Legibility of Nutrition Facts Panel and Ingredient Statement Images Captured Using the Apple iPad 2

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Background

- Databases should be market-reflective
  - Updated regularly
  - Inclusive of brand name products
- Manufacturer websites have limitations
- Supermarket visits (“grocery store checks”) may be necessary

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Grocery Store Checks

- Traditional methods
  - Hand recording
  - Use of photocopy machines
  - Purchase of products
- Labor intensive
- Expensive

Objective #1

Conduct a qualitative evaluation of several hand held electronic devices to identify which might be feasible for capturing legible images of nutrition facts panel and ingredient statement information on brand name foods.

Procedure

- Determined device capabilities and completed initial screening
  - "Magic Wand" Handheld Scanner 
    - VuPoint Model PDS-ST410a-VP
  - Digital Camera - Nikon Coolpix 3000 
  - Apple iPhone 3Gs 
  - Apple iPad 2 

"Magic Wand"

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Digital Camera/Rounded Packages

The digital camera close-up mode worked better for rounded objects than the Magic Wand

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iPhone 3Gs Camera

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iPad 2 Camera

iPad 2 Advantages

- Excellent visibility of images
- Ease of user interface
  - Immediate viewing of image
  - Ability to manipulate image
- Multiple uses

Objective #2

Conduct a quantitative evaluation of the ability of the iPad 2 to capture legible images of the front of the package, nutrition facts panel, and ingredient statement information for brand name foods.

Methods

- Cross-sectional survey of candy, salad dressing, frozen entrees, and frozen pizza was conducted
- Systematically selected samples were collected from a Wal-Mart Supercenter in the Minneapolis metro area with the goal of sampling 25 products from each category

Procedure

- Pictures were taken of the nutrition facts panel and ingredient statement for each sampled product
- Legibility of the images was rated on a scale of 1 to 4
  - 1 - text was visible and easily legible
  - 4 - text was missing or illegible

Data Collection

- Product Name
- Product Category
  - Candy
  - Salad Dressing
  - Frozen Entrée
  - Frozen Pizza
- Number of Attempts and Legibility
  - Front of Package
  - Nutrition Facts Panel
  - Ingredient Statement
- Package Characteristics
  - Shape
  - Dimensions
  - Plastic, Glass, Paperboard
  - Flexible, Rigid
  - Surface Texture
    - Smooth/Rough
  - Reflective, Non-Reflective

Package Materials

Product Category	Plastic	Glass	Paperboard
	% (n)	% (n)	% (n)
All products (n=100)	54 (54)	3 (3)	43 (43)
Candies (n=25)	92 (23)	0 (0)	8 (2)
Salad dressings (n=25)	84 (21)	12 (3)	4 (1)
Frozen pizzas (n=25)	16 (4)	0 (0)	84 (21)
Frozen dinners (n=25)	24 (6)	0 (0)	76 (19)

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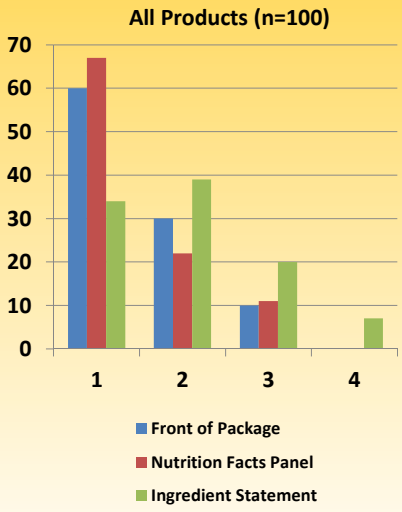
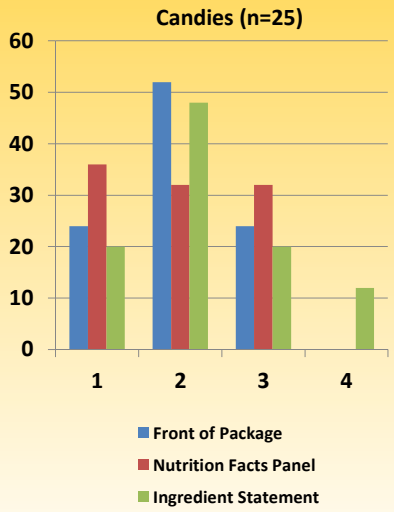
Legibility Scores





Conclusions

- The iPad 2 may be a valuable tool for nutrient database developers
- Use of digital technology may help database developers to keep pace with the large and dynamic marketplace

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Next Steps

- Utilize technology improvements
  - iPad Generation 3 – improved camera, retina display
  - Flexible scanners
- Evaluate use of optical character recognition (OCR) software
  - Allows conversion of images to text
  - Ability to copy data into Word or Excel

Questions?

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