

# Storage Box Use Cases

- User may autofill samples into a storage box when assigning samples to storage.
- User may drag and drop samples into specific positions in a storage box when assigning samples to storage.
- User may create a storage box when assigning samples to storage.
- Pages:
  - Ordering- Biospecimens- Assign Primary Samples to Storage
  - Workflow- Assign Primary Samples to Storage
  - Workflow- Assign Derivatives to Storage
  - Sample Management

# Gaps

- Gap - Storage boxes come in different dimensions ranging from a slide box (up to 1x200) to a tube box (up to 10x20). A majority of storage boxes utilized by the biorepository utilize numerical / one-dimensional positioning. How can these entities be visualized for drag and drop storage?
  - Storage box displays must identify each individual compartment for tracking and chain of custody.
  - Storage box positioning must be structured in a numerical / one-dimensional positioning model.
  - Storage box displays must fit within the screen.
  - Storage box displays must be compatible for variable dimensions.



# Existing Model- Freezer Rack Map

- Freezer rack style maps are variable, but do not display positioning on the FE UI.
- Position is tracked using a two-dimensional numerical grid on the BE (ie. 1,1 - 5,5). Additional work is required to calculate and display one-dimensional numerical positions (1 - 25).
- In scenarios with elongated storage box dimensions, the map will not fit on the screen (ie. slide boxes of 1x100, 2x50). Additional work is required to generate a scroll bar.

**Location**

Room: PrePCR

Container: PreFreezer1\_Racks

Shelf: Shelf2

Freezer Rack: Rack3 (15 free)

Pattern: Column

**Storage map**

Reset Save storage assignment

1sm_test4420	8454154	LP210305016_r...		
test456		NormBarcodeA...		
LP191121015_...	DRB227PM	NormRackBarco...		
testsm463	LP201215219_r...	NormRackBarco...		
test252				
atest_sm	NormBarcodeA...	NormBarcodeA...		

# Proposal

- Proposal – Create a variable, one-dimensional storage box map for storage boxes.
  - Instead of defining storage boxes using two dimensions/attributes (rows/shelves and columns) storage boxes as entities which store samples with a single dimension/attribute (columns). Storage box displays will be numbered sequentially according to the column value.
  - Storage box displays will contain columns of defined size and snake from left to right at every interval of 10 (see mock-up on page 6).

# Proposed Storage Box View

## Assign Primary Samples to Storage

Autofill selected Storage Unit

Export Storage File

Racks

Tubes



Search



	Sample ID	Tube Barcode	Containing ...	Position
	FFPE_14SEP...	GEC2001816...	2106150071...	A01
	FFPE_30Sep2...	GEC2001887...	2106150071...	B01

### Location

Room

PrePCR

Container

PreFreezer1

Shelf

Shelf 2

Rack

CB2005010044\_Rack

Rack/Box:

Example Box 1

Create Box

Storage map

Reset

Save storage assignment

Both racks and boxes will be selectable

Boxes can be created

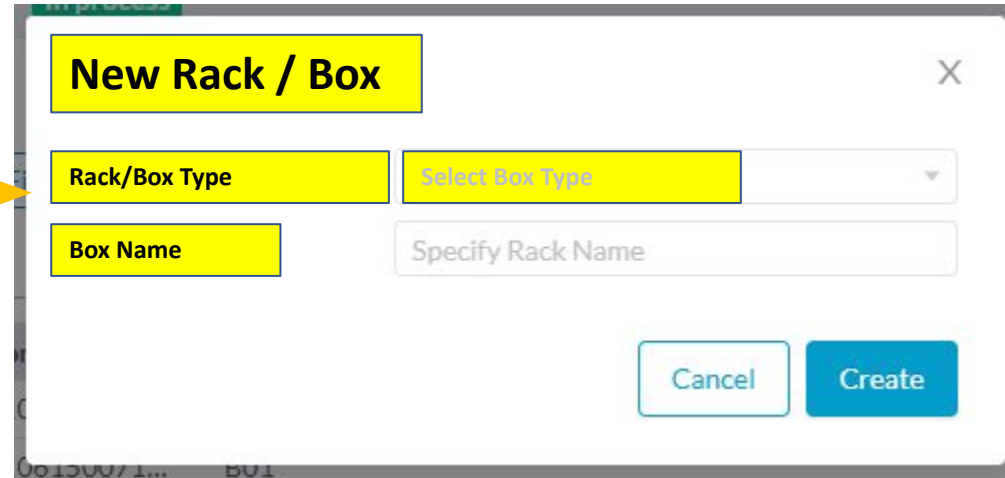
Numbering will continue sequentially until reaching number of compartments in the box. In this example, there are 25 compartments in the storage box.

EPAM, please verify if an upper limit of 100 - 200 compartments can be accommodated in the UI without the need for a scroll bar.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25					

# Proposed Create Box Pop-Up

Both rack and box types will be selectable



The image shows a screenshot of a web application's 'New Rack / Box' pop-up window. The window has a title bar with the text 'New Rack / Box' and a close button (X) in the top right corner. The form contains the following elements:

- A label 'Rack/Box Type' with a yellow highlight box next to it.
- A dropdown menu with the text 'Select Box Type' and a downward arrow, also with a yellow highlight box.
- A label 'Box Name' with a yellow highlight box next to it.
- A text input field with the placeholder text 'Specify Rack Name'.
- Two buttons at the bottom right: 'Cancel' (light blue) and 'Create' (dark blue).

An orange arrow points from the text box on the left to the 'Rack/Box Type' label and the dropdown menu, indicating that both are selectable.

# Proposed AP- Storage Model View

## New Storage Model

Name\*

Storage model name

Description

Write a description...

Type\*

Storage Box

Rows/Shelves\*

Columns

0

Has Barcode

Inactive

Status

Active

Attribute will be  
grayed out and  
non-interactive