Implementing Lean Principles

An Adventure in Work Flow Design

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What is Lean?

- Continuous Improvement
- Respect for People

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Lean views a crisis as a lever for change.

Presenting our crisis:

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The Hunt Library, opening January 2, 2013

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Our task:

- Figure out how to operate two main libraries--
- --with no additional staff.

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Implementing Lean

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Gemba

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A sampler of four Lean-infused projects

- Circulation Desk Redesign
- ELA* form, R.I.P.
- Whiteboard Information Center
- Exit Desk into Entrance Desk

*Equipment Loan Agreement

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Redesigning the Circulation Desk

- Item retrieval map
- Tech device map
- Drop and go express return
- Improve flexible desk response

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Pre-reconfiguration Desk

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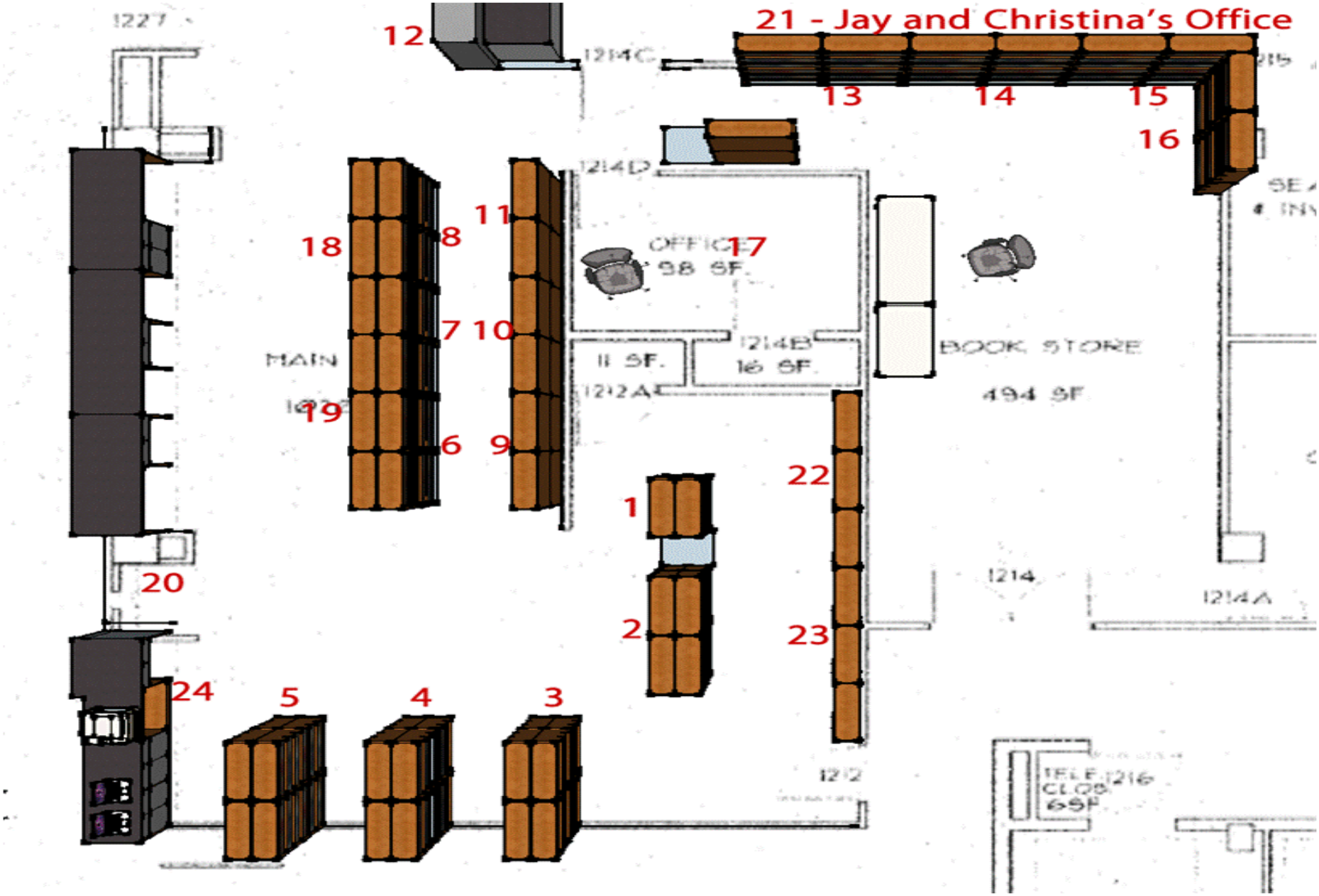

Retrieval Before Reconfiguration

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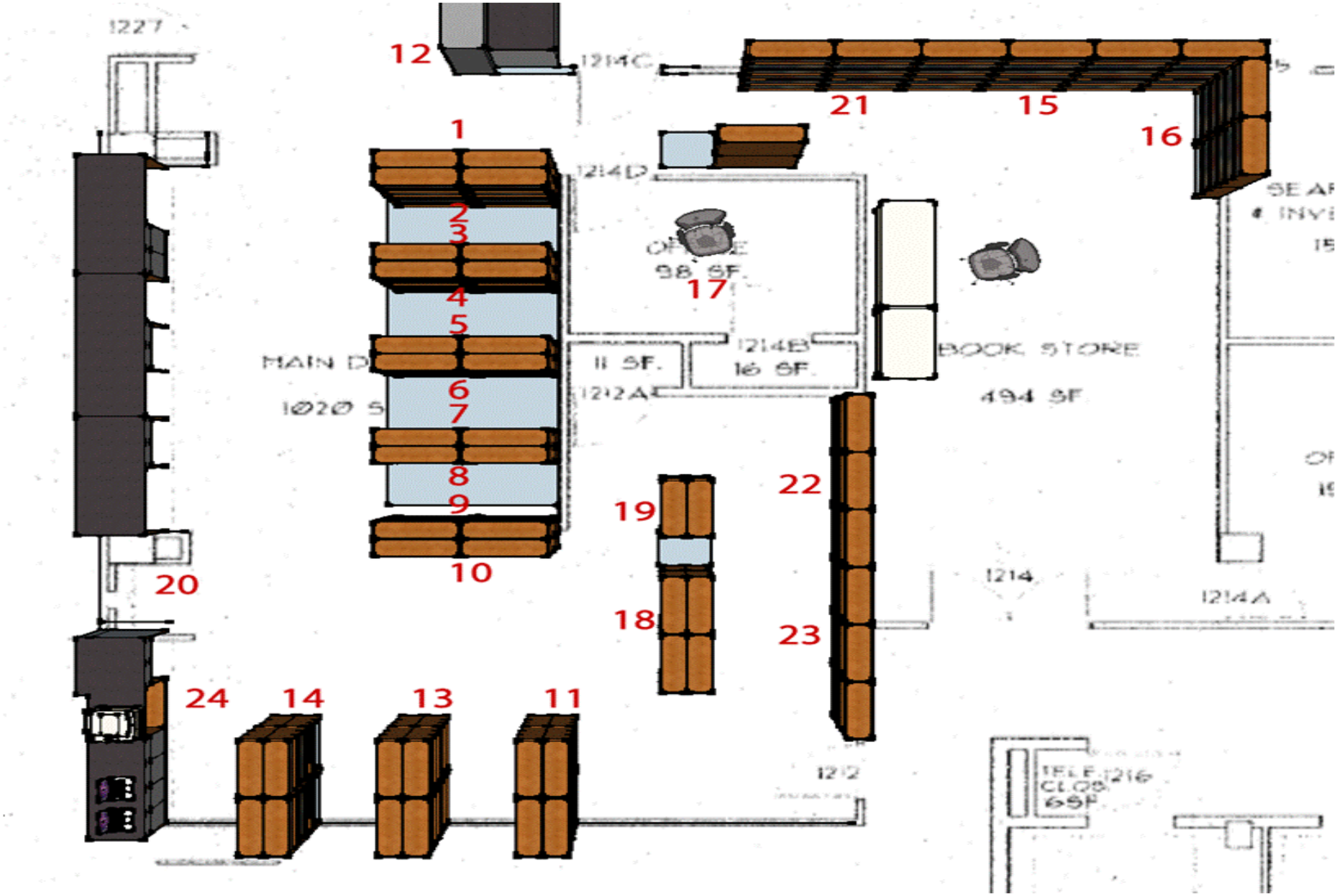

Retrieval After Reconfiguration

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Post-reconfiguration Desk

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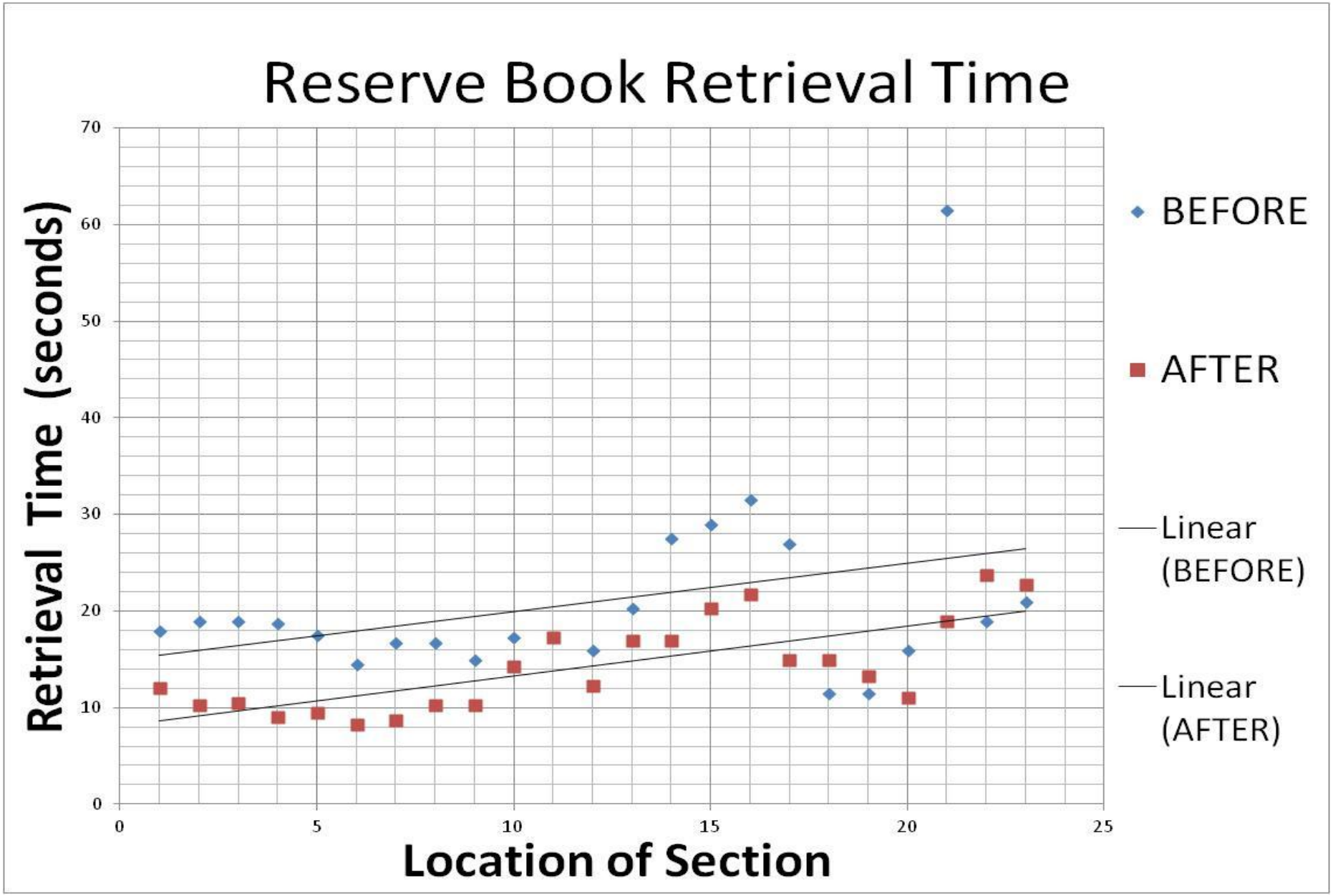

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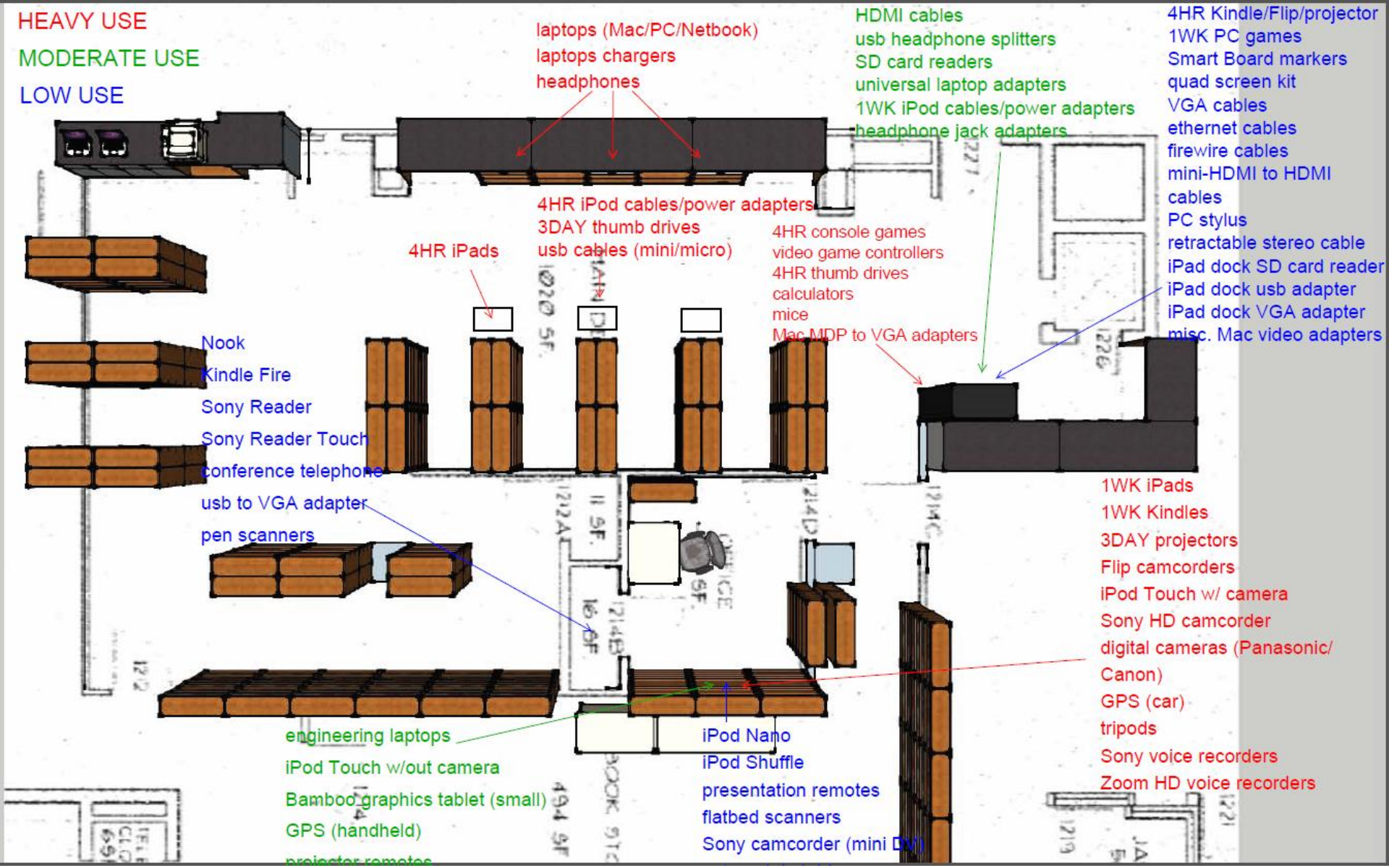

Tech Device Map

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Before

After

Time Savings After Reconfiguration

- Average time saved per station: 6.36 seconds
- Time saved per 100 transactions: 10.61 minutes
- Average number of transactions per day: 1549
- Time saved per day: 164 minutes (2 hours and 44 minutes)

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EXPRESS RETURNS

In a hurry?

Drop off devices and textbooks here.

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From four workstations to three. Lines formed…

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Kaizen Event

- Kaizen:
  - A 3-5 day burst of activity to resolve a specific problem.
- The problem:
  - Sacrificed a workstation for the express return area.
  - Needed to improve ability of desk to handle spikes in traffic.
  - Patron line should never extend beyond the electrical plate…

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The electrical plate,
our line in the carpet.

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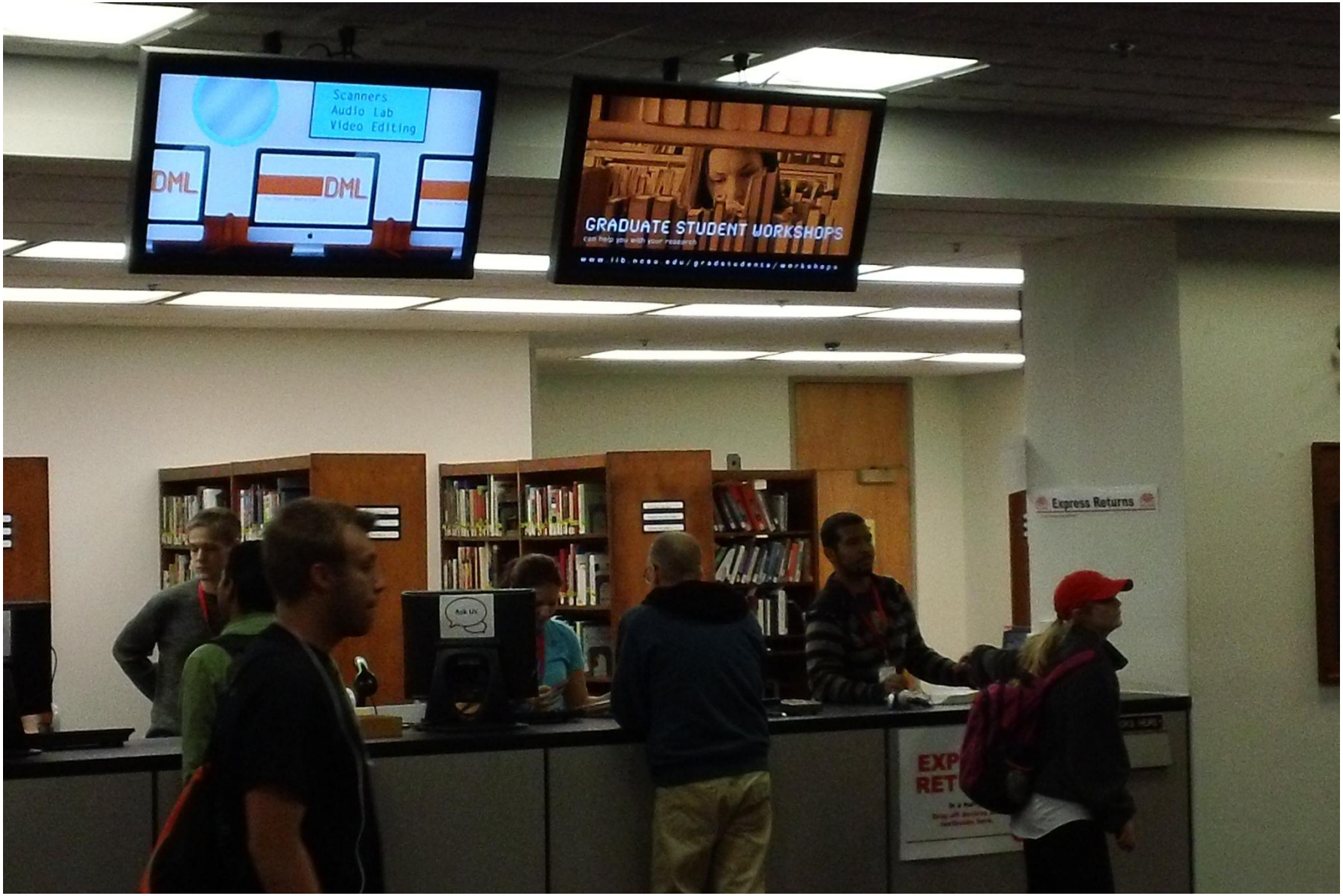

Gemba: the real place

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ASK US | MY ACCOUNT | HOURS | FAQ | LOGOUT | CHAT NOW!

FIND | GET HELP | SERVICES | ABOUT

Today's Hours: 24-hour service at D.H. Hill Library

Search

All | Articles | Books & Media | Our Website

Search books, articles, journals, & library website | Search

More Research Tools: Databases | Journal Titles | Citation Builder

Computing: Technology Lending

Studying: Reserve a Room

Courses: Course Tools

Haihui Huang Endows the Hunt Library's Immersion Theater

Real-time availability

The James B. Hunt Jr. Library

Opens in 64 days

- bookBot
- Book move
- Group study rooms
- Photo gallery
- Videos
- Updates
- Help support Hunt
- Hunt Library website

Innovative Spaces

The NCSU Libraries was featured in American Libraries' Library Design Showcase 2012. See gallery.

Technology Available Now at D. H. Hill

Desktops	163 of 213
Laptops	101 of 123
Tablets	15 of 59

News | Exhibits | Calendar

And let patrons see what tech devices are available.

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- **ELA* form, R.I.P.**
- Whiteboard Information Center
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***Equipment Loan Agreement**

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NCSU Libraries Equipment Loan Agreement

The NCSU Libraries offers temporary loans of many electronic devices to NCSU students, faculty, staff, and university affiliates with valid NCSU ID cards. Details of electronic device loans, dependent on device type, include:

- Loan periods of 4-hours and 1-, 3-, 7-, or 14-days.
- Fines for late return range from $10/hour to $10/day.
- No immediate renewals except for certain items such as laptops and gaming equipment.
- Repair/replacement charges for lost, stolen, or damaged electronic equipment range up to $2,000.

Borrowers are :

- Responsible for the equipment and agree to reimburse the Libraries for any loss, damage, or theft occurring during the loan period. These charges are subject to the same collection procedures used for fees for other damaged or lost library materials.
- Responsible for knowing the due date of any device they check out, and for returning equipment by that due date.
- Responsible for returning equipment to the desk from which it was borrowed. Equipment stops circulating thirty minutes before closing.
- Responsible for logging out of any websites visited while using electronic equipment.
- Advised that all files are deleted upon equipment return and cannot be reclaimed.
- Advised that files saved to a laptop's hard drive or desktop will be deleted upon shutdown or power loss and that the Libraries is not responsible for any files that are damaged or lost while using an electronic device .
- Responsible for saving files to detachable storage devices such as flash drives or to Unity/AFS space.
- Advised that laptop use is governed by NC State's *Network and Computer Use Regulations and Rules*.

AGREEMENT - PLEASE READ BEFORE SIGNING:

"I understand the information printed above and agree to assume full responsibility for equipment during the time that it is checked out to me. This agreement will be in effect for one year from the date entered below. If I wish to continue borrowing equipment after this date, I understand that it will be necessary to sign another agreement. My signature below acknowledges that I have read and agreed to the terms above."

Borrower signature: [redacted] Date: 10/12/2011

Borrower name printed: [redacted] NCSU I.D.# [redacted]

Staff name printed: [redacted] Entered in patron record: ☑

The dreaded ELA form...

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…one year’s worth.

- The data:
  - Hours devoted to the ELA form in 2011: 470, or 9 per week.
  - Fine petitions affected by ELA forms in 2011: 0.
- The result:
  - R.I.P., ELA form!

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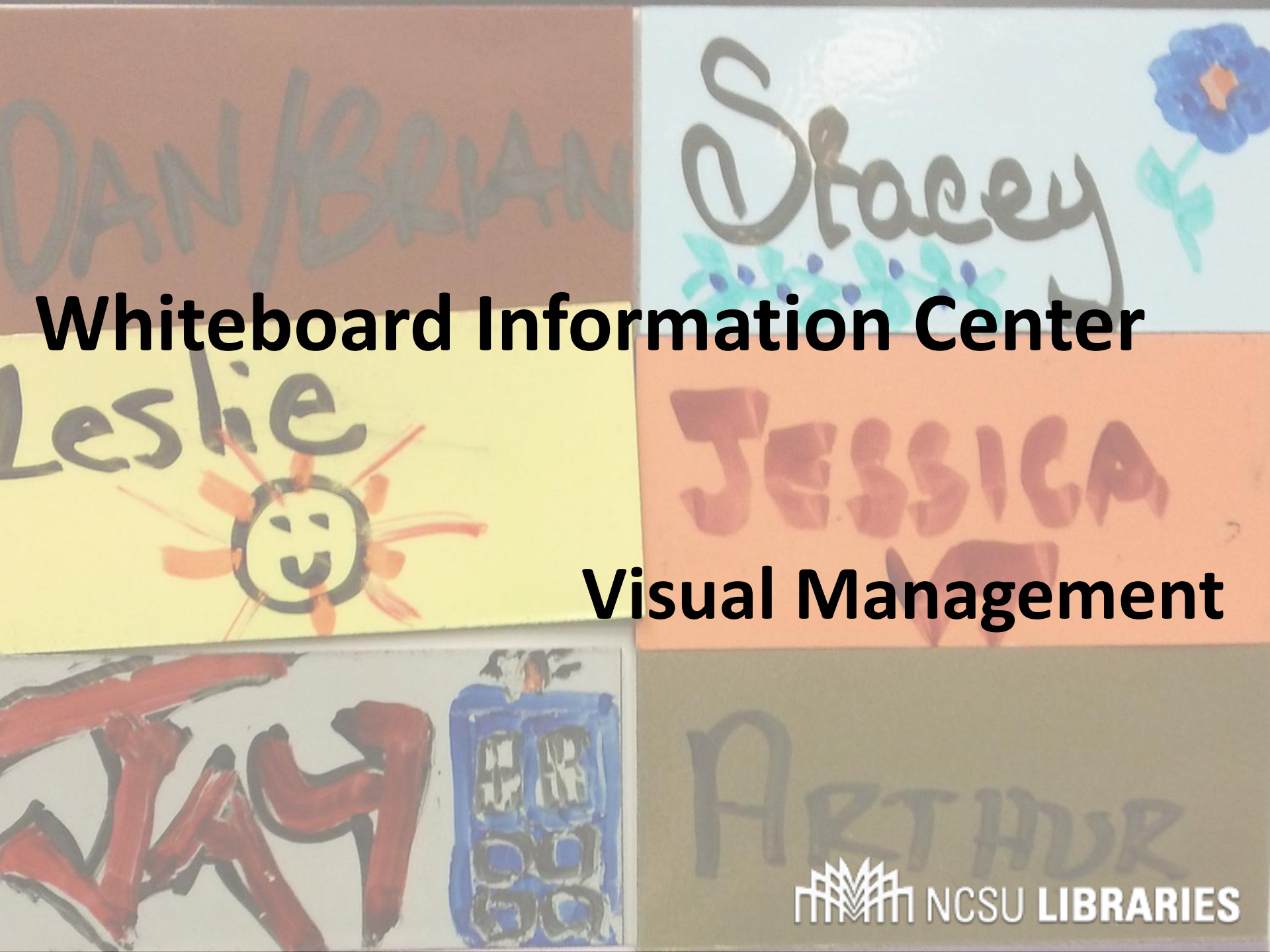
Whiteboard Information Center

Visual Management



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The Big Board

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Who’s done what and when.

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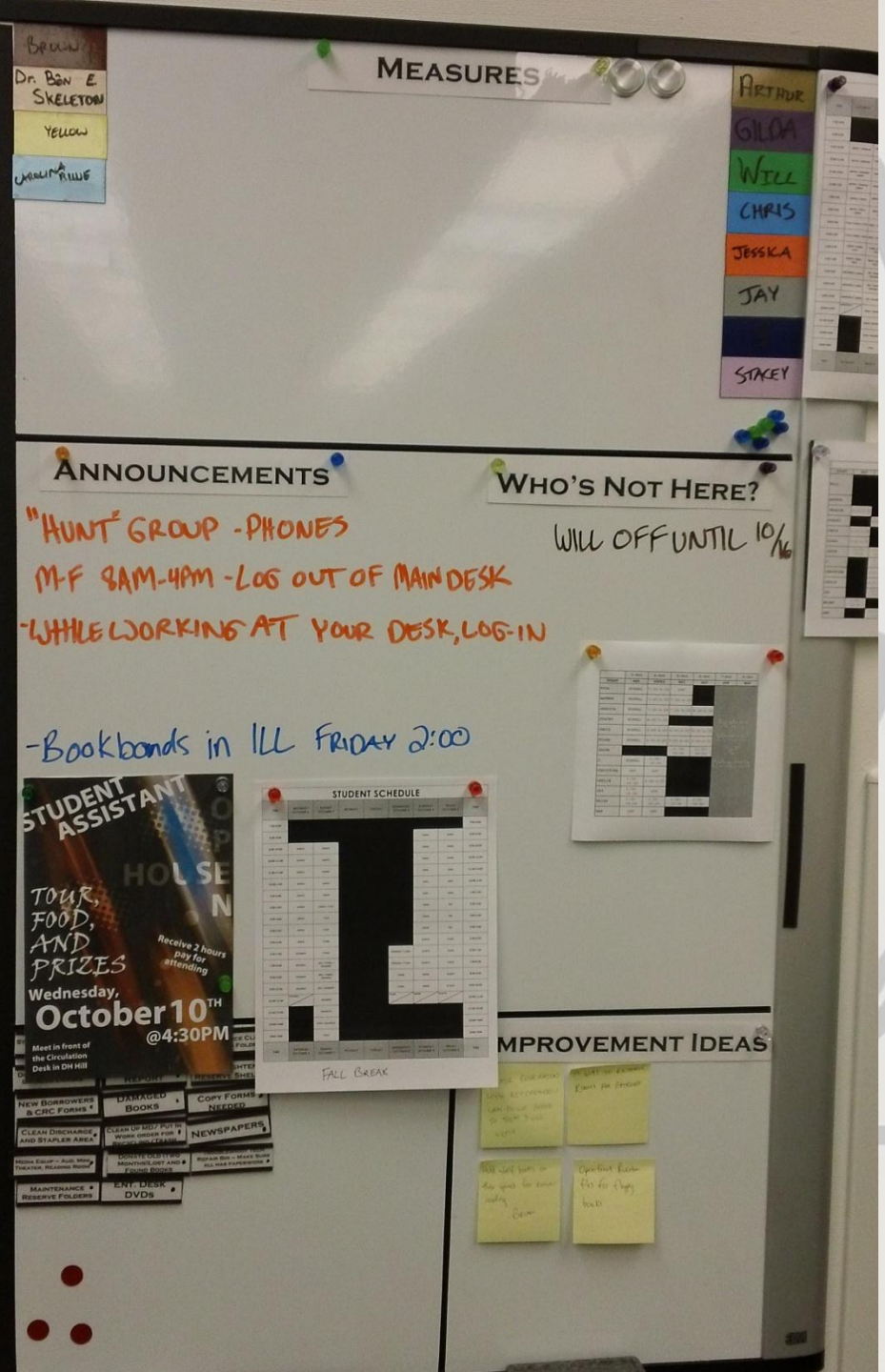

- Measures
- Announcements
- Who's not here?
- Improvement Ideas
- Schedules

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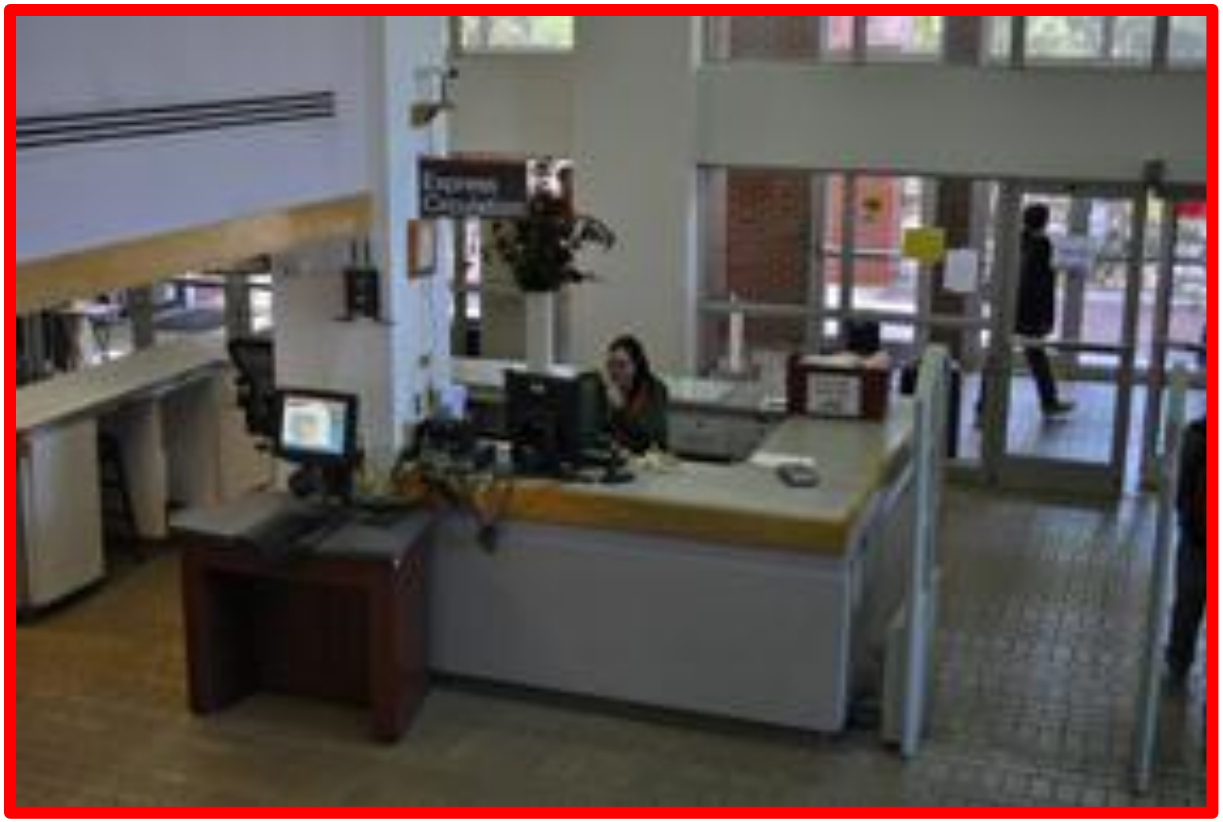

From Exit Desk…

…to Entrance Desk.

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Patron self-service kiosk

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References

Mann, D., *Creating a Lean Culture* (Productivity Press, New York, NY, 2005)

Womack, J. & Jones, D., *Lean Thinking* (The Free Press, New York, NY, 2003).

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Thank you!