



Digital Signage, Passive to Interactive

Agenda

- Digital Signage Today and Tomorrow
- Benefits of Touch in Digital Signage
- Main Touch Technologies
- Choosing the “right” Touch

Digital Signage Today

- Passive
- Pushed Content
- No Interaction
- No Measurement

Digital Signage of the Future

- *Touchscreen Interactivity
- Data – Mining
- Audience Measurement
- POS Integration

* the easiest and most likely to be adopted

What's new in Digital Signage

- Web-based open source software
- Interaction with Mobile devices
- Utilizing “Social” Networks to interact and distribute information from screen
- Audience Recognition
- Employee facing Digital Signage

*Growth of Digital Signage

- Budgets for DS spend over the next 2 years will increase by 53%
- #1 growth area in Digital Signage: Wayfinding followed by Corporate communication
- New features to add:
 - 30% Touchscreen displays
 - 28% Audience measurement
 - 27% Interface with POS

*Results provided by Digital Signage Association

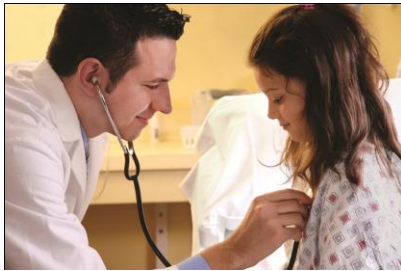
*Benefits of using Touch in Digital Signage

- #1 Customer experience
- Marketing information
- Way-finding
- Increase Productivity
- Reduce Cost

*Results provided by Digital Signage Association

Digital Signage Growth Segments

Medical



Corporate/Education



Kiosk



Retail



Government

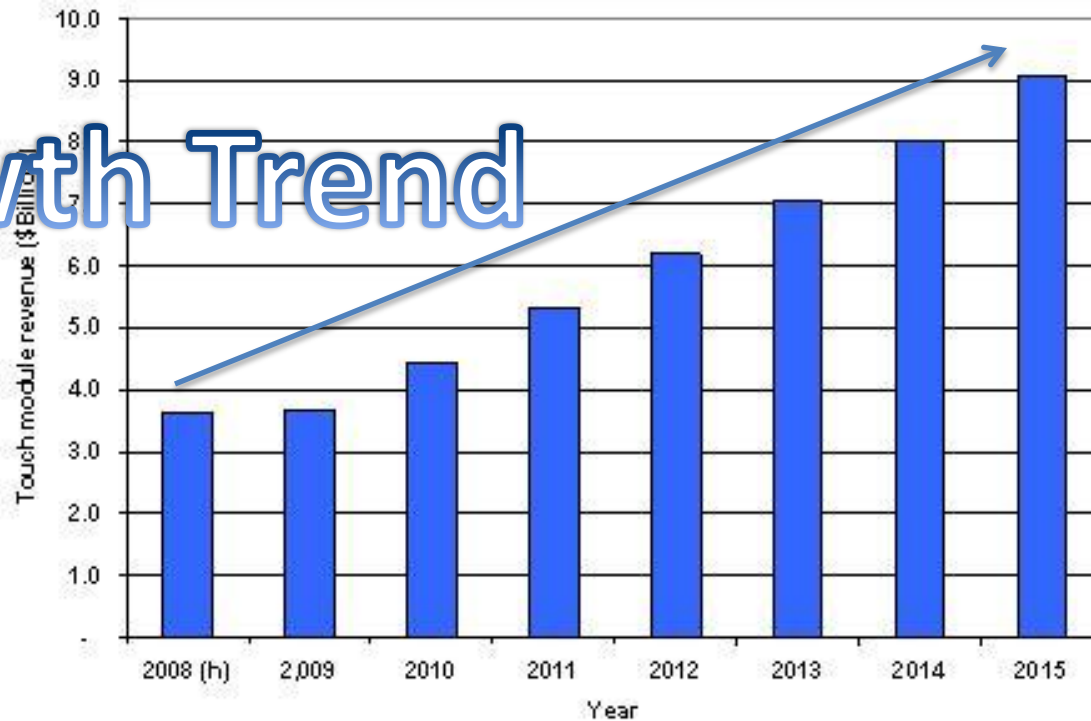


Hospitality



Market Watch

Growth Trend

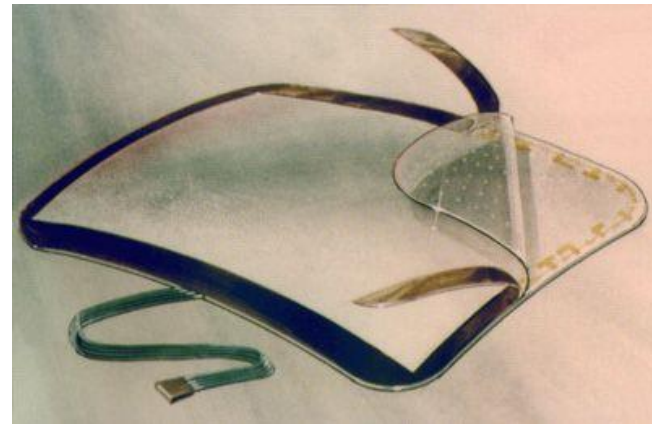


*DisplaySearch 2009

History of Touch

- 1971; First true touch screen
 - Resistive Technology
 - Developed by Elographics (now Elo TouchSystems)

**The Touch Screen was selected as one of the 100 most significant technical products of the year 1973



Who Uses Touch Today

Corporations: Employee Kiosk, POI

Education: Wayfinding, Informational, POI

Medical: Wayfinding, Doctor Look-up, Medical records, OR, EMR

Government: 911 Centers, Command & Control, DHS & DOD

Hospitality: Meeting Agenda's, Wayfinding, POI

Who Uses Protective Acrylic/Glass

Corporations: Lobby Signage

Education: Wayfinding, protection from students

Medical: ER, Nurses Stations, OR; anything that is on the cleaning schedule

Government: Public areas

Retail: Public areas

Hospitality: Quick Serve Restaurants

Mainstream Touch Technologies

- Analog Resistive
- Surface Acoustic Wave (SAW)
- Traditional Infrared (IR)
- Surface Capacitive
- Projected Capacitive

Analog Resistive (Size: 2”- 30”)

Advantages:

- Touch with any object; stylus, finger, gloved hand
- Historically lower cost (Capacitive has caught up)
- Low Power Consumption
- Best in screens smaller than 23”

Disadvantages:

- Not durable; PET top surface is easily damaged
- Poor optical quality (10% - 20% light loss)- not good in sunlight
- No Multi-Touch capabilities
- Shorter life; fewer touch activations
- Less responsive
- Antiquated technology (original touch)

Applications:

- ❖ Mobile Devices
- ❖ POS terminals
- ❖ When cost is #1



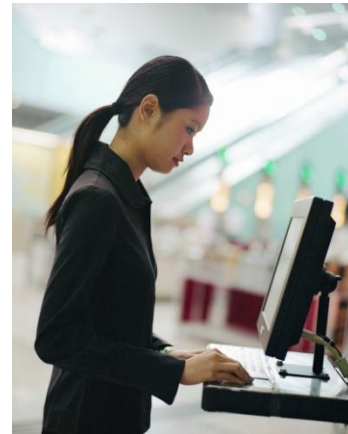
Surface Acoustic Wave (Size: 10”- 30”)

Advantages:

- Finger, gloved hand & soft stylus
- Very durable
- High Optical Performance
- Multi-touch (2)

Disadvantages

- Very sensitive to surface contamination
- Can only used “soft” touch objects
- Projects above touch surface by (1mm) so can’t be flush to bezel
- Hard to seal
- Warranty issues; dependability after installation
- Can’t Touch & Hold



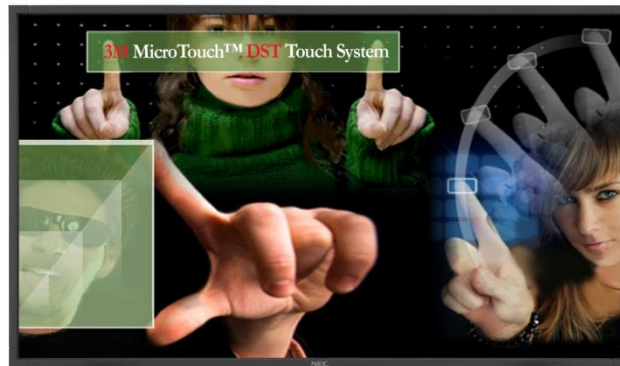
Applications:

- ❖ Kiosks
- ❖ Gaming

Traditional IR (Size: 10” – 150”)

Advantages:

- Most objects; stylus, finger,
- Reliability
- High Durability
- Good optical performance
- Touch & hold
- Multi-touch (4)
- Stable Calibration
- Works with scratches



Disadvantages

- Hover can cause false touch
- Profile height; does not integrate within OEM housing
- High cost
- Proprietary

Applications:

- ❖ Digital Signage
- ❖ POS
- ❖ Kiosks
- ❖ Way-finding

Exclusive!

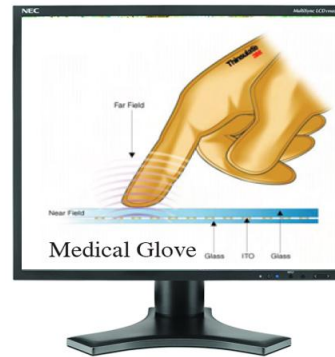
TG Surface Capacitive (Size: 10” – 32”)

Advantages:

- Finger, Stylus only; *Except for Tech Global's Dynamic Touch, can use Medical GLOVE!
- Touch & Hold
- Durability; works with scratches
- Very accurate & repeatable
- 93% Translucivity (Dynamic Touch)
- Fast Response & drag

Disadvantages

- High Drift on large format
- No Multi-touch



Applications:

- ❖ Kiosks
- ❖ Gaming
- ❖ ATM
- ❖ Military
- ❖ Industrial/911
- ❖ Digital Signage
- ❖ Way-finding

** Compatible drivers to support: Windows, Apple, CE and Linux

Projected Capacitive (3" – 24")

- **Advantages:**
- Various touch Objects
- Multi-touch (2+)
- Very durable
- Touch and hold
- Stable calibration
- Good Optical performance
- Fast Response & drag
- **Disadvantages**
- Small Sizes
- Susceptible to LCD Noise
- Cost

Projected capacitive touchscreen.

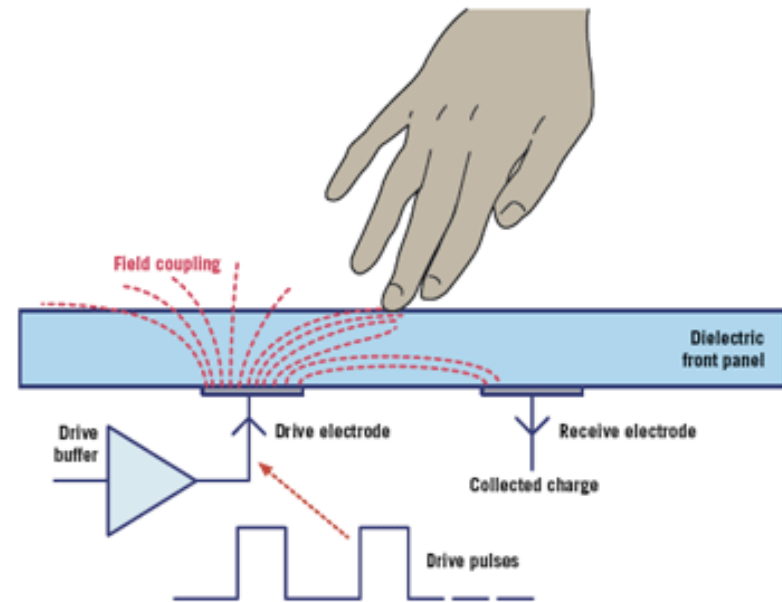


Figure 1

Emerging!

3M DST (Size: 32" – 47")

Advantages:

- Touch with any object
- Very durable
- Operates with static objects or scratches
- Fast response
- Highly repeatable touch accuracy; light touch
- Multi-touch in development
- Sealable

Disadvantages

- No Touch and Hold
- Limited Sizes (for now)
- Sole source supplier

Applications:

- ❖ Digital Signage
- ❖ Whiteboards
- ❖ Kiosk
- ❖ Training/Conference
- ❖ Way-finding



Optical (Size: 10” – 150”)

Advantages:

- Touch with any object
- Multi-touch (4)
- Very durable
- Touch and hold
- Stable calibration
- Good Optical performance
- Fast Response & drag

Disadvantages

- Limited controller chips
- Very Thick – requires custom bezel
- Not for “Off the shelf”
- Price



Applications:

- ❖ Kiosks
- ❖ Training/Conference
- ❖ Consumer
- ❖ Digital Signage

Choosing your touch

What is your application?

Look at the environment.

Who are your users?

What is your input device: finger, glove, pen?

Questions??

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