Labeling Item Type Technical Specification

I.   Item Type Overview

A.   JSON Structure

Below is the JSON structure of Labeling item's item_json

```
{
        "uuid": "17afbd7-f583-d5f1-d61-a7c21d6a84f",
        "stemContent": "<p id=\"cb-591023-4-52\">Stem content goes here...</p>\n",
        "optionList": [
{
"id": "6d17a25-f62e-d474-0a47-5be145cb25",
"index": 0,
"title": "<p id=\"cb-651451-10-18\">Group 1 Title</p>\n",
"options": [
{
"id": "eaa2fb3-837-ff-cb33-c2628854fa4c",
"index": 0,
"optionText": "<p id=\"cb-523912-2-70\">Group 1 Response 1</p>\n"
},
{
"id": "3c0efa4-58fe-7a5-bf83-84a2fcd50ab",
"index": 1,
"optionText": "<p id=\"cb-262358-1-15\">Group 1 Response 2</p>\n"
}
]
},
{
"id": "ccdc3a-82-2104-4b5-a3b7ccc1e5fc",
"index": 1,
"title": "<p id=\"cb-87482-4-56\">Group 2 Title</p>\n",
"options": [
{
"id": "1208da-103d-0a42-2152-7fcc3f780",
"index": 0,
"optionText": "<p id=\"cb-887408-6-78\">Group 2 Response 1</p>\n"
},
{
"id": "d2b22d8-54ae-a32b-bdb2-43e3f3cafdf",
```

"index": 1,
"optionText": "<p id=\"cb-305149-9-28\">Group 2 Response 2</p>\n"
}
]
}
],
"itemTypeCode": "LBNG",
"minItemWidth": 0,
"dropZoneWidth": 150,
"minItemHeight": 0,
"dropZoneHeight": 30,
"matchList": [
{
"id": "1e1b8ad-5e17-ee3a-e4dc-8e37f8b8703",
"index": 0,
"heading": "<p id=\"cb-570027-7-88\">Heading 1</p>\n",
"options": [
{
"id": "6f73bb-654f-8ca3-3c8e-45defd8ac673",
"index": 0,
"isDrop": false,
"optionText": "<p id=\"cb-893826-6-5\">Custom Text 1</p>\n"
},
{
"id": "3a4b0a1-3a66-d14e-28a-2b7b7c0ae",
"index": 1,
"isDrop": true,
"optionText": "Drop Zone"
},
{
"id": "171812-da1b-2fd3-05e-6a0c7277630",
"index": 2,
"isDrop": false,
"optionText": "<p id=\"cb-298327-8-36\">Custom Text 2</p>\n"
},
{
"id": "bef2b06-cc70-f715-f1a2-d00dce188676",
"index": 3,

"isDrop": true,
"optionText": "Drop Zone"
}
],
"linkedGroup": 2,
"linkedGroupId": "ccdc3a-82-2104-4b5-a3b7ccc1e5fc"
},
{
"id": "50e6000-13e3-d7df-06fa-d447cc340f6a",
"index": 1,
"heading": "<p id=\"cb-882078-4-25\">Heading 2</p>\n",
"options": [
{
"id": "18aa065-3f47-dffd-b324-0821a5800813",
"index": 0,
"isDrop": false,
"optionText": "<p id=\"cb-5515-2-40\">Custom Text 3</p>\n"
},
{
"id": "efcf75-48b1-e53-77d8-83d43e4dd5",
"index": 1,
"isDrop": true,
"optionText": "Drop Zone"
},
{
"id": "8241d82-70ef-c6d3-611-5b18837a3d67",
"index": 2,
"isDrop": true,
"optionText": "Drop Zone"
}
],
"linkedGroup": 0,
"linkedGroupId": ""
}
],
"correctResponse": [
{
"id": "d2b22d8-54ae-a32b-bdb2-43e3f3cafdf",

```
"values": [
"8241d82-70ef-c6d3-611-5b18837a3d67",
"3a4b0a1-3a66-d14e-28a-2b7b7c0ae"
]
},
{
"id": "1208da-103d-0a42-2152-7fcc3f780",
"values": [
"efcf75-48b1-e53-77d8-83d43e4dd5",
"bef2b06-cc70-f715-f1a2-d00dce188676"
]
}
],
"reusableAnswers": true,
"answerGroupLocation": "LBNG_TOP",
"answerGroupOrientation": "LBNG_VERTICAL"
}
```

Additional information on JSON structure requirements can be found here

B.   Scoring Types used

The Scoring Types for Labeling Item are
- Subtractive Model
- Collapsed quota
- Partial credit
- No scoring needed
- Correct Only

Additional information on Scoring requirements can be found here

C.   Item Validation Rules

The validations used in the item are mentioned below:
- CORRECT_ANSWER_REQUIRED_LEN – The correct Answer is required.
- SCORE_METHOD_REQUIRED – Scoring method is required.
- MAX_SCORE_REQUIRED – The max score is required, and it cannot be zero.
- SCORE_EXCEED – Total score cannot be greater than maximum score.
- SCORE_DECEED – Total score cannot be less than minimum score

- SUM_TO_MAX_SCORE – For subtractive scoring all options must sum to the max score.
- SCORE_NEGATIVE – Scoring value cannot be negative.
- MAX_EXCEED – For collapsed quota, max must be less than # of responses.
- MIN_EXCEED – For collapsed quota, the minimum must be less than number of responses.
- MAX_LESSTHAN_MIN – For collapsed quota, max should be more than min.
- MINMAX_NEGATIVE – For collapsed quota, min and max should be >0.
- FIRST_MIN – For collapsed quota, first minimum should be 1.
- HEADERS_NOT_CNTRD_AND_BOLD_LBNG – Headers are not centered/bolded
- CONTENT_CODE_SUGGESTED – Should have at least one primary content code to be selected.
- COLLAPSED_QUOTA_SCORING_TABLE – Collapsed quota scoring table has been generated.
- CONTENT AREA – Should have content area when we save item other than draft state.
- GRADE LEVEL – Should have grade level when we save item other than draft state.
- FRAMEWORK – Should have framework when we save item other than draft state.
- COGNITIVE TAXONOMY - Should have taxonomy when we save items other than draft state.
- COGNITIVE CATEGORY - Should have cognitive category when we save item other than draft state.
- TESTING PROGRAM - Should have a testing program when we save items other than draft state.
- USAGE - Should have usage when we save item other than draft state.
- ESTIMATE OF DIFFICULTY - Should have Estimate of Difficulty when we save item other than draft state.
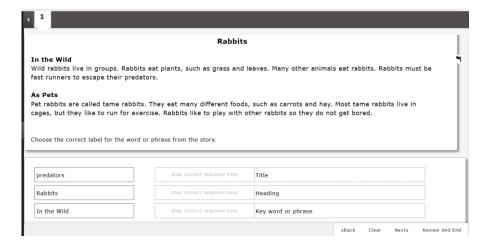
D.   Third Party Libraries Used

- DndKit – a modular toolkit for building drag and drop interfaces.
- It exposes a set of hooks to make components draggable droppable.
- https://github.com/clauderic/dnd-kit

II.   Item View in SP

There are six different labeling items in CB1.0

- Labeling Item
  - Drag response options from left.
- Labeling Item (Copy)
  - Drag response options from left. Response options are reusable.
- Labeling Item (Top)
  - Drag response options from above/top
- Labeling Item (Copy, Top)
  - Drag response options from above/top. Response options are reusable.
- Labeling Item (Copy, Top) ATEA
  - Drag response options from above/top. Response options are reusable. Always a single line with 1 drop zone between 2 static columns. This item type was unused and un-needed because it can be created with the options mentioned for the other labeling item types.
- Labeling Item (Top, Multiple)
  - Drag response options from above/top. Response options are reusable.
  - Response options can be grouped together, and those groups can be "linked" to specific drop zones columns (only response options linked to a drop zone column can be placed in that drop zone column). Headings can be added to the groups of response options.

Labeling Item – CB1.0 SP Preview

Rabbits

In the Wild
Wild rabbits live in groups. Rabbits eat plants, such as grass and leaves. Many other animals eat rabbits. Rabbits must be fast runners to escape their predators.

As Pets
Pet rabbits are called tame rabbits. They eat many different foods, such as carrots and hay. Most tame rabbits live in cages, but they like to run for exercise. Rabbits like to play with other rabbits so they do not get bored.

Choose the correct label for the word or phrase from the story.

predators	drop correct response here	Title
Rabbits	drop correct response here	Heading
In the Wild	drop correct response here	Key word or phrase

‹Back   Clear   Next›   Review And End

Rabbits

In the Wild
Wild rabbits live in groups. Rabbits eat plants, such as grass and leaves. Many other animals eat rabbits. Rabbits must be fast runners to escape their predators.

As Pets
Pet rabbits are called tame rabbits. They eat many different foods, such as carrots and hay. Most tame rabbits live in cages, but they like to run for exercise. Rabbits like to play with other rabbits so they do not get bored.

Choose the correct label for the word or phrase from the story.

predators	Rabbits	Title
	drop correct response here	Heading
In the Wild	drop correct response here	Key word or phrase

Labeling Item (Copy) – CB1.0 SP Preview

Match the shapes to their names.

		rectangle
	drop correct response here	rhombus
	drop correct response here	trapezoid

Labeling Item (Top) – CB1.0 SP Preview

Place the taxonomic names into the table next to the corresponding common names of animals. Not all names will be used.

Bos Taurus	Canis familiaris	Equus caballus	Ovis aries
Sus scrofa			

drop correct response here	cattle
drop correct response here	horses
drop correct response here	pigs
drop correct response here	sheep

Place the taxonomic names into the table next to the corresponding common names of animals. Not all names will be used.

	Canis familiaris	Equus caballu	Ovis aries
Sus scrofa			

Bos Taurus	cattle
drop correct response here	horses
drop correct response here	pigs
drop correct response here	sheep

Labeling Item (Copy, Top) – CB1.0 SP Preview

Choose a word from the word bank below and place it next to its label.

home	Susan	walks dog	takes a bath
Lila	store	goes to school	gets dressed

drop correct response here	Character
drop correct response here	Setting
takes a bath	Event
goes to school	Event

‹Back   Clear   Next›   Review And End

Labeling Item (Copy, Top) ATEA – CB1.0 SP Preview

Compare the fractions below using the correct symbol for each pair of fractions. A symbol may be used more than once.

<	>	=

$\frac{7}{8}$ | > | $\frac{6}{8}$

$\frac{5}{6}$ | drop correct response here | $\frac{5}{4}$

$\frac{4}{4}$ | = | $\frac{6}{6}$

$\frac{6}{4}$ | drop correct response here | $\frac{3}{2}$

Labeling Item (Top, Multiple) – CB1.0 SP Preview

Use the symbols to compare how many students play each sport. Some symbols may be used more than once, others may not be used at all.

>		<

Basketball	drop correct respons	Football
Baseball	=	Basketball
Soccer	drop correct respons	Baseball
Football	drop correct respons	Soccer

Move the symbols to the spaces labeled "drop correct response here." Symbols can be moved as many times as needed. To replace a symbol with a different symbol, place the new symbol on top of the old one.

On a computer, click a symbol. Continue to hold the symbol while dragging to the correct position. Release the symbol.

On a tablet, touch and hold a symbol. Drag the symbol to the correct position. Release the symbol.

Use the symbols to compare fractions. Symbols may be used more than once or not at all.

Heading 1	**Heading 2**	**Heading 3**
=	>	<

$\frac{1}{2}$	drop correct response here	$\frac{2}{4}$
$\frac{1}{2}$	drop correct response here	$\frac{1}{4}$
	drop correct response here	

But in Content Portal we have only one Labeling Item with multiple configuration

Response Group	Question Layout	Reusable Responses (Copy)
Vertical	Top	No
Vertical	Top	Yes
Vertical	Left	No
Vertical	Left	Yes
Horizontal	Top	No
Horizontal	Top	Yes
Horizontal	Left	No
Horizontal	Left	Yes

Current Content Page

Content

Minimum Item Dimensions Width: [0] Height: [0]

B *I* U S x₂ x²	𝐼ₓ	≔ ≔	⇤ ⇥	❞	≡ ≡ ≡	✂ ⧉ ⧉ ⧉ ⧉	← →	⊞ Source	🖶	🔍 ⧉	≋	💬 ▾	A ▾ ▨ ▾	▦ Σ ⊞ ⇌ Ω	⤢ ⬚	▭

Styles ▾ | Format ▾ | Font ▾ | Size ▾ |

body   Paragraphs: 1, Words: 1

Response Group:

+ Add Response Group

Group 1 Title:
[Title]

[+]

♦ [Apple] ⊖
♦ ♦ [Pear] ⊖
♦ [Banana] ⊖

Rationale [Enter content]

Question Layout:

+ Add Question Column

Heading:
[Fruit] [▾] 🔗

+ Add Drop Zone
+ Add Custom

♦ [Drop Zone1] ⊖
♦ ♦ [Drop Zone2] ⊖
♦ [Drop Zone3] ⊖

Heading:
[Characteristics] [▾] 🔗

+ Add Drop Zone
+ Add Custom

♦ [Red, shiny] ⊖
♦ ♦ [Green, soft] ⊖
♦ [Yellow, mushy] ⊖

| Response Group Layout: | Vertical ▾ | Drop Zone Width: | 150 | Reusable Responses: | ☐ |
| Response Group Location: | Top ▾ | Drop Zone Height: | 30 | | |

Correct Response

Response Group

Title

[   ]

[   ]

[   ]

Question Layout

Fruit	Characteristics
Apple	Red, shiny
Pear	Green, soft
Banana	Yellow, mushy

New Content Page: Vertical – Top

Vertical – Top CP Preview

☐ Display Correct Response   PC/Mac ▾

Labeling Item - Vertical Top

Drag and drop the correct responses for below question.

Title

Apple

Banana

Fruit		**Characteristics**
drop correct response here		Red, shiny
Pear		Green, soft
drop correct response here		Yellow, mushy

New Content Page: Vertical – Left

Vertical – Left CP Preview

Display Correct Response   PC/Mac ▾

Labeling Item - Vertical Left

Drag and drop the correct responses for below question.

Title		Fruit	Characteristics
Apple		drop correct response here	Red, shiny
		Pear	Green, soft
Banana		drop correct response here	Yellow, mushy

New Content Page: Horizontal – Top

Minimum Item Dimensions	Width: 500	Height: 500

| Paragraph ∨ | **B** *I* U S x₂ x² Tₓ | ☰ ∨ ☰ ∨ ⬅ ➡ ☰ ∨ | 🅰 ∨ A ∨ A̅ ∨ A̲I ∨ | ↶ ↷ — ⛓ ⟷ Source | 66 🔍 ∨ | Ω ∨ ⊞ ∨ |

Enter stem content

Response Group   [+ Add Response Group]

Group 1 Title:

Title   ⊙

    +

✦ Apple   ⊙

✦✦ Pear   ⊙

✦ Banana   ⊙

[Rationale]   Enter content

Question Layout   [+ Add Question Column]

Heading: Fruit   🔗 ⊙

[+ Add Drop Zone]
[+ Add Custom]

✦ Drop Zone1 ⊙

✦✦ Drop Zone2 ⊙

✦ Drop Zone3 ⊙

Heading: Characteristics   🔗 ⊙

[+ Add Drop Zone]
[+ Add Custom]

✦ Red, shiny ⊙

✦✦ Green, soft ⊙

✦ Yellow, mushy ⊙

| Response Group Layout : | Horizontal ∨ | Drop Zone Width: | 150 | Reusable Response: | ☐ |
| Response Group Location : | Top ∨ | Drop Zone Height: | 50 | | |

Correct Response

Title	Apple		Banana

Fruit	**Characteristics**
drop correct response here	Red, shiny
Pear	Green, soft
drop correct response here	Yellow, mushy

Horizontal – Top CP Preview

PC/Mac ⌄

Labeling Item - Horizontal Top

Drag and drop the correct responses for below question.

Title	Apple		Banana

Fruit	**Characteristics**
drop correct response here	Red, shiny
Pear	Green, soft
drop correct response here	Yellow, mushy

New Content Page: Horizontal – Left

Width: 500

Height: 500

Paragraph ⌄ | **B** | *I* | U̲ | S̶ | X₂ | X² | Tₓ | ☰ ⌄ | ☰ ⌄ | ☲ | ☲ | ☰ ⌄ | 🅰 ⌄ | 🅰 ⌄ | Aⁿ ⌄ | AI ⌄ | ↶ | ↷ | — | 🔁 | ⟩ Source | 66 | 🔍 ⌄ | Ω ⌄ | ⊞ ⌄

Enter stem content

Response Group

+ Add Response Group

Group 1 Title:

Title

+

⬍ Apple ⊘

⬍⬍ Pear ⊘

⬍ Banana ⊘

Rationale | Enter content.

Question Layout

+ Add Question Column

Heading:
Fruit

+ Add Drop Zone
+ Add Custom

⬍ Drop Zone1 ⊘

⬍⬍ Drop Zone2 ⊘

⬍ Drop Zone3 ⊘

Heading:
Characteristics

+ Add Drop Zone
+ Add Custom

⬍ Red, shiny ⊘

⬍⬍ Green, soft ⊘

⬍ Yellow, mushy ⊘

| Response Group Layout : | Horizontal ⌄ | Drop Zone Width: | 150 | Reusable Response: ☐ |
| Response Group Location : | Left ⌄ | Drop Zone Height: | 50 | |

Correct Response

				Fruit	**Characteristics**
Title	Apple		Banana	drop correct response here	Red, shiny
				Pear	Green, soft
				drop correct response here	Yellow, mushy

Horizontal – Left CP Preview

Display Correct Response

PC/Mac ⌄

Labeling Item - Horizontal Left

Drag and drop the correct responses for below question.

Title	Apple		Banana

	Fruit	Characteristics
	drop correct response here	Red, shiny
	Pear	Green, soft
	drop correct response here	Yellow, mushy

Horizontal – Top with Copy CP Preview

Display Correct Response

PC/Mac ▼

Labeling Item - Horizontal Top

Drag and drop the correct responses for below question.

Title

| Apple | Pear | Banana |

Fruit

Apple

Pear

drop correct response here

Characteristics

Red, shiny

Green, soft

Yellow, mushy

Horizontal – Top with Display Correct Response CP Preview

☑ Display Correct Response   [PC/Mac   ▼]

Labeling Item - Horizontal Top

Drag and drop the correct responses for below question.

Title   [   ] [   ] [   ]

Fruit	Characteristics
Apple	Red, shiny
Pear	Green, soft
Banana	Yellow, mushy

III. Technical Updates

A. Outstanding Defects

- Defect #1056 / DE22107 - The Response Group Layout and Response Group Location menus are missing options. Only "Select" is in the menu (Reopened – There should not be Select Option in both drop down menu since it has default value).
- In the Current SP preview while mouse over and drag the responses we are showing yellow color highlight this same need to implement in the common display response component.

Backlog Issues:

- Question Layout, Drop Zone Text - This was not resolved in the clean-up comments. For the Drop Zone placeholder text, there needs to be a space before the numbers. For example, "Drop Zone 1" not "Drop Zone 1".

> **Commented [MK3]:** Is there a reason we can't clean this up with the new packages?
>
> **Commented [CR4R3]:** Updated

B. Business Flow

- The dimensions for the item will be given in MIN item dimensions field.
- Content creator can add the question in the Stem area for student.
- There are two main sections for this item Response Group and Question Layout.
- And there will be one configuration section which will help to render this item in a different position.
- We can add a greater number of Response Groups with headers, and each can have n number of responses which will be the drag boxes in the response area.
- Same as Response Group we can add n number of Question Column with the header in the Question Layout, we can add n number of Drop Zone and Custom Text boxes in the Question Column which will be the Drop Zone and Static label in the response area respectively.
- Content creator can set the configurations of how this item should render in the preview by using Response Group Layout and Response Group Location options.
- Can also adjust the width and height of the drop zones based on the content by using Drop Zone Width and Drop Zone Height options.
- When the users change the Drop Zone Width or Drop Zone Height the changes will be reflected in both drop zones and drag boxes in the response area.

- By clicking on the Reusable Responses check box (in all the combination), user can make all the Response Group drag boxes are *reusable* in the response area.
- In the Question Layout a user can also link a Response Group number with a Question Column. When a Response Group is linked with a Question Colum, only response options from a linked Response Group can be placed in the drop zone(s) in that Question Column.
- If there is no link number for the Question Column, then responses from all the response layouts can be dragged and set.
- In the response area all the drop boxes will have a place holder 'drop correct response here' before set/drop any responses.
- Once the user drags the response from the response layout and drops into the question column, then there should be a space/box in the response layout which is used to drop back the response.

C.   Implementation

CREATE:

- As part of labeling item creation, will create the Labeling.jsx file inside components/create/labeling folder.
- This Labeling.jsx is completely responsible for rendering the item content creation except for the correct response render.
- Shared components ItemDimension and StemContent will be used for this item.

```
import ItemDimensions from '../shared/ItemDimensions';

import StemContent from '../shared/StemContent';

//ItemDimension will be called by passing all the required parameters

<ItemDimensions
 minWidth={item?.item_json?.minItemWidth || 0}
 minHeight={item?.item_json?.minItemHeight || 0}
 onChange={(dimension) => {
   if (dimension?.minWidth !== item?.item_json?.minItemWidth) {
      updateItemJson('minItemWidth', dimension.minWidth);
    }
  if (dimension?.minHeight !== item.item_json.minItemHeight) {
      updateItemJson('minItemHeight', dimension.minHeight);
    }
    }}
```

```
/>
```

```
//StemContent will be called by passing all the required parameters

<StemContent
    data={item.item_json?.stemContent}
    onUpdate={updateItemJson}
    fieldName={'stemContent'}
/>
```

- Question Layout and Response Group components will be created and used for rendering the Question Layout and Response Group operations in Labeling.

```
import QuestionLayout from './QuestionLayout;
import ResponseGroup from './ResponseGroup;
```

```
//QuestionLayout will be called by passing questionLayout and onUpdate method and header parameters

<QuestionLayout
    data={item.item_json?.questionLayout}
    onUpdate={handleOptionChange}
    header={config.questionLayoutHeader || labelCode}
/>
```

```
//ResponseGroup will be called by passing answerGroups, onUpdate method and header parameters

<ResponseGroup
    data={item.item_json?.answerGroups}
    onUpdate={handleOptionChange}
    header={config.answerGroupsHeader || labelCode}
/>
```

- LabelingReorderItems component will be created based on the ReorderItems component with some compatible changes and used inside the QuestionLayout and ResponseGroup for swapping the row and column values.

```
import LabelingReorderItems from './LabelingReorderItems;
```

```
//LabelingReorderItems will be called by passing listLength, option(index), onUpdate method method and
field parameters
```

```
<LabelingReorderItems
   listLength={item.item_json.answerGroups.length}
   option={i}
   onDownClick={() => reorderRow(id, DIR_DOWN)}
   onUpClick={() => reorderRow(id, DIR_UP)}
```

```
/>
```

- Common bootstrap/Input component will be used for other options Drop Zone Width, Drop Zone Height and Reusable Response.
- Common DropDown component will be created and used for Response Group Layout and Response Group Location.
- Required constants, labels and messages will be added in the appropriate files.
- Test files will be created for all the jsx files and located in the same labeling folder itself.
- New component Labeling will be imported and mapped with the unique item code in the CreateInterface.jsx.

Response:

- One new folder 'labeling' will be created in components/display/response for creating the response component for labeling item.
- LabelingResponse.jsx is the main component that will receive the inputs and pass that to sub-components.
- LabelingRenderSwitch.jsx component is the subcomponent that will handle response rendering based on the response group layout and response group location values from the item json.

```
import LabelingRenderSwitch from './LabelingRenderSwitch;
```

```
// LabelingRenderSwitch will be called by passing with all the required parameters.
```

```
<LabelingRenderSwitch
```

```
    questionLayout ={ item?.item_json.questionLayout }
    answerGroups ={item?.item_json.answerGroups }
    reusableAnswers={item?.item_json.reusableAnswers}
    config={config}
    responseGroupLocation ={item?.item_json.answerGroupLocation }
    responseGroupLayout ={item?.item_json.answerGroupOrientation }
selected={selected}
 />
```

- To render the labeling response will have four subcomponents LabelingVerticalTop, LabelingVerticalLeft, LabelingHorizontalTop and LabelingHorizontalLeft, these will be called from the LabelingSwitch.

```
// Based on the response layout and response location selection render switch will call the corresponding
response component.

const LabelingSwitch = ({
  leftOptions,
  rightOptions,
  stemComponent,
  config,
  layoutOption,
  showCorrectResponse,
  selected
}) => {

  if(responseGroupLocation==='Top' &&  responseGroupLayout==='Vertical'){
      < LabelingVerticalTop />

  }else  if(responseGroupLocation==='Left' &&  responseGroupLayout==='Vertical'){
      < LabelingVerticalLeft />

  }else if(responseGroupLocation==='Top' &&  responseGroupLayout==='Horizontal'){
      < LabelingHorizontalTop />

  }else if(responseGroupLocation==='Left' &&  responseGroupLayout==='Horizontal'){
      < LabelingHorizontalLeft />

  }
}

};
```

- This same LabelingResponse component will be called from both the Labeling (Create) and Labeling Preview (Preview) component.
- Readable response should be part of responses and the structure of JSON should look like " **readableresponse**":"[{"2","Yes"},{"3","No"}]".

Preview:

- New folder labeling will be created in components/display/item for the Labeling item preview.
- LabelingPreview.jsx is the component responsible for rendering the item preview.
- LabelingResponse component will be called from the LabelingPreview.

```
import LabelingResponse from '../../response/labeling/LabelingResponse;
```

```
//LabelingResponse will be called by passing with all the required parameters.

<LabelingResponse
    item={item}
    config={config}
    onUpdate={handleResponse}
    showCorrectResponse={showCorrectResponse}
    selected={selected}
/>
```

Stories:

- For all the Labeling components Create, Response and Preview will have stories to render and check the UI.
- Will have a folder called 'lbng' inside the stories/assets which contain 8 JSON files with all the possible combinations as mentioned below.

    1. labeling_vertical_top
    2. labeling_vertical_top_copy
    3. labeling_vertical_left

4. labeling_vertical_left_copy
5. labeling_horizontal_top
6. labeling_horizontal_top_copy
7. labeling_horizontal_left
8. labeling_horizontal_left_copy

- LabelingnNew.stories.jsx will be created to call the create labeling component with default UI.
- Labeling.stories.jsx will be created under the stories/create/alternate to check the create labeling component with alternate UI.
- Same as for other styles, separate story files will also be created and used.
- LabelingDisplay.stories.jsx will be created under the stories/display for labeling preview check with default UI.
- Inside the LabelingDisplay.stories will be using all the json that we have created under the asset which helps us to check the preview in all the combinations.
- Display stories will also have a separate story for all the available styles.
- For the labeling response alone will have a separate story LabelingResponse.stories.jsx under stories/response.

D.   Software Updates Needed to Align with Project Standards

Some of the styles need to be changed which will match with the CB1.0 SP Preview.
- As per the current CP implementation some of the extra borders are there that need to be cleared as mentioned in the updated screenshots.
- Highlighting yellow while hovering and dragging the response option needs to be implemented.
- When the 'Response Group Location' is set to Top in the preview it should have three segregations as per the current SP preview.

E.   How to consume

- This kite-react-items component will be used in the cp-protype application, and CreateInterface and PreviewInterface will be called.

```
<CreateInterface
  item={item}
  onUpdate={updateItem}
  config={config}
/>
```

```
<PreviewInterface
    item={itemObj}
    onUpdate={onUpdate}
    config={config}
/>
```

- In the kite-react-items background graphic response component is common for both Create and Preview components.

```
<LabelingResponse
    item={item}
    config={config}
    onUpdate={handleResponse}
    showCorrectResponse={showCorrectResponse}
    selected={selected}

/>
```

F.   Click History

The click history structure for Labeling item is below:

```
"responses":[
        {
          "isCorrectResponse":null,
          "score":null,
          "responseoption":"[{"id":"116288-8e-aa84-581-
60ba00e4dcf","values":["226288-8e-aa84-581-60ba00e4dcf"]},{"id":"336288-8e-aa84-
581-60ba00e4dcf","values":["446288-8e-aa84-581-60ba00e4dcf"]}]",
          " readableresponse":"[{"2","Yes"},{"3","No"}]",
          "ts":"Mon May 18 2020 13:33:52 GMT-0500 (Central Standard Time)"
        },
    ]
```

IV. Test Scenarios

Below are the Labeling Test scenarios

Content

1. The User will be able to select a Labeling item and open the content accordion.
2. The User will be able to save the Item by giving required fields. Users will also be able to Edit the Item after saving.
3. The user can also save the items by giving non mandatory fields, once they save, they can also edit those fields and save again.
4. The User will be able to set Item dimensions for the item in the item dimensions field.
5. The User will be able enter content in stem.
6. Users can add Responses Group on Response options panel. Also, you can enter content in rationale box below it.
7. The number of response option boxes create, the same number will be populated in the response group in the response area.
8. The User can swap the positions of response boxes by clicking on up and down arrows near the boxes. Also, users can remove the response option by clicking on the remove icon.
9. Users can add Question Column on Question Layout panel.
10. User can add n number of drop zone / custom boxes in each Question Column the same structure should be populated in question layout in the response area.
11. The User can swap the positions of drop zone / custom boxes by clicking on up and down arrows near the boxes. Also, users can remove the drop zone / custom boxes option by clicking on remove icon.
12. The user can link the response group and a Question Column using the numeric box based on the response group number.
13. If Response Group is linked with the Question Column, then user can only drag and drop options from that specific Response Group in drop zones in the linked Question Column.

Commented [CM10]: Please make sure Rationale editor to be show/hide on button click	
Commented [CR11R10]: Sure	
Commented [CM12]: Click history JSON structure should align with new item JSON structure. Instead of dropId and foidId it should have id and values array.	
Commented [CR13R12]: Sure	

The user cannot drop other Response Group options in the Question Column in response area/preview.

14. The User can change the alignment of response group in the response area/preview by providing selection of response group layout in Horizontal / Vertical.

15. The User can change the location of response groups (in relation to the question columns) in response area/preview by providing selection response group location in Top / Left respectively.

16. The User can adjust the dimensions of drop zones by providing values in drop zone width and height fields.

17. If any changes in the drop zone width and drop zone height then the same size will be set for all the drop zone, daggle boxes and static label boxes in the question column.

18. User can also ass the media for response group and custom box in the question column.

19. Users can also reuse the response by clicking on reusable response checkbox.

20. The User will be able to drag and drop the response options to the drop zones to set the correct response.

21. Hover on the option will highlight with yellow, when they start dragging then it will become lighter yellow color and slightly transparent. Once the option is placed in the question column or placed back to the response area it should not be transparent.

22. When a response option is dragged over another response option, the response option that is being dragged should always be in front of the response option.

23. When the user tries to put the response options back into the response option area the same order should be maintained (response option should place back in the original place).

24. If the user wants to replace a response option with a new one, the old response option will go back into the response area and the new response option will be placed in the drop zone.

25. When reusable responses option enabled, user dragging any response option, text for the original response option remains in the response option area and it's like a duplicate response option is created that you are dragging.

26. When reusable responses option is not enabled, user dragging any response option, The response option box remains in the response option area, but the text is removed from the box.

27. The user can also drag back the option from the question column to response area for resetting it.

28. Users can save the Draft version even if some of the mandatory fields are missed to fill.

29. While opening the existing item they should see the same details of what they gave on save.

30. When users try to save the item as final, they should fill all the mandatory fields value otherwise appropriate validation message should throw and item will be saved as draft state.

Preview Test scenarios

1. The User will be able to open the preview, by clicking on the preview button in common header.
2. The Stem content that we created should be shown in CP Preview.
3. The Question Layout and Response Group added in Content should display with the same structure in the CP Preview window also.
4. When the user doesn't enable the display correct response checkbox, User will be able to set the responses by drag and drop from response to questions.
5. If display correct response is enabled, then correct response will be set in the Preview what we have set in content page and user will not be able do any action on it.
6. Item response should render based on the configuration of what user set in the content page.
7. Hover on the option will highlight with yellow, when they start dragging then it will become lighter yellow color and slightly transparent. Once the option is placed in the question layout or placed back to the response area it should not be transparent. then it will become a lighter yellow color and slightly transparent. Once an option is placed in the question layout or placed back to the response area it should not be transparent.
8. When a response option is dragged over another response option, the response option that is being dragged should always be in front of the response option.
9. When users try to put the response options back into the response option area the same order should be maintained and should be placed back in the original place.
10. If the user wants to replace a response option with a new one, the old response option will go back into the response area and the new response option will be placed in the drop zone.
11. When reusable responses option enabled, user dragging any response option, text for the original response option remains in the response option area and it's like a duplicate response option is created that you are dragging.

12. When reusable responses option is not enabled, user dragging any response option, The response option box remains in the response option area, but the text is removed from the box.

13. The user can drag back the option from the question column to the response area to reset it.

Scoring

1. Users can select the type of scoring in the scoring accordion.
2. The scoring methods for labeling items are Correct Only, Subtractive model, Collapsed Quota, Partial credit and No scoring needed.
3. Users will be able to select the respective scoring method.
4. When a User selects no score needed as scoring method, no additional fields will be displayed.
5. When the User selects correct only as scoring method, the correct response table will be displayed.
6. When the User selects Partial credit as scoring method, the correct response and partial credit table will be displayed.
7. When a User selects collapsed quota as scoring method, the correct response, partial credit, and collapsed quota tables will be displayed.
8. When the User selects Subtractive model as scoring method, the correct response and Subtraction partial credit table will be displayed.
9. Users will be able to select the respective scoring method and can set/edit the scores according to the response.

Attributes and Metadata

1. Users will be able to open the attribute and metadata accordion and will be able to select Item metadata, content codes, cognitive settings, tags and item details.
2. User is unable to save as final if required fields are not completed.

V. Final Effort Estimate

Tasks	Effort in Hours
Grand Total	

VI. Questions

NA