

Consumer Engagement Strategies

Digimarc Digital Watermark Technology

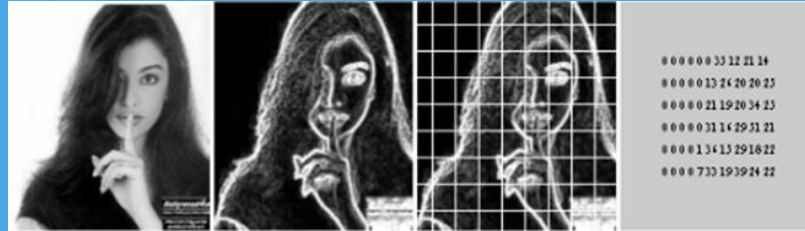
**AMERICAN PACKAGING
CORPORATION**

Current Technologies

Comparison Highlights



Example of a 2D barcode advertisement in Tokyo, Japan.



The sequence of operations to generate a image fingerprint.



Original Image

Exaggerated
Watermark

Watermarked Image

2D Barcodes

- **Visible, machine-readable pattern**
- Encodes data according to a defined specification.
- Various shapes of dots are laid out in a two-dimensional pattern.

Image Recognition

- **A form of digital fingerprint.**
- A unique pattern that identifies content.
- Derived or computed from selected inherent properties of content.

Digital Watermarking

- **Imperceptible digital identity that can be embedded in all forms of media and many everyday objects**
- Detectable by computers, networks and mobile devices.

3D Barcodes

Overview Highlights



Benefit

Consumer engagement

Links the user to additional product information, other products, recipes, coupons, promotions

Method

Consumer uses Smart-Phone app to scan code



Disadvantage

Consumes valuable package real-estate and consumer must orient the 2D barcode to the camera

Location on Package

Typically positioned in a single location
Requires specific dimensions

Image Recognition

Overview Highlights



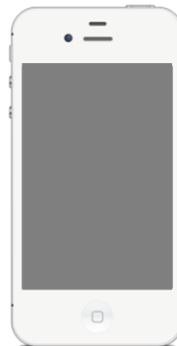
Benefit

Consumer engagement

Links the user to additional product information, other products, recipes, coupons, promotions

Method

Consumer uses Smart-Phone to scan image using apps such as Blippar, Aurasma, Netpage, etc.



Example of the features on a package that the image recognition software scans

Disadvantage



Technology is based on a query of existing images enrolled in a database – the chance of false identification (*see next slide for clarification*)

Location on Package

Multiple locations possible

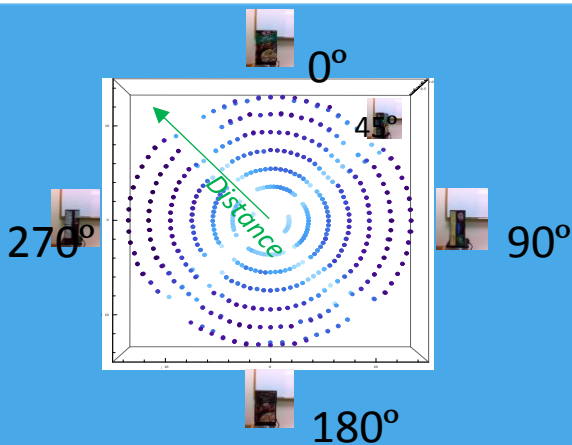
Image Recognition

Image Recognition Flaw

Image recognition is not 100% reliable

Proof

- Two tests: Single and Two Similar Packages
- Package scanned from various angles and distances
- Image from each scan compared against image recognition database



	Single Package	Two Packages
Detection Rate	80%	80%
Missed Detection	20%	20%
False Positive	2.4%*	47%**

* Wrong side of the box was identified

** Wrong product was identified

Digital Watermarks

Overview Highlights



Benefit

Consumer engagement
Links the user to additional product information, other products, recipes, coupons, promotions
Can be detected anywhere on the package regardless of orientation

Can be used at point of purchase instead of a printed UPC code

Grocer Checkout Speed Improvement



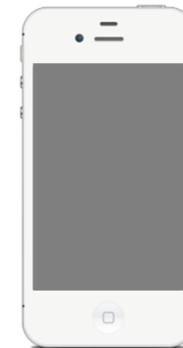
Location on Package

Can be incorporated everywhere on the package
Size is Not Critical

Method

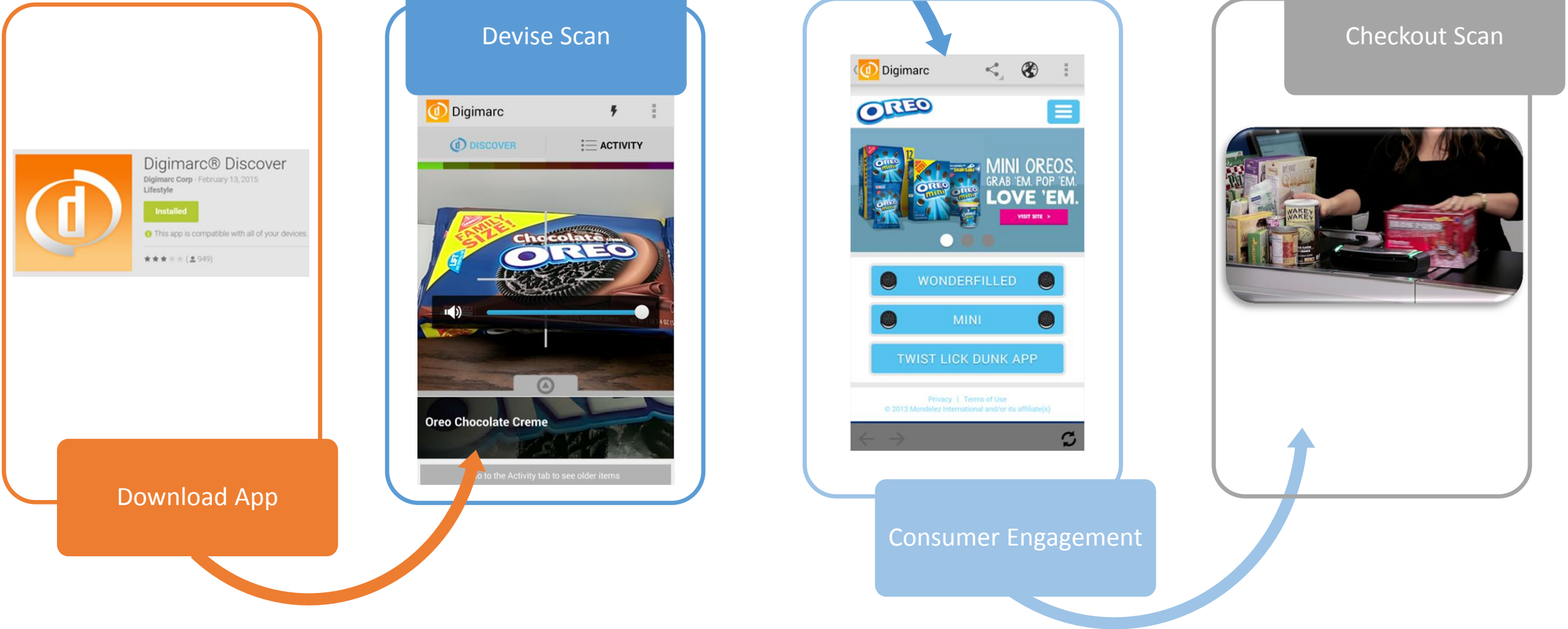
Consumer uses Smart-Phone to scan image using apps such as Digimarc Discover

Grocery Checkout Scan



Consumer Experience

Mobile Meets Packaging



Intuitive Use & Enhanced Shopping Experience

Digital Watermarks

The Details



The APC logo is embedded with a digital watermark and can be read using the Digimarc app

Where are the digital watermarks located?

Watermarks are repeated approximately every square inch around the entire package

Advantages

Fold, wrinkles, irregular surfaces, print defects, and other related issues do not pose detection problems

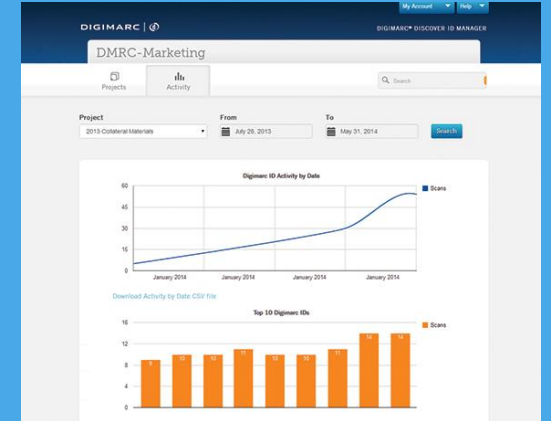
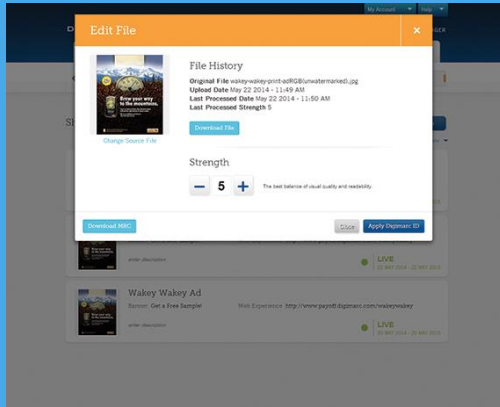
Product orientation is not important when using Smart-Phone App or at POS checkout

100% positive detection

Integrate into Branding

Consumer Engagement via Packaging

Digimarc IDs easily integrate into your branding.



EMBED

A Digimarc ID is imperceptibly embedded into your shopper marketing materials.

DETECT

Shoppers scan the Digimarc-enabled materials with their mobile devices.

CONNECT

Shoppers are instantly connected to engaging mobile web experiences.

MEASURE

Each shopper's interaction is measured for reporting purposes.

Digital Watermark Details

Platforms

Digimarc Discovery uses open source coding enabling other apps to include the Digimarc protocol.



Wegmans

THE COSTCO CONNECTION

LibreDigital

Time Inc.

my recipes



CONTENT TESTING AND ADOPTING ACROSS MULTIPLE PLATFORMS

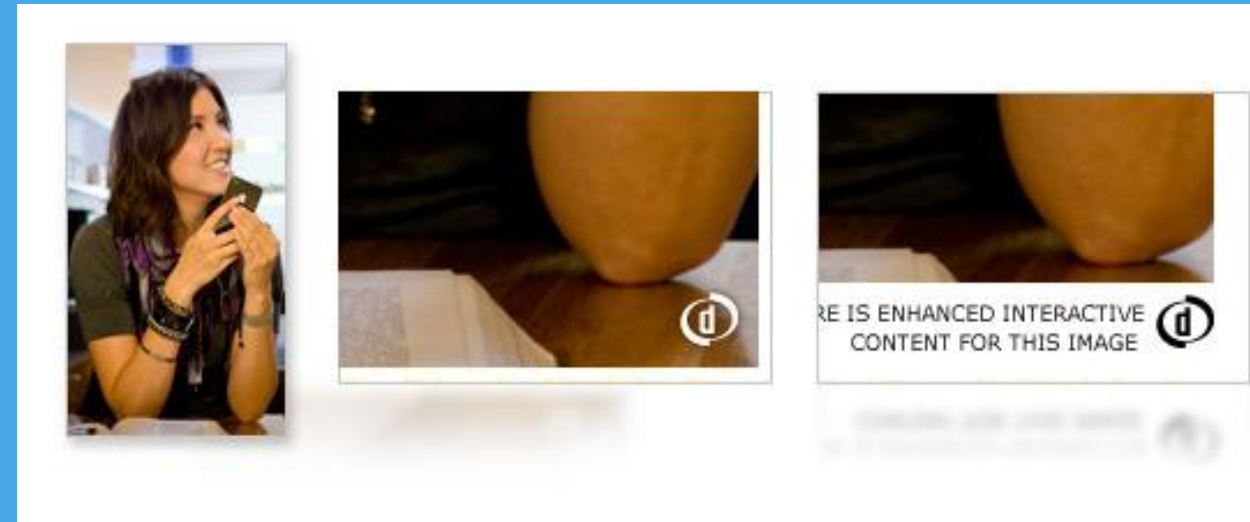
Digital Watermark Details

Audience Education

Finally, one solution to drive mobile shopper engagement at every print, audio, video and packaging touchpoint along the shopper's journey.



- Direct users to enhanced content
 - Circle D Symbol
 - Custom-Designed Symbol or Logo
 - Blue Hyperlinked Text
- What is the cost?
 - One time fee of about \$500
 - Annual fee of \$50 to maintain active portal link



DIRECTING USERS TO ENHANCED CONTENT

Consumer Experience

Mobile Meets Packaging

Digital Watermark Benefit Potential



RETAILERS

- Lower costs by speeding up checkout
- Provide richer shopping experiences
- Fight barcode swapping



BRANDS

- Inform and engage mobile-enabled customers
- More attractive packaging
- 100% brand protection



CUSTOMERS

- Faster checkout
- Better shopping experience
- Instant access to mobile content