

VidOvation TV Digital Signage Overview

Overview

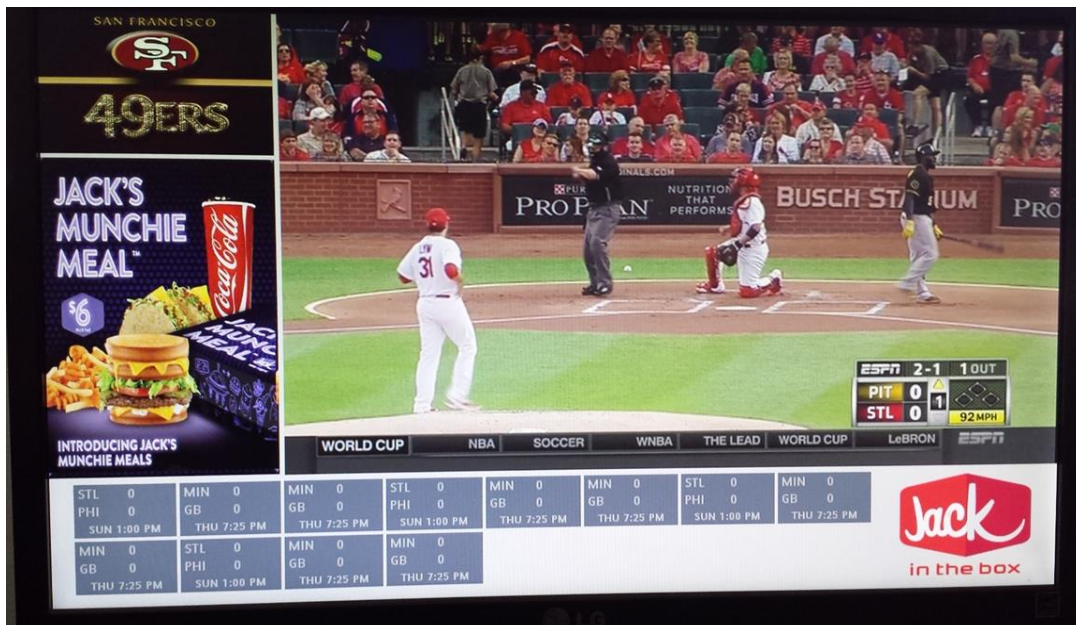
The Scheduling and Management Tools provides means of using all the features of the VidOSign with special consideration to ease of use and flexibility. There are a number of tools based on the operation and the environment. A VidOSign can work in the following environments.

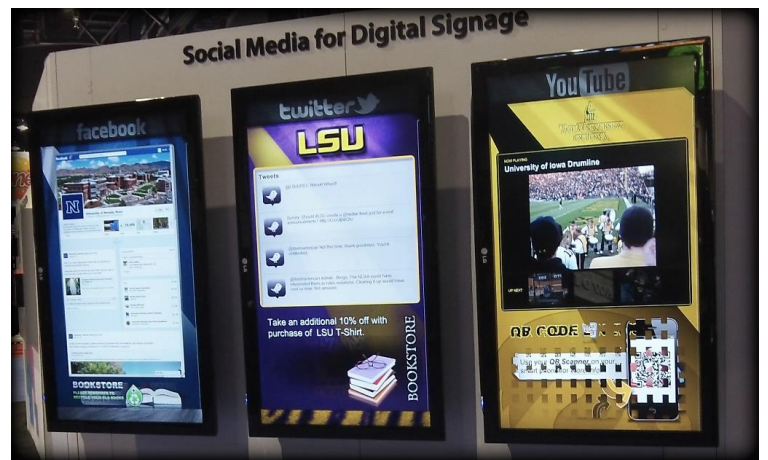
Stand-Alone: In this mode, the VidOSign is a stand-alone system, but can be connected to a network as required for management and scheduling purposes. In this case user may log on remotely to VidOSign or use the local tools. Additionally, tools may use network resource through network programming,

Group of networked VidOSign's managed by Server: This is the most sophisticated mode where a group of VidOSign's can be deployed in a network and a back-end Server is used to manage them. Most of the advanced features are only found in this mode.

Following are the broad categories of operations offered by the tools.

1. System Configuration
2. Security
3. Display Authoring and Scheduling
4. Content Management
5. Content Distribution
6. Monitoring





System Configuration

This is the first step of using a VidOSign. There are some essential parts of configuration that must be run before using the system for the first time. It is also possible to change different configuration parameters at a later stage. Following are an overview of functionalities in this area.

1. System Mode: Stand-alone or Server managed.
2. LCD Orientation: Physical layout (Display Assembly).
3. Network Parameters: In case of networked environment.
4. Software Parameters: Various parameters of the Player and Tools.

Security

1. Each VidOSign can be protected using password.

2. Additional MAC based protection can be used to allow connection from outside.
3. Tools can be used by authorized users only.

Display Authoring and Scheduling

This is the most used and heaviest part of the tools. This part determines what goes on in the LCD panels. Following are the steps involved for authoring and scheduling.

1. Design Template: Specify dimensions and resolution, select number of zones, layout zones.
2. Schedule Template Mapping: Map Templates to Logical Assembly and Logical Assembly to Physical Assembly for various time slots.
3. Schedule Zone/Create Playlist: Create playlist or schedule contents within a zone. This scheduling is defined within the scope of a Template Mapping.

After creating a schedule, it can be submitted immediately to VidOSign's active schedule table or can be submitted at a later stage. Schedules are created and updated through network.

Updating schedule may mean

1. Update the next template map schedule or next zone playlist.
2. Stop the current schedule and start a new schedule.

Content Management

The purpose of Content Management is to manage all the objects required in the scheduled displays. These objects can be added, modified or deleted using the tools. Following are the types of objects handled.

Media Objects

These are the objects that are displayed.

1. Text: Text can be used as a moving object or static, multi-line object.
2. Banner: Banner can be used as a moving object or static, single-line object.
3. Image: Pictures of various formats like JPEG.
4. Video: Movies of various formats like MPEG2.
5. Audio: Such as MP3
6. Presentation: Such as power point or flash
7. Web: Such as html pages

Playlists

Playlists can be made up of the media objects described above and saved in the system to use in scheduled displays.

Templates

Templates described above can be saved for reuse.

Logical Assemblies

Logical Assemblies described above can be saved for reuse.

Schedules

Schedules described above can be saved for reuse.

NOTE:

For Server controlled environment Content management is done centrally along with Content distribution mechanism described later.

VidOvation IPTV OnDemand server can be used for Unicast and/or Multicast streaming. The server has its own management console.

Content Distribution

The Contents can be brought to VidOSign's in various ways.

1. In networked environment Contents can be brought in by means of http or ftp protocol. For server controlled environment, this applies to both outside to Server and Server to VidOSign distribution.
2. Distributions can be scheduled and controlled for bandwidth management.

Monitoring

This is for Server controlled environment only.

1. Display list of all VidOSign's
2. Update status (health) of VidOSign's in real time
3. Select a VidOSign and use tools to perform the tasks mentioned above.

Content

The following content types are supported

4. video: mpeg1, mpeg2, h264, avi, wmv or any format supported by windows media player.

In addition to local playback, mpeg transport video can be streamed on demand, or multicast through standard rtsp protocol.

5. audio: mp3, mpeg2 audio, mpeg4 aac, wma, snd etc
audio volume and balance can be adjusted.

6. image: jpeg, bmp, gif, png, tiff, ico, wmf. For png and gif transparency is supported.

Transparency is supported.

Transition effects can be assigned between images.

7. banner: xml or rss

A banner is a single-line scrolling text. The text, scrolling speed, orientation (horizontal or vertical), transparency and fonts can be configured in the authoring tool, or defined in a xml file.

8. text: xml or rss

A text zone is a zone with multiple-line text. It can be static, scrolling, displayed word by word or row by row, rotations, with shadow or blinking. The text, displaying method, displaying speed, fonts and colors can be configured in the authoring tool, or defined in a xml file.

9. presentation: animated gif, swf (flash/shockwave), ppt (powerpoint)

10. web

internet explorer-compatible html pages. The page can be refreshed based on schedule.

11. blank

when there is no content being assigned, the hosting zone becomes transparent.

Playlist

A Playlist is a sequence of contents with durations. It can be mix of different content types, including video, image, text and banners. Content can be either on the local machine, or streamed from a network resource.

For contents with fixed length (like video files), duration information is optional. If duration is not given, then the player goes to the next content when the current content is completed

For contents without fixed length (banners, text, images, broadcast video etc), user must provide duration otherwise the player would keep displaying the same content until the current schedule item is over.

Playlist & Schedule:

When a schedule is created, each schedule item is assigned absolute start time and end time, or wait until all associated playlists are completed. If a playlist item is completed before the schedule ends, it is repeated until the next schedule item starts.

Combine schedule with playlist, user can create flexible scheduling like this:

Schedule	Zone	Playlist	Content	Duration	Absolute Play time
Schedule1 10:00:00	Template1 Zone1	Playlist1	file_1a	2 mins	10:00:00-10:02:00
			file_1b	3 mins	10:02:00-10:05:00
			Blank content (transparent)	1 min	10:05:00-10:06:00
Schedule2	Template1 Zone1	Playlist2	file_2a	5 mins	10:06:00-10:15:00 (loops)
Schedule3 10:15:00	Template1 Zone1	Playlist3	file_3a	1min	10:15:00-10:16:00
		

Playlists or schedule can be changed dynamically from the remote management tool.

Transition Effects

When switching from one image to the next in the playlist, user can assign visual effects of the transition. For example,

Appear from top, bottom, left, right

Push up, down, left, right

Dissolve

Fade in/out

Random

Transition effects are specified within the playlist. For example,

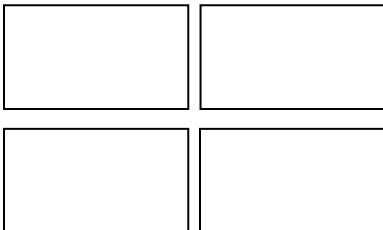
Content URI	Content Type	Duration	Transition
No content	none	10 minutes	None
file:///.../Test1.jpg	Image	2 minutes	Dissolve
file:///.../Test2.jpg	Image	1 minute	Random
file:///.../Test3.jpg	Image	5 minutes	Push down
file:///.../Test4.jpg	Image	5 minutes	Push up

Transition effects are only for switching between image-type contents.

Example of Scheduling

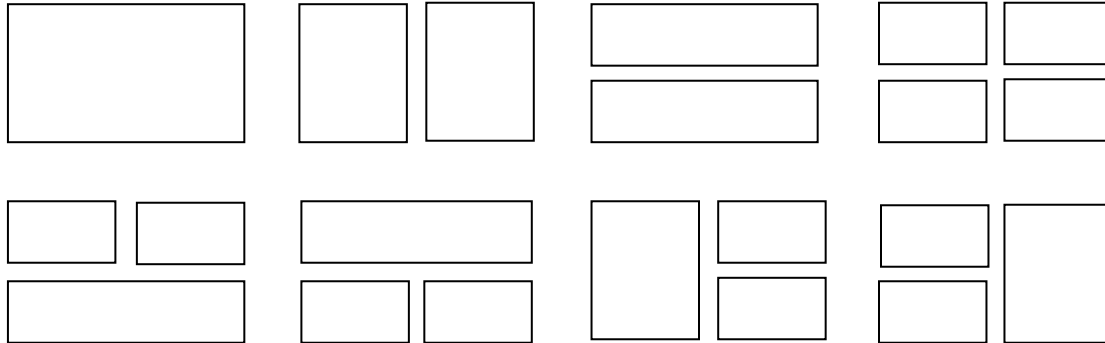
Configuration

As mentioned before System Configuration must be used before using the System for the first time. For present example let's assume that the following Physical Assembly is used.



Select Logical Assembly

Next, select one of the possible Logical Assemblies for the Schedule.



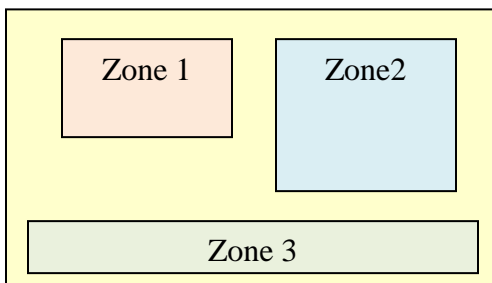
Select Template

Based on the selection above, there can be 1, 2 or 3 Templates in the Logical Assembly. Next step will be to define each of the Templates.

A Template can be selected from one of the previously saved Templates or a new one can be created.

Create Template

A Template consists of Zones. Creating a Template involves determining the background, number of Zones and specifying size and position of the each Zone. Following is an example.



Select Playlist

Once the Templates are defined, the next step will be to specify Playlist for each Zone including background zone (Or specify them while defining each Template). A Playlist can be selected from one of the saved Playlists or new one can be created.

Create Playlist

A Playlist specifies a list of Contents to be played and the duration of playing. As described before, the following will be defined for each Content in the Playlist.

1. Type of Content: Text, Banner, Image or Video.
2. Content Location: Path to file in local system or in network.
3. Duration of play.
4. Transition Effect: Between image type contents.

Save Schedule

Once all the elements in a Schedule are defined, it is ready to be submitted or it can be saved for later use. For Server controlled VidOSign's, the Schedule information along with the Contents involved are packaged together and distributed to the VidOSign's.

Create Schedule

To start a new schedule, select the following

1. Start Time: Specify now or Specify later (in later case, the schedule can be saved and submitted later)
2. Duration: Specify or Calculate from Playlists or Specify looping.

Submit Schedule

To start playing a Display Schedule has to be submitted to VidOSign. A schedule can be selected from one of the saved Schedules or a new can be created. At the time of submitting the Start Time and Duration of the Schedule must be specified.