.

Easy citation tracking: Since all data is available at central place, the tracking of citation become very easy. It is also possible become easy to move to different stages of citation using the back-office system.

Easy payment of fees: For the violators the front-office system will be helpful to track their citation and pay the fees as per their convenience.

Officer scheduling: With the facility of scheduling officer's work online, it reduced lot of time and energy of back-office personnel.

Successful outcomes and results

- Use of layered development framework which provides benefits of separation, independence and reusability
- Screen level configuration facility
- Rights in the system are managed at a component or page level as well as at a view or edit level.
- Import and export of data from and to the CMS system
- Audit trail of the changes done to the configuration data
- Dashboard charts provides real time picture of Citation related data
- Application is multilingual
- With this new system in place, the client will be able to meet the execution challenges for its growing number of customers

Technology used

- ASP.NET 3.5 with C#
- Microsoft SQL Server 2008R2
- SQL Server Reporting services
- .NET 3.5 compact frameworks for mobile application development