



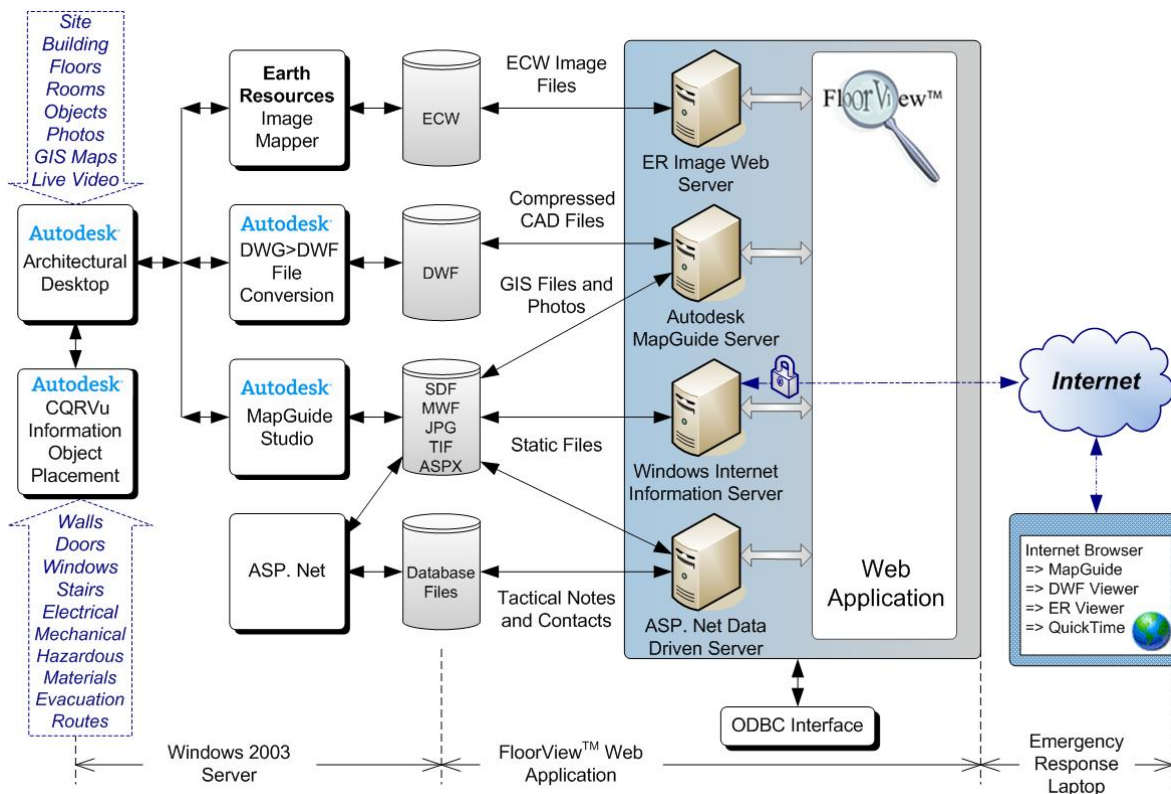
FloorView™ System Overview

FloorView™ is a web server application that provides integrated CAD and GIS information over the Internet to remote PCs using Internet Explorer browsers. The FloorView™ application utilizes an Internet Information Service, ASP.Net data driven server, MapGuide server and Image Web Server to access, integrate and provide GIS, CAD and database information in real-time to authorized remote emergency service personnel.

Application specific data file formats and data compression techniques allow FloorView™ to achieve acceptable system response times even when using slower speed wireless networks to communicate with on-site PCs. Aerial photo files are in Earth Resources Enhanced Compression Wavelet (ECW) format. MapGuide Author combines site plan vector data, alphanumeric data and raster data files into a single Map Windows File (MWF) format. Floor plan data files are in AutoCAD Drawing Web Format (DWF).

Autodesk Architectural Desktop with MapGuide Author, ER Mapper, DWF Whip and enhanced Autodesk Mobile Command software are the main system components used by data conversion specialists to convert, clean, augment and integrate all the customer furnished data files necessary for a FloorView™ application.

The ASP.Net IDE is used to develop and maintain the FloorView™ web application.



FloorView System Diagram

Data Conversion

The objective of FloorView™ data conversion is to convert, clean, augment and integrate customer furnished site and building data files into integrated and intelligent data files suitable for downloading to first responders using wireless Internet networks. The integrated and intelligent data files are maintained in a FloorView™ operational data store.

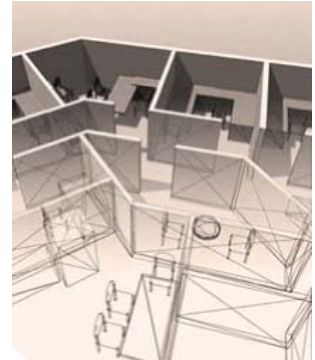
Autodesk Architectural Desktop is used by FloorView™ conversion specialists to convert customer furnished floor plans regardless of their original format, into a format that is clean and legible with reduced download time over wireless networks. The original floor plans are recreated in both two-dimensional and three-dimensional forms with structural objects suitable for use by first responders. FloorView™ conversion specialists use the standard AutoCAD interface with specific FloorView™ options to edit structural objects on the recreated floor plans and Raster Design to scale and align drawings.



Site plan data includes georeferenced aerial photographs, alphanumeric data, and GIS level vector data. FloorView™ treats the non-georeferenced site plan data as photographic data. Vector data is parsed for unwanted data elements and linked to alphanumeric data. Autodesk MapGuide Author is used to combine the GIS vector data and raster data into one single Map Windows File (MWF) in the operational data store.

Using Autodesk Architectural Desktop, the preexisting structural plans are manipulated by FloorView™ conversion specialists to eliminate the high degree of variances found in drafting techniques used to create structural plans. Common drafting specifications defined for FloorView™ drawing formats, scaling, and orientation are used to make

the FloorView™ plans match the dimensions of the original structural plans, and provide the accuracies required for emergency schematics. Structural objects (windows, doors, stairs, etc.) are then placed on the plan images in both two-dimensional and three-dimensional spaces. All FloorView™ structural plans are saved in an operational data store in AutoCAD Drawing Web Format (DWF).



FloorView™ photographs are saved as JPEG files appropriate for smaller images. Larger photographic images (more than 500 x 350 pixels) are saved using the Enhanced Compression Wavelet (ECW) streaming imagery format, this reduces the download time on wireless networks. Earth Resources' ER Mapper is used to translate and save ECW photographic files in the operational data store.

Web Server App

The FloorView™ application utilizes MapGuide server, Internet Information Server, Image Web Service and ASP.Net data driven server to access, integrate, and provide GIS, CAD, and database information in real-time to authorized first responders using remote PCs or PDAs. FloorView™ uses intuitive navigation and drill-through techniques familiar to users of GIS applications, along with intelligent architectural objects to assist FloorView™ users when they navigate (pan and zoom) through site aerial photos, building structural drawings and floor plans.

Autodesk MapGuide server provides FloorView™ users with the same intuitive end-user navigation (pan & zoom) capabilities found in GIS applications. MapGuide server accommodates the data file formats used in the FloorView™ operational data store and many other data sources. Modal list boxes provide users with selectable display options to show or hide structural objects or layers (interior walls, exterior windows, room numbers, stairs, etc.) on a view. Additional modal list boxes allow users to navigate directly to a named view (building number, floor number, etc).

Microsoft Windows 2000 Internet Information Server provides Internet access for authorized first responders to the FloorView™ Web Application. Any PC or PDA using Windows 2000, XP or Win98 operating systems and Internet Explorer or browsers with CAD and GIS file format plug-in modules may access the FloorView™ web application. The FloorView™ operational data store file formats are optimized to obtain reasonable downloading times over wireless networks.

Earth Resources' Image Web Server is used to view FloorView™ aerial and site photos. Image Web Server streams images embedded in web pages to browsers rather than trying to send the entire image all at once; thus while the user navigates around the image, the image is being sharpened.

ASP.Net server provides the integrated development environment (IDE) for FloorView's™ data-driven web application.

File and Database Maintenance

FloorView™ structural plans, aerial photographs, and floor plans are saved in the operational data store as named files within a directory hierarchy that is easily navigated to accomplish file replacement using the Internet file transfer protocol (FTP) or Windows Explorer. The FloorView™ file content is maintained using the FloorView™ data conversion process.

Textual database maintenance is accomplished using FloorView™ database templates which allow records to be added, deleted or modified by authorized users.

[For more information, including an on-site demonstration, please contact:](#)

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