

## **HIGH priority**

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### **Use case:** Build

Description: Build circuits and components.

Priority: High

Includes: add component, remove components, connect components, analyse function table, zoom workspace, clockpulse, remove connection, move, select, undo, redo, copy, cut, paste, add decorating object.

Normal flow of events:

1. Calls the chosen use case

### **Use case:** New workspace

Description: Creates a new workspace.

Priority: High

Normal flow of events:

1. A new workspace is displayed on the center stage with the chosen background and a new untitled tab is displayed among the earlier tabs just above the center stage.

### **Use case:** Close the selected workspace

Description: Closes the selected workspace.

Priority: High

Normal flow of events:

1. The current workspace is closed.

Alternate flow:

1. If unsaved changes have been made, a save prompt will be displayed.
2. a) If the user clicks on "yes", call UC save workspace.  
b) If the user clicks on "no", the workspace is closed.  
c) If the user chooses "cancel", the closing procedure is cancelled.

### **Use case:** Close all workspaces

Description: Closes all workspaces.

Priority: High

Normal flow of events:

1. For each open unsaved workspace a save prompt is displayed.
2. If the user chooses yes, the workspace is saved with the Save workspace use-case. If the user chooses no, the workspace is not saved.
3. The workspace in question is closed.

Alternate flow:

1. For each open workspace; if the workspace has not been saved, the program asks the user if he wants to save the unsaved workspace.
2. The user presses cancel.
3. The close all workspaces procedure is cancelled.

**Use case: Add components**

Description: Adds a component to the workspace.

Priority: High

Normal flow of events:

1. The selected component is now placed at chosen location on workspace.
2. A red circle is drawn around the component and it disappears when the components is fully connected.

Alternate flow:

1. No component is selected in the palette when the UC is called.
2. Nothing happens.

Exceptional flow:

1. User tries to place component at unavailable location(on top of another component or outside a workspace)
2. Nothing happens.

**Use case: Remove component**

Description: Remove objects.

Priority: High

Normal flow of events:

1. System removes the selected component from the screen.

Exceptional flow:

1. If none of the components on the workspace has been selected, nothing happens.

**Use case: Connect**

Description: Connects different components together.

Priority: High

Normal flow of events:

1. User right clicks on the component to choose the out port from the pop-up menu.
2. Then the user right clicks on the component that is to be connected.
3. The user chooses which in port to connect to.
4. A line is drawn between the two ports, indicating that they are connected.

**Use case: Select**

Description: Selects a component

Priority: High

Normal flow of events:

1. The component turns blue.

**Use case: Exit program**

Description: Shut down program.

Priority: High

Normal flow of events:

1. Program exits gracefully.

**Use case:** Select all

Description: Selects all components and connections.(Ctrl+A)

Priority: High

Extends: Select

Includes: Multiple select

Normal flow of events:

1. All components in the workspace turn blue.

**Use case:** Deselect component

Description: Deselects a component.

Priority: High

Extends: Select

Normal flow of events:

1. The component turns black.

**Use case:** Deselect all

Description: Deselects all components.

Priority: High

Extends: Deselect component

Normal flow of events:

1. All components in the workspace turns black.

**MEDIUM priority**

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**Use case:** Multiple select

Description: Select multiple components (shift+ left mouse click)

Priority: Medium

Extends: select

Normal flow of events:

1. The component turns blue.
2. User holds down shift while clicking another component in the workspace.
3. The component turns blue, and the color of the other component selected earlier is still blue.

**Use case:** Set background

Description: Choose between blank, dotted or grid background.

Priority: Medium.

Normal flow of events:

1. Chosen background is displayed on the workspaces.

**Use case:** Paste

Description: Pastes clipboard-objects to current workspace.

Priority: Medium

Normal flow of events:

1. If there are components in the clipboard, those are pasted slightly above the copied components position in the active workspace.

**Use case:** Navigate workspace

Description: Navigates the workspace.

Priority: Medium

Includes: Pan workspace, Zoom workspace.

Normal flow of events:

1. If the user chooses to pan around, call UC Pan workspace.
2. If the user chooses to zoom, call UC Zoom workspace.

**Use case:** Pan workspace

Description: Moves the workspace around.

Priority: Medium

Normal flow of events:

1. View pans around corresponding to which direction the mouse dragged the workspace in.

**Use case:** Save all workspaces

Description: Saves all open workspaces.

Priority: Medium

Extends: Save current workspace

Normal flow of events:

1. All workspaces are saved.

**Use case:** Save current workspace

Description: Saves active workspace as a circuit.

Priority: Medium

Normal flow of events:

1. Current workspace is saved and the save workspace button is disabled (responsive enabling).

Alternative flow of events:

1. User clicks either save workspace menu item, save workspace toolbar item or save workspace short command to save changes made to circuit that previously has not been saved.
2. A pop up window asks user which name the project should be given and directory.
3. After user has given name and directory and clicked "save", current workspace is saved and the save workspace button is disabled.

**Use case:** Clock pulse

Description: Generates a clock pulse through the clock component.

Priority: Medium

Normal flow of events:

1. The clock is started.
2. The output value changes between 0 and 1 every 500ms until the clock is paused.

**Use case:** Move

Description: Move a component.

Priority: Medium

Normal flow of events:

1. User drags the component to a different location.
2. Component is placed at the chosen location in the workspace.

Alternate flow:

1. User drags multiple components to a different location in the workspace.
2. The components are placed at the new location.

**Use case:** Change gate representation

Description: Allows the user to decide if the gates should be displayed in IEC standard or US standard when they are drawn.

Priority: Medium

Normal flow of events:

1. The representation of components changes to the chosen standard.

**LOW priority**

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**Use case:** Add decorative object

Description: Adds a decorative object to the workspace.

Priority: Low

Normal flow of events:

1. The decorative object is added to the workspace at the chosen location.

**Use case:** Save as picture

Description: Saves current workspace as picture.

Priority: Low

Extends: Save workspace

Normal flow of events:

1. The program asks for a location to save the image at.
2. The user selects a valid location.
3. The program exports the active workspace as an image.

**Use case:** Analyse function table

Description: A table displaying current variable values.

Priority: Low

Normal flow of events:

1. A function table appears on the top right hand side of the center stage.

**Use case:** Undo

Description: Undo previous action.

Priority: Low

Normal flow of events:

1. Last made change is undone if there has been a change.

Alternate flow:

1. Nothing happens if no changes have been made.

**Use case:** Redo

Description: Redo previous action.

Priority: Low

Normal flow of events:

1. Last undo action is redone.

Alternate flow:

1. Nothing happens if no undo has been made.

**Use case:** Save as component.

Description: Saves the current circuit as one unit.

Priority: Low

Normal flow of events:

1. System displays a dialogue asking the user where the file will be saved and in what format.
2. User chooses location and format and presses "Ok".
3. The dialogue closes and the component is saved.

**Use case:** Zoom workspace

Description: Zoom workspace in/out.

Priority: Low

Normal flow of events:

1. The workspace zooms in or out depending on which key/direction on the scroll the user uses.

**Use case:** Remove connection

Description: Removes the connection between two components or gates.

Priority: Low

Extends: remove

Normal flow of events:

1. Removes the selected connection from the screen.