

Digital Signage Solution

Technical Aspects



About dZine

dZine, an independent private company founded in 1992, has always been a pioneer in building digital signage systems and professional mobile solutions. Due to dZine's high qualified hardware and software division, customer-made solutions with a long life span are supplied for numerous applications. Today, dZine is a profitable small giant, which employs over 40 high-graded persons.

Product Portfolio

- Digital Signage Systems (DIS)
- Public Transport Infotainment System (PTIS)
- Electronic Voting System
- Multifunctional Personal Assistant (Zineon)

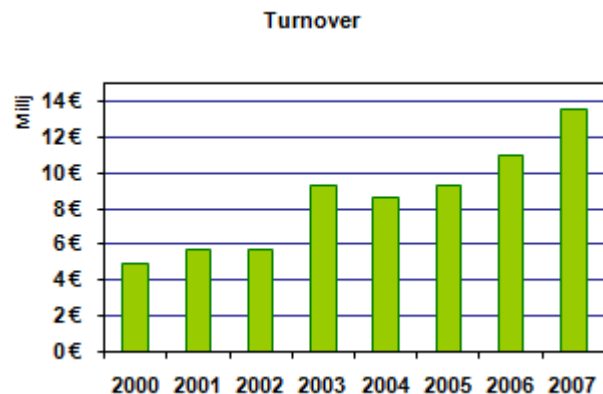
Facts & Figures

dZine, being a key player in its two markets, has already distributed over 75.000 players worldwide and it is rapidly expanding. dZine is a devoted innovative company founded on a strong dedicated team of engineers. The combination of dZine's R&D skills and technical know-how results in solid and future proof solutions. dZine has drawn up the perfect balance between quality, performance, durability and price to serve its customers.

dZine considers partnership to be a key factor. It is dZine's business to assist its customers and partners through every step of their project. Knowledge and experience is shared with them in various stages; pre-design, support, installation, after-sales-service. Over the years, dZine's technology has proven to be the key to the customer its success.

dZine, looking back to a track record of over 15 years in the digital signage business, is rapidly expanding worldwide. The company has already established customer relations in over 55 countries. The high graded technology of dZine is well-known over all continents.

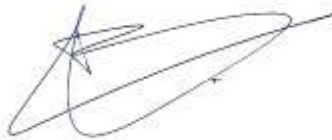
dZine's growing strategy is based on win-win relations with its customers and partners. Listening to the market demands is key to offer state-of-the art solutions with the highest quality, best delivery performance and correct price-performance ratio. In-house capacity for tailor-made solutions is a key asset for dZine allowing to meet specific requirements for its customers. dZine considers worldwide partnership to be a key factor. It is dZine's business to assist its customers and partners through every step of their project.



Contact

Please do not hesitate to contact me about questions and remarks regarding this product. I will provide the highest level of customer service.

Best regards,



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General information about the Signage Solution

dZine has installations in over 250 in airports, railway stations, bus stations and a huge number of installations in congress centers, retail shops, banks, hotels worldwide with a total number of 75000 units!



Reliability is also a strong property of dZine its DISplayer. In case of an unexpected network connection failure or an unforeseen disruption of the power supply the DISplayer will automatically (*after a boot up of 20 seconds!*) receive a new network connection and start showing the latest available content or the last programmed/predefined playlist will start again automatically.

The DISplayer software runs on an embedded platform, based on the operating system On Time. This platform has been selected over a Windows® based solution, providing a robust, stable and continuous operation for long periods. Because of this stable, robust and secure environment the user does not have to deal with a lot of security issues which are common within a Windows® environment (so no viruses, no hackers, no blue-screens,...).

When the DISplayer is integrated in a TFT DISplay, the DISplayer will also turn off the display in order to protect it against overheating in case the temperature of a display gets out of the predefined range.

Feedback given by our existing customers proves that the installation, day-by-day use and management of the DISplayer requires little adaptation or additional activities from the ICT-department.

The DISplayer distinguishes itself as a proven solution for Digital Signage solutions worldwide.

Why dZine uses his own dedicated hardware and software?

Roll out for a fictive project for 800 units:

Conventional installation with client pc's

- 800 x client pc's
- 800 x virus protection
- 800 x permanent system update
- 800 x extensive installation
- 800 x windows system software
- 800 x software installation
- 800 x service & maintenance
- 800 x high power consumption
- 800 x different player hardware (high maintenance cost)

Installation with dZine system for a roll-out of 800 units

800 x dZine DISplayers

- NO virus protection (no extra cost (each year))
- NO permanent system update
- NO extensive installation
- NO Windows system software
- NO other software installation
- NO service & maintenance
- NO high power consumption
- NO different player hardware

dZine's DISplayer

- Own development (8th edition) x86 Intel-platform with unique specifications
- Long time availability (>10y)
- Backwards compatible with older dZine systems and software (player + server)
- Watchdog circuit (Hardware & software watchdog)
- Full solid state version
 - Passive cooling
 - No rotating components
 - Very high MTBF
 - Very high uptime
- Storage
 - Compact Flash™ interface 512MB for Operating Software
for diskless systems with module capacities ranging from up to 64 MB - 8 GB
for content files and playlists
 - SATA Hard disk 40/80GB for Operating Software (fallback only)
for content files and playlists for large video files.

Flash & Hard disk are used for fallback for system files and Operating Software in case of CF or HD failure.

- Video controller up to 2048 x 1536 pixels
 - Supporting all kind of resolutions and aspect-ratios
 - Portrait and landscape modes
 - Integration of non-standard resolution possible
 - LED technology supported
 - Analog and DVI video output connectors on a combined DVI - I connector
- CVBS-input
- S-Video-input
- I²C interface
- RS232 port + Internal serial port on TTL level
 - Interfacing to other systems (cfr. ticketing systems,...)
- RS485 port
- Express card interface 34/54
- Status LED's for Ethernet link and Operating status
- Temperature control devices for processor and board temperatures
- Battery backup for a proper shutdown of the application and DISplayer in case of power failure.
- Dual Ethernet 10/100baseT on RJ45 for connection with UTP network
- Interfaces to 3rd party systems via the RS 232 port or the build-in Telnet server

DISplayer Options

- Faster processor or ultra-low voltage processor
- TV-Tuner module
- 100baseFX fiber optic interface with ST or SC connectors connected to the second Ethernet interface.
- WIFI add-on card
- GPS-module
- GPRS/UMTS/HSDPA Module
- High Definition video FULL HD decoder card for 720p/1080i video playback
- "BluePull" Bluetooth for Mobile Phone interactivity by customers

DISplayer OS & Software

- **Operating System**
 - "On-Time" – Real Time OS for 24/7 use
More information: www.on-time.com
 - No antivirus or firewall needed. (no extra license cost)
 - Size of OS and dZine Display software = 4.6 MB
Can be updated over the network from the dZine DISplay Server in a very easy way!
- **dZine Display-out software (GT2)**
 - Application Programmer Interface (API) available
 - Macromedia SDK integrated
 - PIP & PAP supported with multiple formats on the same screen
 - Resolutions are supported up to 2048 x 1536 pixels in portrait and landscape modes.

- SNMP compatible with third party systems
 - Interfaces to 3rd party systems through RS 232 or Telnet server
 - Built-in Ftp / Web / Telnet –Server
 - dZine DISPlay-out software (GT2) for dZine DISPlayer + drivers,
 - Object based software
 - Video software & hardware decoding & Video De-interlacing
 - Integrated web server / ftp server / Telnet server
 - “Open software structure” to communicate via IP or RS232 with other hardware or software. (cfr. ticketing systems, AMX, Crestron,...)
 - ELO Touch screen / 3M Touch screen supported
 - Streaming video supported (RTP, UDP,...)
 - Live television playback supported
- Supporting the standard formats like video, flash, flash video

DISplay Studio

Hardware

- Any standard existing pc or server can be used to install the dZine DISplay Studio

OS

- Microsoft Windows 2000
- Microsoft Windows 2000 Server
- Microsoft Windows XP Professional
- Microsoft Windows 2003 Server
- Microsoft Windows Vista

Extra software

- Depending on the company policy (antivirus, firewall,...)

Dedicated software

- dZine DISplay Studio
 - including dZine DISplay Server + Scheduler
 - including dZine DISplay Server SDK
 - including dZine Security Manager
 - including dZine Login Manager
 - including dZine GUI
 - including dZine Page Editor
 - including dZine API Editor
 - including dZine XML2ODBC & RSS Grabber
 - Using MYSQL, MSSQL or MS Access database:
- other dZine add-on modules are available
 - dZine event scheduler
 - MS Exchange Interface
 - API
 - DISplay Server SDK
 - Other

3rd Party software

- Supporting Citrix, VM Ware
- Interfacing with Oracle Database
- Interfacing with MySQL Database
- Interfacing with MsSQL Database
- Interfacing with Microsoft Exchange
- Interfacing with any other Database if the ODBC driver is available. Compatible with all SNMP based monitoring systems like HP Open View, IBM Tivoli, ...(MIB files are free available)

3rd Party CMS systems

- Several 3rd party web content management systems are supported, based on the dZine Server SDK.
- New CMS systems are very easy to develop because of the dZine SDK and the dZine system engineering division.

Page Editor (Content Creation)

Page Editor allows you to create your own content, which will be displayed at the end. This dZine software offers you all the necessary tools to create attractive and dynamic content for your display information system; from basic texts and images to videos and flash objects.



Even pages in full HD resolution can be created. Page Editor allows the user to drag and drop files anywhere from the computer and with the grid function objects can easily be positioned in the canvas.

Furthermore, Page Editor allows you linking objects with any database enabling real-time updates on your displays.

Page editor allows sharing the multimedia source components to create the pages amongst different people working on the same playlist.

Page Editor is based on a 'What you see is what you get' user interface. Creating and modifying ad hoc messages on the fly and adding transition effects to playlists is easy to do with Page Editor.

All standard video formats for information display systems are supported and different flashes can be played together. Page Editor even supports TV and streaming video. Links with external content databases like SQL, Oracle, XLS, CSV, TXT, etc. is possible and also record filtering is included. dZine's Page Editor is freeware for its users.

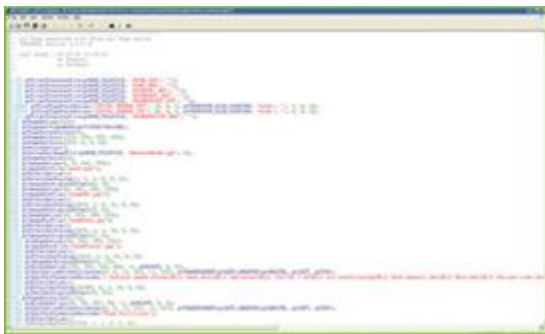
Some USPS

- User friendly ('PowerPoint look-a-like')
- What you see, is what you get
- Advanced features to make your presentation very attractive (transitions effects, text tickers, video overlay...)
- Videomode Presets for all current resolutions/screens on the market (landscape& portrait)
- Sharing content between several users
- Drag and drop content via Internet Explorer, Windows Explorer, ...to page editor space
- Project bar with drag & drop function in to the editor
- Grid function

- Multimedia content All standard video formats for information display systems are supported from flash, video, images, xml to full interaction with content databases.
- Merge video format with one or more flash files
- Images, audio, xml, RSS feeds, stock exchange, ...
- Multi layer definition (overlay)
- Multi window definition(PIP)
- Multi window definition (PAP)
- Television channels
- Streaming video support (RTP, UDP...)
- Link with external content databases (SQL, Oracle, XLS, MDB, CSV, TXT,...)
- SQL filtering on databases on time/date/format/records
- Microsoft Exchange integration, ...
- Interactivity via Macromedia Flash, Keyboard, mouse, Crestron/AMX,
- Interactivity via dZine BluePull Technology

API Editor

API Editor is the ultimate tool for professional and very advanced users. You can go beyond the possibilities provided by Page Editor by editing the pages manually. API Editor also supports Event API which you can use to create interactive pages that support user input (keyboard, mouse, touch screen, ...).

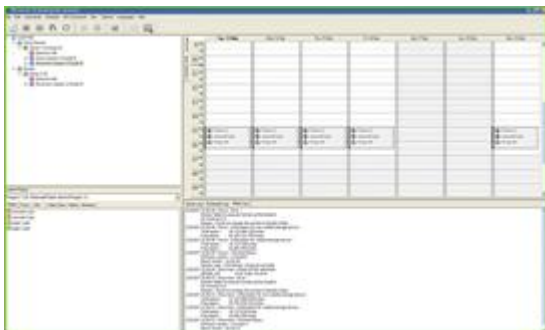


This program automatically applies syntax coloring and provides the option to check for syntax errors. API Editor provides information about API function parameters, so data can be inserted more easily.

Formerly inserted parameters will be recognized automatically and functions and parameters can be auto-completed.

IDS Server (Content Distribution)

With DISplay Server you can manage your DISplayers in an easy and intuitive way. You can send pages, switching the displays on/off, performing updates and many more. All actions can be done manually or automated with the built-in scheduler.



With DISplay Server you can schedule content on individual screens or groups of screens, all being remotely managed from one application. Remote management can be set up from a single or multiple point of management, each assigned with different administrator profiles.

Further on, content can be modified and directly send to the DISplayer and thus directly imaged on the DISplayer. The DISplayer provides full logging of all played content for billing purposes, logging of network communication between server and DISplayer for service reasons.

The players can be controlled at a distance, so content can be adjusted at any time and at almost any place and on top of that content can be shared between several users.

The system detects when a file is out of date and DISplay Server will automatically send new files to the displayer. It even gives you feedback about the played objects and it regularly takes screenshots of what is playing. Every screen can be controlled from one server application and screens can be grouped or sub grouped. Links with external content databases are possible as well as the auto update of it.

Some USPS

- Server software runs as a service
- Server software can be accessed via the network via the dZine GUI
 - Multiple connection to the server software service with multiple rights are possible over the network. The admin can define through the “right manager” which user can see which screen, which content, which agenda, ...etc

- Content projects (for example: content on language, branches, ...)
- Tree of screens + sub tree + grouping
- Status of the player/screen (software, OS, kind, size of CF/HD, power on/off, ...)
- Screenshot Mosaic (live update of which content is playing on 1 or multiple screens)
- MS Outlook look-alike agenda for advanced scheduling of
 - Playlist with auto-content uploading
 - Playlist without auto-content uploading
 - Separated files
 - Firmware
 - Other functions like reboot, power off, power on, ...

- Full remote control for the DISplayer via the DISplay Server through
 - Web interface
 - Own dZine interface
 - INI-files

- Remote keyboard function (use your pc keyboard for configuration of the DISplayer over the network)
- Logging function (even structured log for billing)
- SNMP monitoring function
- Advanced features to minimize the network load between DISplay Server and DISplayers
- Drag & drop via IE or explorer
- Link and auto-update with external content databases
- User commands
- Monitoring script files + Executing script files
- Generating Site Survey
- Activating extra DISplayer Features
- 4 Languages
- Mode with USB and CD-ROM support for offline systems
- Etc...

- Based on a MS ACCESS Database (small projects) or MsSQL or MySQL database (bigger projects)
- 3rd party software can interfacing with the dZine DISplay Server in a very easy way to write directly in the used database, or use the dZine DISplay Server SDK.

- Supported 3rd Party software:
 - Supporting Citrix, VM Ware
 - Interfacing with Oracle Database
 - Interfacing with MySQL Database
 - Interfacing with MsSQL Database

- Interfacing with Microsoft Exchange
- Interfacing with any other Database if the ODBC driver is available
- Compatible with all SNMP based monitoring systems like HP Open View, IBM Tivoli, ...(MIB files are free available)
- 3rd Party CMS systems:
 - Several 3rd party web content management systems are supported, based on the dZine Server SDK.
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Other

Other new dZine software are in development and will be released soon:

- dZine In-house Communicator
- dZine Extended Monitoring System
- dZine IDS Server Manager
- dZine Flight Editor

Several dZine partners can deliver

- State-of-the-art web based content management systems based on dZine technology

DISplay Studio & DISplayer Communication

The communication between DISplay Server and the DISplayer can be done via the local network or via the internet. The protocol that we use is the standard TCP/IP protocol. FTP protocol is also supported for file transfers but is not recommended.

DISplays & DISplayers

We, as manufacturer, are independent to any screen technology or display manufacturer or supplier because our DISplayer is equipped with the standard output & interface technology.

Preferred technology:

- LCD or TFT
- But every technology (TFT, LCD, PLASMA, LED) can be used in our solution.

Preferred screen supplier:

Here we can offer 2 options to the customer:

- a solution where the dZine DISplayer is *fully integrated in the housing* of the display
- a solution where the dZine DISplayer is *separated* of the display