ASkOT

OPTIMAL
T E C H N O L O G I E S

Wireframe Flow Chart

Framework

Large or Small Header components

Launcher component

    dashboard component
    functions bar
    switch function toggle
    Switch function component

Dashboard Component

    Energy managment service
    Demand response service
    Security service
    Safety service
    VoIP service
    User service

Flow chart nodes: FRAMEWORK Launcher → dashboard → energy management, security, Settings / demand response, Phone, user. Dashboard branches to: devices, rules/schedules, reports, help, Vol/Brightness, Switch.

Functions Bar

Devices

Rules/Schedules

Reports

Help

Devices function

Allows user to see listing of all managed devices (loads) and device groups. Users can see energy usage information for each device or group. User can see device status (On, off, curtailed, overridden).

User can edit device names, edit device groups, and create new groups. Users can control devices when applicable.

Selecting devices function while within a service page will initally display the devices filtered for relevance to that service.

Rules and schedules function

Allows user to see listing of all current rules and their status.User can edit device names, edit device groups, and create new groups.

Selecting the devices function while within a service page will initally display the devices list filtered for relevance to that service.

Reports function

Allows user to see Alert messages, and other relevant information formatted and displayed for ease of understanding.

Switch function

Returns UI to default switch control functionality. (displays switch function component.)

Energy management Service

Allows user to see macro information on energy usage, cost, current price, and calculated carbon footprint.

Information can be sorted by specific timeframes.

Demand response service

Security service

Allows user to contact security service provider, arm and disarm security system.

VoIP service

Allows user to connect and communicate with other users through VoIP technology.

User service

Allows user to access user account functions.

Framework

Launcher Component

Launch Button brings up dashboard component

Function Buttons (not visible in switch control default mode) move interface into devices, rules and schedules, reports, and help modes.

Large Header Component (For Switch)

Time/Date

Branding Logo

User ID

Temperature (Inside, Outside)

Preset Selector

Clock/Calendar   Branding   UserID   Environment Info   Occupancy Mode

Launcher Component

Launch Button   Function Buttons

Devices   Rules and Schedules   Reports   Help   Brightness   Volume   Switch

Small Header Component (For Service homepages and function modes)

Time/Date

Branding Logo

User ID

Temperature (Inside, Outside)

Preset Selector

Clock/Calendar   Environment Info   Branding   UserID   Occupancy Mode

Devices   Rules and Schedules   Reports   Help   Brightness   Volume   Switch

Switch Button

returns UI to switch control default

Framework -continued-

Clock/Calendar   Environment Info   Branding   UserID   Occupancy Mode

item 01
item 02
item 03
item 04
item 05

Devices   Rules and Schedules   Reports   Help   Brightness   Volume   Switch

Occupancy Mode Selector

Drop-down menu allows user to select the proper Occupancy Mode setting.

Example: Home, Away, Vacation, etc.

Brightness and Volume Buttons

Allows user to set the master volume level and the display brightness.

Default Switch

Clock/Calendar   Branding   UserID   Environment Info

Occupancy Mode

Switch Controls

Devices   Rules and Schedules   Reports   Help   Brightness   Volume   Switch
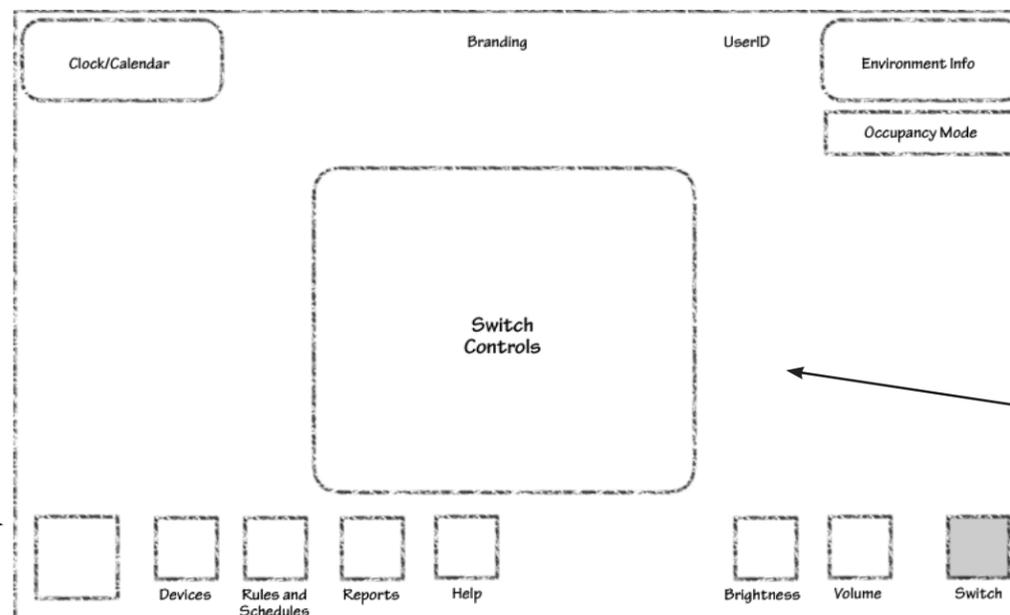
Large Header Component

Launcher Component

Launch Button brings up Pin Number Keypad Entry Component; successful authentication brings up the dashboard component

Switch Controls Component

Allows user to control the lighting in the room/area. Either On/Off or a dimmer switch if appropriate.

PIN and Keyboard Entry Components

Large or Small Header Component

Clock/Calendar   Branding   UserID   Environment Info

Occupancy Mode

Launcher Component
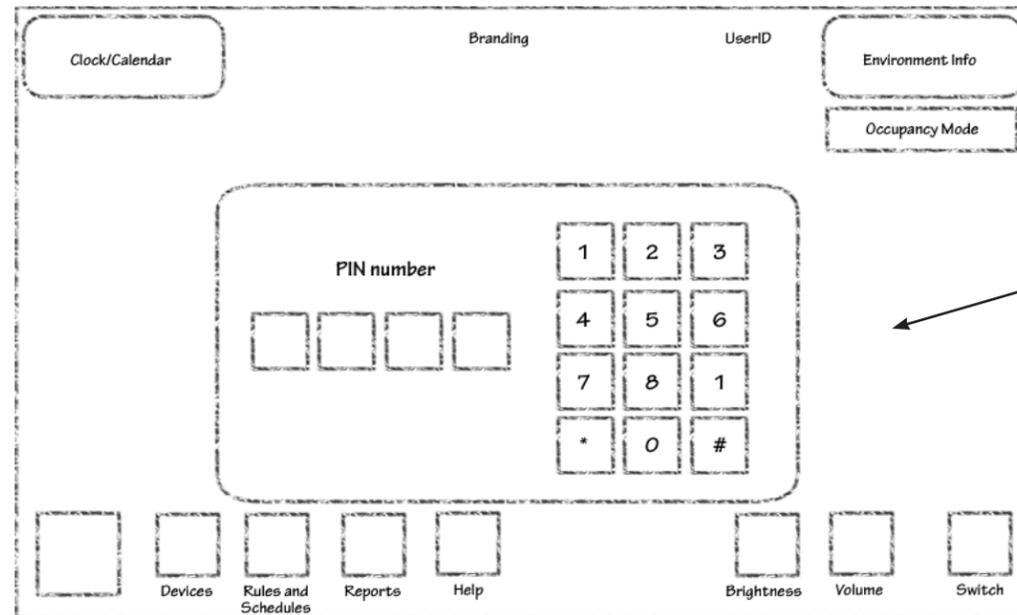
Launch Button brings up Pin Number Keypad Entry Component; successful authentication brings up the dashboard component

PIN number

1	2	3
4	5	6
7	8	1
*	0	#

Pin Number Entry Component

Numeric user entry

Devices   Rules and Schedules   Reports   Help   Brightness   Volume   Switch

Large or Small Header Component

Clock/Calendar   Environment Info   Branding   UserID   Occupancy Mode

Keyboard Entry Component

Alpha-numeric user entry

Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M

Devices   Rules and Schedules   Reports   Help   Brightness   Volume   Switch

Dashboard Component

Clock/Calendar
Branding
UserID
Environment Info

Dashboard

Occupancy Mode

Energy Management
Security
VoIP
User

Demand Response
Safety
Settings

Devices
Rules and Schedules
Reports
Help
Brightness
Volume
Switch

Switch button

Returns UI to switch control default

Dashboard Component

Triggered by Launch button.

Contains buttons with service specific icons; selecting a service populates launch button with same icon and loads service homepage into UI.

Energy Management Service

Energy Management Service

VoIP Service

User Service

Energy Management
Security
VoIP
User

Demand Response
Safety
Settings

Dashboard Background Shield

Demand Response Service

Safety Service

Touch Panel Settings

brightness, sound volume, etc.

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Energy Management Service
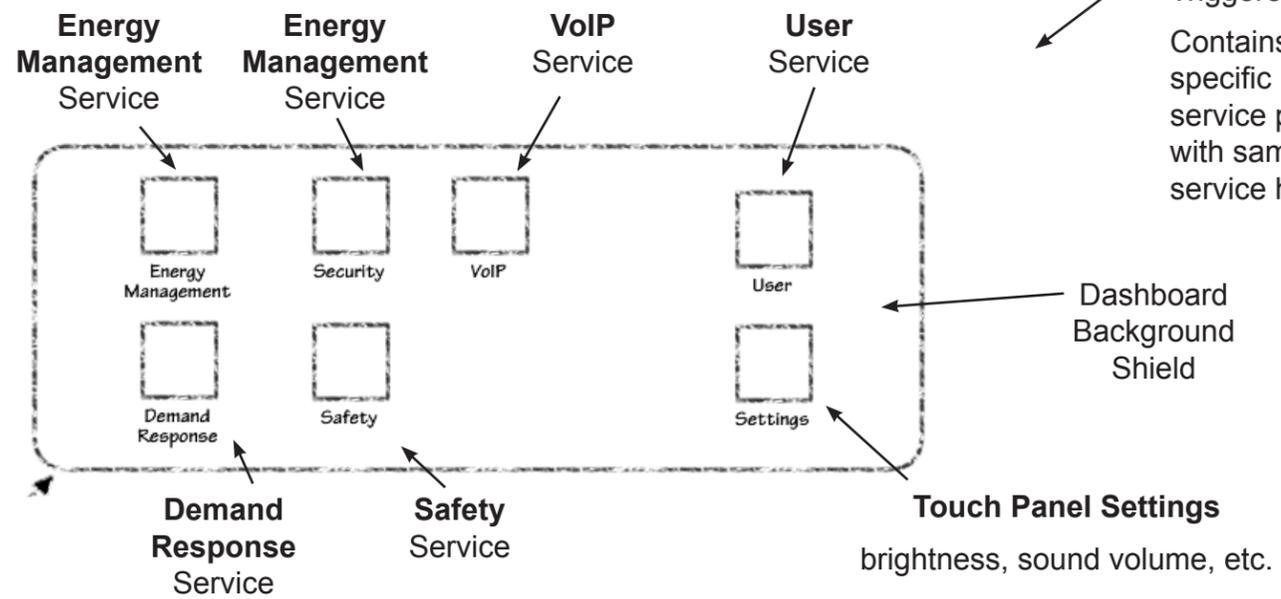
Time Frame Selector

Sliding selector allows user to select billing cycles or present values.

"Month" will display the current billing cycle information if available. Label will then be "Bill Period" or equivalent.

Usage Graphs

Shows usage breakdown by items. Selecting item transitions graphs to further breakdown usage.
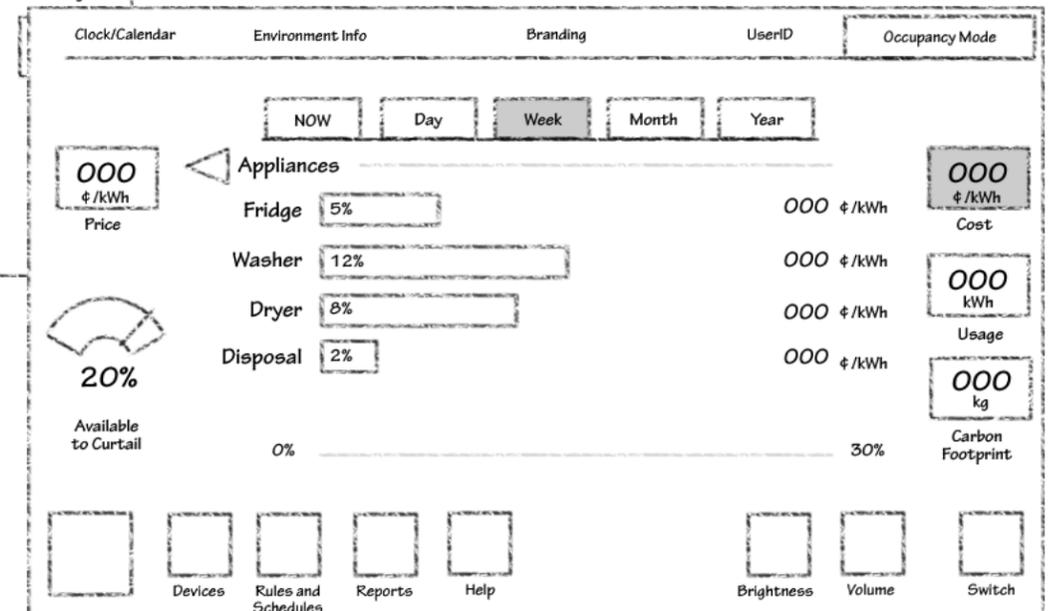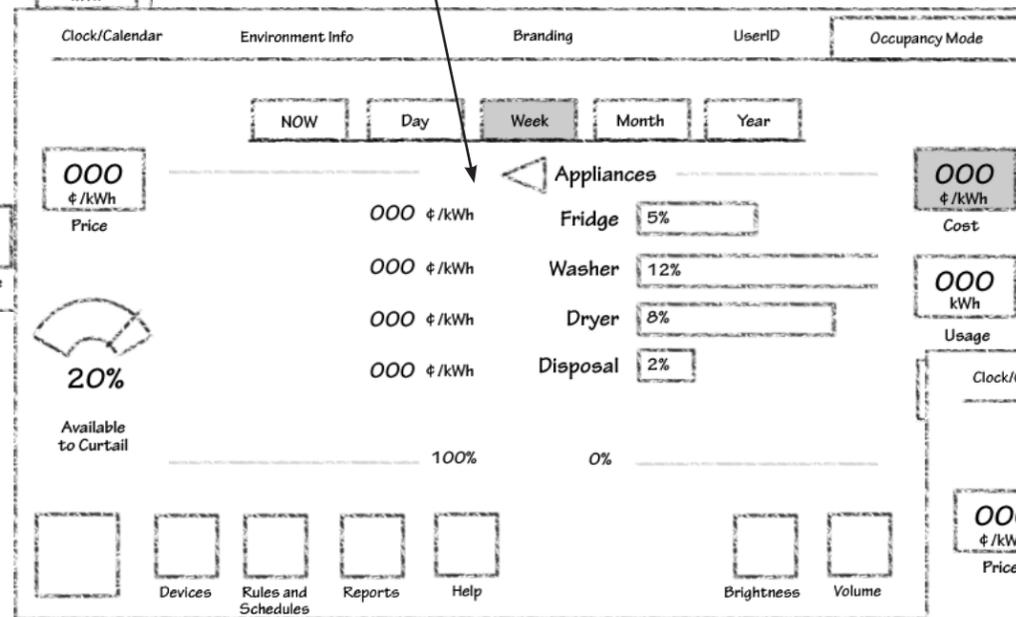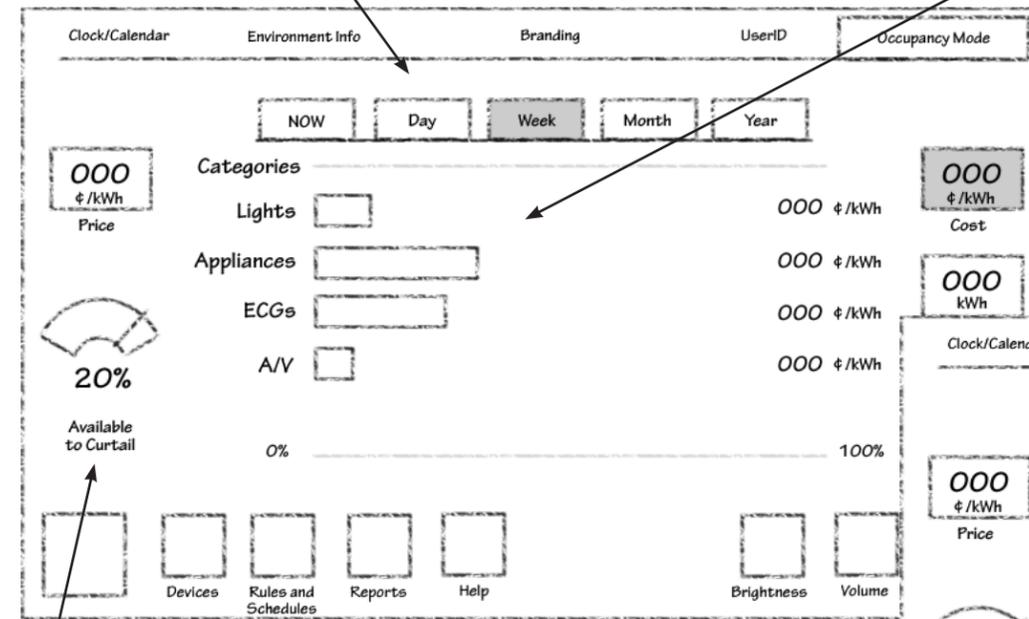
Energy Management Component

Displays current values for:

Usage in kW

Cost in ¢/kWh

Price in ¢/kW

Carbon Footprint in kg

Curtailed Amounts

Shows how much of the usage is available to be curtailed by Demand Response programs, and the estimated savings.

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Devices Mode

Device function icon in launch component is highlighted

| Clock/Calendar | Environment Info | Branding | UserID | Occupancy Mode |

All Services Sort By:

Group Name — Energy use Status

Load Name — Energy use Status

Load Name — Energy use Status

Load Name

Load Name

Load Name

Device Name (Editable)

DEVICE INFO

Energy Usage
Device Status

Date Stamp
Last Updated
Device Location

Device Control
If Applicable

Visible to Energy Service Provider

Devices Rules and Schedules Reports Help Brightness Volume Switch

Device List Component

Properties Component - Device Selected:

Contains properties for individual devices (loads)

| Clock/Calendar | Environment Info | Branding | UserID | Occupancy Mode |

All Services Sort By:

Group Name — Energy use Status

Load Name — Energy use Status

Load Name — Energy use Status

Load Name

Load Name

Load Name

Group Name (Editable)
User Defined Group
Group Info

Use settings from
Occupancy Mode:

Create Occupancy Mode   Weekdays

Delete Group

Edit Group's Item(s)

Load O1   Load O3
Load O2   Load O4
Group O1
Group O2

Devices Rules and Schedules Reports Help Brightness Volume Switch

Properties Component - Group Selected:

Contains properties for device groups

selecting individual item selects item in scrolling list.

selecting delete item(s) allows multiple items to be selected for deletion

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T E C H N O L O G I E S
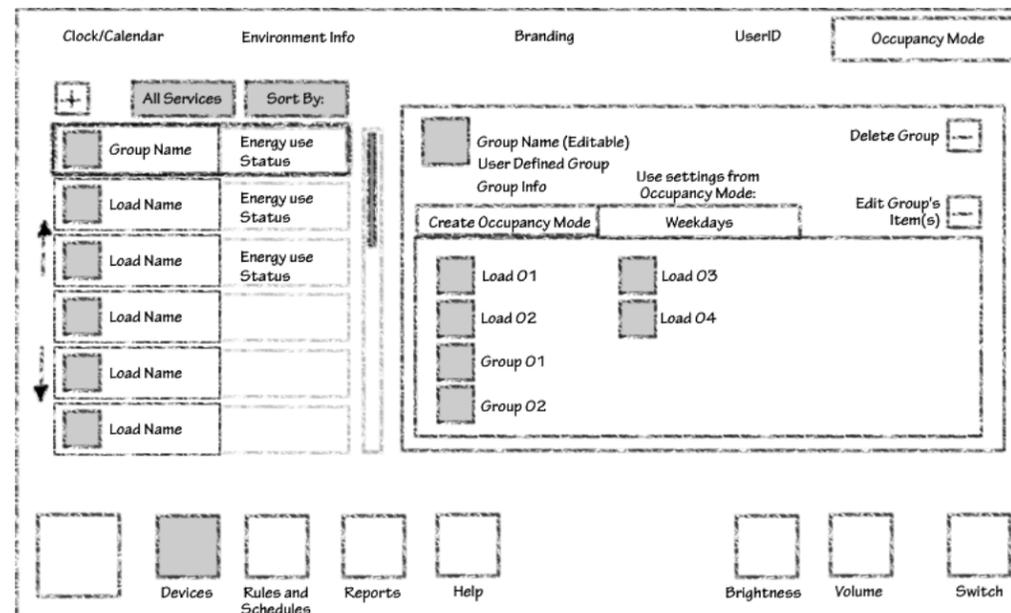
Devices Mode -continued-

Device List Component

Scrolling List

Contains available devices (loads) and device groups (both default groups defined by ModBots and user-created groups)

Device or Group Name

Energy use in kW

Status (On, Off, Curtailed, Overridden)

dragging along list causes scroll action; clicking and removing on a specific device or group causes the item in the list to be highlighted, and the properties component to reflect its properties.

Clicking and holding on an item will cause the item to become highlighted and will make it available for dragging within list or to properties component if applicable.

Service Filter drop-down

Defaults to devices pertinent to most recent service selected and allows filtering by each service or complete list.

Sort By: sorting drop-down

Allows filtering by category, zone, groups only, devices (loads) only.

Scrolling Position Indicator

Shows visible list portion relative to length of entire list. This may need to be used as a control depending on capability of touch panel.

	All Services	Sort By:
	Group Name	Energy use Status
	Load Name	Energy use Status
	Load Name	Energy use Status
	Load Name	
	Load Name	
	Load Name	
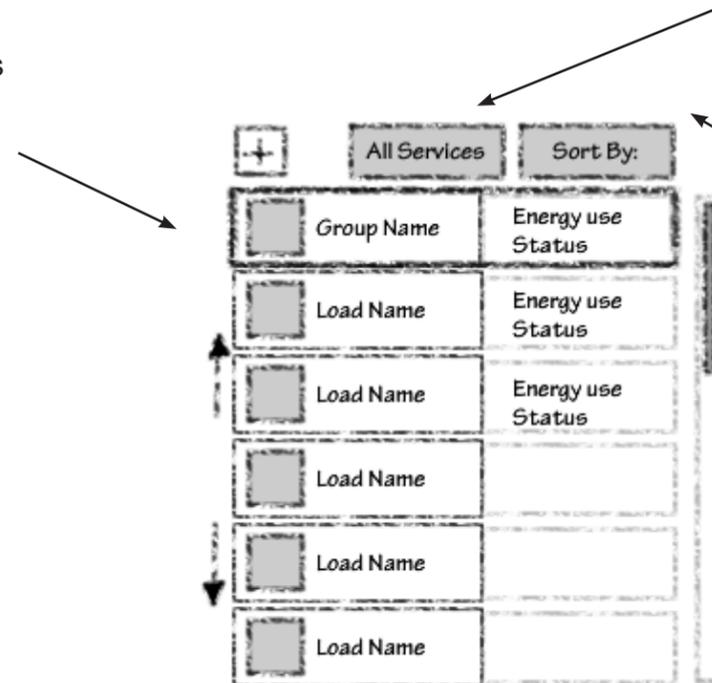
Add Group Button
allows user to creat new device group.

	All Services	Sort By:
	Group Name	Energy use Status
		Energy use
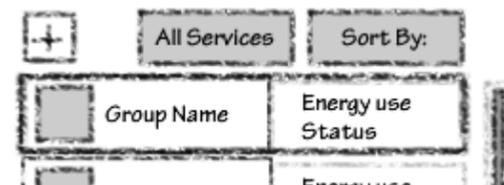
Type of Group

Drop-down menu allows users to select whether group is a Device Group, ECG group, or Occupancy Mode Group.
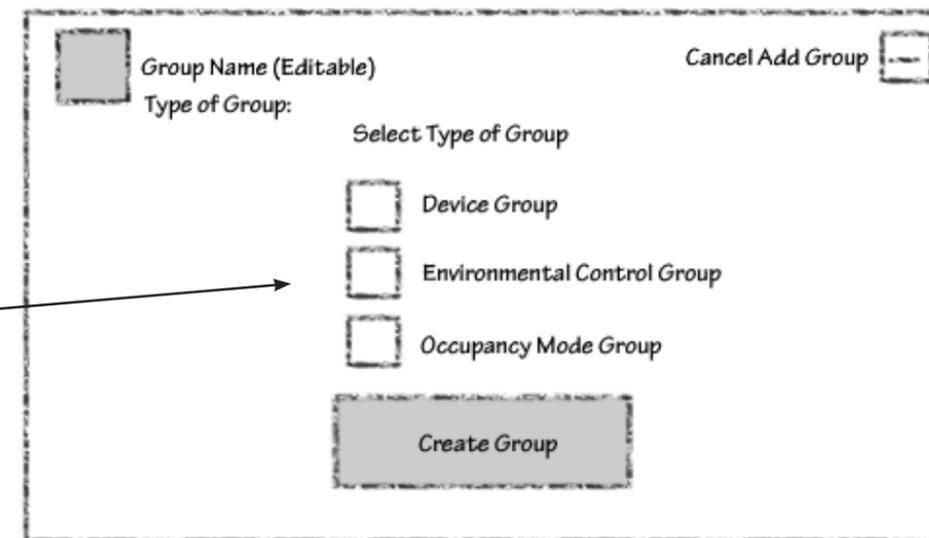
	Group Name (Editable)	Cancel Add Group
	Type of Group:	

Select Type of Group

☐ Device Group

☐ Environmental Control Group

☐ Occupancy Mode Group

Create Group

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Editable text field

Selecting this allows user to enter information; brings up the keyboard entry component.

Devices Mode
Adding and Removing Groups

Device Group Properties Component

Allows user to create new groups, edit group names, and add/delete items to groups.

See Page 11 for details.

Group Name (Editable)
Type of Group:

Cancel Add Group

Select Type of Group

☐ Device Group

☐ Environmental Control Group

☐ Occupancy Mode Group

Create Group

Group Name (Editable)
User Defined Group
Group Info

Delete Group

Use settings from
Occupancy Mode:

Create Occupancy Mode | Weekdays

Edit Group's Item(s)

☐ Load O1   ☐ Load O3

☐ Load O2   ☐ Load O4

☐ Group O1

☐ Group O2

Group Name (Editable)
Environmental Control Group
Group Info

Delete Group

Environmental Control Group Settings

⟳ Study Space Heater

❄ Study Ceiling Fan

⊕ Study SwitchBot

75° F

☑ Auto Mode

Occupancy Mode Group Name

Delete Group

Delete Device(s)

Device
Device
Device
Device
Device
Device
Device

Energy Usage
Device Status

Date Stamp
Last Updated
Device Location

Device Control

Occupancy Mode Group Properties Component

Allows user to create a group of default states (On, Off, etc.) for each device in the group.

This group can then be activated to quickly control a number of devices.

This group can also be used to assign its device states to any other groups that have the same devices included.

See Page 13 for details.

ECG Group Properties Component

Allows user to select the sources that will be used to heat, cool, and act as the temperature sensor for the ECG.

Allows the user to control the ECG in auto mode, or as a traditional Climate Control System.

See Page 12 for details.

Devices Mode
Device Group Properties

Editable text field

Selecting this allows user to enter information; brings up the keyboard entry component

Delete Group

Allows group to be deleted from device list after confirmation dialog box.
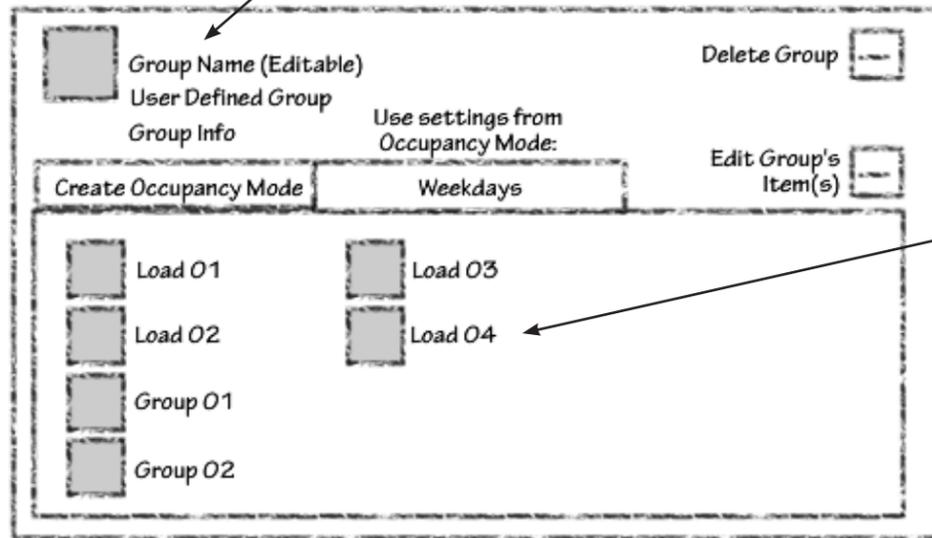
Properties Component - Group Selected

Allows user to create new groups, edit group names, and add/delete items to groups.

Group member item

new groups or loads dragged from device list are added as an item to this group.

Group Name (Editable)
User Defined Group
Group Info
Use settings from Occupancy Mode:
Create Occupancy Mode | Weekdays
Delete Group
Edit Group's Item(s)
Load O1
Load O3
Load O2
Load O4
Group O1
Group O2

Group Name (Editable)
Group Info
Delete Group
Delete Item(s)
Delete Group
Confirm | Cancel
Load O1
Load O2
Load O4
Group O1
Group O2

Delete Item(s)

Allows items to be deleted from group after confirmation dialog box.

Selecting delete items displays a confirmation dialog box as well as a delete badge marker by each item. selecting the badge marker highlights the item and the item will be deleted from group upon confirmation.

Group Name (Editable)
User Defined Group
Group Info
Use settings from Occupancy Mode:
Create Occupancy Mode | Weekdays
Delete Group
Edit Group's Item(s)
Load O1
Load O3
Load O2
Load O4
Group O1
Group O2

Group Name
Group Info
Delete Item(s)
Delete Group
Confirm | Cancel
Delete Item(s)
Load O1 (X)
Load O3 (X)
Load O2 (X)
Load O4 (X)
Group O1 (X)
Group O2 (X)
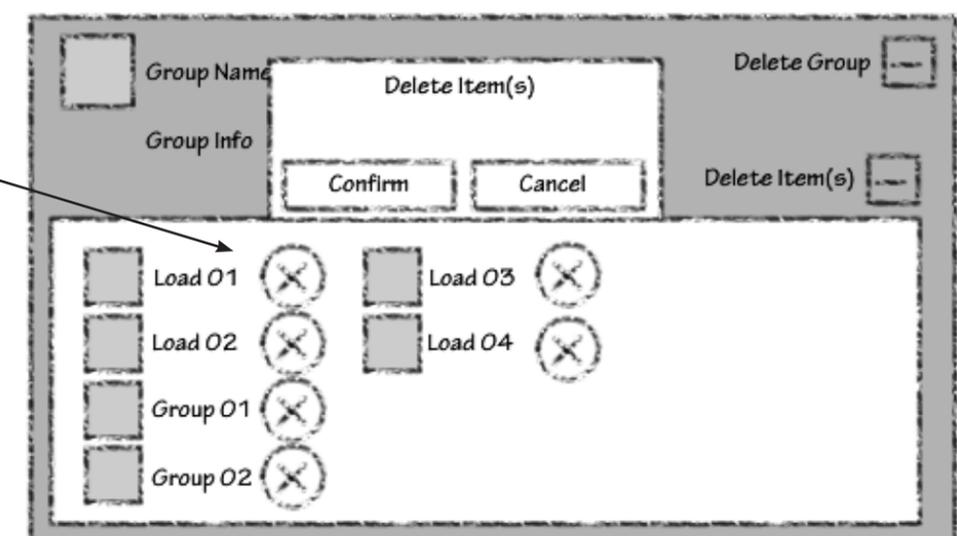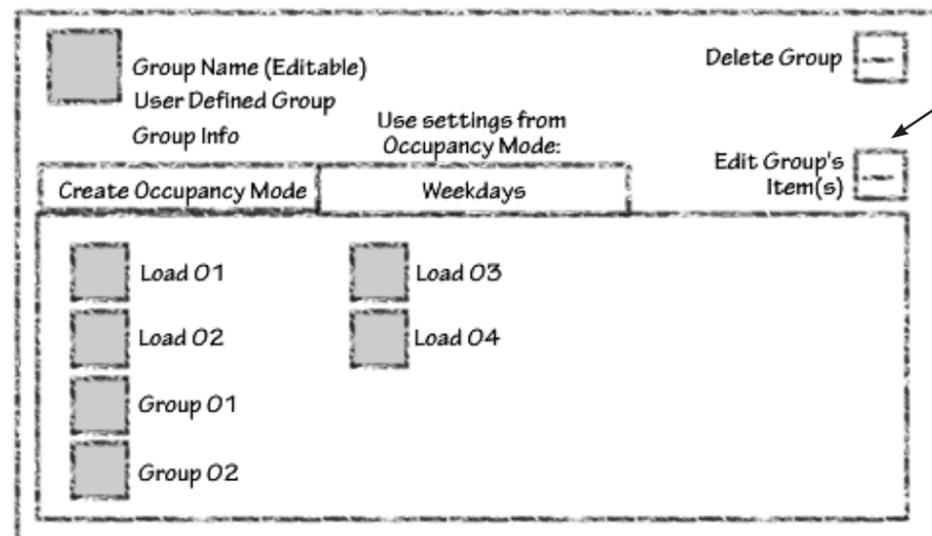
Devices Mode
Enviromental Control Group Properties

Source Selector Drop-Down Menu

Contains list of devices (Loads) that are appropriate for function. (heating, cooling, and the sensor).

Specifying all three sources brings up the ECG settings panel.

Farenheit/Celcius Toggle

Delete Group

Auto Mode Select

Allows user to switch from Auto Mode to Traditional Climate Control.
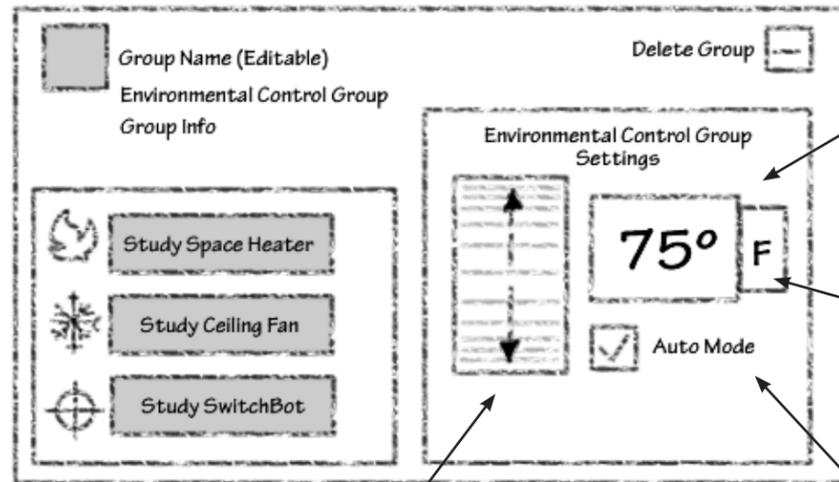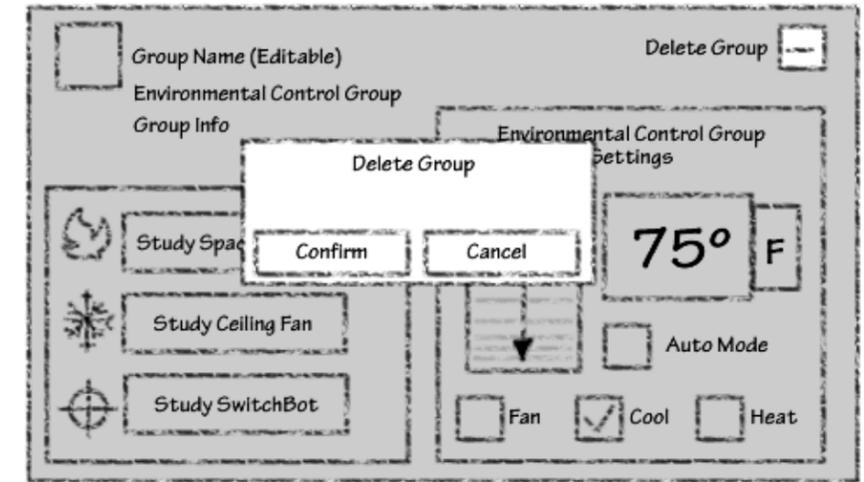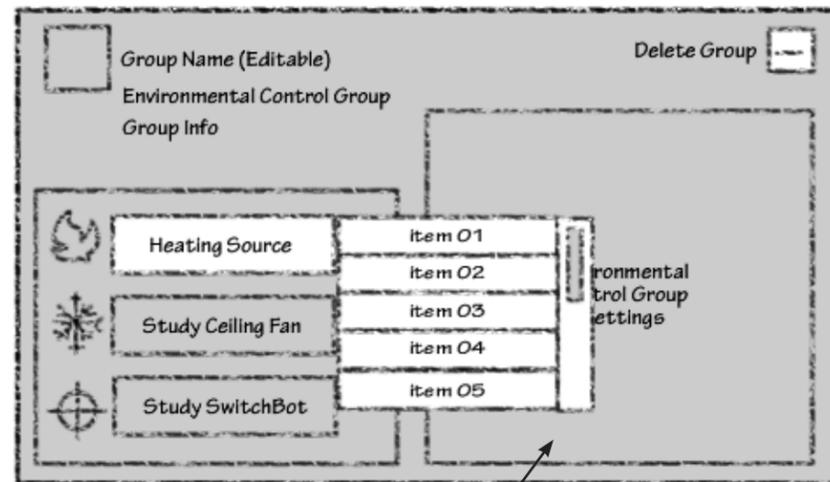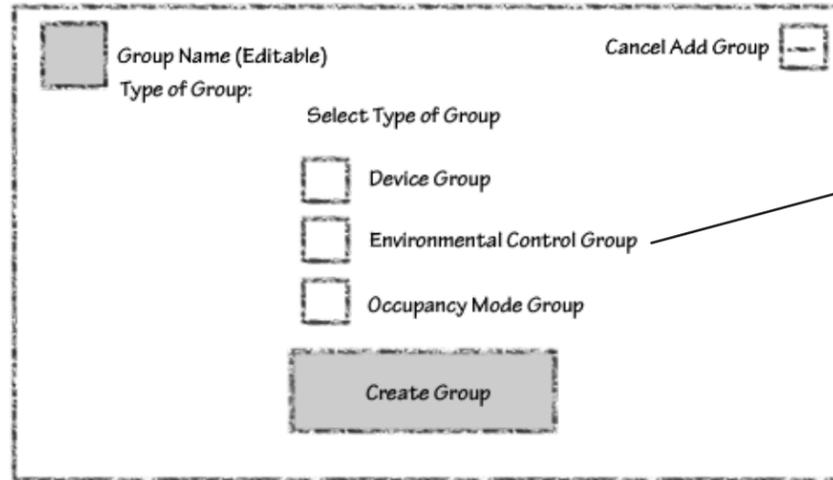
Scrolling Numeric Control

Allows scrolling to change a numeric value up or down.

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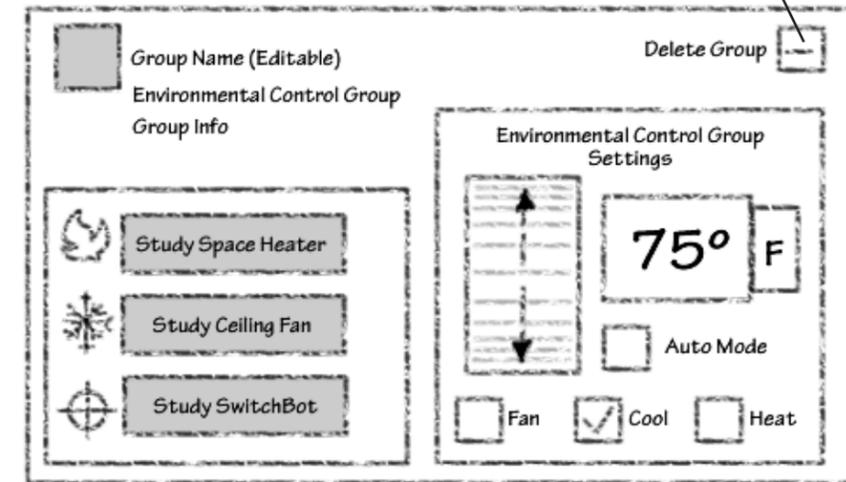
Devices Mode
Occupancy Mode Groups
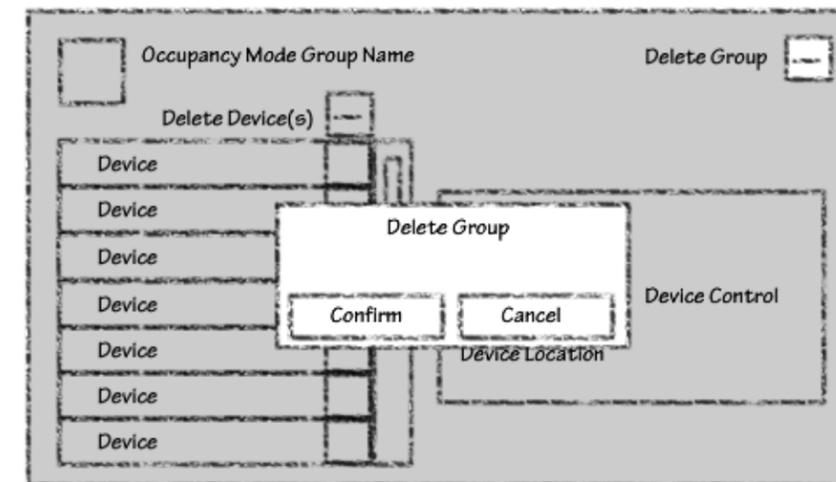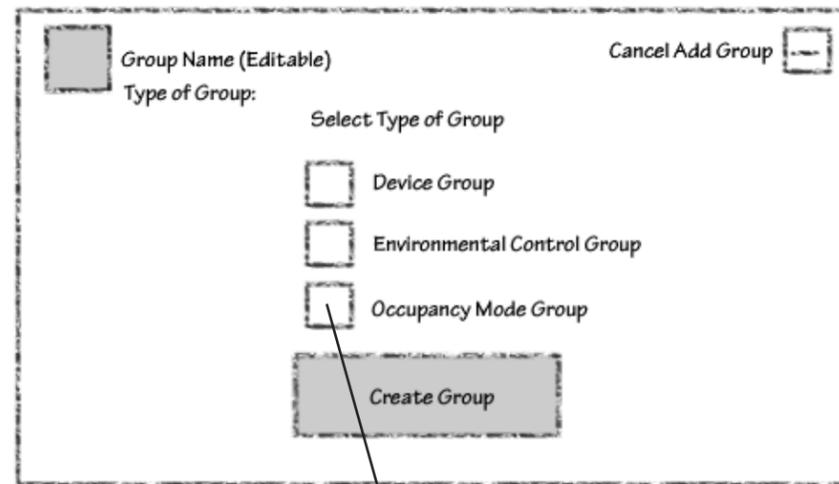
Delete Group

Allows user to delete group
following a confirmation
modal dialg box.
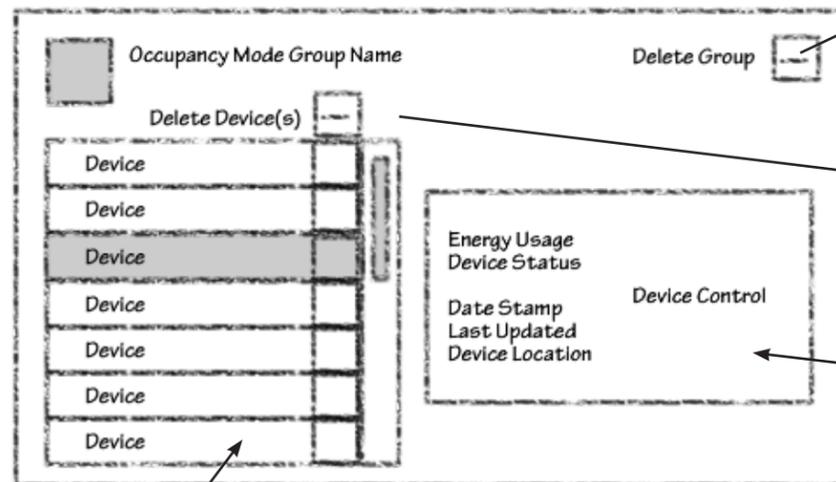
Delete Device(s)

Allows user to delete one or more devices
from list. A modal dialog box will finalize
selected devices to be deleted.

Device Info/Control

Shows user info on selected device
and allows user to change device
settings.
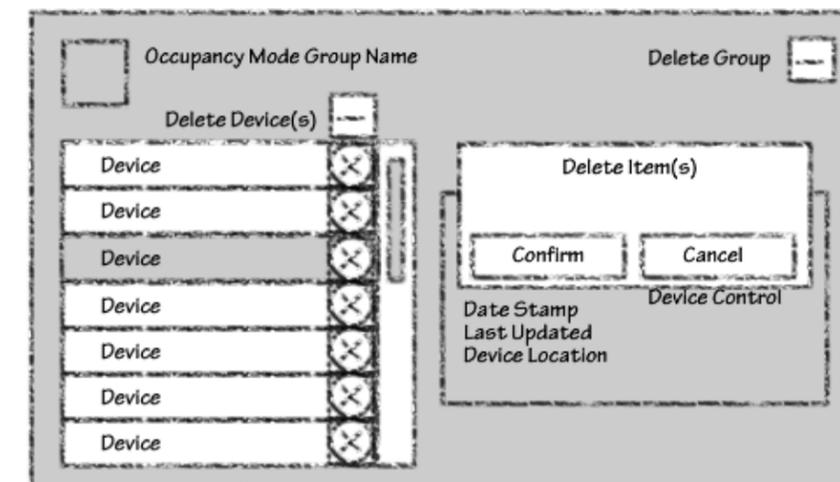
Scrolling Device List

Allows user to see all devices in Occupancy
Mode Group and their current status. Allows
user to change each devices status as well
as add/delete devices from list.

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OPTIMAL
TECHNOLOGIES

Rules Mode

Rules function icon in launch component is highlighted

Rules List Component

Scrolling List

Contains Rules and Scheduled Rule Groups that have been set up using conditions/actions.

Rule Name or Rule Group Name

Active or Inactive state

dragging along list causes scroll action; clicking and removing on a specific item causes the item in the list to be selected, and the properties component to reflect its properties.

Clicking and holding on an item will cause the item to become highlighted and will make it available for dragging within list.
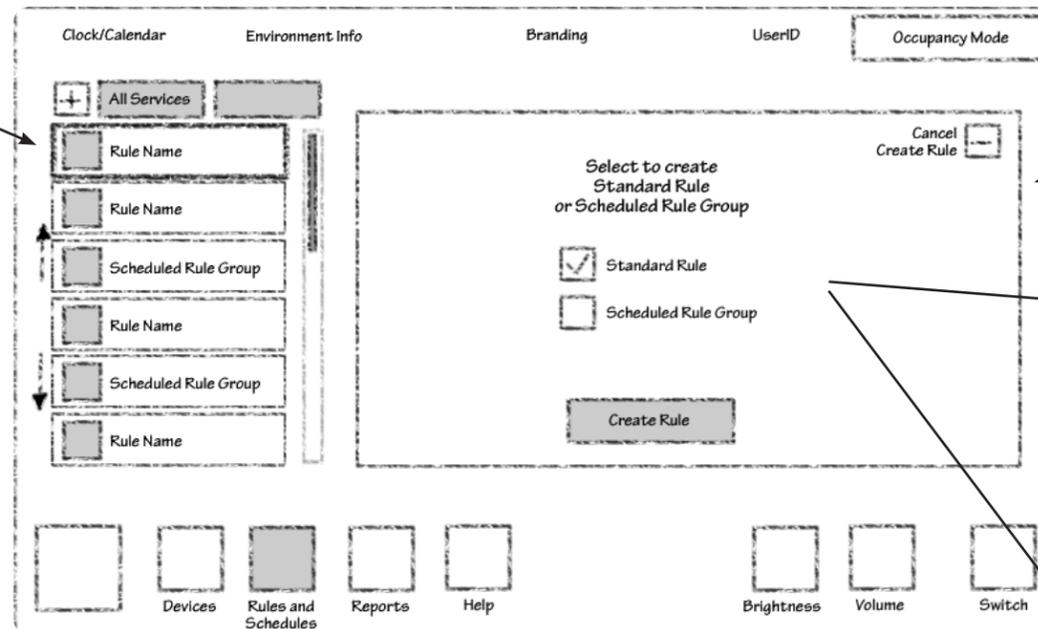
Properties Component

Contains properties for individual rules when selected in rules list component.

See page 15 for more details.
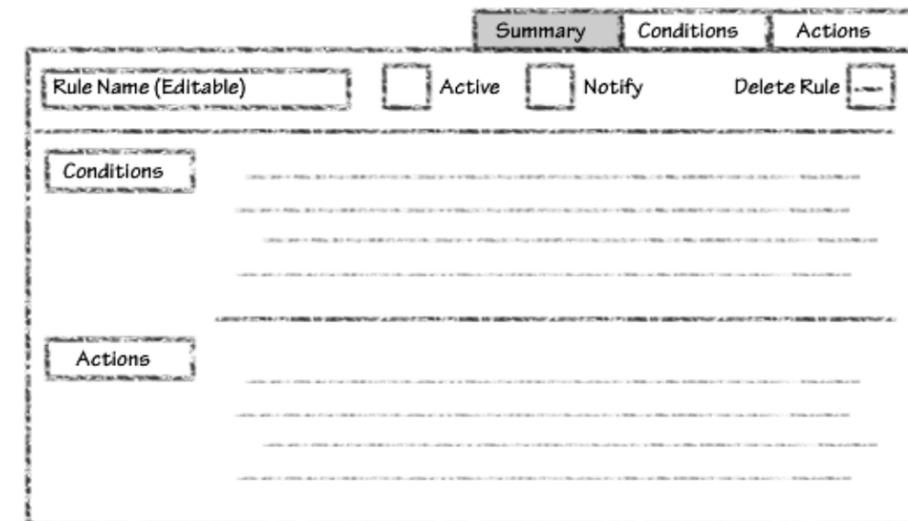
Add Rule Button
allows user to creat new Rules and Scheduled Rule Groups.

Service Filter drop-down

Defaults to devices pertinent to most recent service selected and allows filtering by each service or complete list.

Scrolling Position Indicator

Shows visible list portion relative to length of entire list. This may need to be used as a control depending on capability of touch panel.

Clock/Calendar · Environment Info · Branding · UserID · Occupancy Mode

All Services · Rule Name · Rule Name · Scheduled Rule Group · Rule Name · Scheduled Rule Group · Rule Name

Cancel Create Rule

Select to create Standard Rule or Scheduled Rule Group

☑ Standard Rule
☐ Scheduled Rule Group

Create Rule

Devices · Rules and Schedules · Reports · Help · Brightness · Volume · Switch

All Services · Rule Name · Rule Name · Scheduled Rule Group · Rule Name · Scheduled Rule Group · Rule Name

Summary · Conditions · Actions
Rule Name (Editable) · Active · Notify · Delete Rule
Conditions
Actions

Rule Group · Summary · Conditions · Actions
Rule Group Name (Editable) · Delete Rule Group
Active · Notify
Begin Date · Month · 15
End Date · Month · 15
Rule · Rule · Rule · Rule · Rule · Rule · Rule

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OPTIMAL
TECHNOLOGIES

Rules Mode
summary Tab

Summary Tab

Displays the information about the rule, including the rule name, the rule conditions and the rule actions. The rule can be activated and deactivated, the name can be edited, and the rule can be deleted from this tab.

Editable text field

Selecting this allows user to enter information; brings up the keyboard entry component.

| Summary | Conditions | Actions |

Rule Name (Editable)　　　Active　　Notify　　　Delete Rule

Conditions

Actions

Active Checkbox

Allow user activate and deactivate rule.

Notify Checkbox

Allows user to specify whether notification (Alert) is sent when rule triggers.

| Summary | Conditions | Actions |

Rule Name (Editable)　　　Active　　Notify　　　Delete Rule

Conditions

Actions

Delete Rule

Allows user to delete rule following a modal confirmation dialog box.

| Summary | Conditions | Actions |

Rule Name (Editable)　　　Active　　Notify　　　Delete Rule

Conditions

Delete Rule

Confirm　　Cancel

Actions

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Rules Mode
Condition Tab

| Summary | Conditions | Actions |

Rule Name

If: ▽

⊞

Condition Tab

Conditions are built sequentially using pop-up menus of contextually selected options.
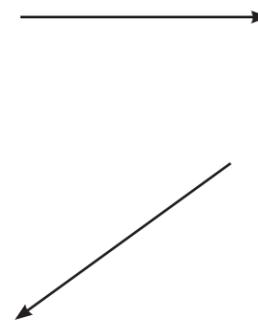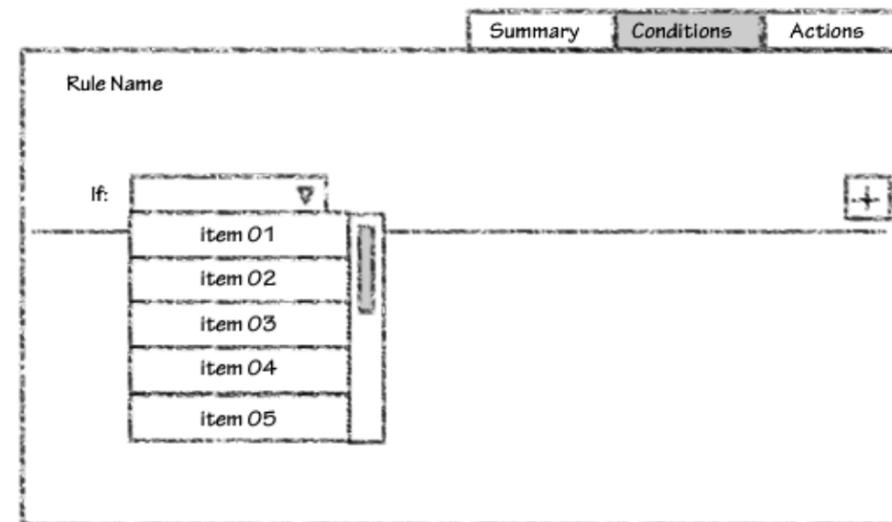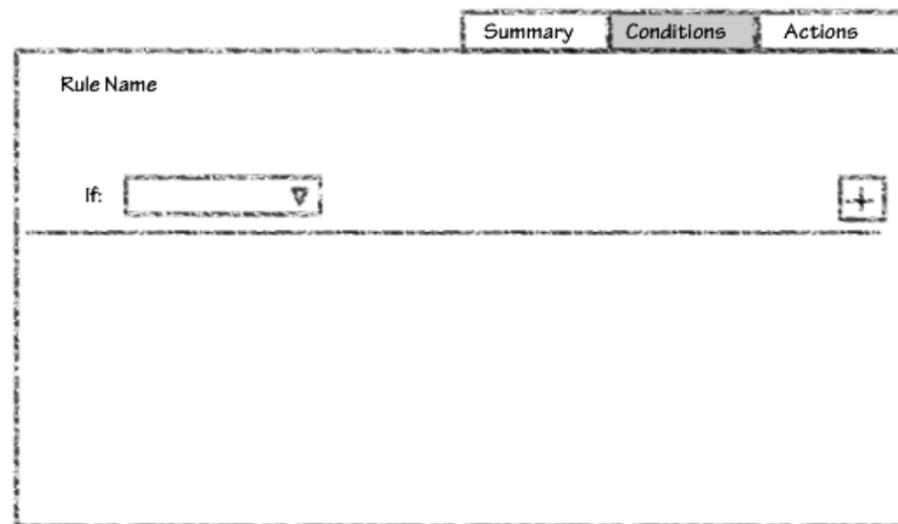
| Summary | Conditions | Actions |

Rule Name

If: ▽
- item 01
- item 02
- item 03
- item 04
- item 05

⊞

| Summary | Conditions | Actions |

Rule Name

If: Utility Issues ▽ | ▽
- item 01
- item 02
- item 03
- item 04
- item 05

⊞

And/Or Selector

Selects logic that will be used to compare each condition in sequential manner.

| Summary | Conditions | Actions |

Rule Name

If: Utility Issues ▽ | Day of DR Signal ▽

⊞

And/Or
- And
- Or

⊟ ⊞
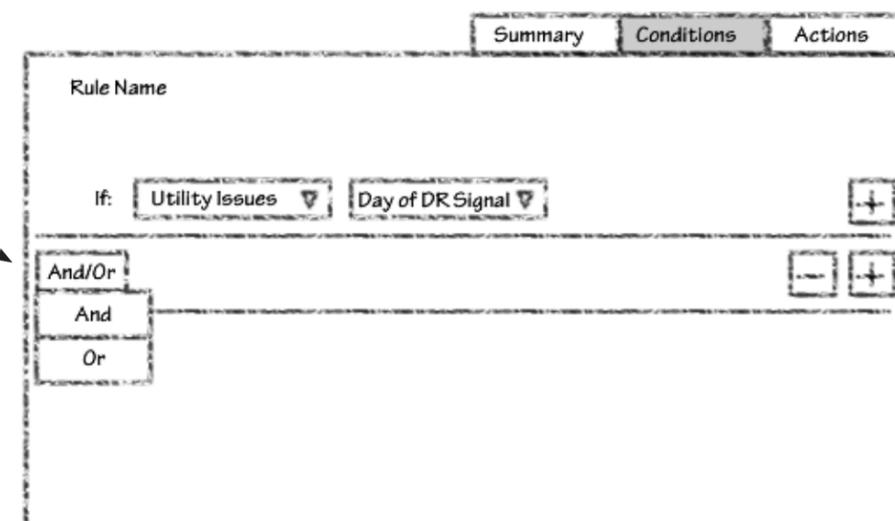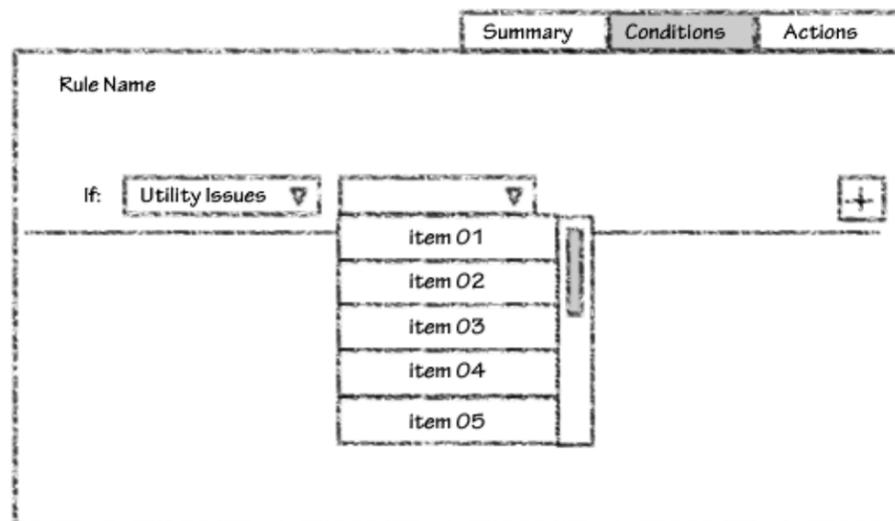
Add Condition

Allows user to add condition to rule.

Add/Delete Condition

Allows user to add condition to rule, or delete the condition indicated.

Rules Mode
Condition Tab - continued -

| | Summary | Conditions | Actions |

Rule Name

If: Utility Issues ▽   Day of DR Signal ▽   [+]

And/Or Selector

Selects logic that will be used to compare each condition in sequential manner.

And   motion detected▽   by: sensor device ▽   [—] [+]

And   motion detected▽   by: sensor device ▽   [—] [+]

Changes to the logic will be reflected in every condition in the rule.

And   motion detected▽   by: sensor device ▽   [—] [+]

| | Summary | Conditions | Actions |

Rule Name

If: Utility Issues ▽   Day of DR Signal ▽   [+]

Or   motion detected▽   by: sensor device ▽   [—] [+]

Or   motion detected▽   by: sensor device ▽   [—] [+]

Or   motion detected▽   by: sensor device ▽   [—] [+]

Rules Mode
Condition Tab - continued -

Condition Selectors

Different conditions will
require different selection/
entry methods.

| Summary | Conditions | Actions |

Rule Name

If:

item 01
item 02
item 03
item 04
item 05

Pop Up List Menu

| Summary | Conditions | Actions |

Rule Name

Title

If:

000.00 Label

Incremental Numeric
Selector

| Summary | Conditions | Actions |

Rule Name

| | Sun | Mon | Tue | Wed | Thur | Fri | Sat | All Days |

DAYS

DATE Range   Month 15 — Month 15   No Date Range

TIME Range   11 : 30 PM — 11 : 30 PM   No Times Range

Day/Date/Time Range

Selector

Incremental Numeric
Selector with entry pad

| Summary | Conditions | Actions |

Rule Name

Title

If:

000.00 Label

1	2	3
4	5	6
7	8	1
*	0	#

Rules Mode
Actions Tab

Actions

Actions are built sequentially
using pop-up menus of
contextually selected options.

| Summary | Conditions | Actions |

Rule Name

Device ▽   On/Off ▽   Timeframes ▽   +

| Summary | Conditions | Actions |

Rule Name

Device ▽   On/Off ▽   Timeframes ▽   +

And: Device ▽   On/Off ▽   Timeframes ▽   —   +

Add Action

Additional actions can be
added, but logic will always be
"AND" between actions for a
rule.

Rules Mode
Scheduled Rules Group

Scheduled Rules Groups

A group of rules that has a time schedule for when they are active/inactive.

Scrolling Rules List

Rules can be added/deleted from the group.

| Rule Group | Summary | Conditions | Actions |

Rule Group Name (Editable)   Delete Rule Group |—|

☐ Active   ☐ Notify

Begin Date

Month | 15

End Date

Month | 15

Rule
Rule
Rule
Rule
Rule
Rule
Rule

| Rule Group | Summary | Conditions | Actions |

Rule Name (Editable)   ☐ Active   ☐ Notify   Delete Rule |—|

Conditions

Actions

Selected Rule

Allows rule to be edited in same fashion as normal rules; using conditions and actions.

| Rule Group | Summary | Conditions | Actions |

Rule Name

If: [▽]   [+]

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T E C H N O L O G I E S
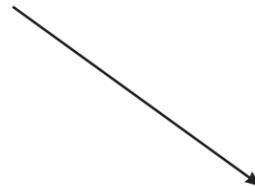
Reports Mode

Report Display Selector Tab

Allows user to select between Energy Use, which is displayed as graphical information, and Logs, which are textual information.

Report Data Type Selector

Allows users to set data type of the report information.

Partial transparency allows user to see graphical information underneath. (depends on graphical compositing capability of hardware.)
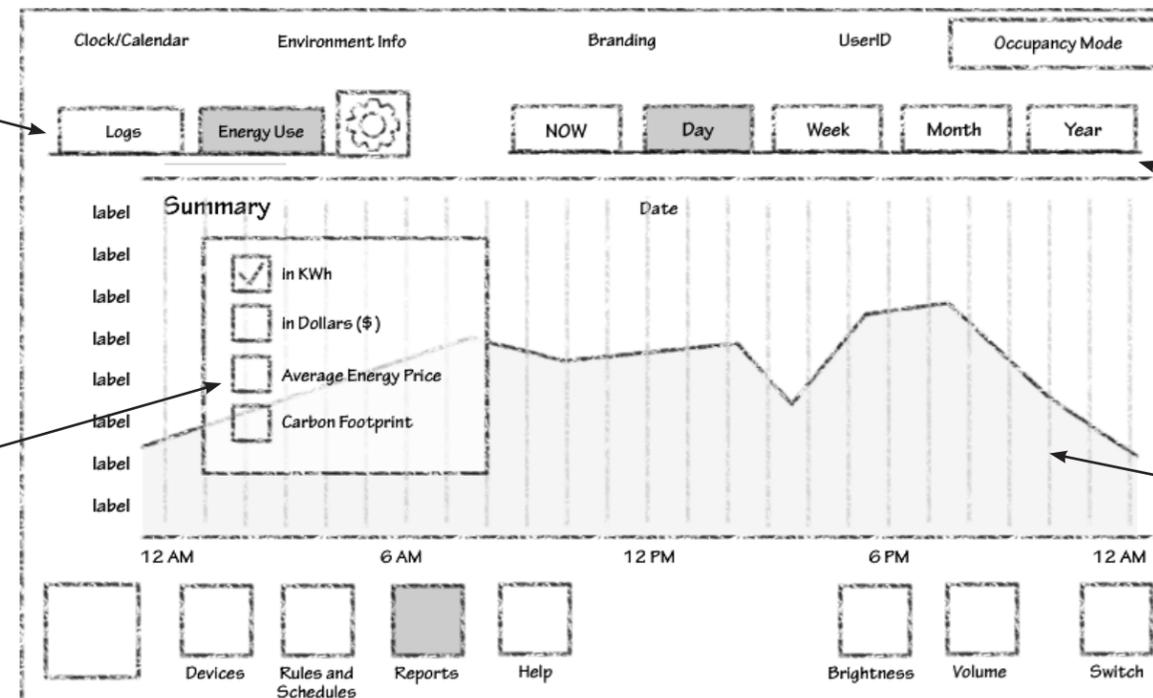
Time Frame Selector

Allows the user to select the time frame for the report information.

Report Data Display Area

Presents the user with graphical or textual information based on the parameters set in the parameters component.

Area can be scrollable to select prior periods in the same time period scale.

ASKOT

OPTIMAL TECHNOLOGIES

Reports Mode

Energy Usage Report Menu
- Summary (Default)

Energy Use Report Configuration Menu

Triggered by Configuration button at top.

Allows user to select the type of information to be graphed, either Energy Use Summary, Energy Use Categories, or Energy Use by Device(s).

Also allows user to create a customized report and to export reports. (Currently only in web version).

Energy Usage Report Menu

- Categories
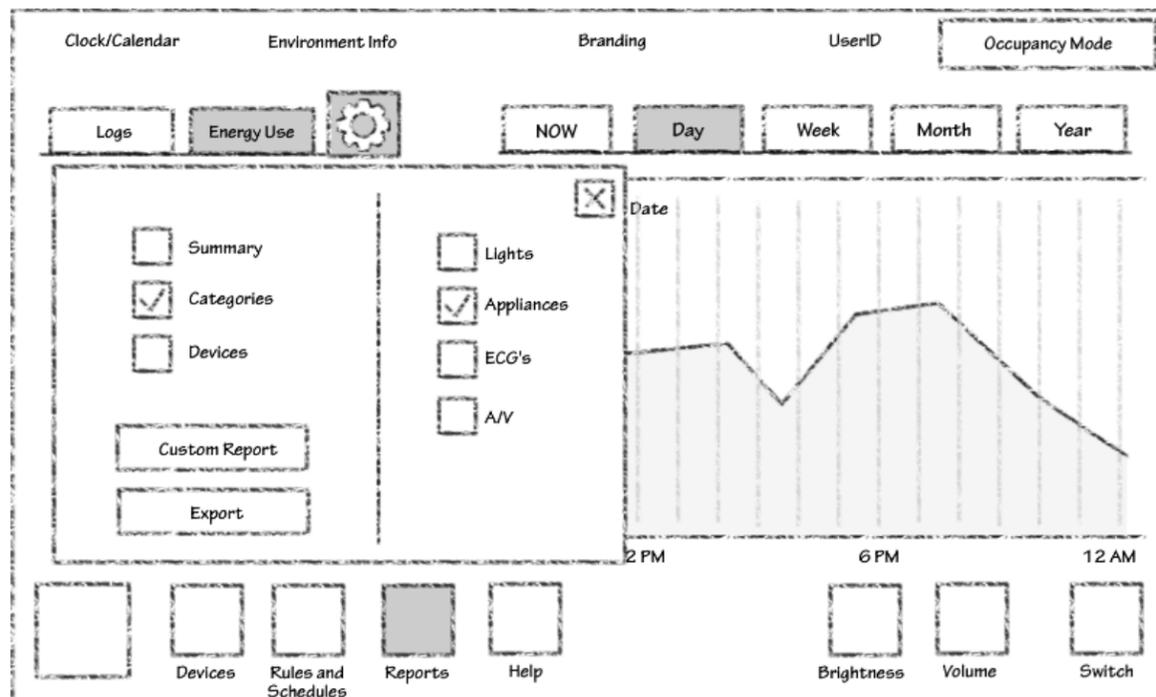
Energy Usage Report Menu

- Devices

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OPTIMAL
T E C H N O L O G I E S
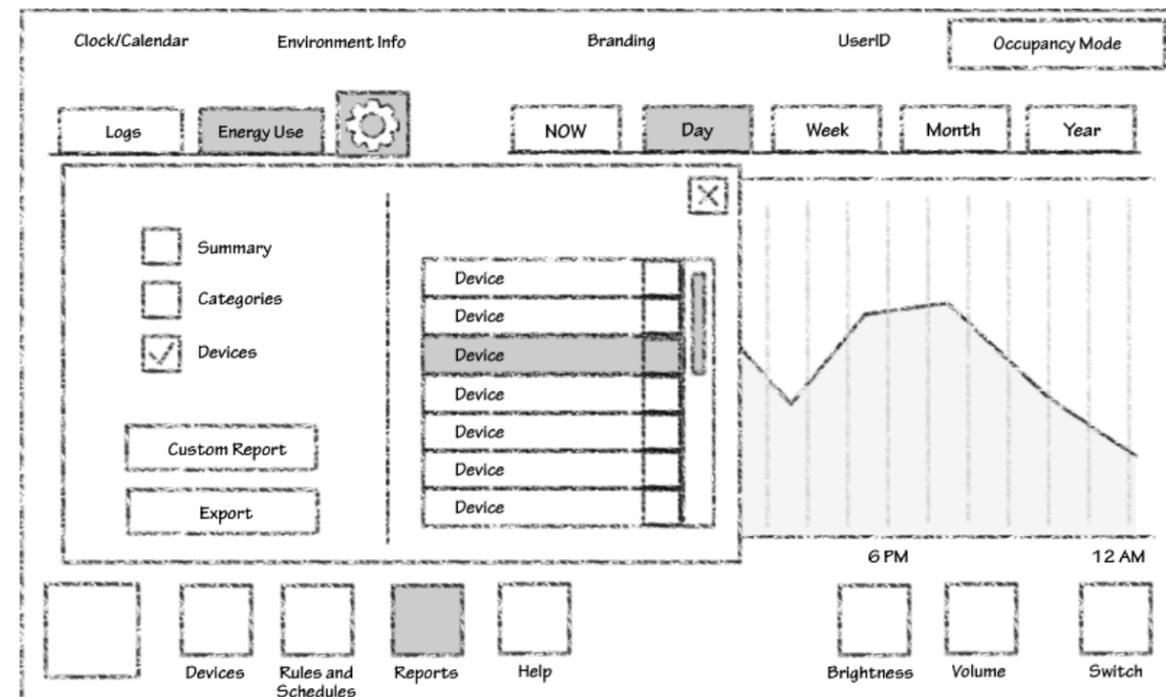
Reports Mode

Energy Usage Report Menu

- Export Report

Logs Report Menu

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OPTIMAL
T E C H N O L O G I E S
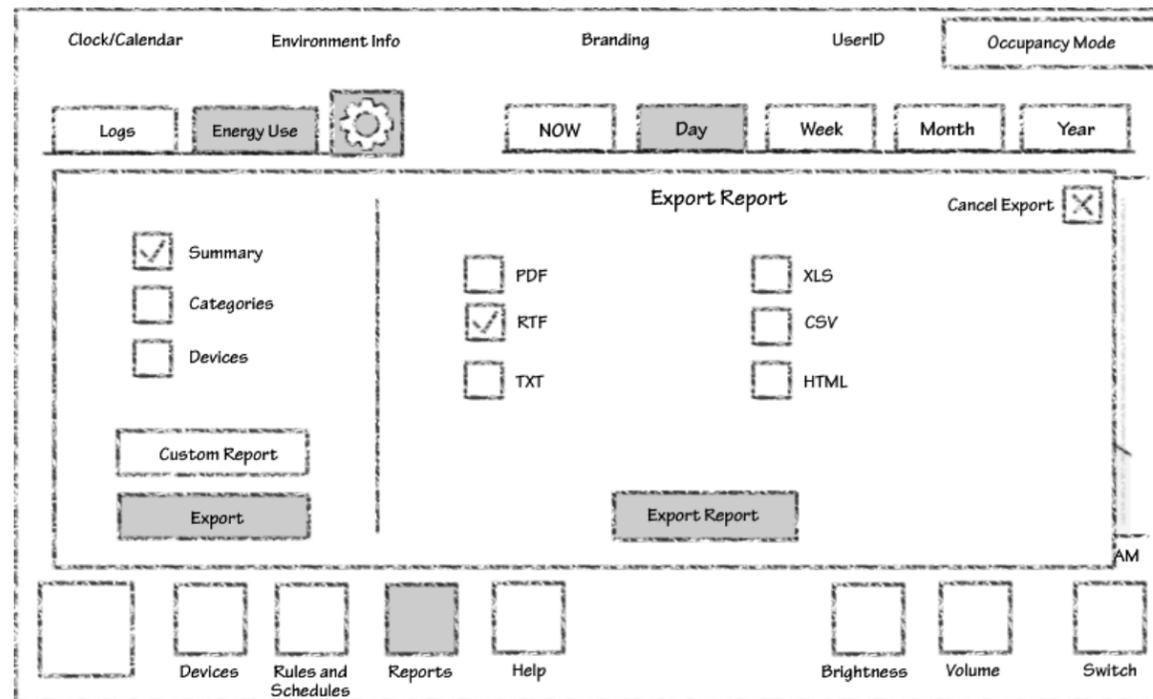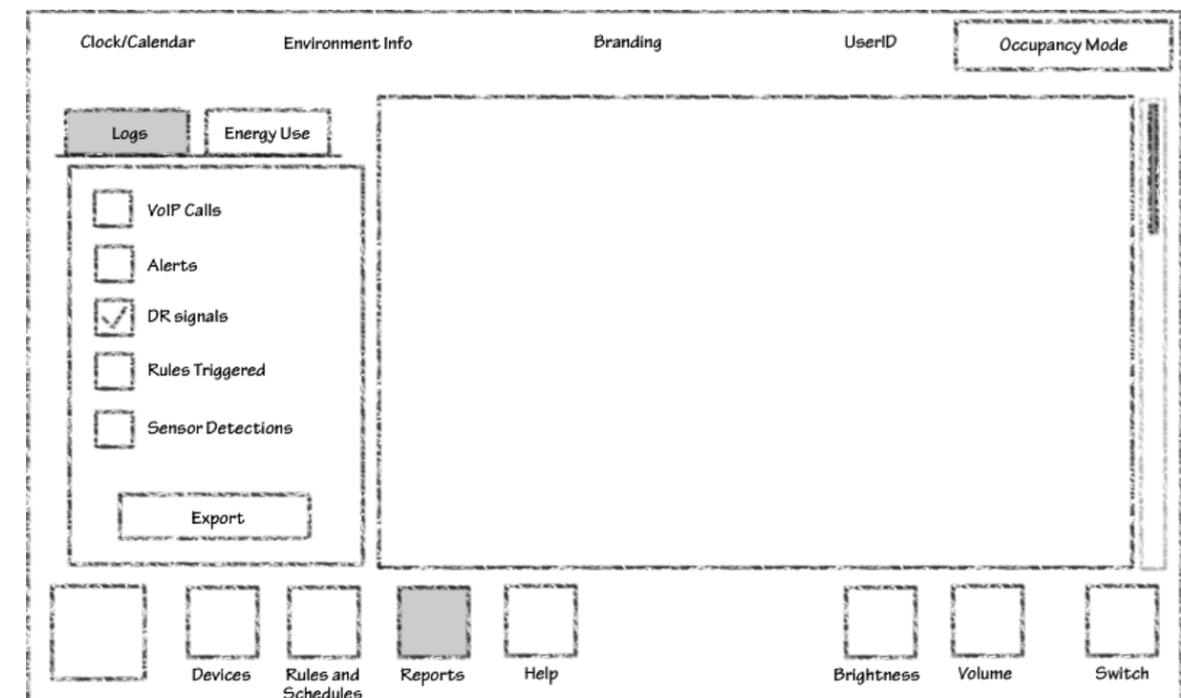
Alert Notification Mode

Low Priority Alert

This mode places an icon badge on the **Reports** function button to notify user that a new alert has been added to the reports available.
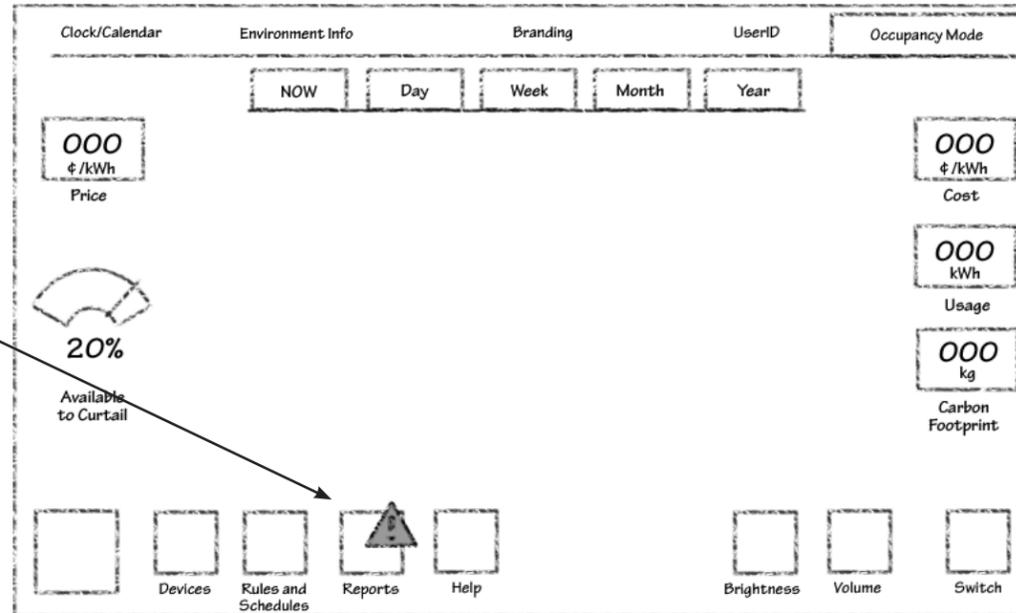
High Priority Alert

This mode superimposes a modal dialog box upon the UI requiring the user to acknowledge the alert and possibly to take steps to address the issue being raised by the alert.

Optimal
T E C H N O L O G I E S

VoIP Service

Contact Scrolling List Component

The list contains contacts that the user has entered into the system.

dragging along list causes scroll action; clicking and removing on a specific device or group causes the item in the list to be selected (highlighted), and the properties component to reflect its properties. The contact's number will populate the field above the keypad.
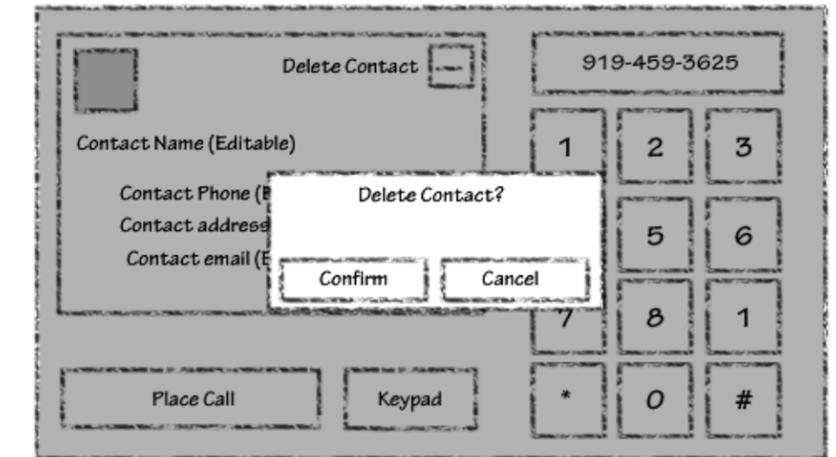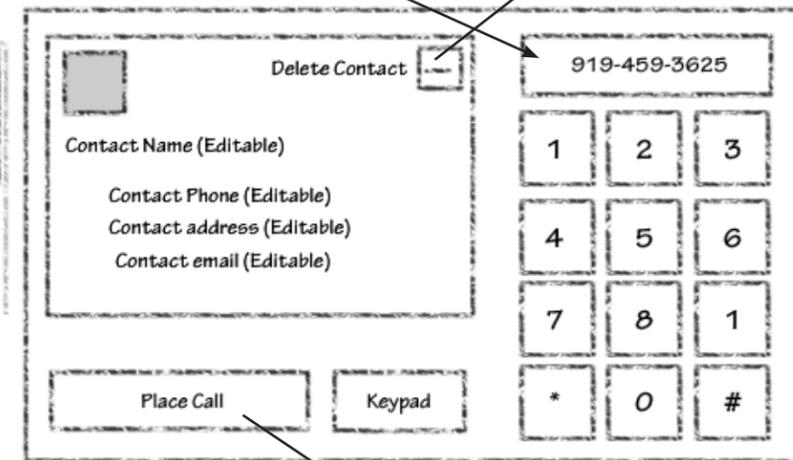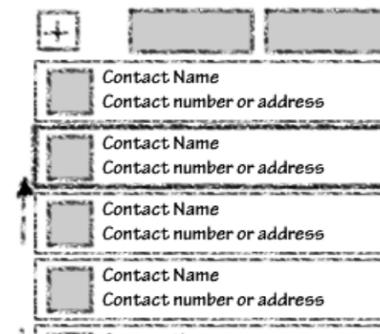
Delete Contact

Selecting delete contact allows the user to delete the contact from the list, following a confirmation dialog.

VoIP service

Interface loads upon selecting VoIP from the dashboard menu of services.

This service allows users to create a list of contacts, and make phone calls over the internet using the list of contacts or a conventional keypad.

Keypad During Call

The user can access the keypad at any time during a call by clicking on the keypad/hide keypad toggle button. (This might be necessary for entering in tones as prompted by automated phone systems.)
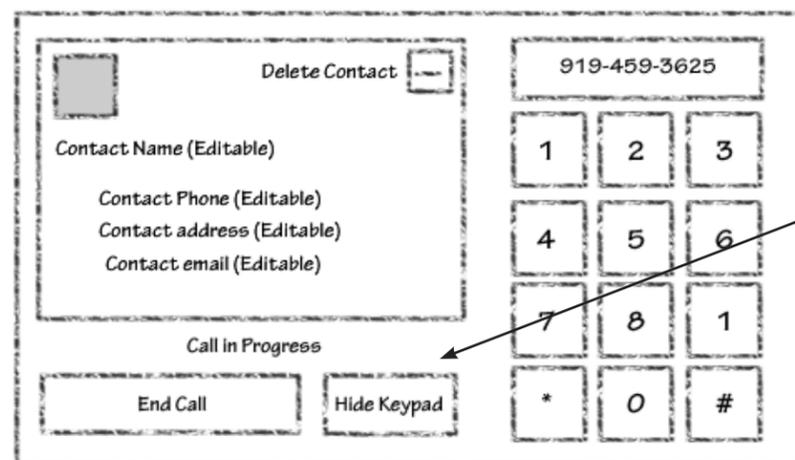
Place Call

Selecting place call will dial the contact selected. If no contact is selected, place call will dial the number entered by the keypad will be dialed.

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OPTIMAL
T E C H N O L O G I E S
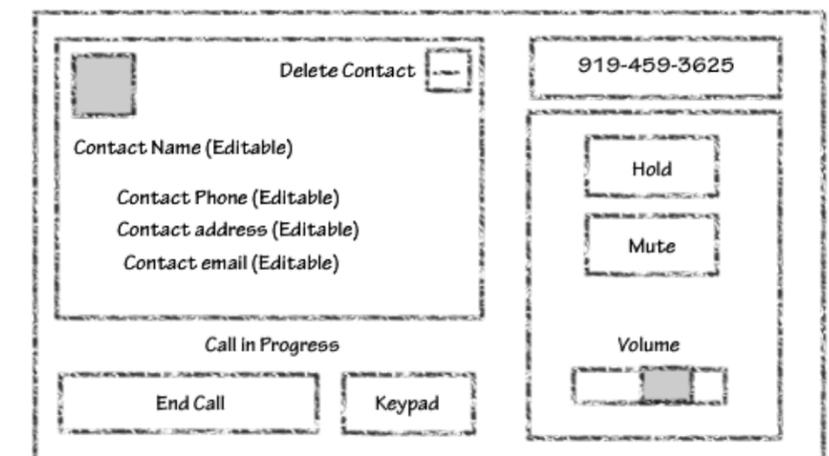
Security Service

Status Information

| Clock/Calendar | Environment Info | | Branding | UserID | Occupancy Mode |

SP Branding

SYSTEM ARMED

| 1 | 2 | 3 |

CODE
REQUIRED
TO
DISARM

| 4 | 5 | 6 | MEDICAL

Disarm

| 7 | 8 | 9 | FIRE

Arm

| * | 0 | # | EMERGENCY

Devices | Rules and Schedules | Reports | Help   Brightness | Volume | Switch