# Administrative Complexity

## Processing Residential Exemptions at CCAO

**UIC**

MATTHEW AMANN

CARTER CRAIG

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# Acknowledgements

- CCAO Leadership

- Staff Members

- The Exemption Project

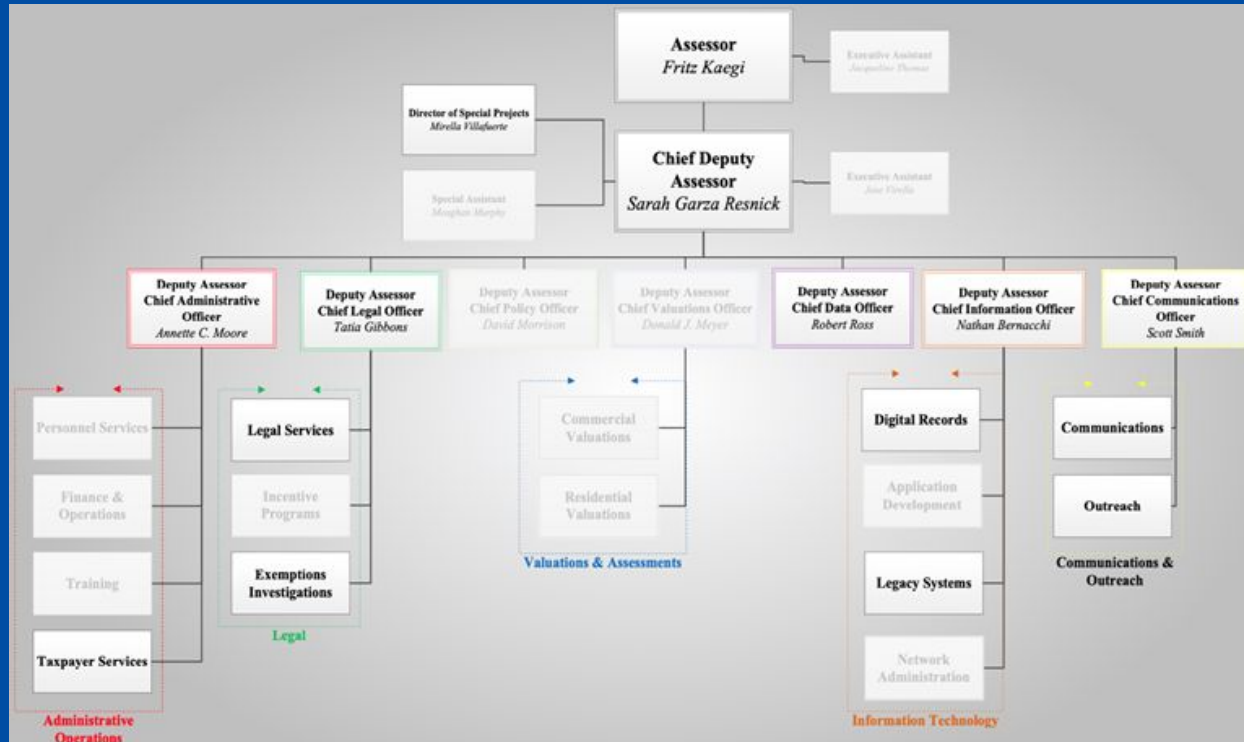- IAAO and CCA

- Dr. James Thompson and CUPPA

# Introduction

# Cook Co. and Property Taxes

- Cook County Assessor's Office
- Important source of steady revenue for local governments
- Assessment and Collection centralized in county government
  - Supports over 800 governmental units

# Office Organization

# Residential Exemptions

- Exist to help ease tax incidence on certain individuals.

- Broad administrative process

- 6 Departments

- 2 Vendors

- Imperfect Process

- Homeowner

- Home Improvement

- Longtime Homeowner

- Persons with Disabilities

- Returning Veterans

- Senior

- Senior Freeze

- Veterans with Disabilities

# Details of MOU

# MOU Deliverables

1. Standard Operating Procedures

2. Data Dictionaries

3. Data Inventory

4. Gantt Chart

# Literature Review

# Overview

- Relevant issues within the CCAO to be addressed
    - International Association of Assessment Officers (May 2019 Audit)
    - Civic Consulting Alliance (May 2019 Transparency Report)
- Provide industry and academic context for the methods and solutions
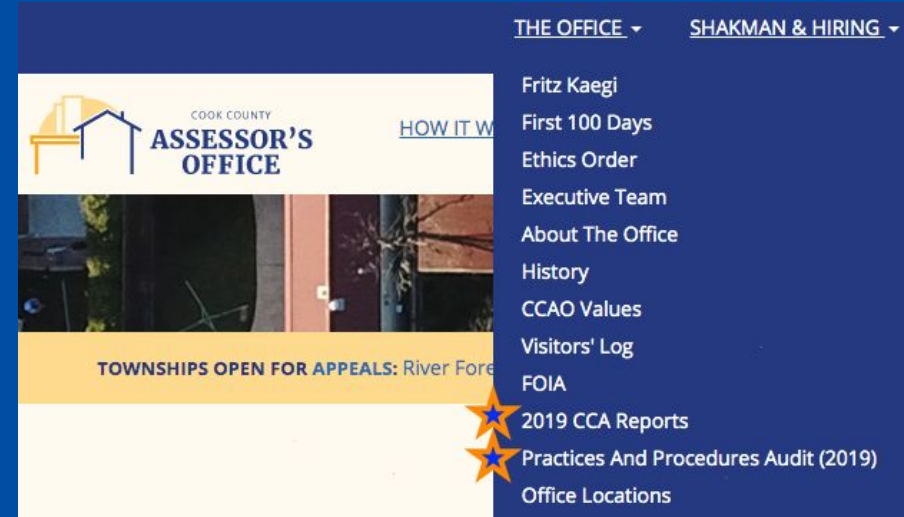
# International Association of Assessment Officers May 2019 Audit



- Completed at the request of Assessor Kaegi.
- Key to long-term reform is modernization.
- Critical areas identified:
  - Staffing and skill development
  - "continual loss of institutional professional knowledge"
  - Adapting technology
  - "green screen" mainframe computer client system
  - Data quality
- Some data "originally compiled many decades ago through a survey mailed to property owners."
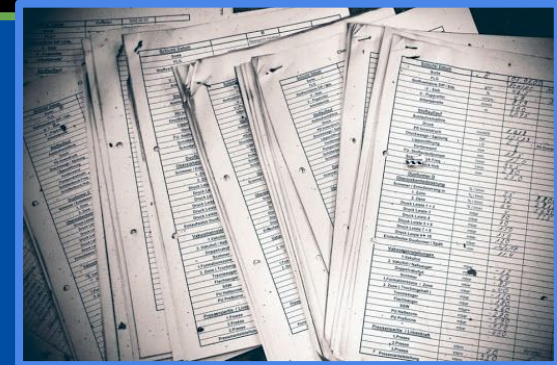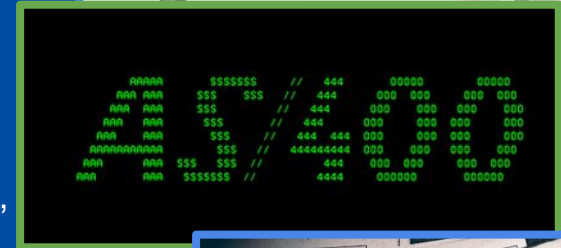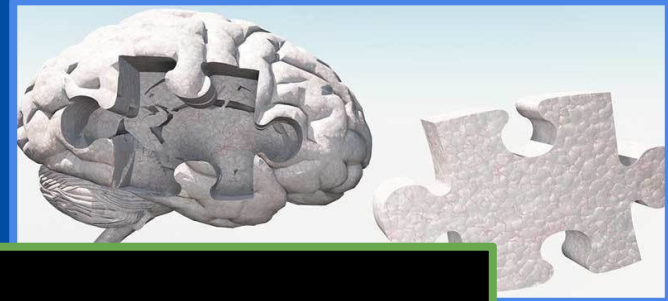
# Civic Consulting Alliance May 2019 Transparency Report

- Completed as part of a four part report series for the CCAO and Cook County Board.

- Report called for:
  - Modernizing system into compliance w/ IAAO standards.
  - Better understanding of internal review process.
  - Increased documentation of processes.

- End goal is building public trust.

# Introduction to Process Mapping

- Tool used by project team to capture the internal exemption process.

*"Presenting the current state of play of a process"*

*- Alford and Yates, "Mapping Public Sector Processes."*
*International Journal of Public Sector. Management.*

*"You cannot manage what you do not measure"*

*- Marriot, "Process Mapping-The Foundation for Effective Quality Improvement."*
*Current Problems in Pediatric and Adolescent Care.*

# Process Mapping

- Why this tool was effective
    - Visual / Interactive easier to understand than textual.
    - Takes shape of respondents.
    - Increases accessibility.
    - Reveals what is and is not working.
    - New opportunities for internal data / process capture.

# Methods

# Interviews

- Cast a wide net
- Developed an "Interview Protocol"
- Add Organizational capacity
- Centralized Information
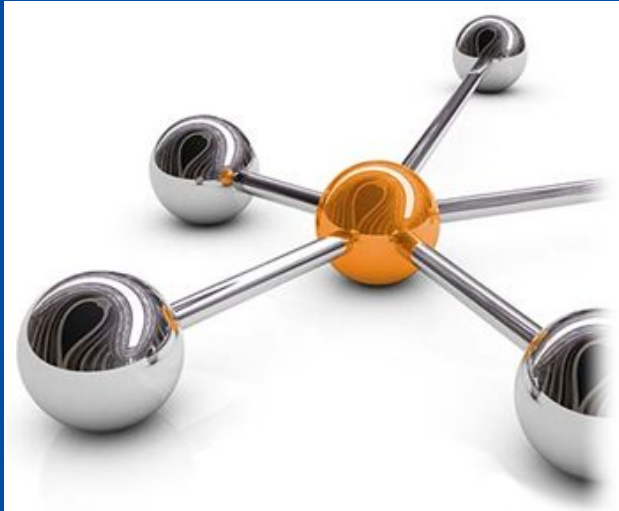


1. Jason Pyle, Erroneous Exemptions
2. Justin Kirvan, Legal
3. Lumni Livovski, Taxpayer Services
4. Mark Kos, FOIA
5. Marty Paulson, Special Projects
6. Mirella Villafuerte, Special Projects
7. Nicole Jardine, Communication
8. Stevan Pham, Legacy Systems

# Process Mapping

- Pulled all information together
- Decided what was relevant
- Condensed into a process with delientated steps
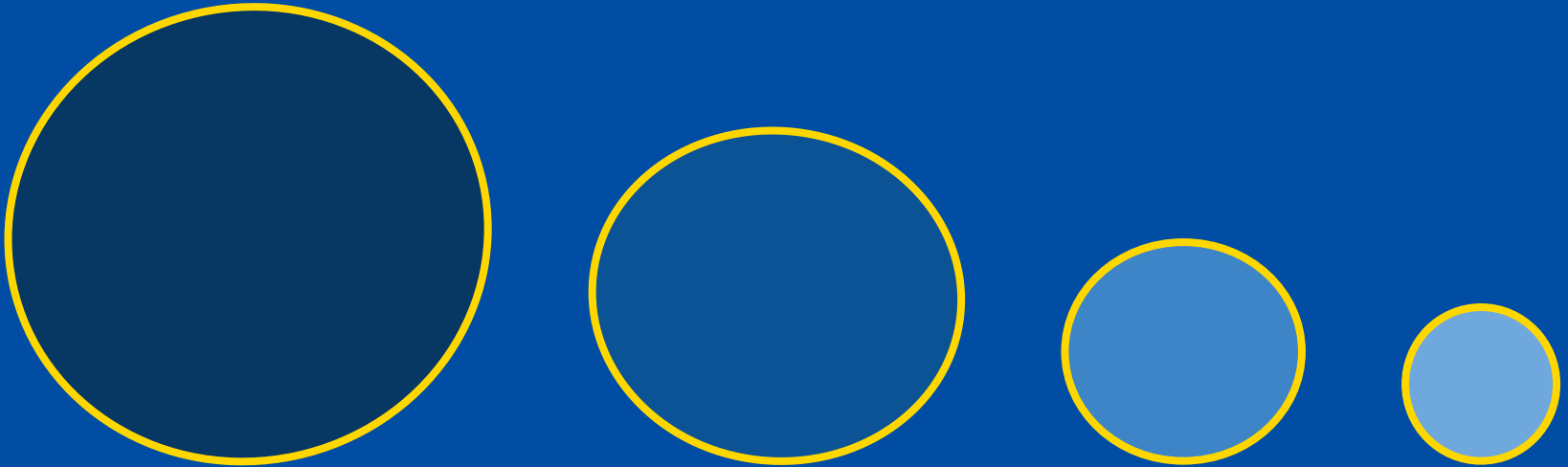
# Data Mining and Organization

- State of information
- Deliverable format decision
  - Prioritized **Usability** and **Adaptability**
- The HTML Tool

## I. Data Dictionary

| segment | field_name | length | offset |
|---|---|---|---|
| Fixed | Assessment status (binary: non-assessed/assessed) | 1 | 1 |
| Fixed | Town | 3 | 3 |
| Fixed | Volume | 3 | 7 |
| Fixed | Property no. | 14 | 11 |
| Fixed | Tax code | 5 | 26 |
| Fixed | Tax status [0:Taxable Parcel, 1: Exempt, 2: Railroad, 3: Homestead Non-coop, 4: Veteran, 5: Homestead Coop] | 1 | 32 |
| Fixed | Class: 1st digit is the major class identifier and 2nd & 3rd minor class identifier | 3 | 34 |

# Findings

# Interviews

- Key Findings

    - Findings were **qualitative**
    - **Paper-driven** process
    - Hampered by **outdated systems**
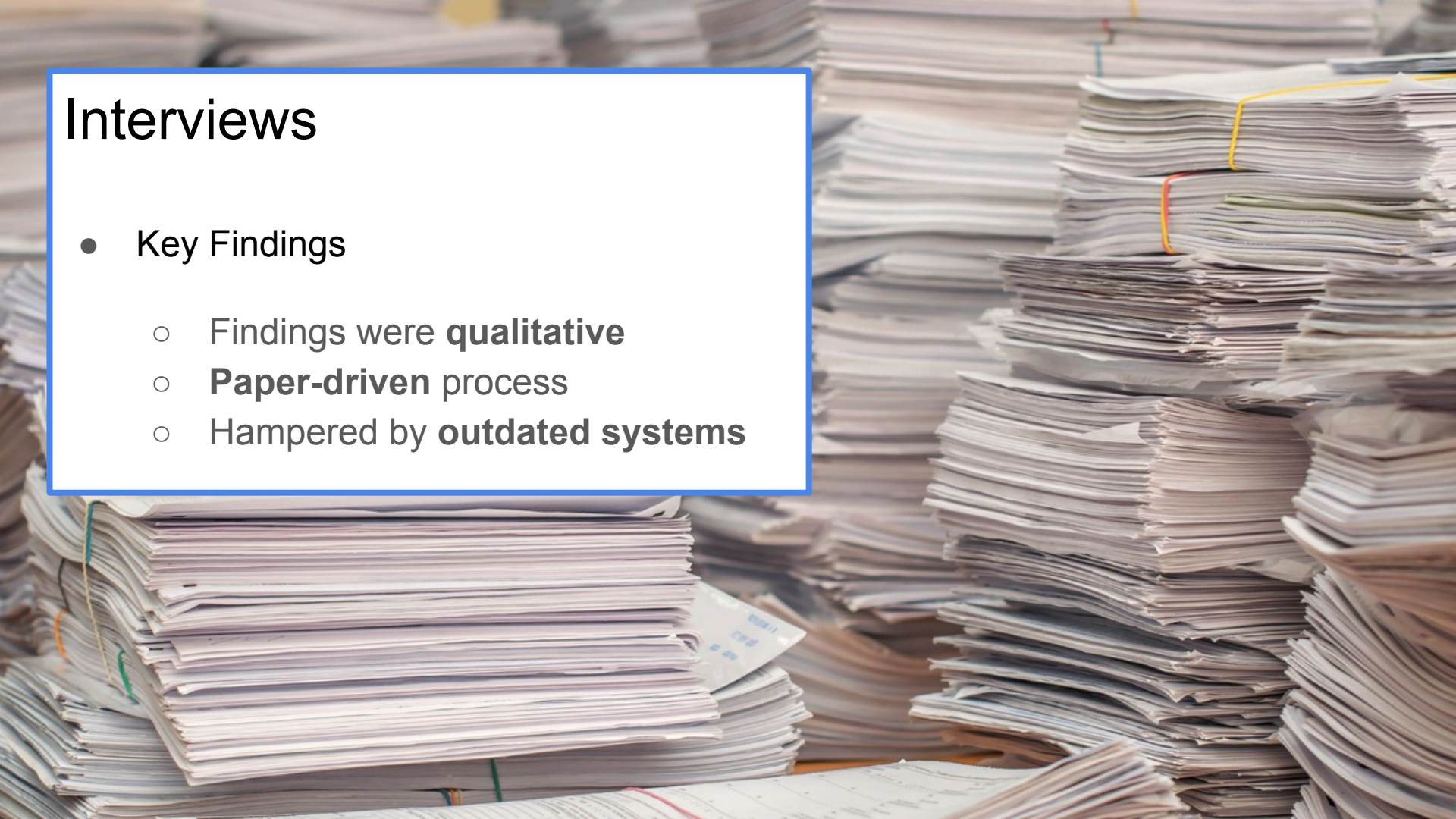
# Process Map

- 8 Major Steps
  - Steps 1-6 are primary internal steps
  - Step 7 is where deadlines are most crucial
  - Step 8 is ongoing
- 7 Major Actors
  - Degree of Departmental Overlap



Cook County Assessor's Office
**Residential Exemptions**
Process Map & Entities Involved

| Taxpayer Information (TPI) |
| Bureau of Technology (BOT) |
| Data Science |
| Legacy Systems |
| Communications |
| Adlexx (Vendor) |
| Legal |

1. Generate Master File
2. Generate Mailing List
3. Mail Exemption Notifications
4. Application Intake
5. Verification of Eligibility
6. Technical Finalization
7. Intergovernmental Resolution
8. Erroneous Investigation
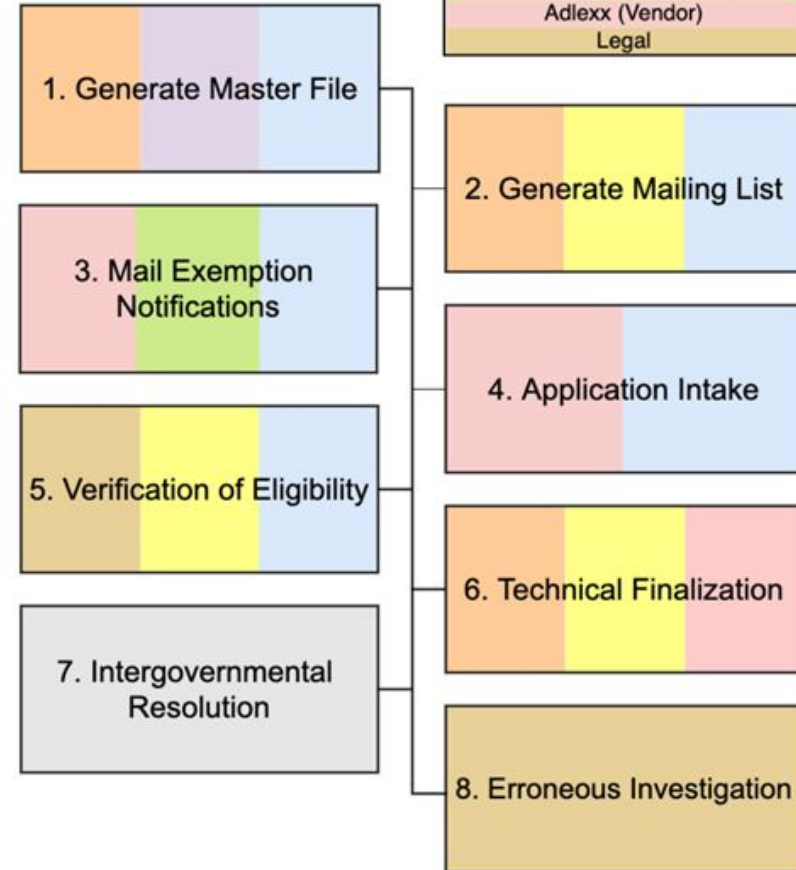
# Data Mining and Organization

- User-friendly HTML Tool

- Tiered information

- Drop-down options for key data

  inputs and instructions



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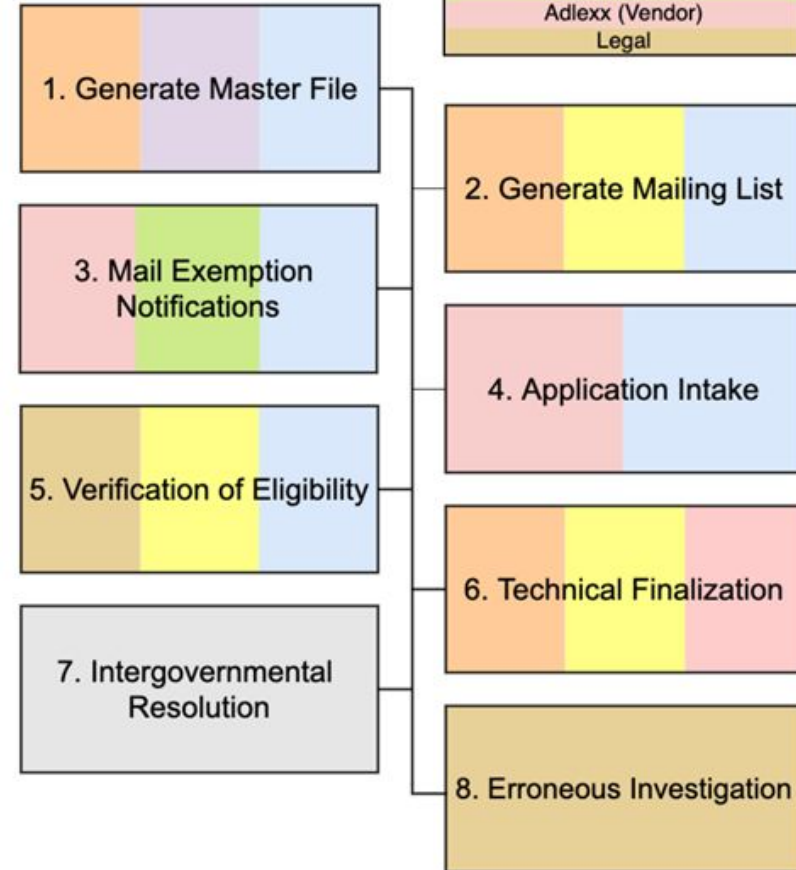
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**Step 1: Master File generated.**

- Legacy Systems and Bureau of Technology execute the scripts, queries and jobs associated with this task.

- Data Science works with Taxpayer Information to flag eligibility changes.

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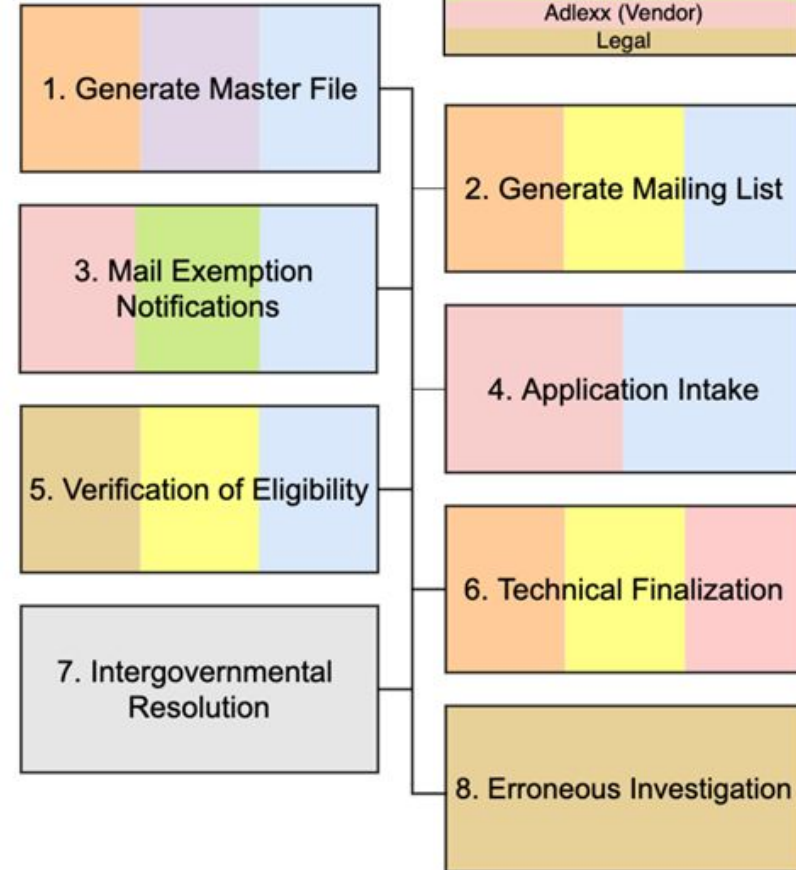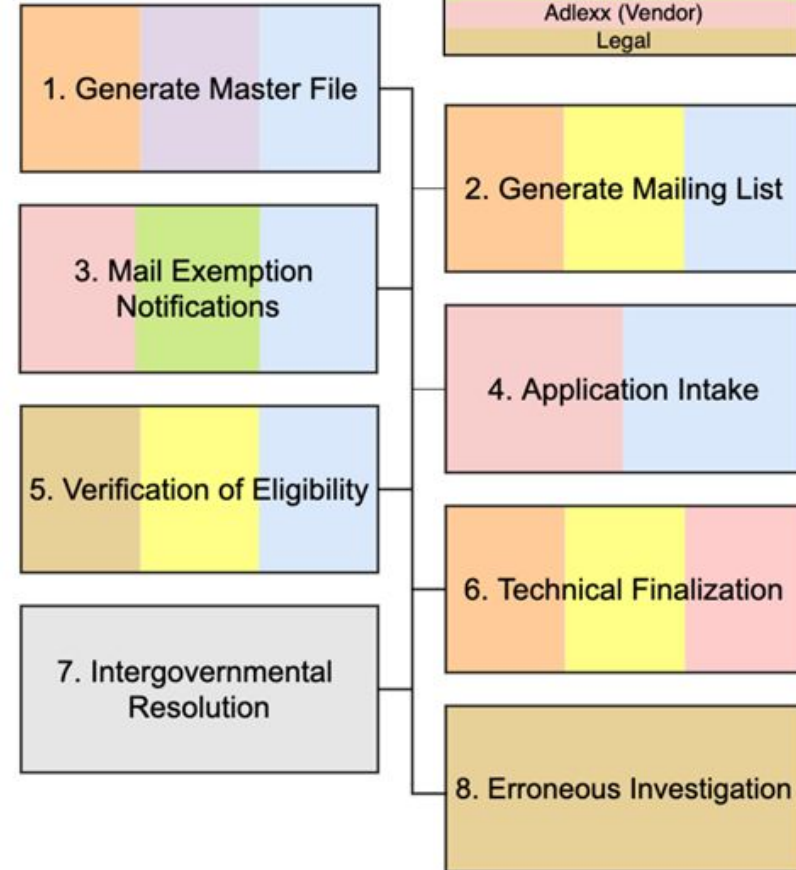
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**Step 2: Mailing list generated.**

- Taxpayer Information coordinates with Legacy Systems and the Bureau of Technology to create a mailing list.



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# Data Mining and Organization

**Step 3: Exemption notifications mailed.**

- Adlexx (Vendor) uses the mailing list from Taxpayer Information and designs from the Communications Department to send out notifications.



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# Data Mining and Organization

**Step 4: Application intake.**

- Adlexx (Vendor) scans received applications, formats them as PDF files, and then sends them in batches to the Taxpayer Information Department along with a spreadsheet that contains the relevant information.
- Some individuals deliver in-person or mail directly to CCAO.



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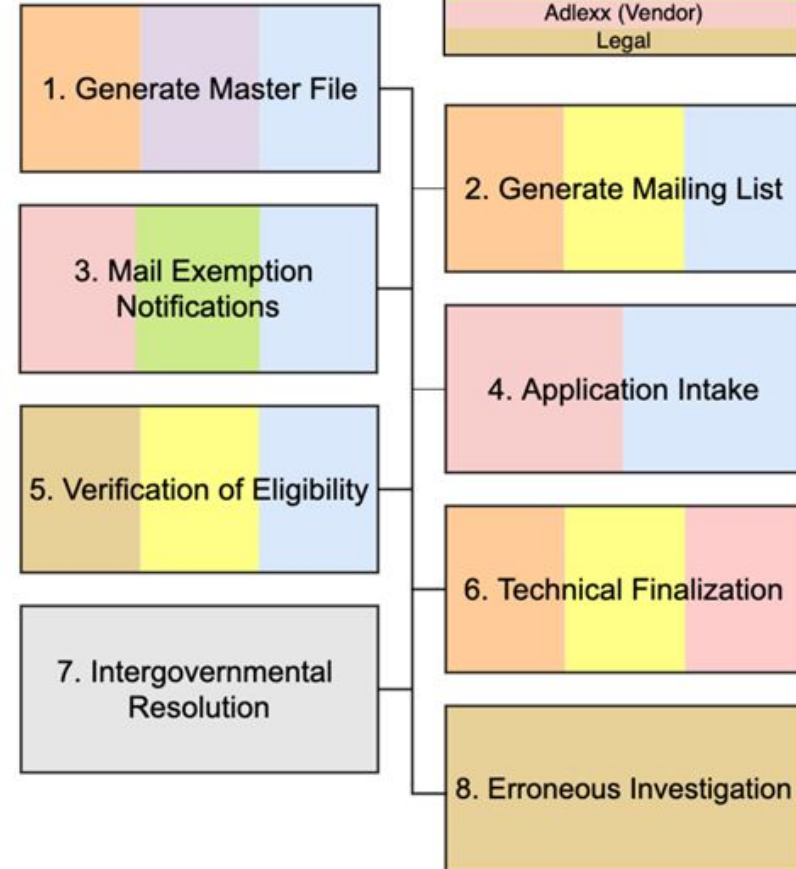
# Data Mining and Organization

**Step 5: Verification of eligibility.**

- Eligible applications put into "batches" to be entered into the Taxpayer of System of Record.
- Legacy Systems verifies information.
- Legal Department consults on "edge cases" and statutory language.



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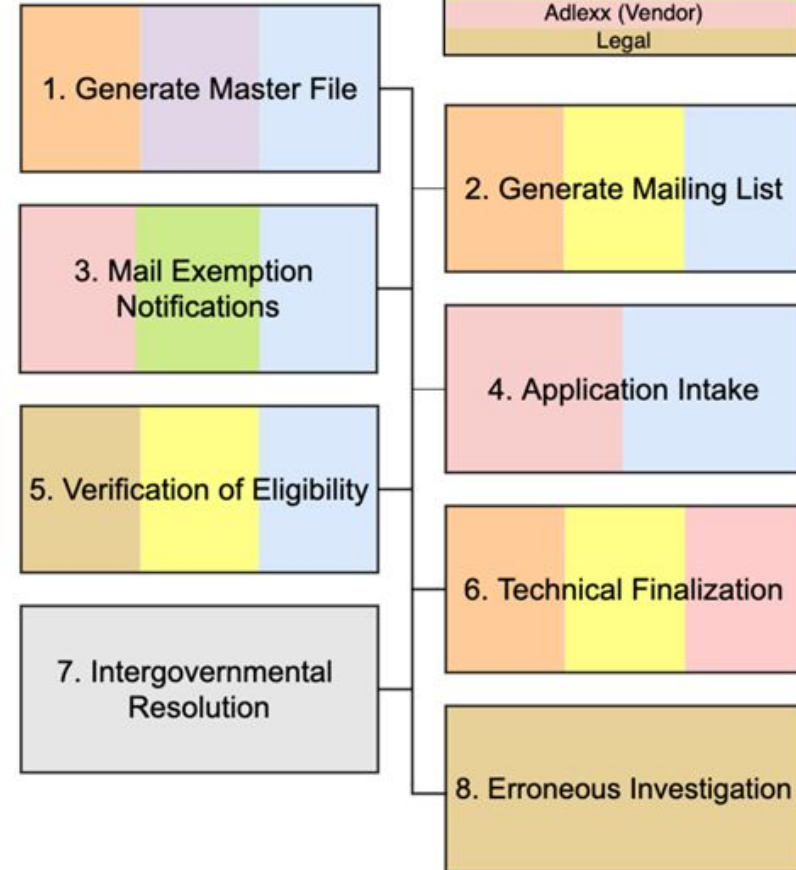Bureau of Technology (BOT)
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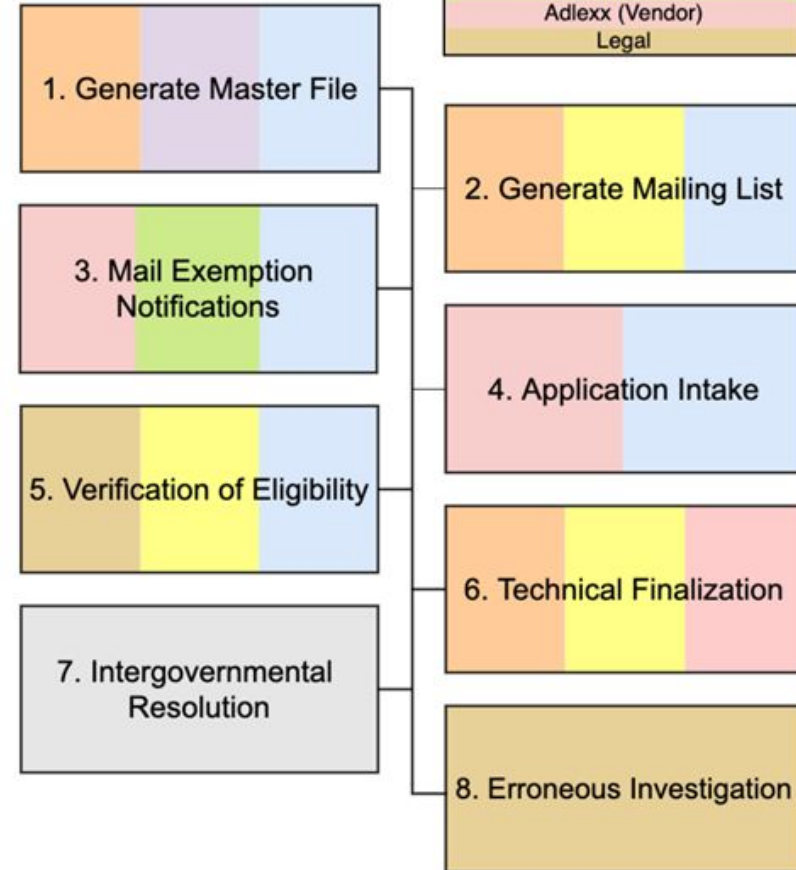8. Erroneous Investigation

# Data Mining and Organization

**Step 6: Technical finalization.**

- Legacy Systems finalizes information updates to the Taxpayer System of Record and sends them to the BOT.
- Information is printed and verified by BOT before being summarized and sent to the Illinois Department of Revenue for calculation of the statewide equalizer rate.



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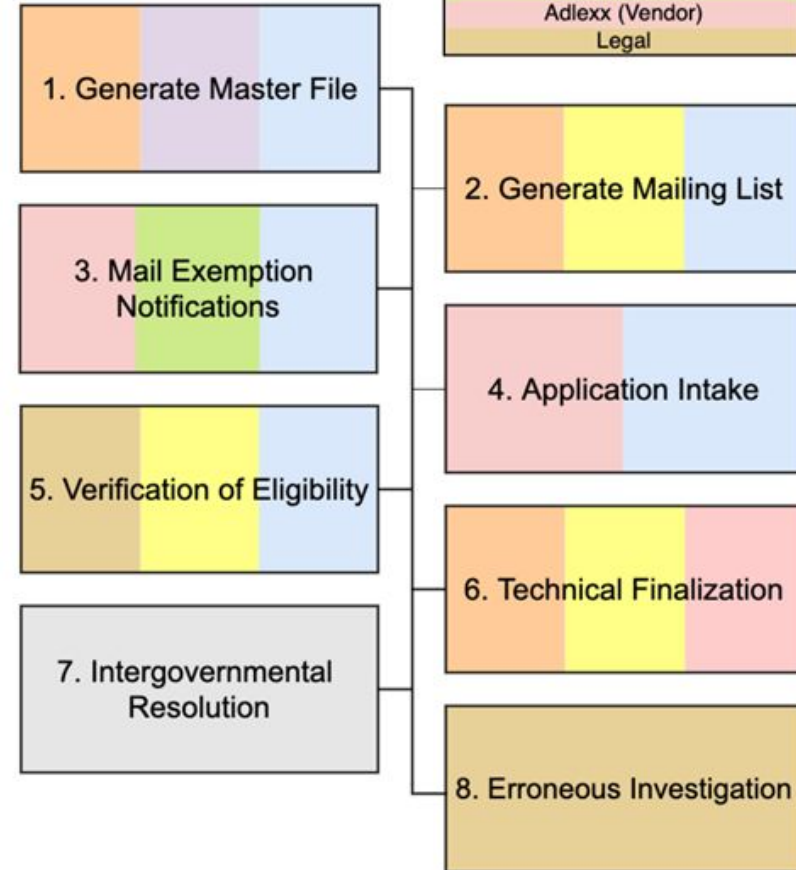8. Erroneous Investigation

# Data Mining and Organization

**Step 7: Intergovernmental resolution.**

- Equalizer applied to assessed values for EAV.
- CCAO and the Cook County Clerk's Office resolve the final results.
- BOT, Legacy Systems, and Taxpayer Information coordinate to reopen the system in order to make the adjustments.
- System closed and exemptions deducted from EAV.

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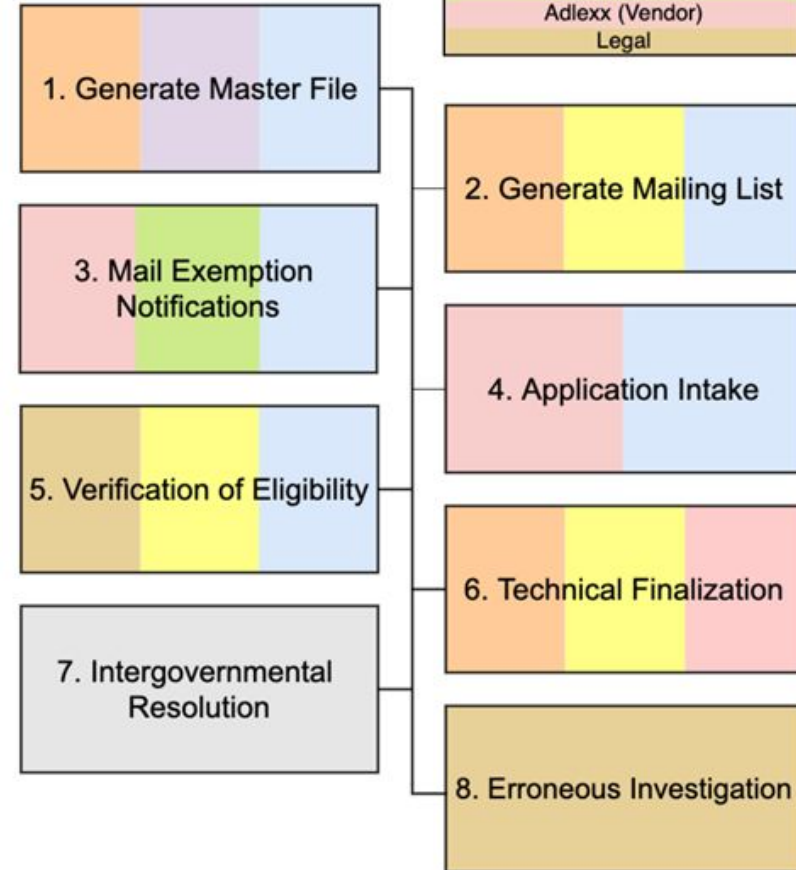
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# Data Mining and Organization

**Step 8: Erroneous investigations.**

- Subunit within the Legal Department investigates unqualified exemptions.
  - Applicant dishonesty
  - CCAO technical errors
  - Combination of both
- Process is ongoing.



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# HTML Reference Tool

# Why HTML?

- Design inspired by interactive lookup tool used by valuations analysts
- Has no learning curve: we can expect everyone knows how to use an internet browser
- Easy to tweak by programmers, hard to break by users

# Necessary Functions derived from MOU

- Standard Operating Procedures
  - Process Map to facilitate high-level overview
  - Detail level increases interdepartmental transparency
- Gantt Chart
  - Schedule timelines & relationship dependencies
  - When is it most important to focus on timing?
- Data dictionary, inventory of scripts, queries and jobs
  - Useful to frontline staff as a reference guide
  - Some complex tasks are only performed once a year

Matt Amann

Carter Craig

Tim McMahon

**Professor Signature:**

James Thompson

**Client Signature:**

Robert Ross

# HTML allows us to combine all features into one file

- Offer a manipulable level of detail

- Include multiple media formats

    - Makes it easy to reference source material

    - Image files, spreadsheets, word docs, pdfs, external links

- Malleable and updatable

    - Markdown language is universal and easy to use

    - Can be conduit for institutional knowledge management

    - Ideal framework to expand training and procedure improvement

# Browser Demonstration

# Recommendations

# Process Consolidation

- Dozens of staff in six departments and several outside partners

  - Taxpayer Information
  - Bureau of Technology
  - Data Science
  - Legacy Systems
  - Communication

  - Legal
  - Adlexx
  - IDOR
  - Cook County Clerk
  - Cook County Treasurer

- Centralization will address chain of responsibility, communication

  - Some departments are designed to serve as clients to others
  - Current setup has every department serving as a client to the process
  - Process documentation research should serve as a guide to strategic planning

# Deployment of the HTML Reference Tool

- It should not be considered "finished," but it is ready for immediate use
  - Source code, file organization structure available on Gitlab
  - Data Science is an ideal department to manage its activation
- First steps
  - Assigned to staff member or work group
  - Made available to relevant parties
  - Feedback loops must be designed and standardized
- Accessibility of Information supports CCAO mission
  - Transparency
  - Fairness
  - Efficiency