About the Speaker

Teaching

- *Best teacher award*
- Teacher effectiveness *95.2%, 95.0%, and 89.6%* in recent years.
About the Speaker

Research

- Ranked internationally as no. 2 among experts in test cases.
About the Speaker

Administration

- **Matchmaker of $100,000,000 donation for The University of Hong Kong.**
Track Record

Web Accessibility Recognition Scheme

- **Triple Gold Award** for Hong Kong Society for Rehabilitation main website
- **Triple Gold Award** for The University of Hong Kong main website.
Presentation Outline

- Accessibility issues
- We learn from mistakes
- Why information accessibility
- Common approaches to text display
- Simple technique to test web accessibility
- Plain text web pages?
- Hypertext Markup Language (HTML)
- Cascading Style Sheets (CSS)
- Searchable PDF files.
Accessibility Issues
for People with and without a Disability

- Accessibility route
- Accessible transport
- Accessible toilet
- Accessible information.
Accessible Route

- Ramp
- Universal design

Special route
Full integration
Accessible Transport

- Rehubus
- Accessible mass transit

Special transport
Full integration
Accessible Toilet

- Toilet for people with a disability
- Family toilet

Special toilet

Full integration
Accessible Information

Special information?

Full integration?
We Learn from Mistakes

Chain of Hamburger Restaurants
We Learn from Mistakes

Hotel
We Learn from Mistakes
University
Why We Need Web Accessibility

Screen Reader

- Application software that converts standard text output into voice or Braille
- Cannot not really “read” the “screen”
- Used by
  - People with visual impairment (including total blindness)
  - People with learning difficulties
  - People who are illiterate.
Why We Need Web Accessibility

- For people with visual impairment (including total blindness)

*Social responsibility?*

*Social asset!*

*Financial asset!*
Why We Need Web Accessibility
Continued

- For people who use slow modems
  - We need credit cards to apply for broadband
  - People in poverty do not have credit cards
  - They turn off the images

Social responsibility?

Social asset!
Why We Need Web Accessibility

Continued

- For people using portable devices, who may turn off images to reduce security risk or cellular data charge.

Financial asset!
We Learn from Mistakes

Who will load the image if they have no idea of the message content?
Simple Technique to Test Web Accessibility

- Open Internet Explorer
- Click “Tools” → “Internet options” → “Advanced” tab
- *Turn off “Show pictures”*
- Open the web page.
Example
Example
(“Show Pictures” Turned Off)
Common Approaches to Text Display

- Raster graphics
- Vector graphics
- Plain text
- Styled text.
Common Approaches to Text Display

Raster Graphics

- Text and images composed by a dot matrix data structure representing rectangular grid of pixels.

- *Examples:* jpg, gif, bmp formats.
Raster Graphics

- Most commonly used in web page banners
Raster Graphics

Disadvantages

- Cannot be enlarged indefinitely
Raster Graphics

Disadvantages

◆ Cannot be enlarged indefinitely
Raster Graphics

Disadvantages

- Cannot be enlarged indefinitely
- Cannot search for required text
- Cannot copy and paste the text
- Not accessible by screen readers.
Raster Graphics

Disadvantages
- Cannot be enlarged indefinitely
- Cannot search for required text
- Cannot copy and paste the text
- Not accessible by screen readers

Advantages
- Easy to generate?
  No advantages!
Common Approaches to Text Display

Vector Graphics

- Text and images represented by geometrical primitives such as lines and curves

a
Vector Graphics

- **Examples**
  - Adobe Illustrator outline format
  - svg format
  - Properly generated pdf, eps, and emf formats
- Most commonly used in professional printing
Vector Graphics

Advantages

- Can be enlarged indefinitely
Vector Graphics

Advantages

- Can be enlarged indefinitely
Vector Graphics

**Advantages**
- Can be enlarged indefinitely

**Disadvantages**
- Cannot search for required text
- Cannot copy and paste the text
- Not accessible by screen readers.
Common Approaches to Text Display

Plain Text

- .txt format
- The most common approach for “accessible Web pages”

Due to serious misunderstanding!!
Advantages

- Can be enlarged indefinitely
- Can search for required text
- Can copy and paste the text
- Accessible by screen readers.
Plain Text

**Disadvantages**

- Dull and boring
- Double the work
  - English version
  - Traditional Chinese version
  - Simplified Chinese version
- Against the principle of “universal design for all”.
Common Approaches to Text Display

Styled Text

- Format the text using
  - Hypertext Markup Language (HTML) and/or
  - Cascading Style Sheets (CSS)

- Recommended by World Wide Web Consortium (W3C)
- Can be applied to banners also.

More details later
We’re thrilled to announce a new partnership with Pinterest that will help our Squarespace customers grow their websites and businesses. As the first website platform to automatically enable Pinterest Domain Analytics and Rich Pins, we’ve developed a seamless integration that sets Squarespace websites up with everything they need to succeed on Pinterest.

**Rich Pins**

All products and posts on Squarespace now have Rich Pins enabled by default. Rich Pins offer a more complete experience within Pinterest by surfacing relevant details from your content (post headlines, product prices, and item inventory) directly next to content pinned from your site. Furthermore, Rich Pins show up higher in Pinterest feeds, making them more discoverable and helping drive even more traffic back to the original page.

**Pinterest Analytics**

By connecting your Pinterest account with Squarespace, you’ll be able to see what people are Pinning from your website on Pinterest Analytics, giving you greater insight into which of your products and content are the most shared and talked about.
Example 1
(“Show Pictures” Turned Off)

We’re thrilled to announce a new partnership with Pinterest that will help our Squarespace customers grow their websites and businesses. As the first website platform to automatically enable Pinterest Domain Analytics and Rich Pins, we’ve developed a seamless integration that sets Squarespace websites up with everything they need to succeed on Pinterest.

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Device-Agnostic

The more I build for the web, the more the term ‘device-agnostic’ endears itself to me.

I used to think it merely dealt with basing responsive breakpoints
Example 2
(“Show Pictures” Turned Off)

Device-Agnostic

The more I build for the web, the more the term ‘device-agnostic’ endears itself to me.

I used to think it merely dealt with basing responsive breakpoints
We Learn from Mistakes

Image <img>

Example 1

Not understood by screen reader.
We Learn from Mistakes

Image <img>

- **Example 1** ("Show Pictures" Turned Off)
HTML Recommendations

`<alt> Text`

```html
<img src = "chartered.jpg" alt = "Standard Chartered">
```

- **Example 2 ("Show Pictures" Turned Off)**

Recommended by W3C.

Understood by screen reader
Cascading Style Sheets (CSS)

- **Separation of content and format**
  - Define content using HTML
  - Define format using CSS
- **Recommended by W3C**
- **Advantage**
  - Mainstream CSS to define font types, sizes, and colours
  - CSS for screen readers to define voice levels.
Cascading Style Sheets (CSS)

Example 1

- **CSS**

```
myHeading {
    font-family: "Verdona";
    font-size: 3em;
    font-weight: bold;
}
```

- **HTML**

```
<font class = myHeading>
Standard Chartered</font>
```
CSS Example 2

“Default Style” and “Show Pictures”
CSS Example 2

“Style” and “Show Pictures” Turned off

No need for plain text version.
Generating PDF Files

Method 1 (Print + Scan)

- Open Microsoft Word document
- Print
- Scan the printed hard copy

*The most commonly used technique.*
Generating PDF Files
Method 1 (Print + Scan)

Disadvantages

- Cannot search for required text
- Cannot be enlarged indefinitely
- Cannot copy and paste the text
- Hyperlinks do not work
- Not accessible by screen readers

Advantages

- Easy to generate? No advantages!
Generating PDF Files

Method 2 (Save as)

- Open Microsoft Word document
- Click “Save As” → “Adobe PDF”.


Generating PDF Files
Method 2 (Save As)

**Advantages**
- Can search for required text
- Can be enlarged indefinitely
- Can copy and paste the text
- Hyperlinks work normally
- Accessible by screen readers

**Disadvantages**
- Complex process?
  - No disadvantages!
Searchable PDF Files

- Formal name of accessible PDF files produced by Method 2 (Save As).
Information Accessibility

Conclusion

- **Beyond** social responsibility
- Text rendered by raster or vector graphics *not accessible*
- **Duplicated effort** for plain text version
- Turn off “Show pictures” to **test accessibility**
- Use `<alt>` text to *explain the graphics*
- **Separate** content (HTML) and format (CSS)
- Use “*Save as*” to generate searchable PDF files
Your Comments are Welcome
Thank you