

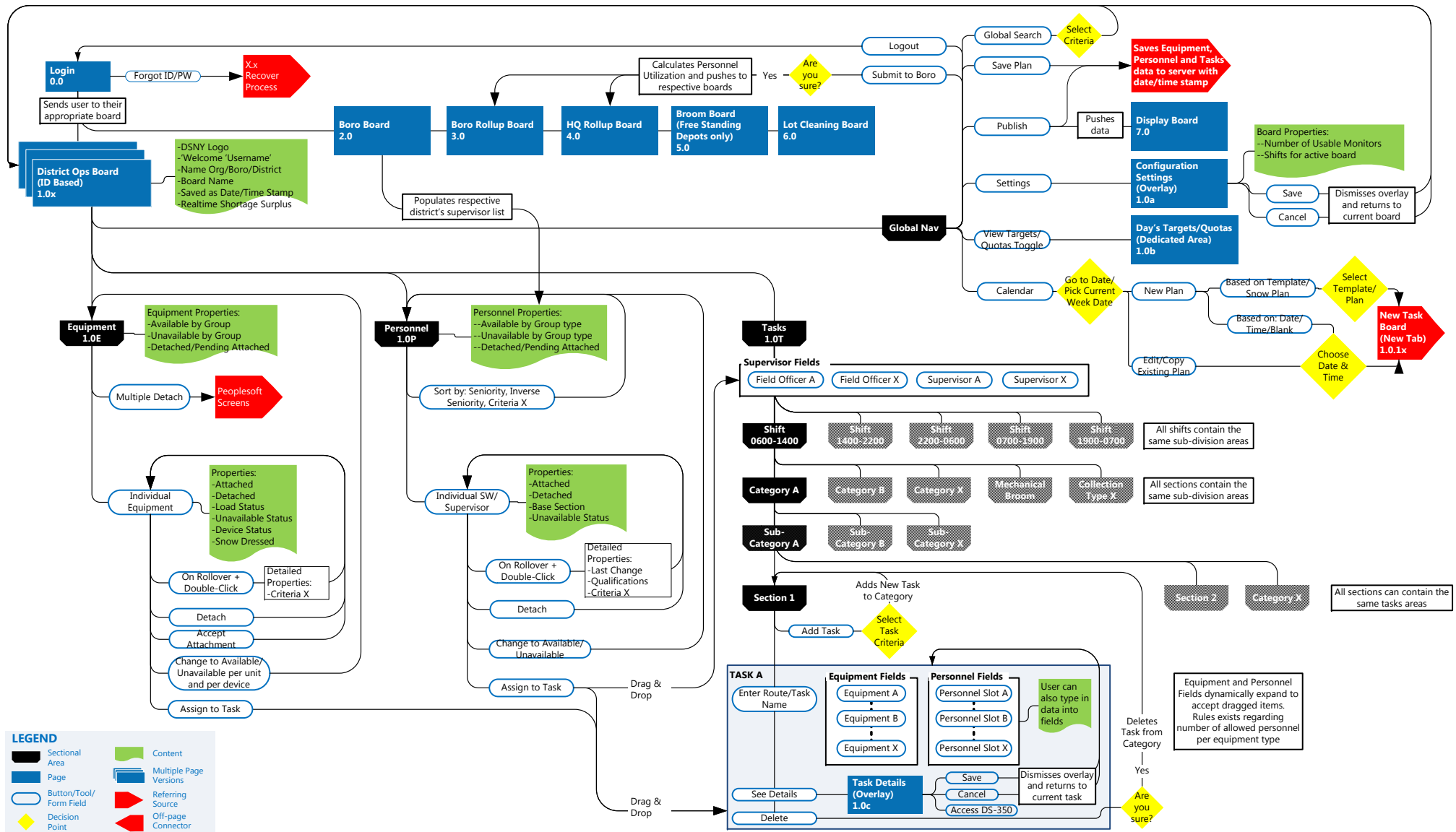


DSNY SMART System

Container Wireframes

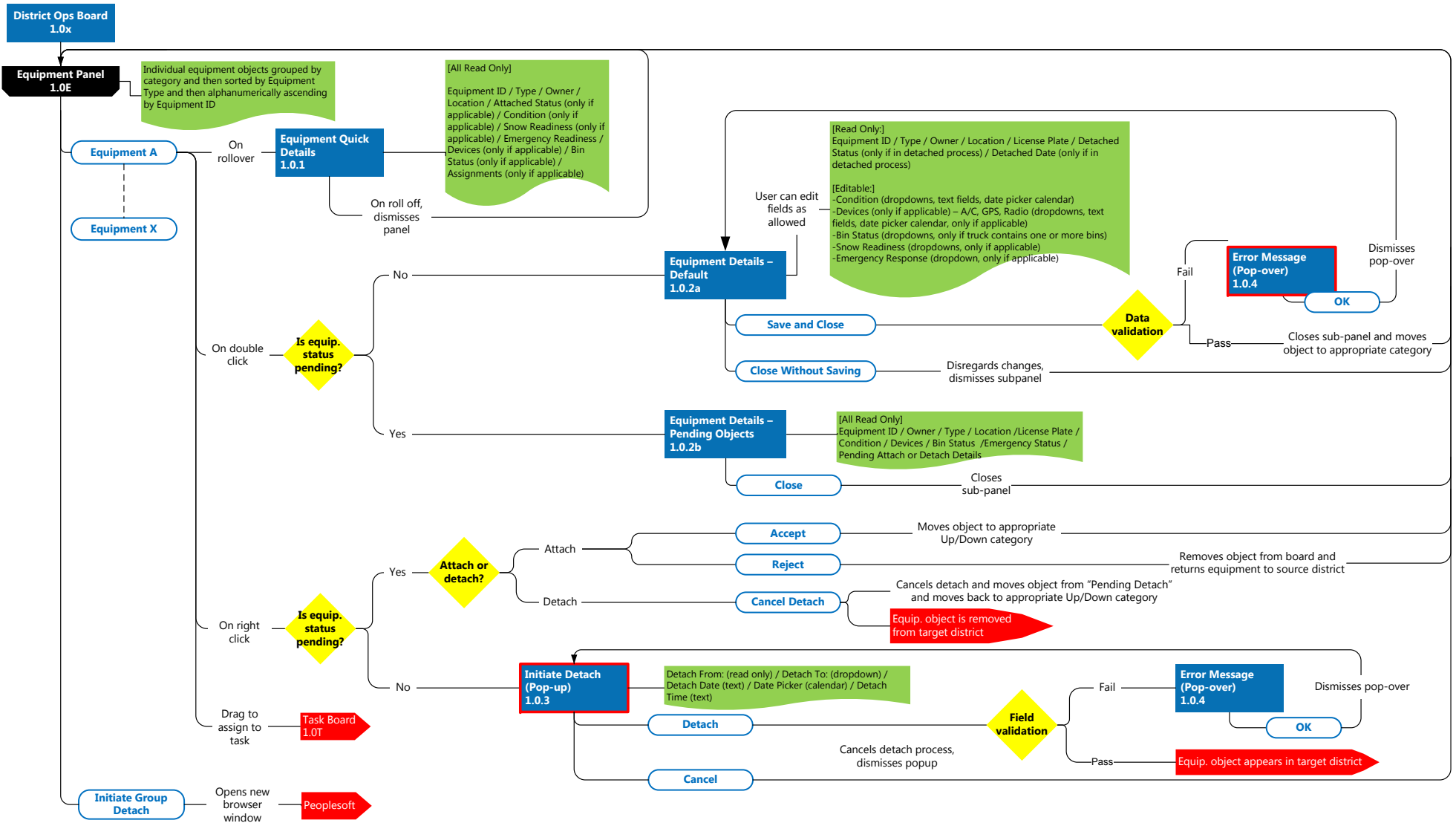


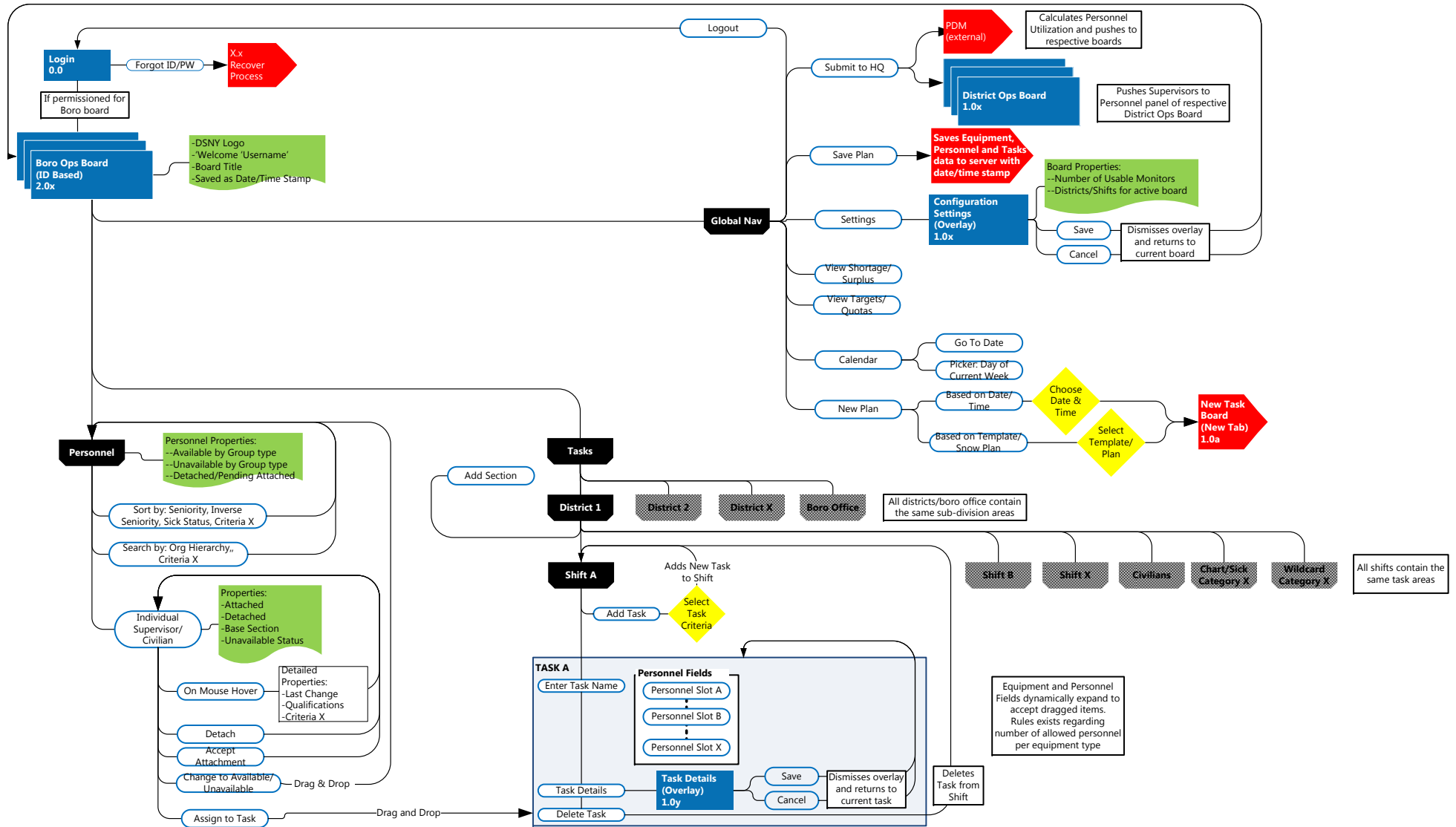
NTT DATA



LEGEND

- Sectional Area (Black box)
- Page (Blue box)
- Button/Tool/Form Field (White box with border)
- Decision Point (Yellow diamond)
- Content (Green box)
- Multiple Page Versions (Blue box with multiple pages)
- Referring Source (Red arrow)
- Off-page Connector (Red arrow)

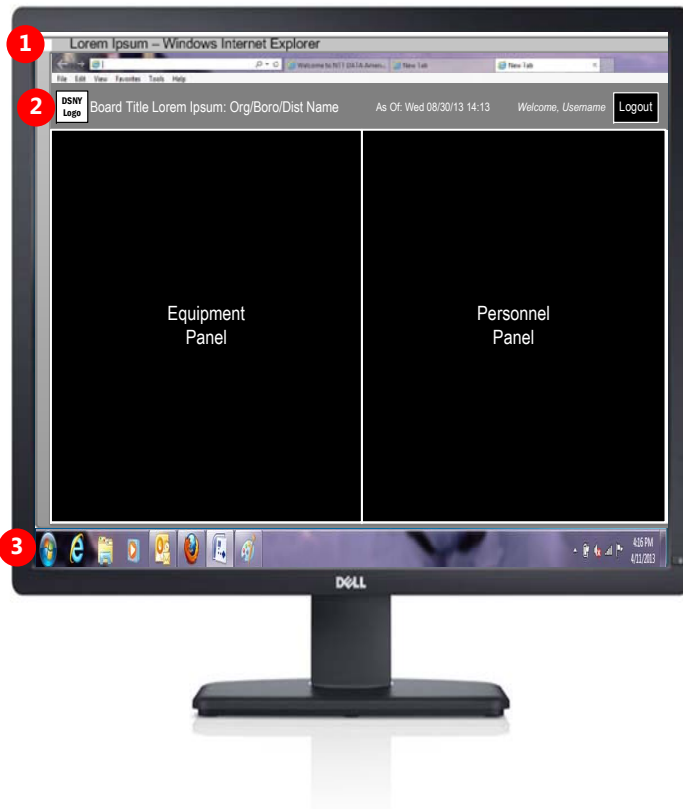






2-Monitor Solution

Individual Monitor Resolution: 1920x1080



Left Monitor 1



Right Monitor 2

Annotations

Upon successful login the user is presented with the District Operations Board. The Board can be displayed across one or two monitors. This solution has a minimum monitor configuration of two 24-inch monitors, each at a resolution of 1920x1080, ganged together side by side. This solution is optimized to not contain any scrolling. Any use of equipment that does not satisfy the minimum equipment or browser requirements will necessitate scrolling.

1 Default SMART System display is across two 1920x1080 monitors. Upon launching application, user must manually stretch browser window to accommodate to full size of both monitors.

Default browsers are IE 9 and FF 20 running on Windows 7. The only browser elements that will display are the browser edge (containing minimize, maximize and close buttons), the URL/task/tabs bar and the navigation bar.

2 Global navigation bar, containing: DSNY logo, Welcome 'Username', Name of the user's Boro/Org/District, Board Name, Saved as Time/Date stamp, Realtime Shortage/Surplus numbers, Logout, Submit to Boro, Snapshot Plan, Publish to Display Board, Global Search, Settings, View Targets/Quotas Toggle, and Calendar/Plans function. See global navigation Task wireframes for detailed layout and functional descriptions. There will be a visual indicator as to whether the user is viewing the live, production or training version of the Board.

3 Windows 7 task bar will default display and user can auto-hide it if desired.



1-Monitor Solution

Monitor Resolution: 1920x1080



Annotations

User can change to view SMART across one monitor by accessing the Settings button.

1 SMART System display across one 1920x1080 monitor, in the situation where only one monitor is available for viewing. Upon launching application, user must manually stretch browser window to accommodate to full size of the monitor.

Default browsers are IE 9 and FF 20 running on Windows 7. The only browser elements that will display are the browser edge (containing minimize, maximize and close buttons), the URL/task/tabs bar and the navigation bar.

2 Global navigation bar, containing: DSNY logo, Welcome 'Username', Name of the user's Boro/Org/District, Board Name, Saved as Time/Date stamp, Realtime Shortage/Surplus numbers, Logout, Submit to Boro, Snapshot Plan, Publish to Display Board, Settings, and Calendaring/Plans function..

3 Application default launches with Personnel and Task panels displayed. User is then also presented tabs for Equipment and Targets/Quotas panels, collapsed to the left side of the screen. User can click on a tab, which will open that panel to the space allocated by the Personnel panel and close the Personnel panel to a leftside tab. Of the Targets/Quotas, Equipment and Personnel panels, only one panel may be open at a time.

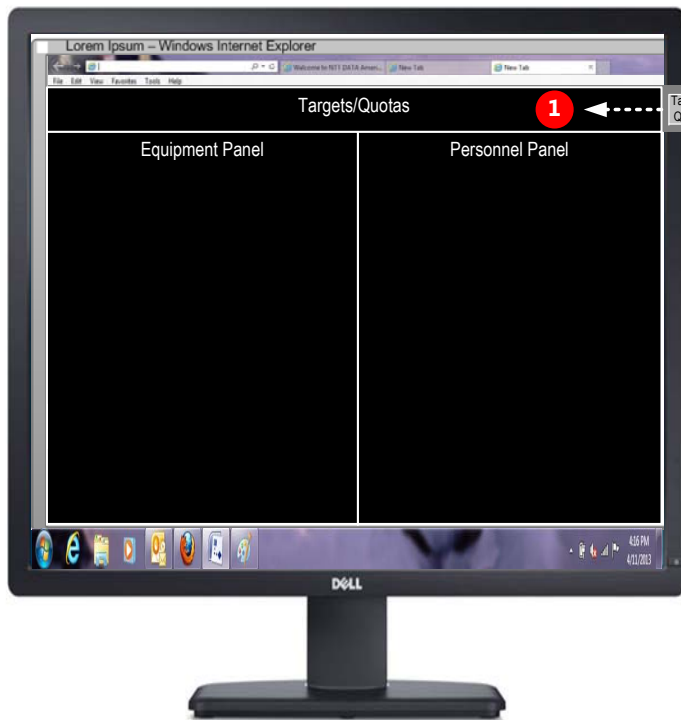
4 Vertical scroll bars will be allowed to appear in panels where the data extends beyond the bottom of the screen.

5 Windows 7 task bar will default display and user can auto-hide it if desired.



Panel Interaction Behavior

2-Monitor Solution, Left Monitor Only



Scenario A



Scenario B

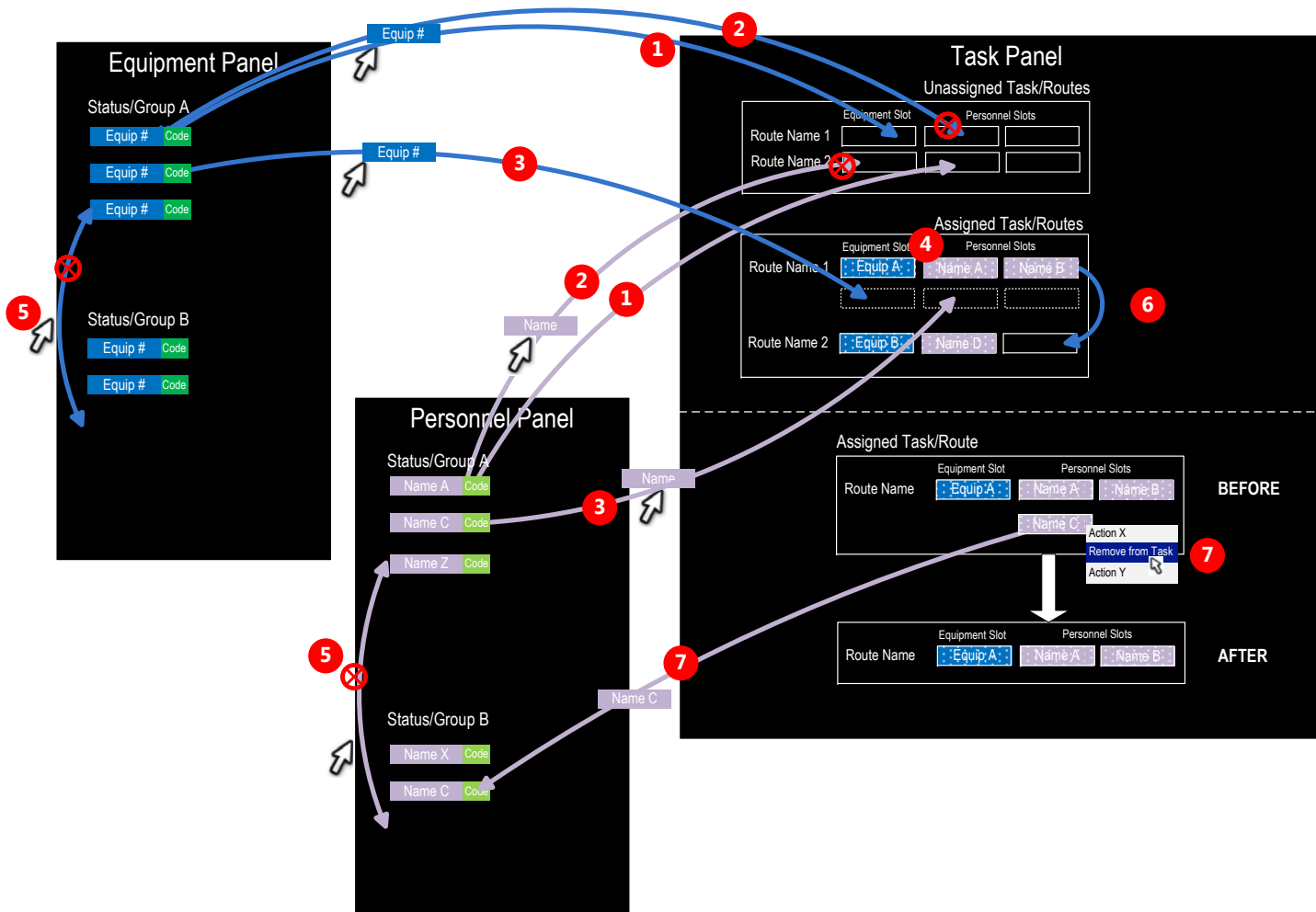
Annotations

- 1** In Scenario A, User can toggle open/close the Targets/Quotas panel by selecting the global navigation toggle. Panel appears overlaying the Global Navigation bar.
- 2** In Scenario B, if user double-clicks on an item in the Personnel panel that requires viewing the Personnel Detail sub-panel, that sub-panel will appear to the left of the Personnel panel, extended to its full size. User will then be permitted to interact with the functionality on the Personnel Details sub-panel. To close the panel, User is only presented with buttons to either save changes on the panel or close without saving.
- 3** In Scenario B, if user double-clicks an item in the Equipment panel that requires viewing the Equipment Detail sub-panel, that sub-panel will appear to the right of the Equipment panel, extended to its full size. User will then be permitted to interact with the functionality on the Equipment Details sub-panel. To close the panel, User is only presented with buttons to either save changes on the panel or close without saving.



Drag and Drop Rules

Release 1 Solution



Annotations

Users are able, within certain limitations for Release 1, to drag and drop Equipment and Personnel elements between different parts of the Operations Board, in order to assign Equipment and Personnel to tasks.

- Users can drag an Equipment object from the Equipment panel into an 'empty' task slot for a piece of Equipment on the Task panel. Users can also drag a Personnel object from the Personnel panel into an 'empty' task slot for a Person on the Task Panel.
- The system will validate whether the 'empty' slot can accept the type of object (Equipment -> Equipment slot or Personnel -> Personnel slot) that is being dragged into it and snap it into place if it is a match.
- The system will allow the user to drag additional objects into appropriately accepting fields that already contain an assigned object. When this happens, the system will create an additional 'empty' row to hold the dragged object, and snap the object into the next available slot. There is no upper limit to the number of additional objects that can be assigned to a task.
- The visual appearance of an object may change when it is dragged and dropped into the Task panel.
- Objects may not be dragged and dropped between status positions within the Personnel or Equipment panels. Any status change of an object, and hence its movement from one area to another within these panels, is generated only by the object's assignment on a district or boro Task board or a change in its details sub-panel.
- Snapped objects within the Task panel may be dragged to another Task assignment on the Task panel. System will check to ensure slot can properly receive object or else will generate an error (1.0.4)
- User can remove a snapped object from an assignment by right clicking on the object and selecting 'Remove from Task.' The object is then sent back to its originating panel to its appropriate status, and the slot is 'emptied', allowing another object to be dragged into it. If the object to be removed is taking up a slot that was created as part of Note 3, then the slot is deleted as well.



Rollover States

Equipment Panel

Status/Group A

Equip A	Code	Equip B	Code
Equip C	Code	Equip D	Code
Equip E	Code	Equip F	Code

Status/Group B

Equip G	Code	Equip H	Code
Equip I	Code	Equip J	Code
Equip K	Code	Equip L	Code
Equip M	Code	Equip N	Code

1 Equipment A 'Rollover Details'

Lorem Ipsum: Dolor Sequiat
Sequiat Dolor: XXXXX

Lorem Ipsum: Dolor Sequiat
Sequiat Dolor: XXXXX

2 Equipment F 'Rollover Details'

Lorem Ipsum: Dolor Sequiat
Sequiat Dolor: XXXXX

Lorem Ipsum: Dolor Sequiat
Sequiat Dolor: XXXXX

3 Personnel G 'Rollover Details'

Lorem Ipsum: Dolor Sequiat
Sequiat Dolor: XXXXX

Lorem Ipsum: Dolor Sequiat
Sequiat Dolor: XXXXX

Personnel Panel

Status/Group A

Name A	Code	Name B	Code
Name C	Code	Name D	Code
Name E	Code	Name F	Code

Status/Group B

Name G	Code	Name H	Code
Name I	Code	Name J	Code

Annotations

Upon rollover of an equipment or personnel object in their respective panel, an associated box appears with critical information about that object. See Personnel and Equipment wireframes for exact content fields.

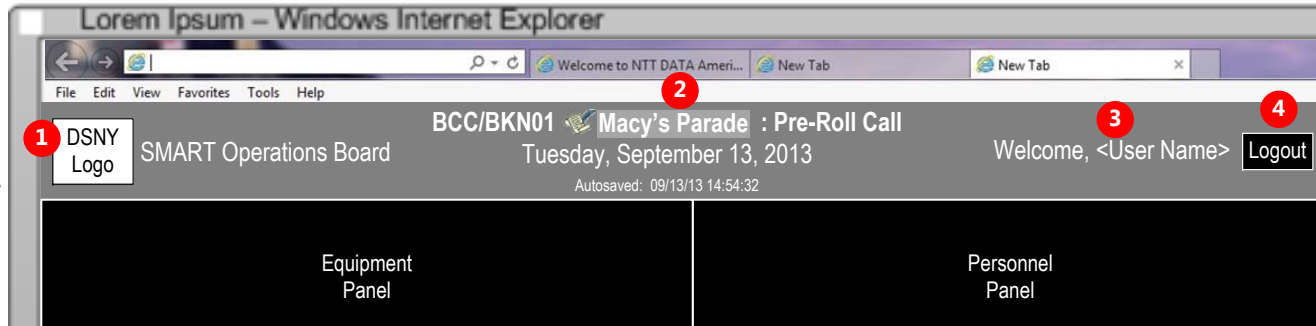
- 1** In the Equipment panel, when user rolls over an equipment object, the rollover detail sub-panel appears to the right of the Equipment panel, flush up against the panel, vertically centered along the same horizontal line as the center of the rollover object. Upon roll-off, the sub-panel disappears. If the user double-clicks on the object, the sub-panel also disappears as the Equipment Details sub-panel opens.
- 2** If the object that is being rolled over is in a different column, the rollover detail sub-panel still appears directly to that object's right, flush left up against the Equipment panel.
- 3** In the Personnel panel, when user rolls over a personnel object, the rollover detail sub-panel appears to the left of the Personnel panel, flush up against the panel, vertically centered along the same horizontal line as the center of the rollover object. Upon roll-off, the sub-panel disappears. If the user double-clicks on the object, the sub-panel also disappears before opening the Personnel Details sub-panel.

If the object that is being rolled over is in a different column, the rollover detail sub-panel still appears directly to that object's left, flush left up against the Personnel panel.

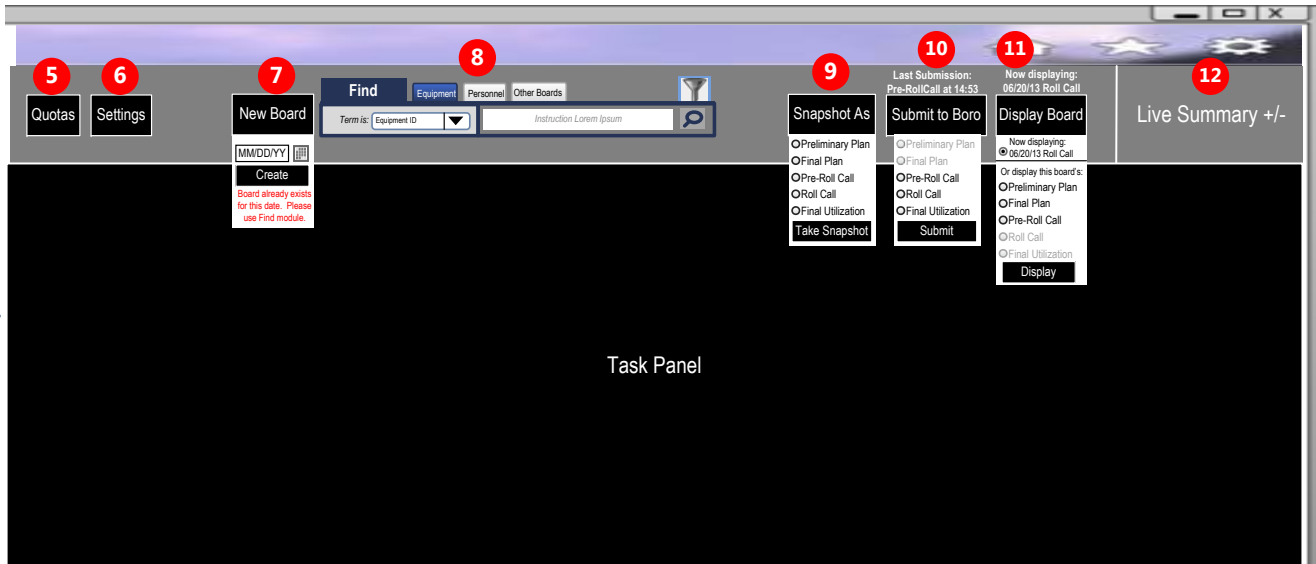


Main Navigation Bar

Left Monitor



Right Monitor



Annotations

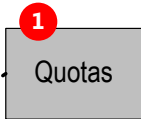
Example of Default state of Main Navigation Bar for any District Operations Board. User arrives here from link on Peoplesoft landing page. By default user is taken to the current board for the current day for username's location.

- 1 DSNY Logo and Application Title/Logo
- 2 Board information. Displays <Organization>/<Shop Name> : <Board Title> (if named) : <Snapshot State>. Active board is labeled 'Active Board' in place of Snapshot State. Also displays Board Date and last auto-save time in 24hr time. If Board has no Board Title, Naming Icon displays. User may click on the icon to reveal naming field to add Board Title, upon which icon disappears. There is one unique name per Board (all states) per day per District. User can re-edit name by clicking in field. Deleting name entirely brings back icon. User can edit Board Title in all editable Board states.
- 3 Welcome message. Displays as 'Welcome, [First Name][space][Last Name]
- 4 Logout button. Selecting takes user back to login page.
- 5 Quotas Toggle Button. Selecting button opens/closes Quotas area of board. See wireframe 1.0Q for details.
- 6 Settings toggle button. Opens/closes settings area. See wireframe 1.0.4 for details.
- 7 Create New Blank Board modal toggle button. Selecting button reveals input field to enter date, as well as system calendar picker. User clicks 'Create' to create board and new blank board is opened in new tab. If a board already exists for that date, an error is generated.
- 8 Find Module. See wireframes 1.0.5-1.0.6 for details.
- 9 Snapshot As modal toggle button. Allows user to take snapshot of the active board and assign a state to it. User chooses radio button and then 'take snapshot' which then closes the toggle button. User can also close toggle button without performing action.
- 10 For a District level shop only: Submit to Boro modal toggle button. Above button is message with the state name that can next be submitted to the Boro. When District's Boro submits its Rollup Board to HQ, that action dynamically changes the message, as well as locking previous board states from being submitted. User chooses radio button and then 'submit' which then closes the toggle button. User can also close toggle button without performing action.
- 11 For a District level shop only: Publish to Display Board modal toggle button. Above button is message with the board that is currently displaying on the Display Board. Upon clicking this button user is presented with radio buttons of the board currently being displayed (default), as well as a list of available board states for the current board that can be sent to the display board. User chooses radio button and then 'display' which then closes the toggle button. User can also close toggle button without performing action.
- 12 Live Summary Surplus/Deficit area. See Summary wireframe for details.



1.0Q Quotas Panel

User depresses toggle button from right monitor and Panel appears over Main Nav area in left monitor



2 QUOTAS: BKN01- MONDAY, JULY 15

	3 Category Sub-Category 1	Category Sub-Category 2	Category Sub-Category 3	Category Sub-Category 4	Category Sub-Category 5	Category Sub-Category X
Quota Shift 1	##	##	##	##	##	##
Quota Shift 2	##	##	##	##	##	##
Quota Shift 3	##	##	##	##	##	##
Total	##	##	##	##	##	##

Annotations

When User clicks on Quotas toggle button, the Quotas Panel appears completely and directly over the entire Main Navigation Panel in the left monitor. User can close panel by untoggling the Quotas button. Shows Quota for the date of the Board.

- 1 Quotas button changes state to indicate that Quotas Panel is open.
- 2 Panel Title includes Shop Name and Date.
- 3 Column is a unique Category-Subcategory combination. Columns are listed alphabetically by Category-Subcategory combinations (all Cleanings, then All Collections, All Recyclings, etc.). For Release 1 system should target 15 columns max.



1.0T Task Panel

Annotations

Task Panel for a district. Containers are displayed showing all shifts for the day, with their respective Categories, Sub-Categories, Sections (when applicable) and Tasks that have been chosen in the Settings Panel (see 1.0.4). Shifts begin in the upper left corner and containers fill in downwards and then wrap to the next column. Containers default with empty slots. Users can assign Equipment and Personnel objects by dragging and dropping from their respective panels or from within the Task Panel. Users can assign Task Name by text entry.

- 1 Shifts are ordered chronologically. Shifts beginning in the previous day have a double asterisk indicator before the time. Shifts ending in the next day have a double asterisk indicator after the time.
- 2 Category/Sub-Category container. For each shift, containers appear in order of Supervision, Cleaning, Collection, Recycling, Snow ERD, Support and Surplus and then by Sub-Category in alphabetical order. Container is painted to reference its type of category (see visual comps).
- 3 Individual Task. Each task defaults to holders for a Task Name (free form entry field), one Equipment object, and two Personnel Objects. It is assumed the Personnel object directly to the right of the Equipment object is the Equipment's Driver. Equipment objects display only ID number and not load status icon. Personnel objects do not display their Special Position indicator, only name. Additional rows to a Task are added/lost as described in the Container Wireframes. Task has a visual indicator to show when it has a supervisor assigned to it. Clicking in the Task name field allows the user to type in the task name. Double clicking on the task name field or the container title opens the task details overlay for all tasks in that container (see 1.0.1). Double clicking on the Equipment object opens its Equipment details sub-panel in the Personnel Panel. Double clicking on a Personnel object opens its Personnel details sub-panel in the Personnel Panel.

Supervisors can be assigned to a Task by dragging and dropping a Supervisor Personnel object into the Task Name field. Dropping a Supervisor object onto a Section title assigns the Supervisor to all tasks for that Section. Dropping a Supervisor onto a Category/Sub-Category title assigns the Supervisor to all tasks for that Category/Sub-Category. If a Supervisor has already been assigned to a task, dropping a new supervisor object to that task overwrites the supervisor assignment and adds the name to the dropdown list of available supervisors for that task in its Details overlay. This assignment method is separate from and does not affect assigning a Personnel to a Supervision Category task and vice versa.

- 4 Section Display. Appears in its respective Category/Sub-Category (see visual comps).
- 5 Right-clicking on a Task Name field reveals a system menu allowing user to delete the task. Accepting this menu item generates a modal pop-up asking user if he is sure of the action (see 1.0.2). Clicking 'Yes' deletes the entire task row from the container, shifts lower rows upwards and sends objects back to their respective panels.
- 6 Add Tasks/Routes dropdown in a Section. On clicking this icon, user is presented with a menu allowing him to add up to 5 new Task rows. Rows are added after the last row in the container. If the container has no Sections, then this icon appears in the Category/Sub-Category header.
- 7 Containers continuously wrap to the top of the following column, regardless of whether it is in the middle of a Section or a Category/Sub-Category.
- 8 Right-clicking on an Equipment or Personnel object reveals a system menu allowing user to remove the object from the task. See Container Wireframes for behavior.
- 9 Default state of a Task contains one row of available slots with prompt text.
- 10 If a task/route is marked to be a partial-route in its Task Details overlay, then an indicator appears next to the route.
- 11 Right clicking on any Equipment or Personnel object reveals a system menu choice to 'Find All Instances' of that object. Selecting this menu item is equivalent to performing a search for that Personnel Name or Equipment ID. The system displays results as if a search is performed and the Main Search module is activated. Further, if the searched object is a Personnel object, then the search results also highlight the Task Names fields for the Tasks to which the Personnel is assigned (even as a supervisor).



1.0.1 Task Details

1 Task/Route Details: 0600-1400/Collection/HH Collection/Section 3

Task/Route Name 1

Start	End	Supervisor 1	Comments	Equipment	Personnel	Partial	From	To
01/24/2013 0600	01/24/2013 0600	SupvsrName J (F3)	Enter Comments	25CD201	Longlastnam J	1/2	Lorem Ipsum	Lorem Ipsum
		Supervisor 2 No Assignment			Longlastnam K			
				25CD202	Longlastnam L			
					Longlastnam M			

Task/Route Name 2

Start	End	Supervisor 1	Comments	Equipment	Personnel	Partial	From	To
01/24/2013 0600	01/24/2013 0600	SupvsrName J (F3)	Enter Comments	28FX634	Longlastnam A	1/2	Lorem Ipsum	Lorem Ipsum
		Supervisor 2 No Assignment			Longlastnam B			
				28FX635	Longlastnam T			
					Longlastnam U			
					Longlastnam V			
					Longlastnam W			

Cancel Save Details

Annotations

When User clicks on a Task Name or the title of the container, the modal Task Details Panel appears directly over and vertically and horizontally centered over the entire Main Navigation Panel in the right monitor. User must interact with the Panel to dismiss it and return to the underlying screen. Shows all tasks for the container clicked. Each task is reported on a separate row.

- 1** Title of Panel lists Task Details: <Shift>/<Category>/<Sub-Category>/<Section> (if any)
- 2** Start and End time default to the start and end of the shift date and time. User can type directly into these fields to edit. System accepts 0000 24 hour time or 00:00 from user and will truncate the colon. Start and End date cannot be more than 1 day apart.
- 3** Dropdowns to select supervisors. Any task may have no more than 2 supervisors. Default starts with both dropdowns as 'No Assignment'. When user drops a Supervisor Personnel Object onto the task name (or a Section or Category/Sub-Category header) of Task Panel this Supervisor name populates the first drop down dynamically. If the User drops a second Supervisor onto the task, and if the second dropdown has No Assignment, then the second supervisor fills the first dropdown and old first supervisor becomes #2. As User drops additional supervisors onto the Task, they are loaded into the dropdowns as Last In, Highest Name. All names, plus 'No Assignment' will then appear in the dropdown. If user attempts to assign the same supervisor to both dropdowns, an error is generated. (See 1.0.2x)
- 4** Comments field. Defaults to 'Enter Comments' instructional text. When user clicks in this field, instructional text disappears and user can enter free form text.
- 5** Equipment/Personnel details. Displays each piece of the equipment for the task, as well as the personnel assigned to that equipment. If no equipment or personnel are assigned these fields are blank. The equipment label is a hyperlink to its Carting Book in Peoplesoft, which launches in a new tab. It is assumed that the first Personnel name to the right of the equipment ID is that equipment's driver. Additional rows are added for extra equipment or personnel added to the task. Date and time default to the shift's start and end date and time. User can also edit date and time fields similar to Note 2.
- 6** Partial Route selector. Defaults to 'None'. User can select 1/8, 1/4, 3/8, 1/2, 5/8, 3/4 or 7/8. If user selects a partial route, the 'From' and 'To' fields dynamically appear, allowing user the ability to enter free form text to indicate destinations; field content then displays on display board (max characters = 7). Panel size expands to accommodate.
- 7** If the container holds more than one task, the task is displayed in a separate section.
- 8** Selecting Cancel cancels the editing process, abandons any changes and dismisses the panel. Selecting Save Details validates all changes made by the user. Invalid data generates an error message (see 1.0.2x). If successful, field values are saved and the panel is dismissed.



1.0.2x Task Panel System Messages and Error States

1

This Board's tasks have not been started.
Please go to Settings to specify Shifts,
Categories, Sub-Categories, and Sections.

2

Are you sure you want to delete this Task?

Yes No

3

Invalid data.
Please correct the highlighted fields.

OK

Annotations

If user attempts to submit a process with invalid data, an error message will be displayed and the affected fields will be highlighted. The error message will appear as a pop-over with the underlying screen greyed out. User must explicitly close the pop-over to dismiss and to interact with the underlying fields. Error message is continually generated on each incorrect submission until all data validates.

If the error is system generated and does not relate to a particular user entry field (ex. Peoplesoft error) an additional sentence is included in the error message stating what caused the error.

- 1** System message appears inside the Task Panel when there are no containers selected in the Settings Panel.
- 2** Message appears when the User right clicks on a Task Name and selects 'Delete Task'.
- 3** Message appears when user selects Save Details from the Task Details panel and has entered invalid data in a field. The underlying field is also highlighted.



1.0.3/1.0.3.1 Update Load Status and Error Message

The following equipment may require updates to its Load Status. The current status is shown. Please provide any updates.

Date/Shift	Equipment ID	Task	Current Status: Load 1/Load 2	Update Load 1		Update Load 2	
				Status	Material Type	Status	Material Type
Mo 06/12/13 06:00-14:00	25DC201	Cat Name/Sub-Cat Name	Empty/Relay	Empty	Select Status	Relay	Street Dirt
Mo 06/12/13 08:00-16:00	25DC202	Lorem Ipsum/Ipsum	Empty	Select Status	Select Status		
Tu 06/13/13 23:00-07:00	25DC203	Lorem/Ipsum Sequiat	Rollover/Rollover	Rollover	M/G/P	Rollover	Paper

Update buttons: Update, Cancel

6 Error State

Selecting Relay or Rollover status requires a Material Type

OK

Annotations

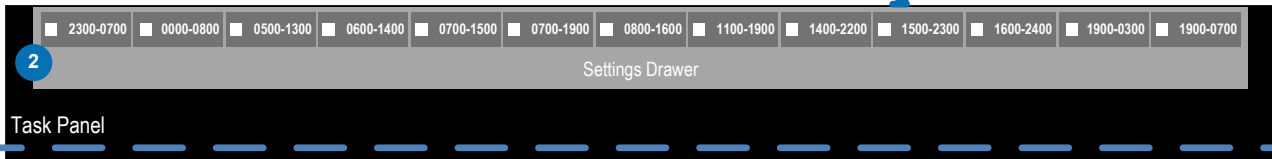
User accesses Update Load Status dialog box by selecting Update Load Status button from Equipment Panel. Modal dialog box appears on top of the Task Panel centered vertically and horizontally. User must explicitly dismiss box by saving or cancelling in order to return to the Task Panel.

- 1** Dialog box provides list of all Equipment whose Load Status violates the time error: (Current Time > Task End Time) + (Load Status Last Update Time < Task End Time). List is order chronologically by date/ shift start time, then by Equipment ID. Each entry shows date/ shift time, Equipment ID, Task Category/Sub-Category assignment, current Load Status.
- 2** If an Equipment object has only 1 load, then only 1 load is displayed here and no dropdowns are provided in the Update Load 2 fields.
- 3** User is provided dropdowns to Update Loads 1 and 2. Dropdowns default to 'select status'.
- 4** If User selects Empty, 'select status' is greyed out. If user selects Relay or Rollover, user must select a material type.
- 5** Selecting Cancel returns user to the Task Panel with no changes committed. Selecting Update causes system to validate data. If no Material Type is selected for a Relay or Rollover status an error message is provided and the appropriate field is highlighted in red (see note 6). If data passes validation, changes are committed to the system, dialog box is closed, load status icons are updated in the Equipment Panel for the respective equipment object and load details and last update time are updated in the respective equipment objects Equipment Details screen. If user does not update a particular status then selecting 'update' keeps the old status and status time.
- 6** Modal Error message that is provided if user does not select a Material Type when a load is selected as Relay or Rollover. User must explicitly click OK to dismiss and then will be taken back to the underlying dialog box to fix the error.

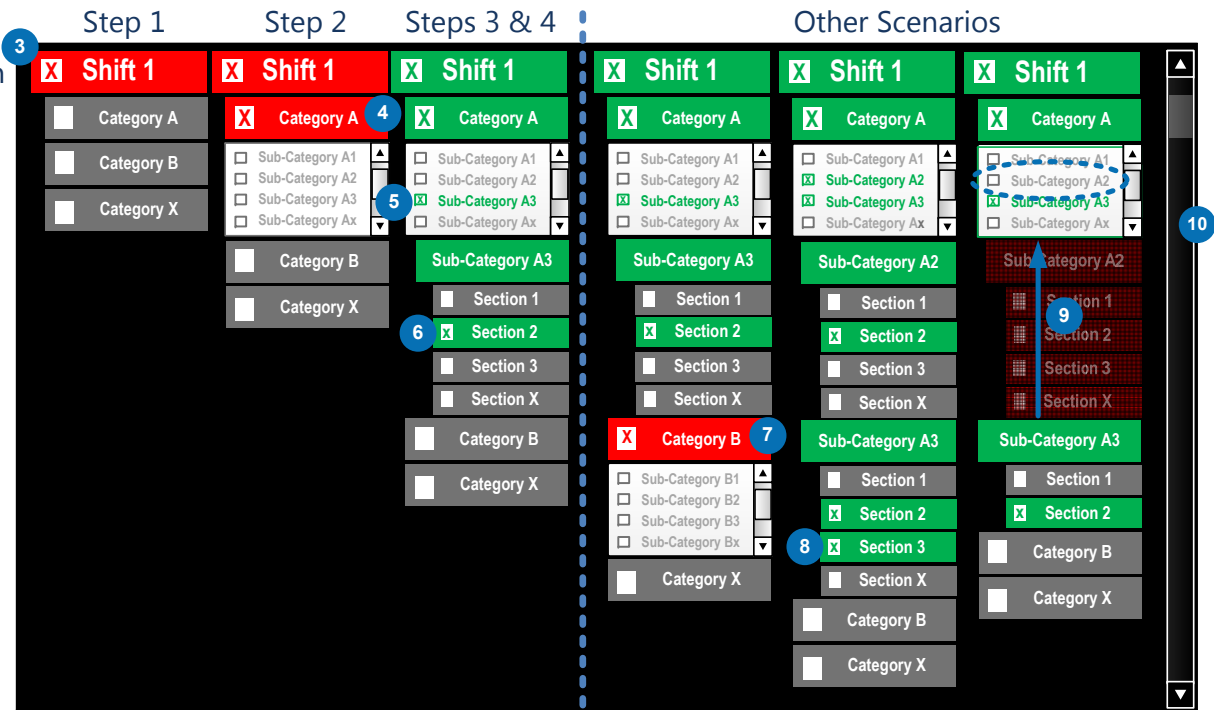


1.0.4 Task Settings

Default State



Interaction Steps



Error States

Invalid Selection. At least one shift must contain valid selections to close drawer

OK

You are unselecting nodes that currently have tasks on your board. These tasks will be deleted. Continue?

No Yes

Annotations

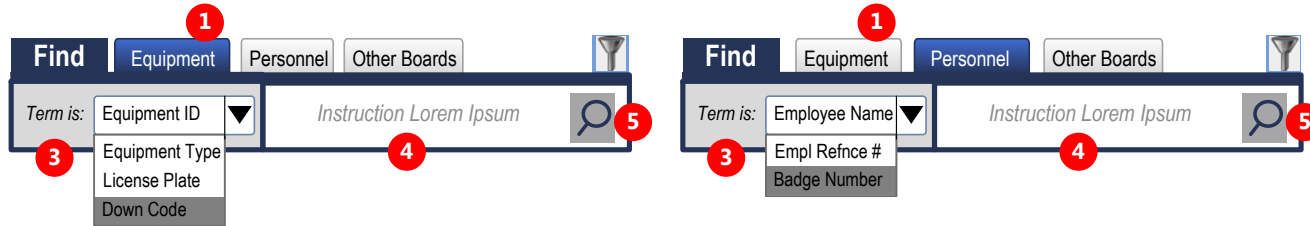
User configures task containers through settings drawer, which is accessed by clicking on the Settings toggle button in the Main Navigation bar. User here selects which nodes and leaves of the container tree they wish to display task boxes for. User selects checkboxes until his desired nodes all turn green. When user closes drawer by unselecting Settings Toggle, new nodes are applied to the Task panel. Only valid settings are remembered when user re-opens drawer.

- As user selects Settings Toggle button, modal Settings Drawer displays directly under the Main Navigation bar, overlying the Equipment & Personnel Panels.
 - Default state of drawer on a new board contains boxes representing each possible shift time. Each box contains a checkbox allowing user to select a shift. All boxes default to inactive (grey) and all checkboxes default unselected.
 - Main interaction pathway. In Step 1, user selects a shift by selecting its respective checkbox. Upon this action, the Shift become red because it not a complete valid container selection, and additional boxes representing all possible Categories for that Shift are displayed directly below. Each Category defaults to grey and contains its own checkbox, which defaults to unselected.
 - Step 2: User selects a Category by selecting a checkbox. Upon this action, the Category becomes red and a list box containing all possible Sub-Categories for that Category are displayed directly below. Each Sub-Category defaults to grey and contains its own checkbox, which defaults to unselected.
 - Step 3: User selects a Sub-Category by selecting a checkbox. Upon this action, the Sub-Category header plus additional boxes containing all possible Sections for that Sub-Category are displayed directly below. If a Sub-Category contains no sections (i.e. Support Sub-Categories) the Section boxes do not display. Each Section defaults to grey and contains its own checkbox, which defaults to unselected.
- When selecting a Sub-Category (but no section) is the requirement for creating a valid task container, all leaves and branches of the successful pathway are now displayed in green, while invalid selected partial pathways remain displayed in red.
- Step 4: User selects a Section by selecting a checkbox. The branch and leaf are now displayed in green because a valid task container has been created.
 - Because a Category node requires a Sub-Category to be valid, Category remains in red when no Sub-Category is selected.
 - User can select more than one Section per Sub-Category.
 - If a Sub-Category that had been selected is deselected, then its label turns back to grey, its corresponding box and section boxes disappear and the boxes below dynamically move upwards. If tasks exist on the board for this sub-category then an error Are You Sure message is displayed (see note 12). Process is same if user tries to unselect a previously selected Category, which will remove all Sub-Categories and Sections contained within it.
 - In the event user selects too many Category/sub-Categories for the column, a scroll bar will appear.
 - When user closes drawer by selecting Setting toggle, nodes choices are applied to the Board. If user attempts to close drawer without selecting a valid node combination, a modal error message is displayed (1.0.2a). User must acknowledge and is taken back to the open drawer to fix choices.
 - If user unselects nodes that currently have assigned tasks for them on the current board, an Are You Sure error message will be displayed (1.0.2). If user selects 'Yes' then changes will be committed as if the task had been deleted; if they select 'No' their uncheck action will be reversed.

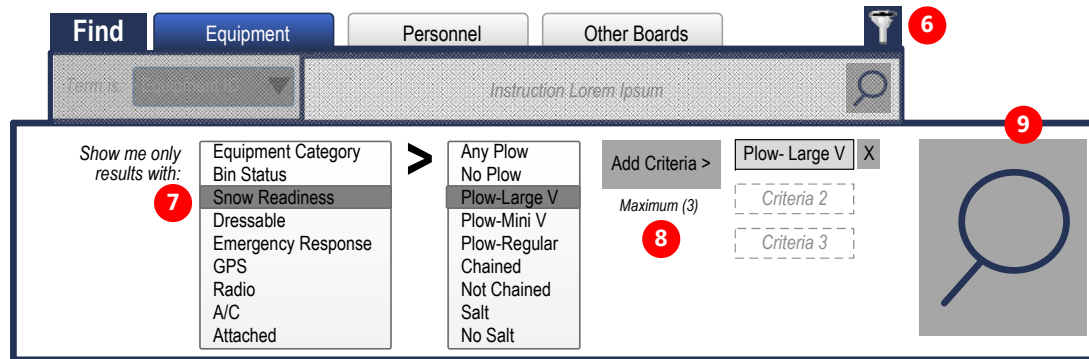


1.0.5 Find Module: Equipment and Personnel Search

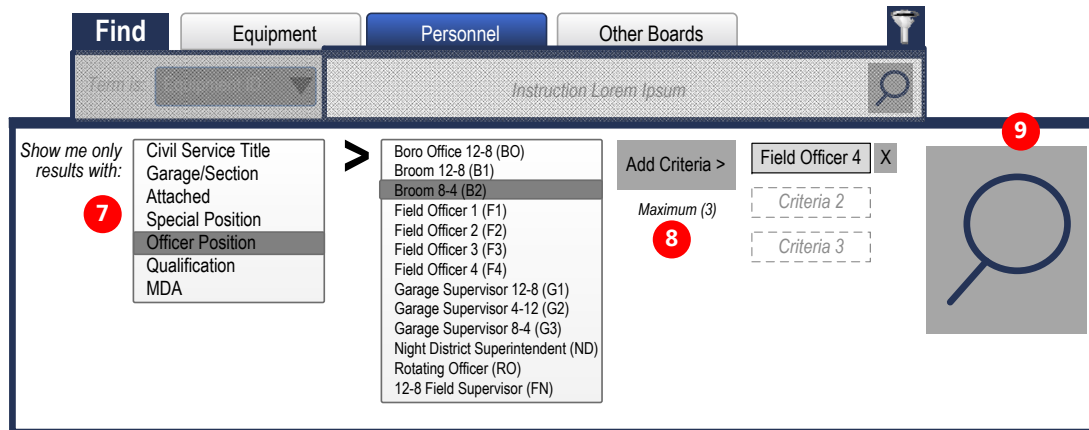
Default States



Equipment 'Filter' State



Personnel 'Filter' State



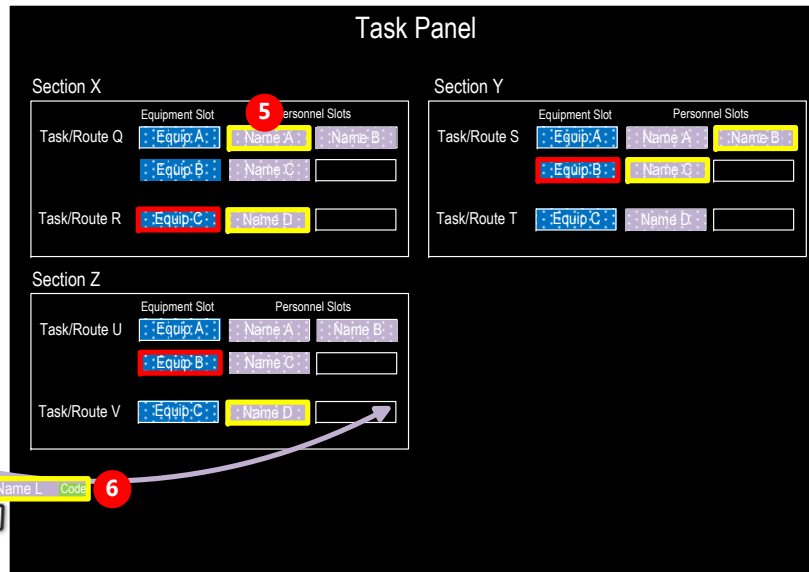
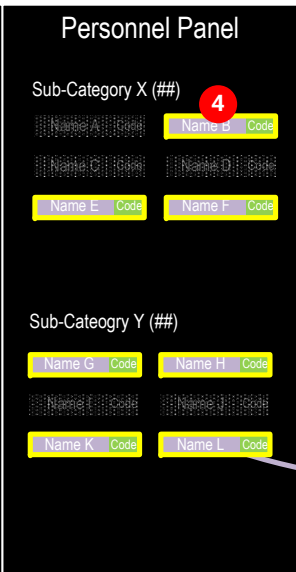
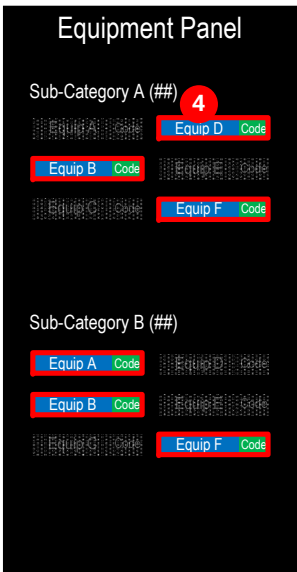
Annotations

Find Module – Equipment & Personnel: Separate tabs for Equipment, Personnel and Other Boards. For Equipment and Personnel, single entry field can search across all appropriate panels for target and displays results within all panels. Results are displayed until user explicitly cancels the find query. User can carry Equipment and Personnel searches simultaneously.

- 1 Default state for the Find module shows entry field, tab type to indicate what the find object is, 'filter' icon (appears only when Equipment and Personnel tabs are active), Term Identifier dropdown, text prompt suggesting to use the query format, and 'go' button. Default find category is Equipment by Equipment ID.
- 2 User can find Personnel by clicking on the 'Personnel' tab. Instruction text prompt will change accordingly. Default find category is for Personnel by Personnel Last Name.
- 3 For Equipment or Personnel search, user can select how the system will interpret the search string by selecting a type from the dropdown. Changing the type dropdown will change the instruction prompt message in the entry field to provide user with proper entry format.
- 4 Instruction text tells user the allowable type of entries into the find field.
- 5 Clicking on magnifying glass icon performs the query. If cursor is still within the entry field, user may also hit return on his keyboard to execute the search. See separate wireframe for description of results and display. If no results exist, an error message (1.0.4) is displayed.
- 6 For Equipment and Personnel only: clicking on the filter icon deactivates the main find entry field and opens the filter drawer directly below the navigation bar requiring using to search from the open drawer. Filter icon changes state to indicate that drawer is open. Filter will use search term in the upper box as an additional criteria unless user explicitly leaves this box empty.
- 7 User can choose to filter the search result set by a series of category and sub-categories. User selects the category from the list on the left. List on the right then dynamically changes to display sub-categories for that category. User can then select a sub-category. See Functional Specifications document for Category and Sub-Category lists and display order. Defaults to unselected.
- 8 To add a filter criterion, the user clicks the 'Add Criteria' button. The selected sub-category name will then fill one of the 3 available empty slots with the sub-category name. User is allowed to apply a maximum of 3 filter criteria. Multiple applied criteria returns an intersection of search results. User can remove criterion by clicking on the 'X' button next to the criteria, which then returns the slot to its empty state. User must explicitly click on the magnifying glass to perform the search, adding or deleting criteria will not dynamically re-run the search.
- 9 User is provided a 'go' button within the filter drawer. Clicking on the button performs the search query, closes the advanced drawer and displays search results (see separate wireframe).



1.0.5 Find Module: Equipment & Personnel Search Results



- Only result items will display and change state
- Equipment and Personnel searches can display simultaneously
- Items will re-order according to sort rules of the respective panel
- Numerical total of each sub-category will reflect number of search results

All items will remain in place and only resultant items will change display state

Annotations

Equipment and Personnel search results will display across all panels in the Operations Board. Results display will continue until user explicitly cancels query. Equipment and Personnel search results display in separate, unique colors.

1 After user has clicked on magnifying glass in Find Module, the entry field will remain populated with the user's search string. If the user performed a filter search, the filter drawer will close, but the filter icon will remain in its 'open' state, to indicate that there are filter criteria as part of the query.

2 During results display, the magnifying glass is replaced with an 'X' button. If the user wishes to cancel the search, he can click on this button, upon which the search entry field, filter icon and all filter fields will return to their default states, the 'X' button will revert to a magnifying glass and the Operations Board display will return to its default state, showing all objects.

3 If the user clicks on the filter button during a search results, the filter drawer will re-open, showing user the criteria of the filter that is being applied. User can change criteria in the drawer and click again on the magnifying glass button inside the drawer to re-perform the search on the new criteria.

4 In the Equipment and Personnel panels, only results of the query will be displayed and the objects will collapse together according to the sort rules. All other Equipment and Personnel objects will disappear. Each result will also have a change in visual state to indicate it satisfied the query. Totals for sub-category name labels will be re-calculated based on filtered results.

5 In the Task panel, all objects will remain in place, but objects that satisfy the query will have a change in visual state.

6 After a query, the user will be permitted to perform all drag-and-drop and removal actions (such as right-clicking to remove) on any object on any panel. System will remember the search results visual state of the moved objects, including indicating that a newly created object satisfies the query (for example, when adding a new personnel object to the Task panel) or when removing an object from the Task panel back to the Equipment or Personnel panels.

Once user cancels a Find, the visual state change indicators will disappear, but all objects will remain in the place that the user left them in, including any post-query moves.



1.0.6 Find Module: Other Boards

Default

Find | Equipment | Personnel | **Other Boards**

Show All Boards From: MM/DD/YY To: MM/DD/YY (optional) With Name: Enter partial or full name of Board

Result State

Find | Equipment | Personnel | **Other Boards**

Show All Boards From: 06/09/13 To: 06/12/13 (optional) With Name: Passover

For Selected Board: View Board Edit Board Copy Board To: 06/09/13 Copy

<Error Message>: There are no results for the selected criteria.

Date	Board Name	Board State
<input type="radio"/> 06/10/13	Macy's Parade	Final Utilization
<input type="radio"/> 06/10/13	Passover	Final Utilization
<input type="radio"/> 06/11/13	Passover	Active Board
<input type="radio"/> 06/12/13	<Not Named>	Final Plan

Error Messages

Please enter a valid date range.

OK

There are currently tasks on the board date you are copying to. This action will overwrite those tasks and settings and delete all snapshots. Continue?

Yes No

You cannot copy a board to a past date.

OK

Annotations

Find Module – Other Boards. User searches for other boards via the Other Boards tab of the Find module in the Main Navigation bar. User enters a set of date and/or name criteria and receives back a result set of Boards. User can then choose a board plus its snapshot state and then view, edit or copy the board to another date.

- 1 User must enter a date range. Both date boxes default to blank with instruction text. User can type in field or use the system calendar date picker.
- 2 User can enter an optional Board name. System will interpret entry as a string and add this as a filter criteria to the selected date range.
- 3 Selecting the magnifying glass icon performs the search. Result set is displayed as a modal drawer directly underneath the Board Search Module, overlaying the Task Panel. User must finish interaction with the module before he can return to the Task Panel. System performs data validation and shows error message if date range is invalid or no board match criteria.
- 4 Upon executing search and opening drawer, magnifying glass turns into an 'X' button, which user can click in order to change his search criteria or close the drawer and return to the Task Panel.
- 5 Board Search Results. Result set is given in a modal sub-panel, with a table listing Board Date, Board Name and a Board State dropdown, where users can pick a particular snapshot state (as well as Active Board). Each line is accompanied by a radio button. All radio buttons default to unselected. Board State dropdown defaults to Active Board. Table is sorted chronologically by date. Scroll bar may appear if the results set is taller than the sub-panel.
- 6 Action buttons; based on which board a user selects, he can perform various actions on it.

Selecting View Board opens the selected board as a new tab in view only mode. Selecting Edit Board opens the selected board as a new tab, allowing users to make edits. User can edit only active boards and Edit button is greyed out for all other board state selections. Editing a historic active board also autosaves changes to its Final Utilization snapshot.

Selecting Copy, after providing a date, copies the task settings of the selected board to the selected date in a new tab. User can only copy a board to a current or future date. Error messages are provided if invalid criteria is provided.



Main Navigation Bar: Live Summary Module

Display Board	Live Summary: Mo 15 Sept 2013 14:45			
	Equipment			Personnel
	Rear Loader + Alley	Dual Bin	Mech Br	
Available	###	###	###	###
Needed/Quota	###	###	###	###
+/-	- ###	- ###	- ###	- ###

Annotations

Constant Live Summary area provides real-time indication of personnel and equipment surplus/deficits against current day's quotas on the task panel. Displays only for today's board and future boards.

- 1 Date/Time stamp is pushed to board and indicates freshness of data.
- 2 Live equipment surplus/deficit area. Separate areas for Rear Loaders + Alley Trucks, Dual Bin Trucks and Mechanical Broom. See Use Case for formulas to calculate values.
- 3 Live personnel surplus/deficit area. See Use Case for formulas to calculate values.



7.0 Display Board

Lorem Ipsum - Windows Internet Explorer										
BKN16 • Monday April 15, 2013										
**2300 - 0700										
SUPPORT GARAGE UTILITY			CLEANING MECHANICAL BROOM			164 M3 22RG205 S COOKE		P BENJAMIN		9
W FALDO			1 20AY001 D BYRNE							
0000 - 0800			2 20HT098 T WEYMOUTH							
SUPPORT GARAGE UTILITY			3 21G121 T VERLAINE							
A MARKLAND			4 21WR078 R HERMAN							
CLEANING MLP REG			5 21ZB200 B MARTINI							2
161 M1 25FE011 B POSEHN B ODENKIRK			6 22RF099 R LIVELY							
162 M3 25RN004 J GARAFOLLO D CROSS										
0600 - 1400										
SUPPORT GARAGE UTILITY			SNOW SALT HAULING			161 M3 25DC064 H HOGAN A GRADY				
M SCHMIDT			162 M4 27UC108 R SAVAGE T GRADY							
COLLECTION ALLEY TRUCK			SNOW SNOW MELTER			164 M1 25TS001 L TWELVELETTE G NUMAN				
161 M1 20VD023 W TWELVELETTE R EALLYLONGNA			164 M2 25TS003 N CAVE W ELLIS							
161 M2 25TS001 J SPENCER J BAUER			164 M3 26FR180 H GRANT D LEE							10
163 M1 25XY054 S MALKMUS S KANNBERG										
163 M2 1/2 FROM 164 M3										7
164 M3 25DC038 L CAMPBELL F THOMAS										
1/2 TO 163 M2										7
0800 - 1600										
SUPPORT GARAGE UTILITY			COLLECTION SCHOOL COLLECTION			161 M1 25DC040 O HAREFIELD R TWELVELETTE				
G BRADY			161 M2 25EF142 D SNODGRASS K WARE							10
			161 M3 26NM005 C OAKLEY J STARKS							
1600 - 0000										
SUPPORT GARAGE UTILITY			RECYCLE HOUSEHOLD BULK			161 M2 20VD023 J AMENT S GOSSARD				
B MARSHALL			161 M3 25XY054 M HENRY A JOHNSON							
			161 M5 25XY059 M MCCREADY K RYAN							
			164 M2 24EF013 J LANGONE M LOURDES							
1600 - 0000										
SUPPORT GARAGE UTILITY			RECYCLE RECYCLING RELAYS			164 M1 21LP055 H MANDEL F LIRIO				
B MARSHALL			164 M2 25XY075 F AMOS P MOLINARO							
			164 M3 29SM133 B BRIGHTON R ERICKSON							
1900 - 0700**										
SUPPORT INTERNS			SNOW PLOWING			162 M1 25DC019 D BOON M WATT				15
			163 M3 25DC020 R PITINO P LAKSHMI							12
			164 M2 22RG201							

Annotations

This Display Board is the output of a District Ops Board, displaying worker tasks for a given day on a 60" screen inside a garage. As a DSOA makes changes and publishes activities, those changes are reflected on this board.

- When a shift carries over from a previous day, it will be designated with two asterisks (**) before the shift's start time.
- Category and Subcategory color is based on the associated activity (i.e. collection = blue, snow = orange).
- A row containing a Task Category (and Subcategory) has a max of 36 characters. If the total numbers in a row exceeds 36 characters, letters are truncated from the end in reverse. See design comps for gutter spacing.
- Sections have a max of 3 characters. Routes have a max of 2 characters. Equipment has a max of 7 characters.
- Section numbers are colored based on the approved numbering scheme.
- Worker name fields have a maximum of 13 characters. If a worker has a name that exceeds 13 characters, its letters are truncated from the end in reverse. Names are always presented as "[First Initial of First Name] [Last Name]".
- For half routes, the "half to" will be noted as such in a separate row under the affected workers. The "half from" will appear in its own row at the respective route with the appropriate section information.
- Each of the 3 major columns are sorted first by Section number in ascending numerical order, followed by Route number in ascending alphanumeric order, Equipment in ascending alphanumeric order, and Names in alphabetical order.
- Data is continuously wrapped into the subsequent column.



7.0 Display Board

Windows Internet Explorer
 BKN16 • Monday April 15, 2013
 **2300 - 0700

SUPPORT GARAGE UTILITY
 W FALDO
 0000 - 0800

SUPPORT GARAGE UTILITY
 A MARKLAND

CLEANING MLP REG
 161 M1 25FE011 B POSEHN B ODENKIRK
 162 M3 25RN004 J GARAFOLLO D CROSS

0600 - 1400

SUPPORT GARAGE UTILITY
 M SCHMIDT

COLLECTION ALLEY TRUCK
 161 M1 20VD023 W TWELVELETTE R EALLYLONGNA
 161 M2 25TS001 J SPENCER J BAUER
 163 M1 25XY054 S MALKMUS S KANNBERG
 163 M2 1/2 FROM 164 M3
 164 M3 25DC038 L CAMPBELL F THOMAS

COLLECTION HOUSEHOLD BULK
 161 M4 25DC005 K SMITH A WEAVER
 162 M2 28CD056 Q RICHARDSON F PIZZARRO
 162 M5 28JP123 M HAGERMAN J KIRK
 163 M1 25DC013 T MICHAELSON K REEVES
 163 M4 25DC014 F SMITH D WINFIELD
 163 M5 25XY045 J MONTANA D RAMONE
 164 M1 27AB150 H ROLLINS J RAMONE
 164 M2 27AB200 T WEINER O RODRIGUEZ
 166 M3 25DC027 F LEVY R HALLADAY
 166 M4 26PI105 J OAKERMAN A TWELVELETTE
 166 M5 26XD033 B STEVENS B TWELVELETTE
 167 M1 25DC030 B SAMSON H PATRICK

CLEANING BASKETS - REG
 163 M4 25DC088 K BLOOMBERG M RICHARDS
 164 M1 25AD007 M MARON J SLATE
 164 M2 25DC052 O WILSON M JONES
 164 M3 25DC088 C HANKS M BRODY

0700 - 1500

SUPPORT INTERNS

CLEANING MECHANICAL BROOM
 1 20AY001 D BYRNE
 2 20HT098 T WEYMOUTH
 3 21GH121 T VERLAINE
 4 21WR078 R HERMAN
 5 21ZB200 B MARTINI
 6 22RF099 R LIVELY

0700 - 1900

SNOW SALT HAULING
 161 M3 25DC064 H HOGAN A GRADY
 162 M4 27UC108 R SAVAGE T GRADY

SNOW SNOW MELTER
 164 M1 25TS001 L TWELVELETTE G NUMAN
 164 M2 25TS003 N CAVE W ELLIS
 164 M3 26FR180 H GRANT D LEE

0800 - 1600

SUPPORT GARAGE UTILITY
 G BRADY

COLLECTION SCHOOL COLLECTION
 161 M1 25DC040 O HAREFIELD R TWELVELETTE
 161 M2 25EF142 D SNODGRASS K WARE
 161 M3 26NM005 C OAKLEY J STARKS

1600 - 0000

SUPPORT GARAGE UTILITY
 B MARSHALL

RECYCLE HOUSEHOLD BULK
 161 M2 20VD023 J AMENT S GOSSARD
 161 M3 25XY054 M HENRY A JOHNSON
 161 M5 25XY059 M MCCREADY K RYAN
 164 M2 24EF013 J LANGONE M LOURDES

RECYCLE RECYCLING RELAYS
 164 M1 21LP055 H MANDEL F LIRIO
 164 M2 25XY075 F AMOS P MOLINARO
 164 M3 29SM133 B BRIGHTON R ERICKSON

1900 - 0700**

SNOW PLOWING
 162 M1 25DC019 D BOON M WATT
 163 M3 25DC020 R PITINO P LAKSHMI
 164 M2 22RG201

164 M3 22RG205 S COOKE P BENJAMIN

Annotations

This Display Board is the output of a District Ops Board, displaying worker tasks for a given day on a 60" screen inside a garage. As a DSOA makes changes and publishes activities, those changes are reflected on this board.

- 10 Worker names are colored based on their assigned section or if they are attached. See approved palette for colors to be used. Workers assigned to the district are always colored white. Detached workers from another section are always colored lavender.
- 11 When a shift ends in the following day, it will be designated with two asterisks (**) after the shift's end time.
- 12 Any unassigned slots are pushed through from the Ops Board.
- 13 If a worker has been detached to another district, their name will appear in the Detached section. This section will always appear at the end of the day's shifts on the board, joined with the Surplus section. Names are ordered alphabetically.
- 14 When an available worker has not yet been assigned to a task, they will appear in the Surplus section. This section will always appear after the Detached section. Names are displayed in order of seniority.
- 15 Workers in Surplus are arranged by most senior to least, from left to right in each row and continued on the next row.
- 16 The Detached or Surplus sections will not text wrap onto an additional monitor. Instead, they will be displayed together in full on the subsequent screen after any wrapped worker names.
- 17 When there are two or more available display monitors, the content from the first screen will wrap onto the subsequent screen.