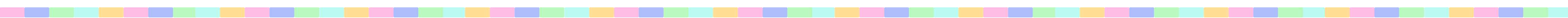


# Detector DB requirements

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Thanks to Friederike Bock & Nicole Apadula for inputs!

Link to the Living document is [here!](#)



TIC meeting, April 29, 2024



# Introduction

- ◉ Previous DB talk in TIC meeting: <https://indico.bnl.gov/event/22079/>
- ◉ **Purpose:** Facilitate effective management and tracking of hardware components for various subsystems.
- ◉ **Scope:** *Not for technical suggestions* like database software, HTML, php etc.
- ◉ **Goal:** Provide necessary features without burdening users.
- ◉ **Flexibility:** Open to addition or modification of features.
- ◉ **Maintenance:** Regular updates by Global Administrator and subsystem DSLs.
- ◉ **Objective:** Outline overall expectations and structure of the database for the software team.

# Landing Page

- Landing Page: Includes a list of all databases with links for easy navigation.

- Real and Test Database Pages:

- ✿ Each Detector Subsystem (DSS) has:

- ▶ A "Real Database Page" for live data.

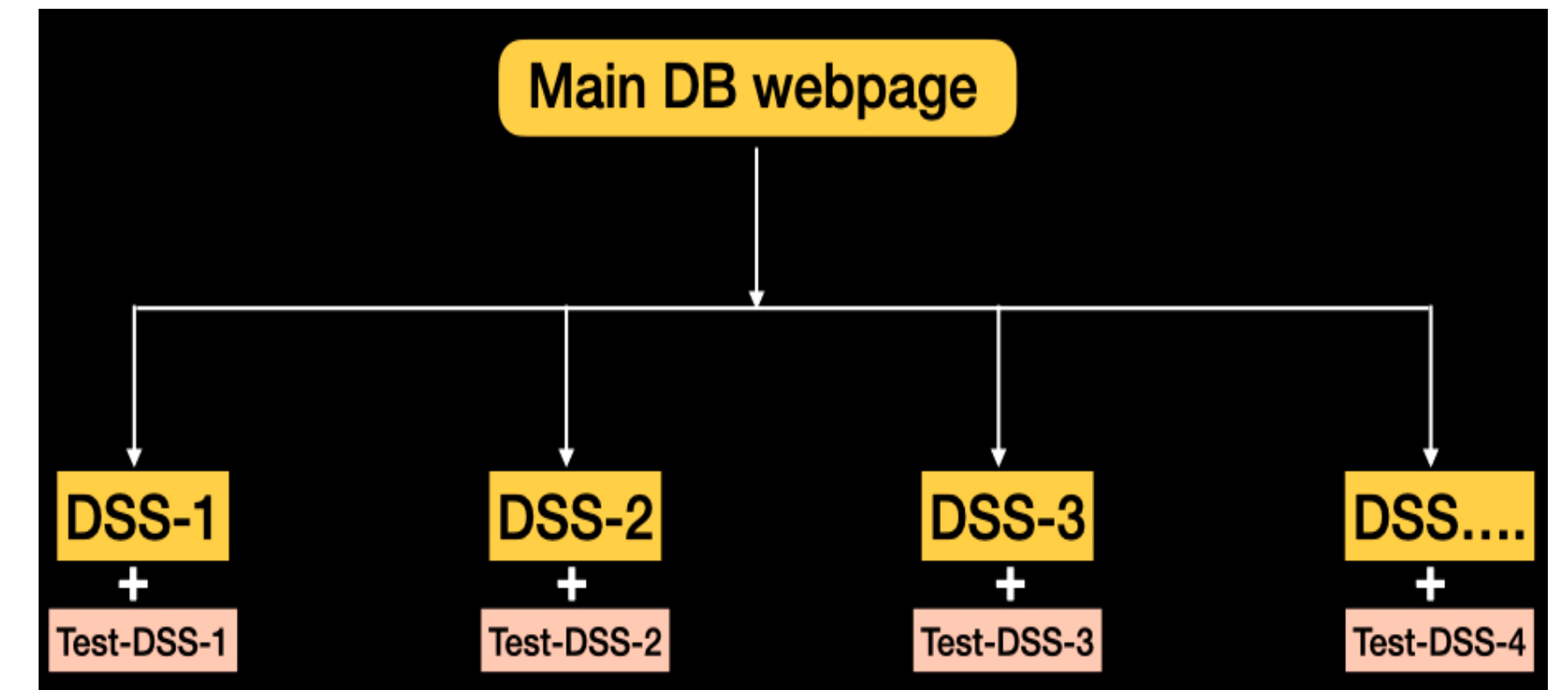
- ▶ A "Test Database Page" for practice and familiarization.

- ✿ Test database is periodically synchronized with real DB.

- Visual Differentiation:

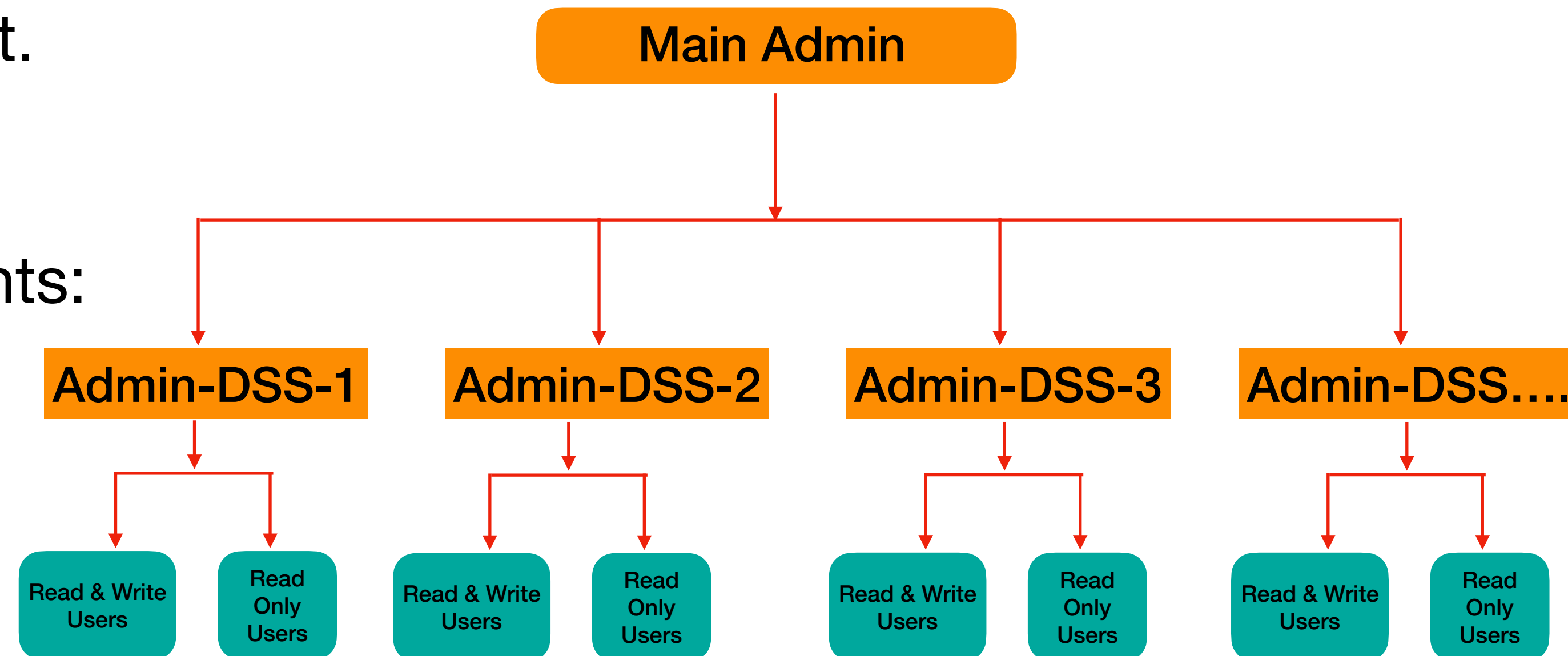
- ▶ Test and real DB pages have distinct color schemes.

- ▶ Helps prevent accidental use or confusion between environments.



# Administration hierarchy:

- Global Level Admin:
  - Access to main database, sub DB's, and webpages.
  - Oversees overall database management.
- Detector Subsystem Leaders (DSLs):
  - Access to their respective DB.
  - Privileges to manage personnel and rights:
    - e.g., View-only or Read/Write/Submit access.
- Language and Criteria Management:
  - DSLs have exclusive privilege to:
    - Change criteria language.
    - Add or remove requirement criteria.
- Considerations for host server:
  - Ensure accessibility for diverse user base.
  - Address potential access restrictions behind lab's firewall.



# Backup and Contact info

- ⦿ Database Backup:
  - ▶ All DB tables and user data (figures, text, etc.) should be backed up to a separate storage.
  - ▶ Ensures data integrity and security in case of system failure or data loss.
- ⦿ Contact Page Information:
  - ▶ DSLs can input details of personnel from different institutions participating in subsystem construction.
  - ▶ Includes:
    - Full name
    - Email address
    - Full shipping address
    - Optional: Cell phone and office phone numbers
- ⦿ Email [Optional]:
  - ▶ Feature to select personnel from the list and send them emails directly.
  - ▶ Content of the email can be listed on this page, similar to a mailing list archive.

# Numbered and Unnumbered items

## Numbered Items:

- ▶ Components with unique characteristics (e.g., HRPPD tiles for pfRICH) should have a unique ID.
- ▶ IDs can be barcodes, QR codes, or any other permanent unique number.
- ▶ IDs should be searchable in the database and identifiable on hardware components.
- ▶ Ensures one-to-one relationship and history tracking.

## Non-Numbered Items:

- ▶ Items without individual characterization (e.g., ESR foils for LFHCal) should be stocked unlabeled.
- ▶ Allows easy access to assess need and usage, avoiding delays due to shipping, etc.

# Data upload and Plotting:

## ● Data Upload:

- ▶ Each item page should feature data file upload based on subsystem needs.
- ▶ Log history maintained if data file is replaced with another.

## ● Timestamp Append:

- ▶ Database automatically appends timestamp to file name to prevent mishandling.

## ● Plotting Compatibility:

- ▶ Item pages compatible with plotting engine to read and display data plots.
- ▶ File format and display style coordinated with main DB Admin and DSLs.

## ● Red Flagging:

- ▶ Entries can have boolean logic associated with them.
- ▶ e.g., Humidity > 50% flagged with red color for user attention.

## ● Color Coding:

- ▶ Color coding for sorting finished and unfinished tasks: e.g.
  - Tested good: Green
  - Yet to be tested: Yellow
  - Tested bad: Red

# Query, Inventory and shipping

- Inventory Page:
  - ▶ Clearly reflects used/tested and remaining items in each category.
- Criteria Logic:
  - ▶ OR & AND logic for different criteria combinations to sort the query.

## Shipping and Receiving:

- Feature, Not Necessity:
  - ▶ Shipping and receiving treated as optional feature for each subsystem.
  - ▶ Advantages:
    - Log for tracking number and shipment details.
    - Prevents items from being lost in transit or forgotten to be shipped.
- Management:
  - ▶ Left up to subsystems to decide how to manage shipping and receiving processes.



# Stage of Preparation with Time:

## ● Item Preparation:

- ▶ Each category will have a list of numbered items.
- ▶ QA steps to be followed with each item.

## ● Progress Plot:

- ▶ Based on completion of steps, progress plots can be generated.
- ▶ Project coordination **will be needed** to determine the best way to present progress.
- ▶ Allows visualization of project milestones over time.

# Summary

- Its not a fully inclusive list and suggestions are welcome to the Live document.
- It is recognized that maintaining the DB regularly as a “Global Administrator” will require a dedicated personal, and sub-system DSL’s will have the responsibility to ensure that the information is up-to-date for their respective DB.
- DB shouldn’t be a tremendous burden to the users instead it should help to manage the sub-system.
- It would be better to first put it together with one sub-system as a model example and then slowly expand it to others as needed.

**Thank You!**