Storage Box Use Cases

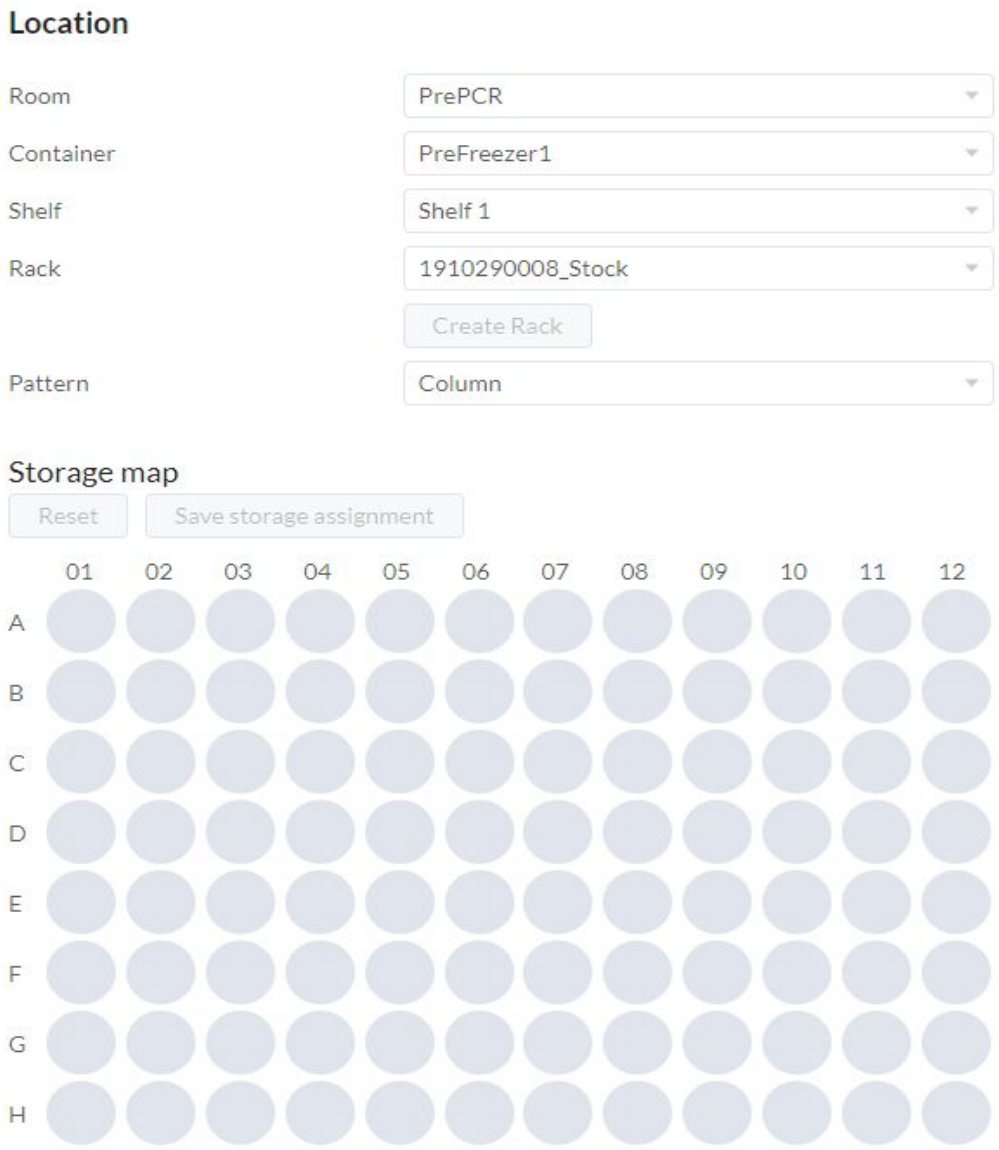
- User may autofill samples into a storage box when assigning samples to storage.
- User may drag and drop samples into specific positions in a storage box when assigning samples to storage.
- User may create a storage box when assigning samples to storage.
- Pages:
  - Ordering- Biospecimens- Assign 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.

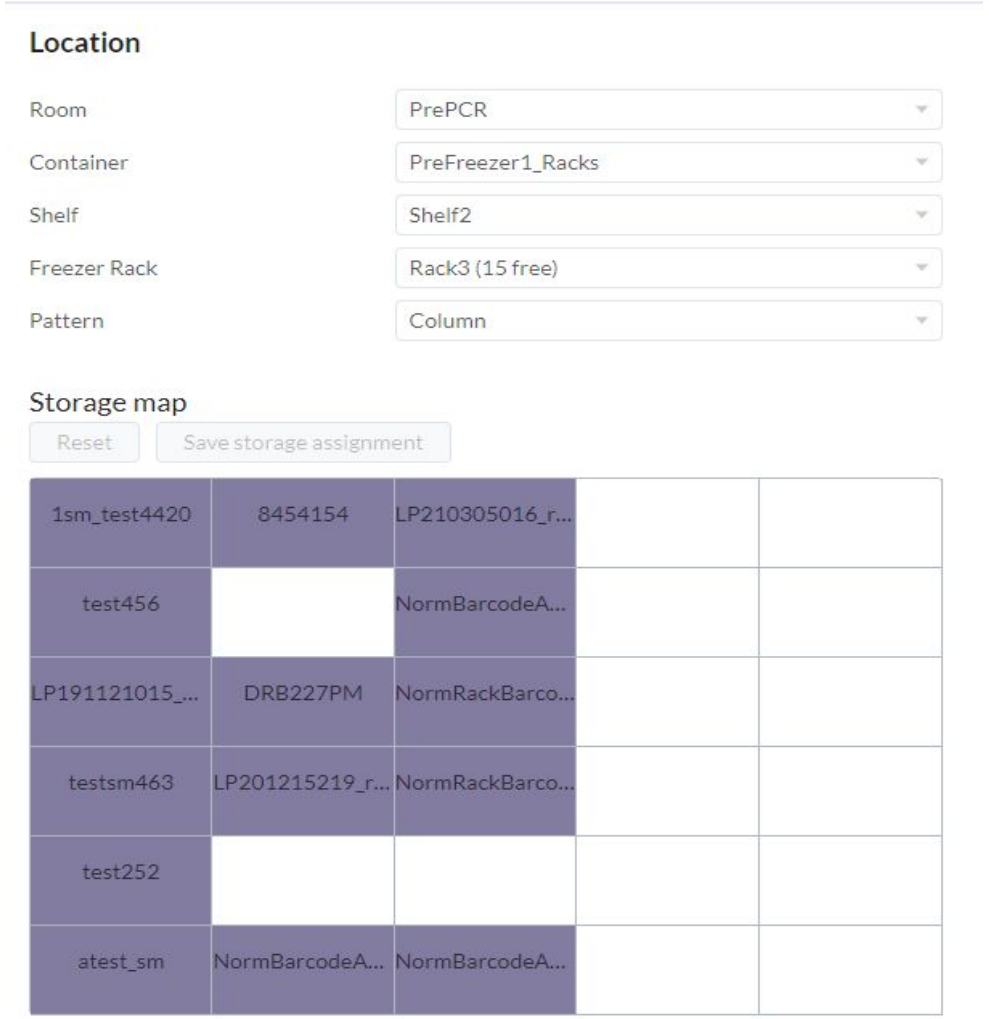
Model- Micronic Rack Map

- Micronic rack style maps are fixed at 96 positions in alphanumerical / two-dimensional. Additional work is required to generate a new map for each storage box type.
- Micronic rack maps cannot accommodate variable storage box dimensions or numerical / one-dimensional positioning. Additional work is required to generate numerical / one-dimensional positioning on each storage box map.



Existing Model- Freezer Rack Map

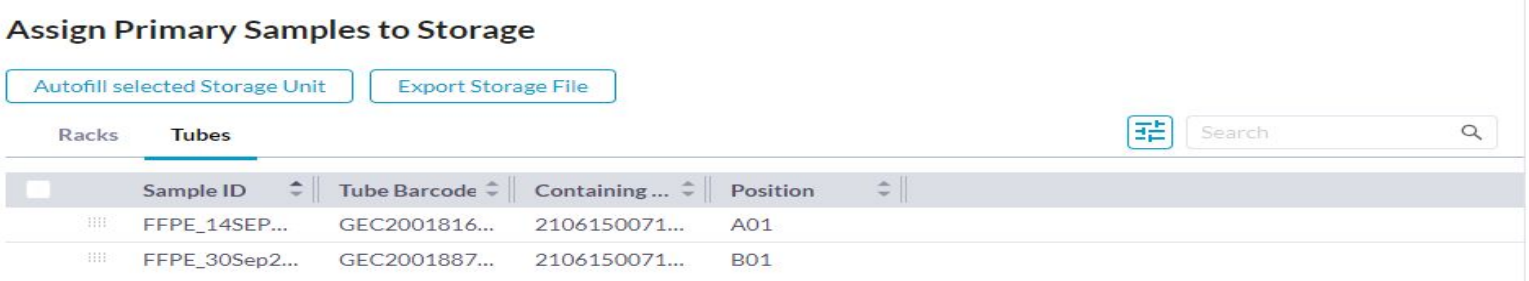
- Freezer rack style maps are variable, but do not display positioning on the FE UI.
- Position is tracked using a two-dimensional numerical grid on the BE (ie. 1,1 - 5,5). Additional work is required to calculate and display one-dimensional numerical positions (1 - 25).
- In scenarios with elongated 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.



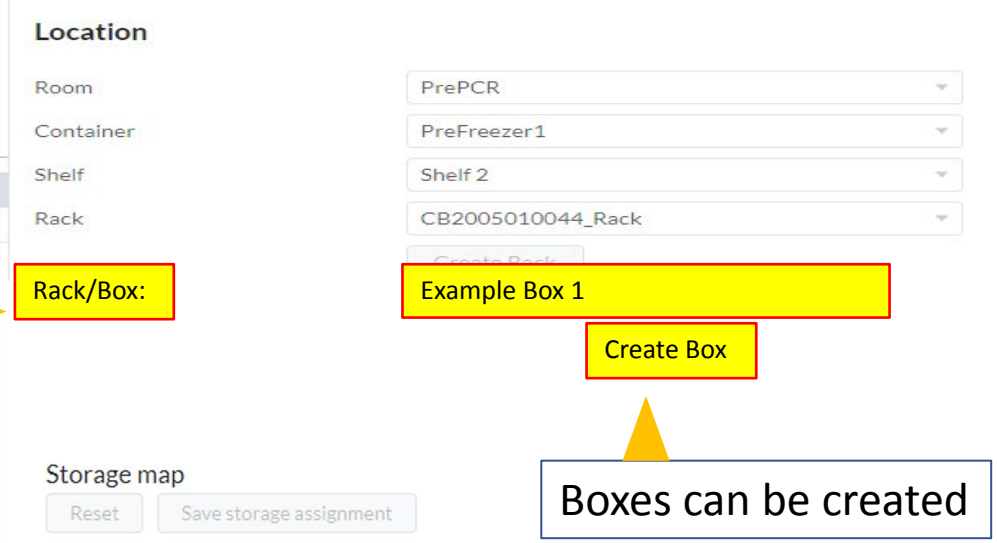
Proposal

- 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



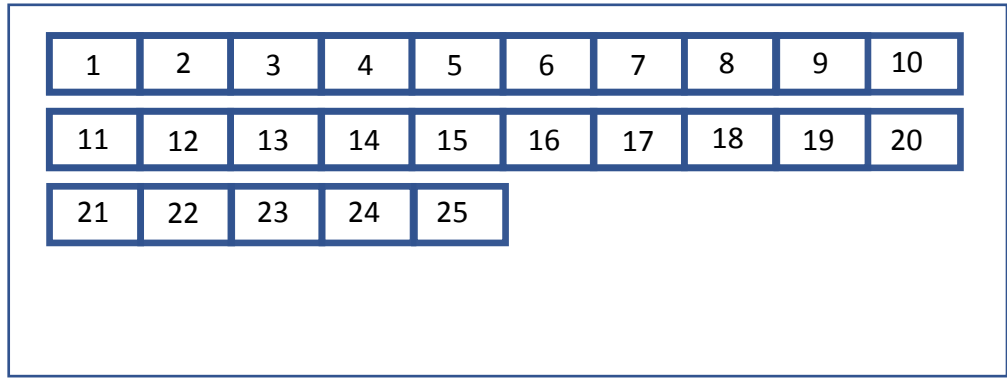
Both racks and boxes will be selectable



Boxes can be created

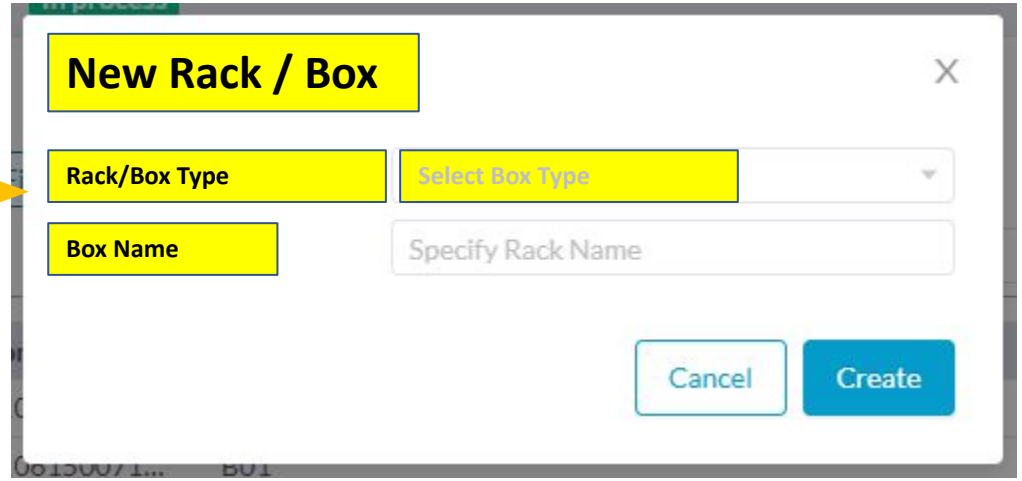
Numbering will continue sequentially until reaching number of compartments in the box. In this example, there are 25 compartments in the storage box.

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



Proposed Create Box Pop-Up

Both rack and box types will be selectable



Proposed AP- Storage Model View