Understanding Digital Signage
An Introduction To Small-Scale DS Technology and Application

“Many a small thing has been made large by the right kind of advertising.” — Mark Twain
Today’s Learning Objectives

• What Is Digital Signage?
• The Digital Signage Business Model
• How Will DS Will Grow And Change Over Time?
• Digital Signage Signals and Distribution
• What Is The Typical Topology Of A Digital Signage Installation?
• What Unique Opportunities Does DS Offer My Organization?
What Is Digital Signage?

*Digital Signage Is A Form Of Electronic Display That Shows Information, Advertising And Other Messages.*

Digital Signage Is Also Called "Narrowcasting", "Screen Media", "Place-based Media", "Digital Merchandising", "Digital Media Networks", "Digital Out-of-Home" Or "Captive Audience Networks"
Digital Signage Defined

Networked Video Displays In Public Or Common-Use Spaces That Broadcast Highly Targeted Messages To A Defined, Temporary Audience To Show Information, Advertising And Other Messages

• Applications:
  • Company To Customer
  • School To Student
  • Government To Citizen

• Installations:
  • Retail Stores
  • Corporate (Non Retail) Buildings
  • Educational Facilities
  • Hospitals And Medical Offices
  • Transportation Hubs
  • Service Industry Facilities
The Digital Signage Business Model

1. Product and Installation
   - Distributed Video and Audio System Design And Integration
   - Hardware Sales

2. Software As A Service (SaaS)
   - Software That Is Deployed Over The Internet Or Is Deployed To Run Behind A Firewall On A Local Area Network

3. Content Creation And Management
   - The Ultimate Recurring Revenue Stream
Digital Signage Is A Growth Opportunity

“Despite a slowdown in the worldwide growth of flat panel displays (FPD), digital signage (i.e., public displays) is forecast to grow at a compound average growth rate of 20 percent to 2016” — DisplaySearch

“Opportunity is missed by most people because it is dressed in overalls and looks like work.”
— Thomas A. Edison
Where Is Digital Signage Used?

- Hotels, Airports And Stadiums Are The Obvious Answers!
- Retail And Shopping Centers
- Churches And Schools Offer Virtually Limitless Potential
- Sports Bars And Restaurants
  - Why Can’t All Those TV’s Play “Controlled Content” During Non-Game Hours?
- Spas, Salons and Fashion Boutiques
  - Services Are A Retail Sale!
- Automotive And Recreational Vehicle Sales And Service Centers
Small Scale Versus Large Scale

• 80% Of Projects Are Captured By 20% Of Businesses
  – 20% Of DOOH Projects Aren’t Being Aggressively Pursued!

• Large Scale Digital Signage Installation Have Long Sales Cycles And May Tie Up Valuable Resources For Extended Periods
  – Small Scale Installations Often Aren’t Even Identified As Digital Signage Opportunities!
What Are The Components Of A Digital Signage Installation?

- Player
  - Computer
  - On-board Player
  - Dedicated Server
- Distribution
  - Network
  - Parallel Network
  - Line Level
  - MATV
- Display Device
  - Projection
  - Flat Panel
What Signals Are Used In Digital Signage?

- Network Connection To Player
  - Player May Be Centrally Located Or Mounted In Or On The Display Panel
- Player Output Typically VGA or DVI-D
- Analog (VGA) Signals May Be Distributed From The Player Via Cat5e As Non-Network Distributed AV
- For Maximum Utility, DS Player Output May Be Modulated And Distributed Via MATV
- TMDS Signals Are Becoming Important
  - HDMI
  - DVI-D
  - DisplayPort
How Are Digital Signage Signals Distributed?

- Short Distances – A Native Choice
- Short To Mid Distances – A Balanced Perspective
- IP Addressable Installations
  - The Digital Sign As A Network Component
- Digital – DisplayPort, HDMI And DVI-D
  - Critical for Multi-Panel Video Walls
- MATV – RF Modulated
  - Ultimate Flexibility
Digital Signage And Network Interface

- In DS, The Network Plays Several Vital Roles
  - Originating Source For Content
  - IP Addressed Centralized Control Of DS Hardware And Software
  - Regional Distribution Of Content To “Zoned” Players
    - Players May Then Distribute Line Level Video And Audio Via UTP Or Native Connectivity
  - Distribution Of Content VIA LAN Connectivity To Individual Panels With On-Board Players
Wireless Solutions for Digital Signage

- Wireless From Source To Player
  - This Is A LAN Connection
- Wireless From Player To Display
  - This Is An AV Connection
  - Used In Combination With Wired Distribution
- All Wireless Is Not Equal!
  - 802.11 Or Spread Spectrum Devices Offer The Best Performance
- Consider Security Needs
  - Is The DS System Part Of The LAN Installation Or Is It A Stand-Alone Subsystem?
MATV And Digital Signage

• Coax Provides From 370 To 1,000 Times More Capacity Than Twisted-Pair
• COAX MATV Head-Ends Can Be Much Less Expensive Than Redundant Network Matrix Switches
• Connect Display To Network For Control And On-Board Static Image Delivery, Switch To ATSC or QAM For SD and HD Video
Monetizing The Digital Signage Opportunity

• There Are Many Profit Opportunities Delivered By The DOOH Industry
  – Hardware Sales
  – System Design And Integration
  – System Management
  – Content Creation
  – Content Management
  – Cross-Platform Promotion And Advertising Sales

• Leverage The Opportunity To Create New Possibilities!
In Conclusion...

Behind the scenes digital signage requires an advanced physical infrastructure from power, data cables, screens and routing equipment to software applications and middleware. Sitting on top of digital signage hardware is usually a content management and playback system to ensure the right information is displayed at the right time.

The future is bright for digital signage

“Success in business requires training and discipline and hard work. But if you’re not frightened by these things, the opportunities are just as great today as they ever were.”

— David Rockefeller

— Jason Slater, Jason Slater Technology Blog