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Zones of Influence

Detection and Anticrime R&D

NRF NATIONAL RETAIL FEDERATION

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Zones of Influence

In this session, you will learn:

- 1.The Zones of Influence criminological theory
- 2.Research conducted for reatilers by the LPRC
- 3.RFID data visualization and analysis

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Background

- Founded in 2001 by 10 leading retailers and Dr. Read Hayes
 - Founding retailers include Target, Walmart, OfficeMax, CVS, Home Depot, Beall's, Gap, and Barnes and Noble
 - Prior to forming, no academic resource for research and innovation in loss prevention
 - Idea sharing wasn't formalized – predominately one on one interactions once or twice a year at trade shows or shorter-term committees
 - Industry relied heavily on research conducted in-house which sometimes lacks academic rigor (grounded and systematic).

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Getting Involved

- *LPRC StoreLabs*
 - Use one of your own locations for your corporate innovation center.
 - Test LP solutions and get feedback from your own customers and associates as well as the shoplifters that visit your stores
- *LPRC Innovation Lab*
 - You and your team can visit Gainesville, FL for meetings as well as to check out some of the latest and greatest LP technologies at LPRC HQ
- *LPRC Working Groups and Action Teams*
 - Have monthly conversations with industry experts who are trying to decipher LP issues happening across many retail verticals
 - Collaborate to create projects you and other retailers will work on
 - Learn something new!
- *LPRC Impact conference*
 - Join 200+ LP industry professionals to learn about how retailers use LPRC Research and engage in conversation about the future of LP.

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Research

- To date the LPRC has conducted over 120 real world loss prevention research projects for retailers and partners
 - Range from small sample qualitative interviews to nationwide randomized controlled trials
 - Evaluated LP technology such as ePVMs, package wraps, shoplifter deterrent signs/labels, benefit denial technology, video analytics, parking lot protection, supply chain, and much more
 - Working with members to analyze data and develop statistical models.
- Developed and enhanced theories in the field of criminology
 - See It, Get It, Fear It
 - Situational Crime Prevention
 - Crime Prevention Through Environmental Design
 - 5 Zones of influence

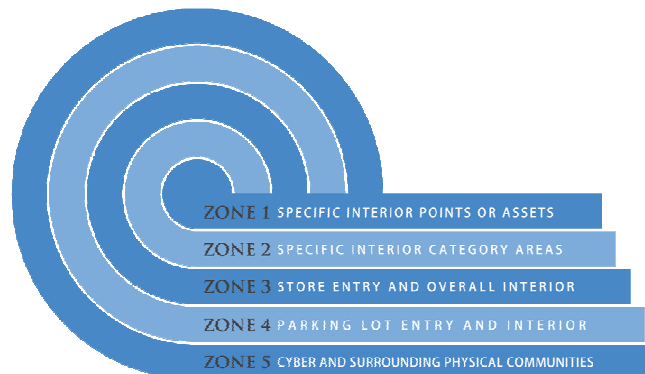
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The LPRC/UF R&D Strategy



LPRC
LOSS PREVENTION RESEARCH COUNCIL

UF UNIVERSITY of
FLORIDA
Crime Prevention Research Team

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The LPRC/UF R&D Strategy

The LPRC team and its R&D efforts are concentrated to *maximize retailer member effectiveness*.

LPRC working groups, *Innovation Lab*, *Impact Conference*, *Knowledge Center*, and projects are aligned to support the **LPRC R&D Strategy**.

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The LPRC/UF R&D Strategy

The **LPRC/UF R&D Strategy** articulates that retailers reduce crime attempts by:

- a) **Influencing offender decisions** via people, space design, and technologies,
- b) **Environmental changes** include making a considered crime too risky, too difficult, or not worth it
- c) **To accomplish this, deterrent cues must be noticed, recognized and "feared"**

a) *See/Get/Fear*

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The LPRC/UF R&D Strategy

Further, the *LPRC/UF R&D Strategy* articulates that retailers require more and better:

a) Situational awareness via sensors (better detection/diagnoses) and,

b) Combined, targeted, focused interventions (better treatments)

a) These sensors and actions are then deployed in concentric zones to more effectively deter and mitigate crime and loss threats and events.

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The LPRC/UF R&D Strategy

Zone 1- *Specific points or assets*



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Zone 2- *Specific interior category areas*



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The LPRC/UF R&D Strategy

Zone 3- *Store entry and overall interior*



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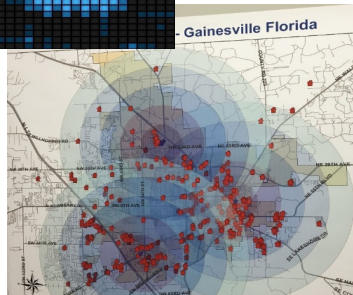
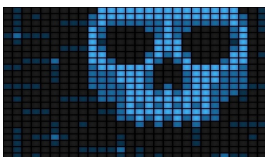
The LPRC/UF R&D Strategy

Zone 4- *Parking lot entry and interior*



The LPRC/UF R&D Strategy

Zone 5- *cyber and surrounding built/social communities*



Listing Details

Contact Seller

Favorite Listing

Favorite Seller

Alert when in stock

Report Listing

Home Categories

Fraud	5527
Drugs & Chemicals	11391
Games & Toys	2218
Counterfeit Items	708
Digital Products	1835
Jewels & Gems	278
Weapons	234
Carved Items	383
Services	11265



105-PIECE BANKING FULLY BIGGEST FORMAT!

Listing in detail (1 each use them for...)
 105-PIECE BANKING FULLY BIGGEST FORMAT!
 This is 105-PIECE BANKING FULLY BIGGEST FORMAT!
 This is 105-PIECE BANKING FULLY BIGGEST FORMAT!
 This is 105-PIECE BANKING FULLY BIGGEST FORMAT!

Product title	Features	Origin country	Reviews
Quantity: 105	Digital game	United States	5 (100%)
Brand: GRIMM	New	Shipping to	Domestic
Condition: New	Unlimited	Payment	Online
Product price: USD 2.00			
Qty: 1	Buy Now	Cancel	



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The LPRC/UF R&D Strategy

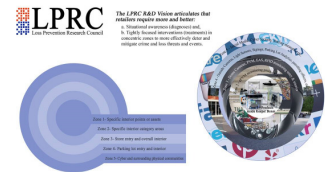
To this end, the LPRC's 2016 research and working group agenda and timing, based on members surveys and the LPRC Strategy, is:

Situational Awareness

The first key focus for the LPRC and UF *Innovation Lab* is early problem detection, better problem and offender definition, and instant notification that place managers, and LP/AP team members, need to more rapidly know what's happening, who's involved, and have the ability to make more rapid, informed responses.

High-impact Action

The second key focus for the LPRC and UF *Innovation Lab* is automatic and/or manually-activated, focused deterrent or handling protocols the LPRC has helped develop or improve. Place managers and LP/AP team members need the ability to make more rapid, precise, cost-effective and high-impact responses.



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The LPRC/UF *INNOVATION LAB* – OUR TESTING GROUNDS

Complete Integration:

The *iLab's* main focus this year is to obtain true integration across the multiple zone-focused systems we use on to enable managers to more rapidly know about and address threats.

Actionable data:

A second key focus for the lab is to provide easily used data in and for the 5 zones of influence.

- These initiatives incorporate combined solutions deployed in the 5 zones of influence being placed in the lab today.
- Whether new technology or old the information, the data are collectable and readily used.

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SOLUTIONS TO HIGHLIGHT

- Zone 1-
 - See it / Get it/Fear it - with a personalized approach
- Zone 2-
 - Specified in-aisle notifications
- Zone 3-
 - ePVM with integrated facial detection
 - Exit ePVM integrated with EAS/sounds
- Zone 4-
 - “Weaponizing” music
 - Body-worn video/tracking

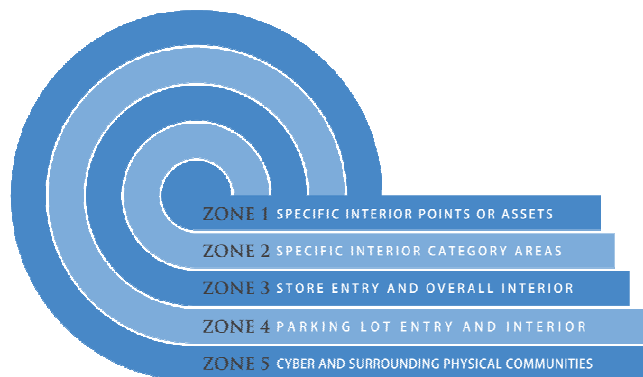
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LPRC/UF R&D Strategy



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Bloomingtondale's Innovation Store

- Take a scientific approach to testing new AP technology
- Devising new ways to look at information collected from technology
 - Does technology work?
 - Is it impacting shoppers?
 - How do associates like it?
- Looking at new video technology, point protection technology and RFID
- Using the Zones of Influence ideology we tested:
 - Zone 1 – 3 alarm tags and RFID
 - Zone 2 – ePVMs in stockrooms and in the entryway to fitting rooms
 - Zone 3 – Cameras with loitering time, path analysis, Wide Dynamic Range and Forensic Capture capabilities. Downward vs at an angle facing people counting cameras
 - Zone 4 – Exterior 360 degree cameras with digital zoom
 - Zone 5 – Social media monitoring/investigations

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RFID

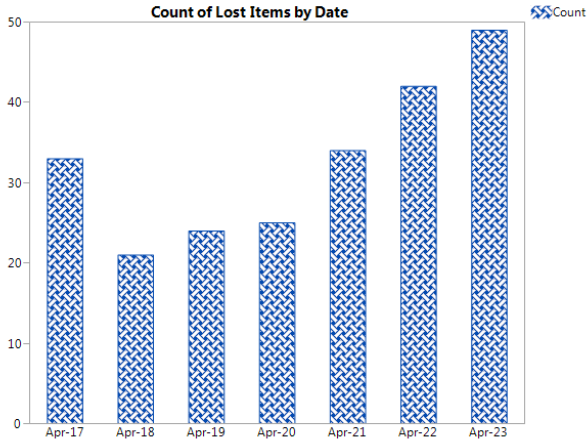
- Bloomingtondale's Innovation store to have 100% RFID tagged inventory.
- Integrated RFID with IP cameras
- Sensors at customer entrance, associate entrance and fitting rooms.

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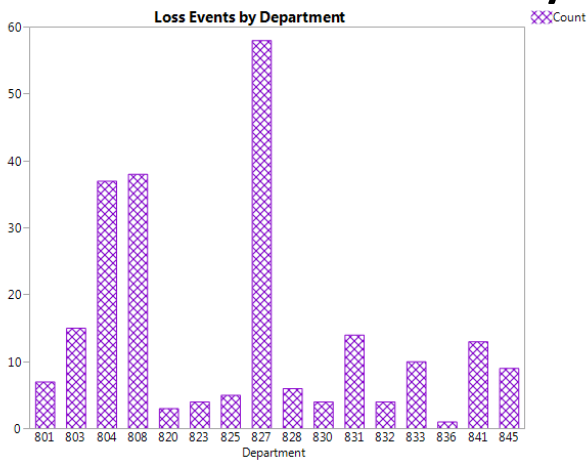
Items Lost by Day



- RFID loss information assists us in:
 - LP Staffing
 - LP Staffing locations
 - Associate staffing in high risk departments



Items Lost by Department

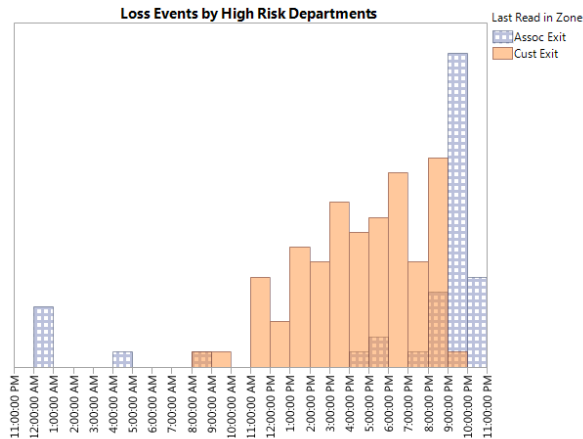


- Identified High risk departments
 - 827 – Women’s shoes
 - 804 – YES Denim
 - 808 – Sutton Activewear
- AP can now be stationed at high risk departments

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Items Lost by Time



- Graph high risk departments by time of day.
- AP to do “hot spot” patrolling routes
 - Station AP in select departments from 2-8
 - Focus on associate bag checks from 8-10

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Investigations with RFID

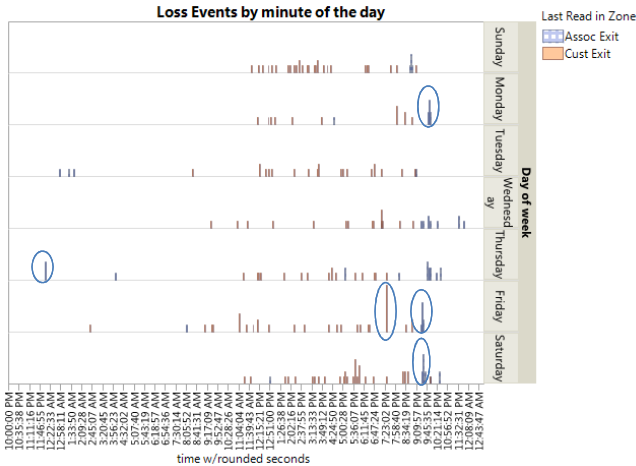
- RFID events linked to IP cameras
 - Each event has a corresponding 10 second video
 - Conduct “shallow dive” investigations takes ~30 seconds
 - Events requiring a deeper dive sent to store AP.
- Group all events in one minute time intervals throughout the day.

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Investigations with RFID



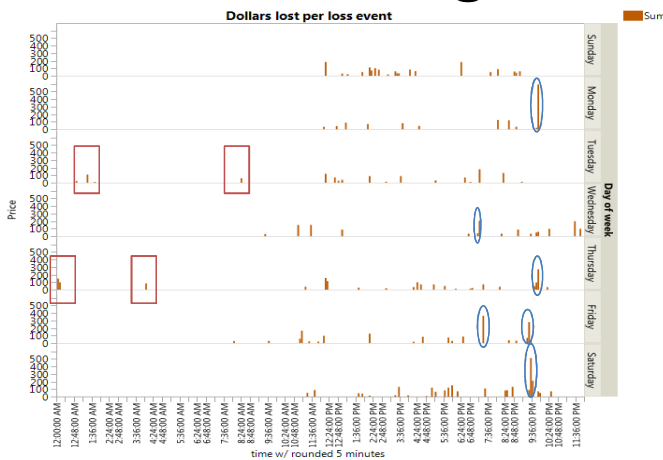
- Quantify the number of events for every minute of the day
 - Identify spikes in the count of events
- Find corresponding UPC and find the event in the RFID dashboard
- Color coded for associate and customer entrance events

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Investigations with RFID



- Link loss event and UPC data with pricing information
- Investigate high value events
- Look at events occurring outside business hours
- RFID information contains description of product to detect open carry events

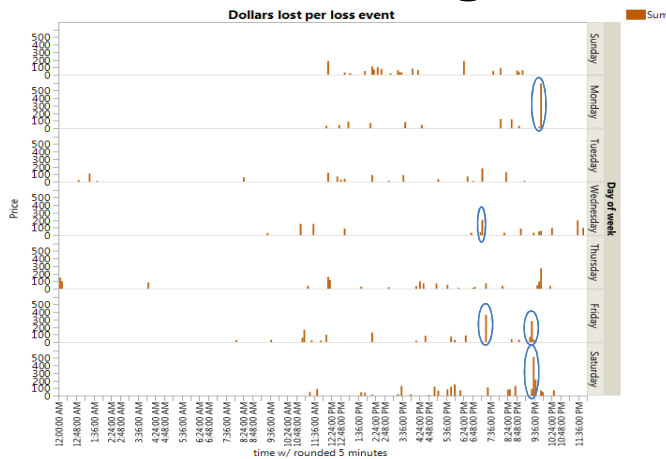
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Investigations with RFID



- Link loss event and UPC data with pricing information
- Investigate high value events
- RFID information contains description of product to detect open carry events
- Analysis of this data led to a booster apprehension, several BOLOs and 2 dishonest associate cases.

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Challenges

- Store level compliance
 - Only about 80% items RFID tagged
 - Associates not correctly scanning EPC
- False positives
 - Discarded RFID tags in trash
 - Racks of clothing from fitting room

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Zones of Influence

To recap on today's takeaways...

1. Criminology theory should guide your own company's research.
2. Sharing research through venues like the LPRC provides a good foundation for your own research and development initiatives.
3. Data can yield impactful results, know how to work with it.

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