Series 60

theme studio

for Symbian OS

Artist's guide 2.0

Table of contents

Quick guide

Theme gallery view

Theme preview area

Theme browser

Command bar

Theme editor view

Items display bar

Editing toolbox

Theme creation task list

Image/
component
browser

Editing area

Components display bar

Command bar

move	zoom	rotate
pointer	pan	scale

move   zoom   rotate   fix   wait   up   image   move

pointer   pan   scale   mirror   fix   mask wand   maximize   delete   Scroll view

© Nokia
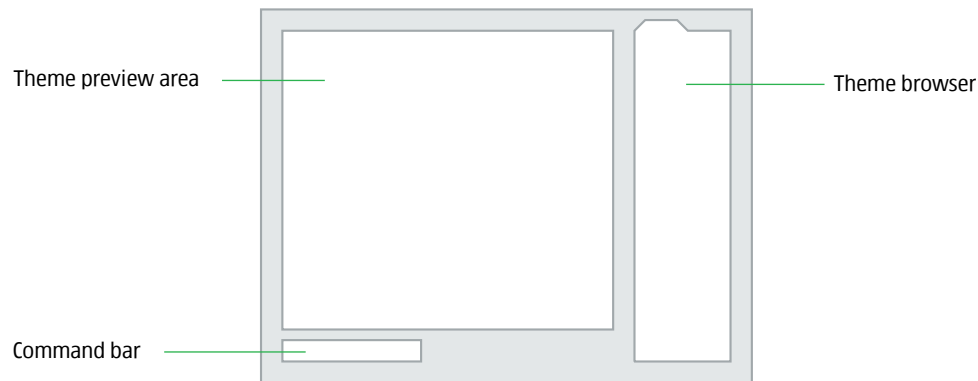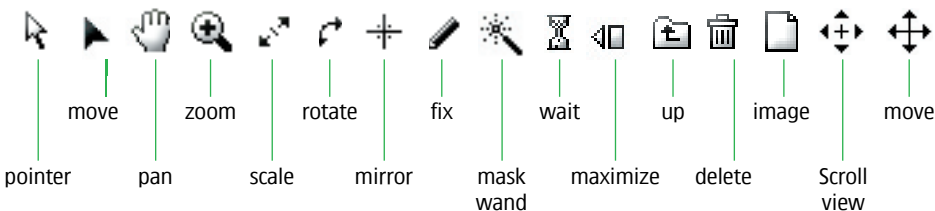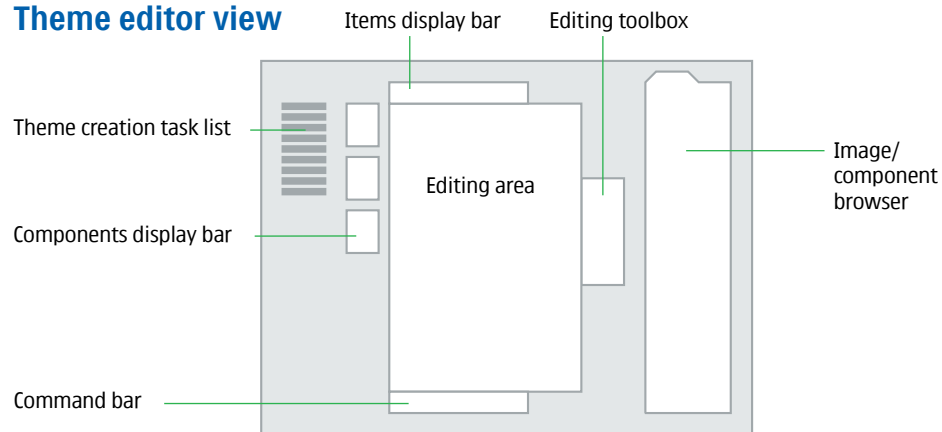
Shortcuts:

F1	Context sensitive help
Ctrl+n	Create a new theme
Ctrl+s	Save a component and theme
Ctrl+Shift+s	Save as a copy with a new name
Ctrl+c	Copy the image to the clipboard
Ctrl+v	Paste the image from the clipboard to the Editing area
Ctrl+z	Undo
Shift+LeftMouseKey	Select all items between the first and last item
Ctrl+LeftMouseKey	Add highlighted item to the selection
Ctrl+Spacebar+LeftMouseKey	Zoom in
Ctrl+Alt+Spacebar+LeftMouseKey	Zoom out
Ctrl+ '+' (plus)	Zoom in
Ctrl+ '-' (minus)	Zoom out
Ctrl+0	Fit the view
Ctrl+1	100% magnification
Ctrl+2	200% magnification
Ctrl+3	300% magnification
Ctrl+4	400% magnification
Ctrl+5	500% magnification
Ctrl+6	600% magnification
Spacebar	Pan
Shift+scaling	Scale the image with fixed aspect ratio
Alt+scaling	Scale the image according to the image center
Alt+Shift+scaling	Scale the image according to the image center and with fixed aspect ratio
ArrowLeft	Move the image one pixel to the left
ArrowRight	Move the image one pixel to the right
ArrowDown	Move the image one pixel down
ArrowUp	Move the image one pixel up
Ctrl+ArrowLeft	Activate the section to the left (of the active section)
Ctrl+ArrowRight	Activate the section to the right
Ctrl+ArrowDown	Activate the section below the active section
Ctrl+ArrowUp	Activate the section above the active section
Alt+LeftMouseKey	Open animation frame duration pop-up window

[Introduction

This document defines the guidelines for theme creation for Series 60 platform mobile devices. The document is also a user manual for Series 60 Theme Studio version 2.0.

The document is divided into three main chapters:

- The Introduction chapter provides an overview of the theme concept.
- The Theme Studio chapter outlines the installation, functions and different views of   Theme Studio.
- The Theme creation task list chapter defines theme component creation with Theme Studio as well as providing information about other dialogs of the tool.

The side bar contains the titles and subtitles of the document. The task list titles in the third section are numbered as in the tool. The highlight indicates the current topic.

Sections may contain notes, which are tips to help you. These items have an exclamation mark graphic and a grey text box.

Sections may also contain links and references to other sections. These items have a double arrow graphic and a grey text box.

Note:
Notes contain tips to help you create themes.

See also:
Links to other sections are shown here.

What's new in the version 2.0:

1. SVG support
2. Multiple resolution support
3. Laying images
4. Effects palette
5. More skinnable items
6. More colour support

Themes

Themes (skins) are used to change the look of your mobile phone's user interface (UI). Themes consist of display items called components. By modifying the appearance of these components you may create a whole new look for your UI.

Themes In Series 60

In Series 60 the themes enable changes to the basic look of the UI. Themes allow you to modify or change:

- The display background
- The appearance of highlights
- The appearance of pop-up windows
- The appearance of commonly used components/applications
- The colours of the fonts
- The style of icons
- Sounds

A theme package can contain graphics for one or many changeable components and the default component will be shown if it is not edited.

In Series 60 the UI is scalable to support different resolutions and orientations. This means that all of the components scale according to different screen resolution of the devices.

Scalablility means that you are able to use the same Theme package in different Series
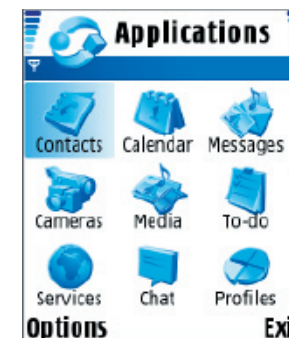
Unskinned User Interface

Skinned User Interface

Component:
Components are display items that are used to build a graphical user interface. Components may consist of a single item or multiple items (options: single image, single image plus filters, two or more images plus filters, background image plus filters). Components can be either vector (.SVG) or bitmap (.bmp) graphics., They are scalable sccording to various resolutions.

60 devices with different screen resolutions.

Additionally, themes may contain items specifically to individual applications, such as a background image for the Idle mode.

A single theme package can contain graphics for one or many changeable components. The default component will be shown if it is not edited.

Note:
Changing a theme only affects the look and feel of the UI. The functions or features of the device are not changed.

[Theme Studio

Series 60 Theme Studio

With Series 60 Theme Studio, a personalised theme can be created and deployed on the phone. Changing the appearance of a component to some extent in Theme Studio is achievable. For a complete Theme creation other graphic editing applications are recommended, for example Adobe© Illustrator© for vector graphics editing, Adobe© Photoshop© for bitmap editing and Adobe© Audition© for sound editing.

Series 60 Theme Studio is compatible with Windows 2000 or XP operating sytem. Only UK English is currently supported for the UI language.

System recommendations:

Processor 1.5GHz or higher
512MB memory or higher
200MB available on hard disk
Display card with at least 16bit colours on 1280x1024 resolution
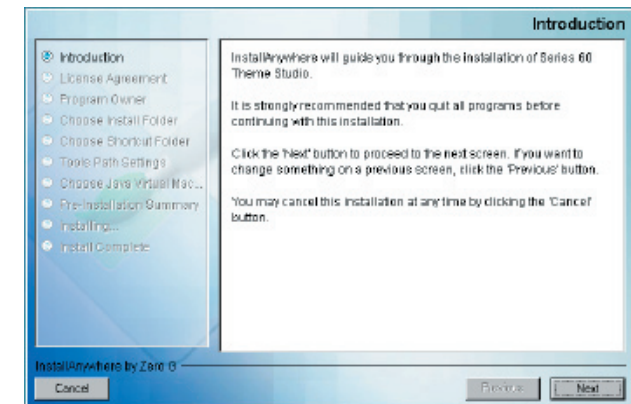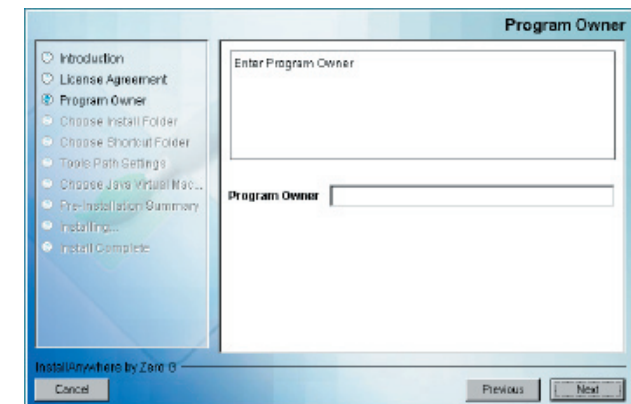
Installation

To install the application:

1. Double-click the **Series_60_TS_2_0_Install.exe** icon.

2. Read the instructions on the introduction screen.

3. Read the End User Licensing Agreement text and accept the terms. In case if you do not agree with the terms, select the 'I do NOT accept the terms of the License Agreement' option. In this case, the program installation will be cancelled.

4. Enter a Program Owner name. This name is the default value used as the author for themes.

5   Specify the installation directory:

    - To change the default directory, type the absolute path in the edit area or click the **Choose...** button and select the desired directory.
    - To return to the default values, click the **Restore Default Folder** button.

Installation step #2

Installation step #4

System requirements:
Windows 2000 or XP, System recomendation
Processor 1.5GHz or higher
512MB memory or higher
200MB empty space on hard disk
Display card with 16bit color at least on 1280x1024 resolution

6. On the next screen, select a location to add the program shortcut icon.

Choose one of the following options:

- In a new Program Group:
  Select this option to create a shortcut in the Program option in the Start menu. Specify the program group name by typing the required name in the edit box next to the option.
- In the existing Program Group:
  Select this option to create a shortcut in an existing list (program group) in the Program option in the Start menu. Select your preferred group by choosing an option from the list next to the option.
- In the Start Menu:
  Select this option to create a shortcut in the Start menu.
- On the Desktop:
  Select this option to create a shortcut on the Windows desktop.
- In the Quick Launch Bar:
  Select this option to create a shortcut in the Quick Launch Bar.
- Other:
  Select this option to choose where the shortcut will be created.
- Don't create icons:
  Select this option to not create any shortcuts.
- Create Icons for All Users:
  Select this option to create a shortcut that is accessible to all users of the Program Group or Start menu of the Windows OS.
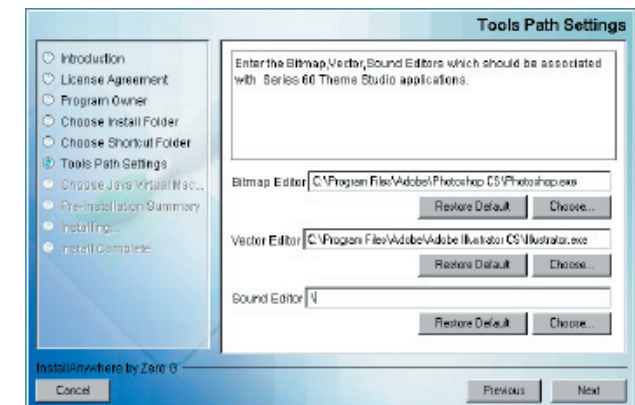
7. Set your preferred Bitmap Editor application by typing the absolute path of the paint program, or by clicking the **Choose** button and selecting the paint program.

Set your preferred Vector Editor application.

Set your preferred Sound Editor application.
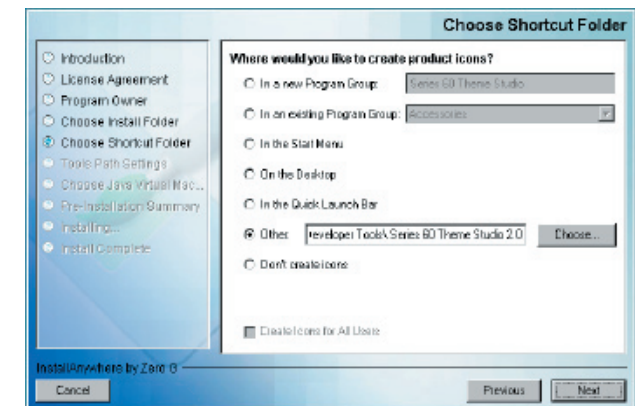
Installation step #6

Installation step #7

8. Select the Java Virtual Machine (VM) that will be used. You can select one of two options:

    - Install a Java VM specifically for this application
      This option installs a Java VM specifically for the application. This is the recommended option for all users.
    - Choose a Java VM already installed on this system
      Select this option to associate an existing Java VM with the application. This option is only recommended for experts who are familiar with Java VM concepts. An incorrect Java VM version may cause errors. After selecting this option, choose one of the listed Java VMs or search for others by clicking the **Search For Others** button. Alternatively, select a Java VM by clicking the **Choose Another...** button.

9. A summary of the options you have selected is now displayed. If any corrections are necessary, go back to the previous steps by clicking the **Previous** button.

10. Click the **Install** button to start installing the application. The install dialog will show the status of the installation process.

11. Click the **Done** button to complete the installation process. It is recommended that the system is restarted before starting the application.

Congratulations!

Theme Studio is now ready to help you create themes. Press the Done button to complete the installation process. It is recommended that the system is restarted before starting the application.
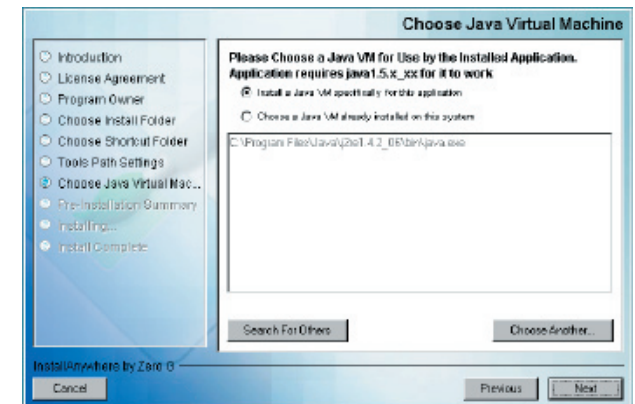
The program has two views:

- Theme gallery view
- Theme editor view

Installation step #9

Installing...

Uninstalling:
Uninstallation can be performed by Add/Remove Programs in Control Panel. Then select "Series60ThemeStudio", click on Change/Remove and finally click on "Uninstall" from the Uninstall window.

The Theme gallery view allows you to check existing themes. Use the view to preview theme design files or SIS files.

Theme design files contain all components necessary to create a theme. Open a file for editing and select the components to be used for the SIS file output.
The file format for design files is TDF (Theme Design File).

SIS files are compressed theme components that are ready to be used in a mobile device.
The file format of the packages is a Symbian OS SIS file.
The contents of packages may only be viewed, not editing.

Theme design files can be opened with other Theme Studio applications by sharing theme packages. Choose the Export command in the Theme menu to create a package.
Use the Import command in the same menu to open the package.

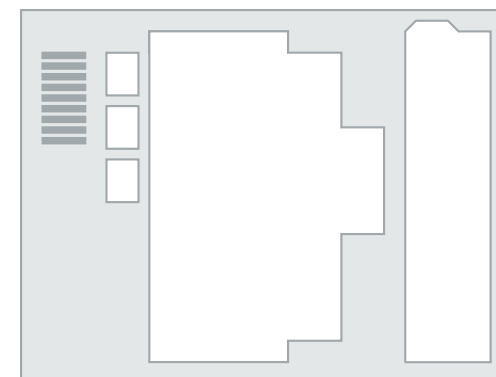The file format for package files is TPF (Theme Package File).

Theme gallery view

Preview area

The Preview area contains the title and sample images for the currently selected theme.
The displayed item can be a SIS file or a theme design file.
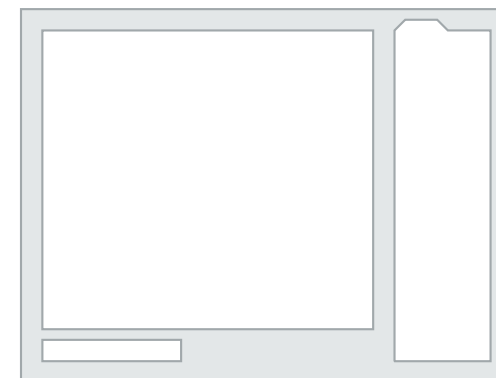
Theme gallery view

Theme editor view

File extensions:
TDF   theme design file
TPF   packed theme design file
SIS   compressed themes for sending to mobile devices
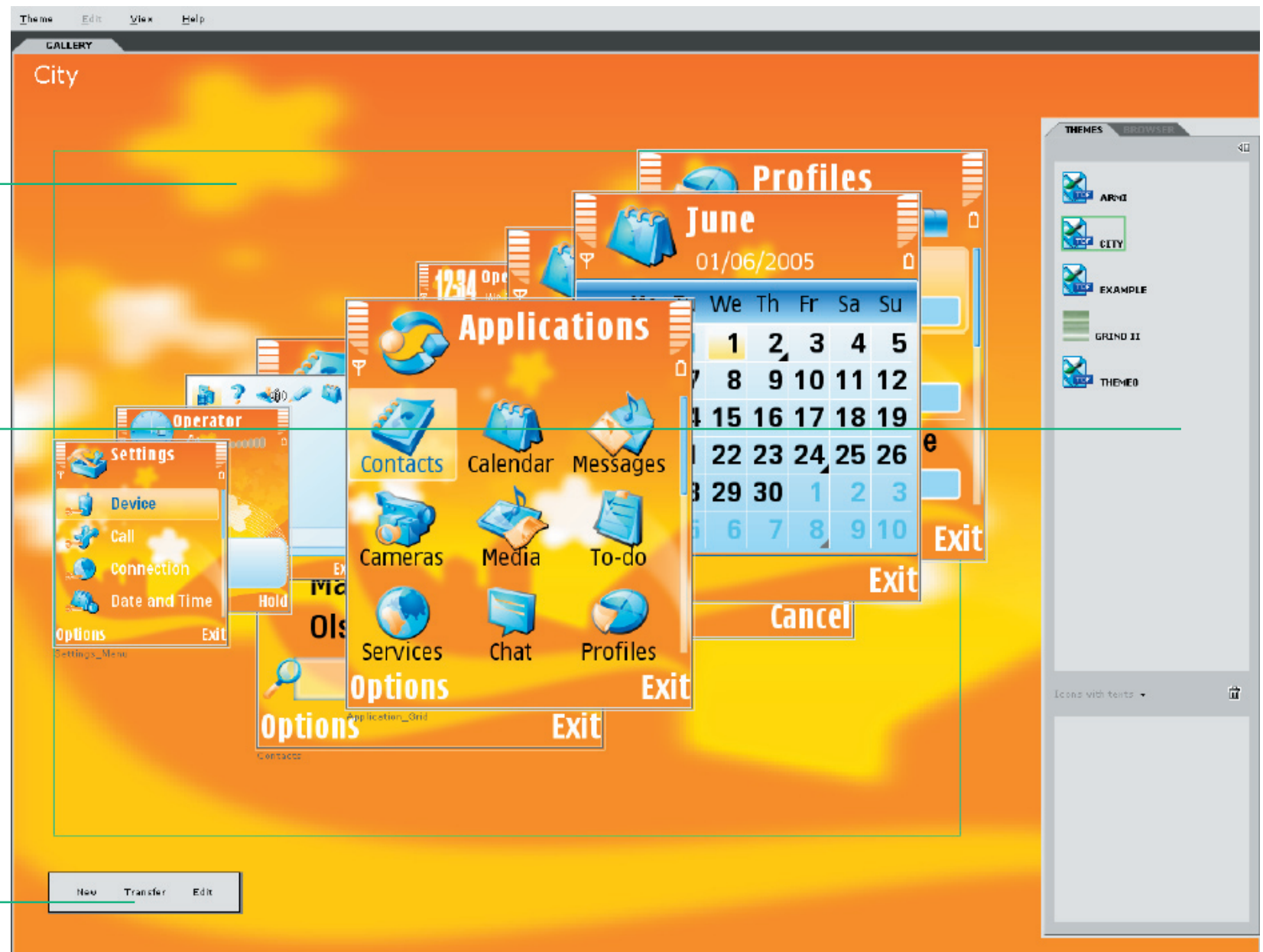
Theme design file (TDF)

Packed theme design file (TPF)   *Mobile device theme (SIS)*

Preview images are shown in an

- Theme preview area

- Theme browser area

- Command bar

© Nokia

area surrounded by a green line, with the theme's title shown above.

To preview a theme double-click on the design file or SIS file on the Browser tab views or select Open command from the Theme pull down menu.
Alternatively, you can drag-and-drop a theme design file from the Browser view to the Editing area.

Preview images are shown using different magnification levels.
One image is displayed at 200% magnification, four images using actual pixel size, and the rest are using 50% magnification.

To bring an image to the foreground, click it with the left-mouse button.

To enlarge an image to its maximum level of 200%, double-click it.

The Preview area always contains the same number of images, which may be of different magnification levels. When you enlarge an image, the remaining ones are reduced.

To move images within the preview area, drag-and-drop them. To drag-and-drop an image, select the image, hold down the left-mouse button, and move the pointer to a new location.

The title of each preview image is shown below its bottom-left corner. This title is either a theme's component or application screen name.

Preview images that have a sound attached are shown with a loudspeaker icon on the top-right corner. Double-click the image to play the sound.
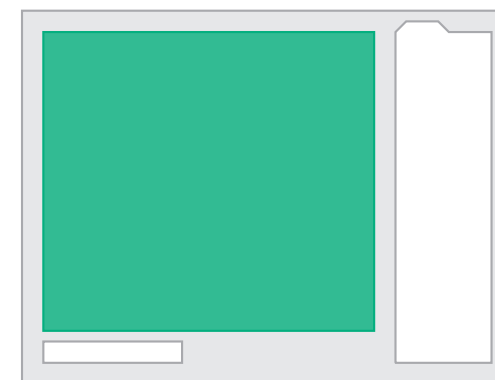
Theme preview area
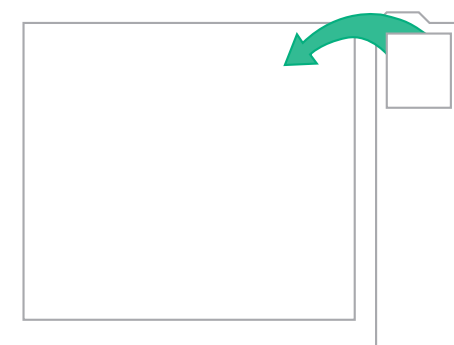
Opening a theme

Preview image with a sound

Browser area

The browser area is used to select themes for viewing. The area contains three tabbed views to select theme design files.

The common items for the browser tab views are:

- rubbish bin icon
- information area

To delete an item, either select the item and click the rubbish bin icon, or drag-and-drop the item from the grid to the rubbish bin icon.

To open a pop-up window that contains deleted items, click the rubbish bin icon. You can restore the deleted items or empty the bin contents .

The details of a highlighted item are shown in the information area.

This area contains the following information:

- theme name
- file name
- theme author
- date
- other data depending on the item (for example, graphic format)
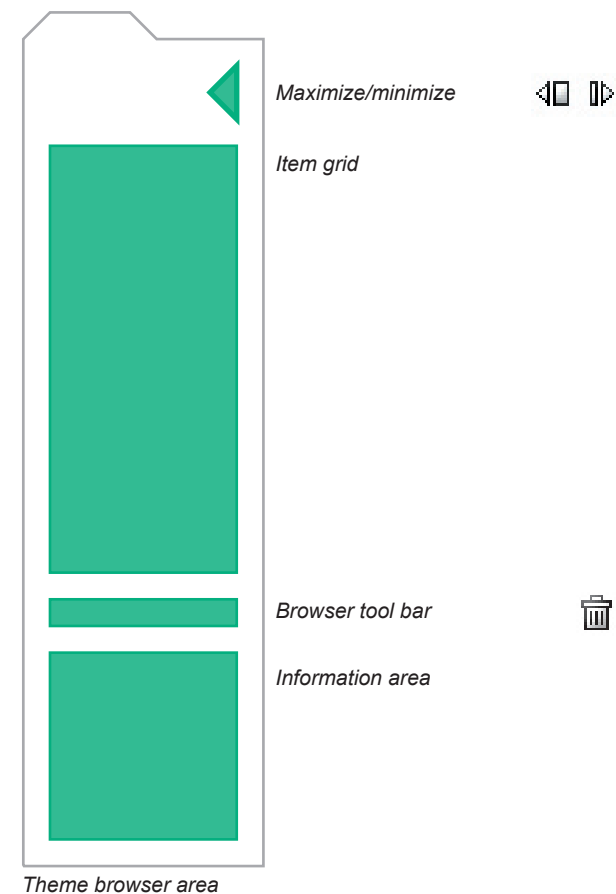
Maximize/minimize

Item grid

Browser tool bar

Information area

Theme browser area

Theme design files

Theme design files are shown in the first tab view.

The files can be opened either by double-clicking or by drag-and-dropping the files to the Editing area.

Directory browser

Use the browser tab view to search for theme SIS files or design files from your computer or a network directory.

You can expand this view. Click the **Maximize/Minimize** button at the top right corner of the tab view.

The left side of the directory browser contains the directory structure. The file grid is shown on the right. You can select the view type from the browser tool bar to view icons as small, large or with name.
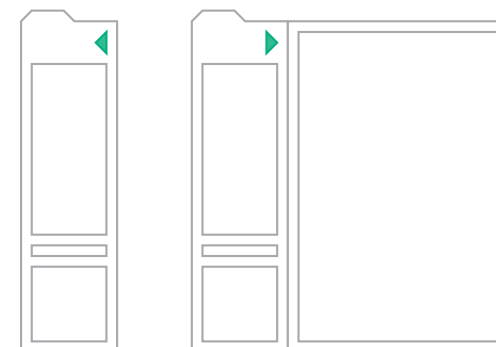
Maximize/minimize

Command bar

The command bar contains commands to:

- Create a new theme
- Transfer a theme to a mobile device or storage disk
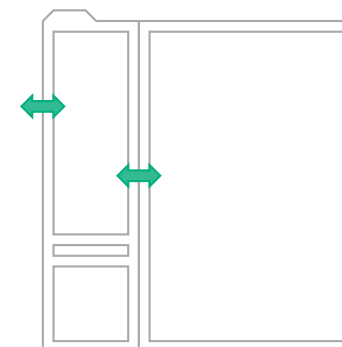- Edit a theme

Creating a new theme

To create a new theme, select the Create New Theme command or the New command from the Theme pull down menu.
You are prompted to enter the theme name and author information, and to select the

Note:
To adjust browser views, drag the window borders and division bar.

Resizing browser view

initial set of components to be created .

## Sending a theme to a mobile device

To send a theme to a mobile device or directory location, select the Transfer Theme command.

The SIS file can be saved to the computer file directory and can be transferred to the mobile device by other means. This can be done, for example, via a Bluetooth connection or USB connection. If the Nokia PC Suite is installed, the theme can be installed by opening the SIS file while the phone is connected.

If you choose to send a theme design file, a SIS file is created first, and then the sending action is started.

Editing a theme

To edit the displayed theme, select the Edit command from the command bar or from the Theme pull down menu. The theme editor view appears. You may edit the theme components and save or discard the results.
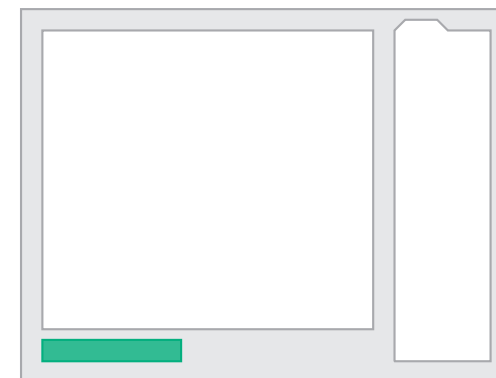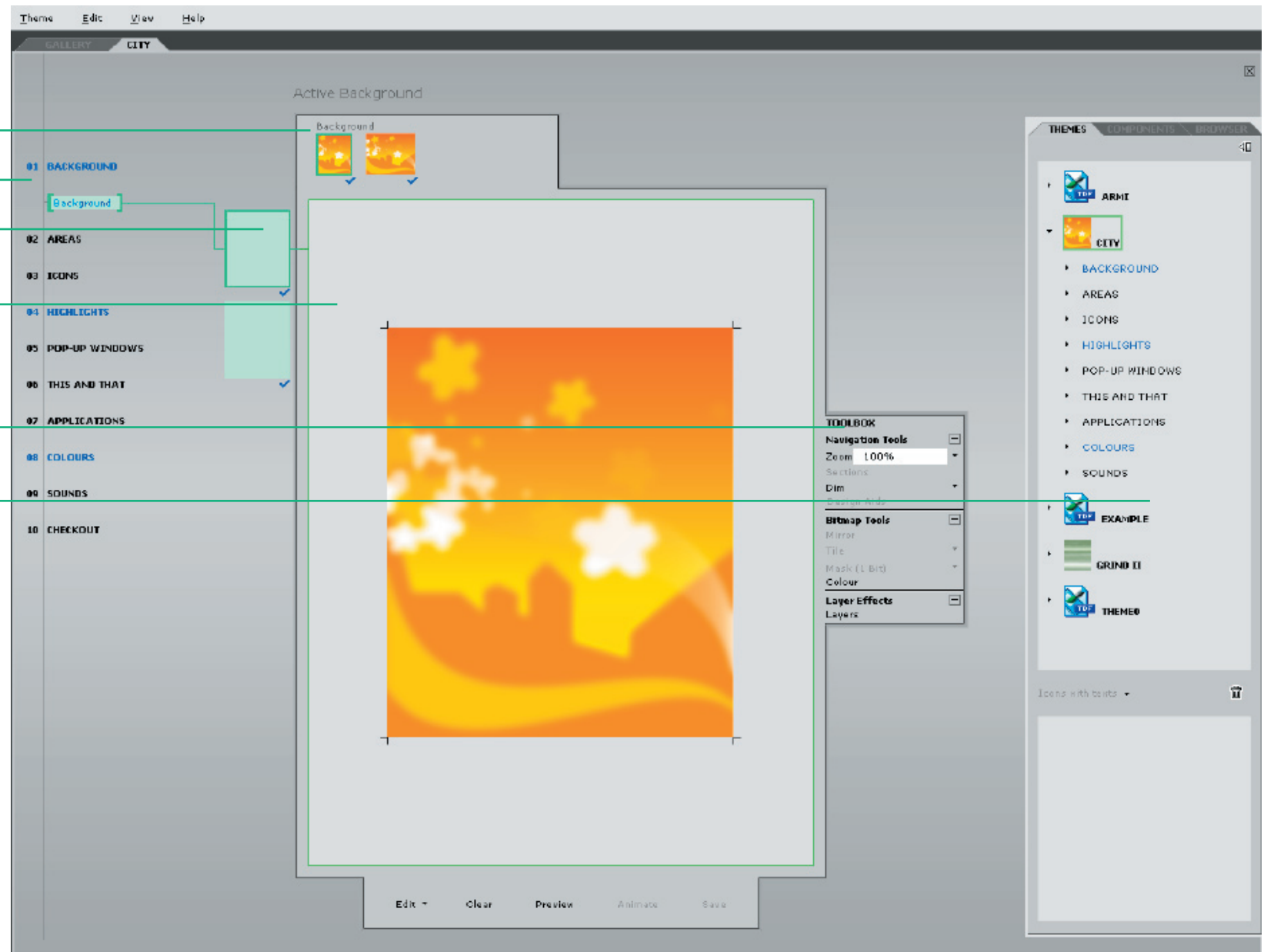
Command bar

Shortcuts:
Ctrl+n   create a new theme
Ctrl+s   save a component and theme
Ctrl+Shift+s   copy and save a theme with a new name

Theme Editor

- Items display bar
- Theme creation task list
- Components display bar
- Editing area
- Editing toolbox
- Image/component browser

© Nokia

Task list

When a theme is created a list of available components is shown on the left side of the screen. This list acts as a task list indicating items that are:

- done
- to be done
- not to be done

You can define the initial selection of items to be included in the theme package in the theme creation dialog . The selected items are shown in black, and the items that are not selected are shown in grey.

Components that have been created and saved are shown in blue. The section title is also shown in blue when all the selected items have been updated and saved.

You can create components regardless of the initial selection – the list is used to guide the creation only. You can create items in any order, remove items, and define the final selection of theme components when the SIS file is created. When you define the SIS file output, you can include all, or a subset of, the components of the theme design file.
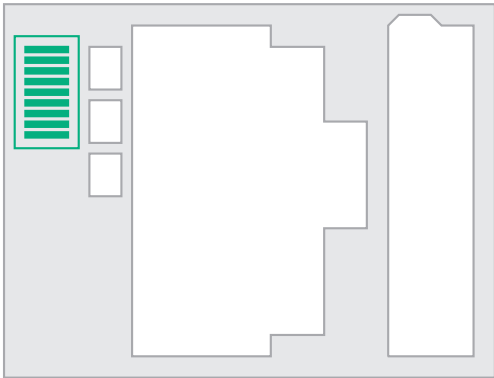
Theme creation task list

01	BACKGROUND	——	*'Done'*
02	AREAS	——	*'To be done'*
03	ICONS	——	*'Not to be done'*

Note:
Component group   theme components of the same nature
Component   single theme component
Item   single item within a theme component

Theme creation in a nutshell
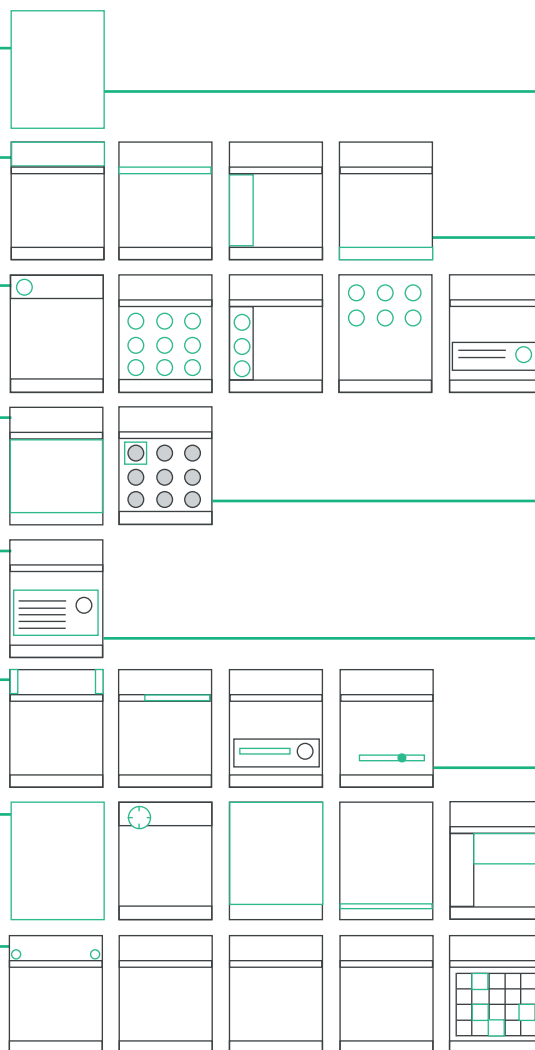
Create basic theme background graphics and general full screen background images

Add images that change the outlook of specific areas

Create application menu and submenu icons

Adjust list, grid, and input highlights

Define graphics for pop-up windows

Adjust miscellaneous items

Add application-specific theme items

Modify icon, text and line colours

Add sounds

Verify output and create a SIS file
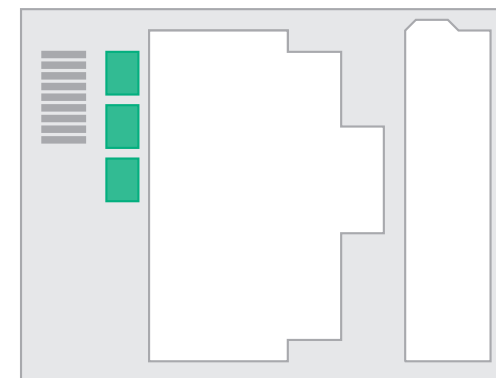
Components display bar

A component group may contain one or several theme components. Components are listed on the left side of the Editing area.

Each image shows a component that has been placed on a mobile device screen. A component may be used in several layouts and the images shown are only one possible layout.
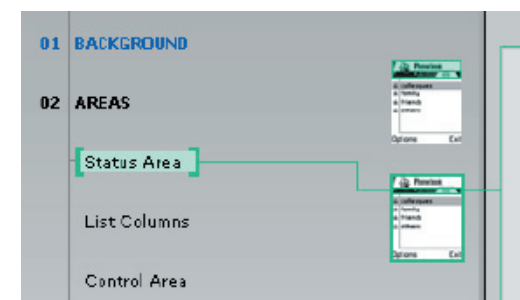
The component is shown surrounded by a green rectangle.

When an item is selected, a green line connects the component title in the task list to the component and the Editing area.

A tick mark is shown in the lower right corner of the component image when an item has been saved.

Components display bar

Selected component

Saved component

Editing section

The component editing section consists of four sections:

- Items display bar
- Editing area
- Editing toolbox
- Command bar

Items display bar

A component may be made up of several items. These items are usually different versions of the same graphic used to indicate a component's state.

If a theme component contains items, they are shown at the top of the Editing area in a scrollable list.

Items can be selected and created in any order. A tick mark is shown on the bottom-left corner of the item when an item has been saved.

In some cases (for example, Navipane background graphics, application icons), multiple items can be viewed in the Editing area at the same time. Use the Ctrl and Shift keys to select more than one item at a time and drag-and-drop the items to the Editing area.
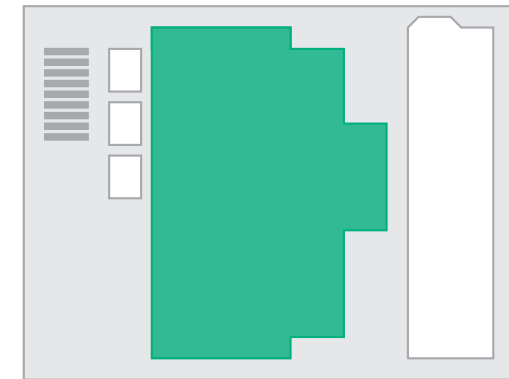
Editing section
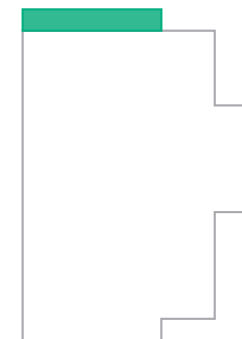
Items display bar

Saved item

Note:
Shift+LeftMouseKey   select all items between the first and last selection
Ctrl+LeftMouseKey   select/deselect single items
All Toolbars are movable, you can reposition them while the curser changes to move/scroll.

Editing area

Theme component contents are created in the Editing area. This area is surrounded by a green line with the edited items shown inside.

Theme components are shown using a sample layout. The area outside the actual theme item is dimmed. To adjust the dimness select the Dim command from the toolbox. The edited item is indicated with crop marks.

Editing toolbox

The Editing toolbox is divided into three parts according to the tool type: navigation tools, bitmap tools, and layer effects. The tools available depend on the component and its editing state. Selectable items are shown in black, items that cannot be selected are shown in grey.
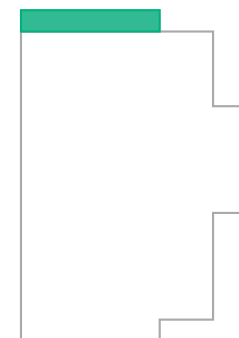
The component information section is shown only with relevant items.
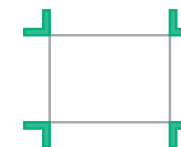
The Navigation Tools are:

- Zoom
- Sections
- Dim
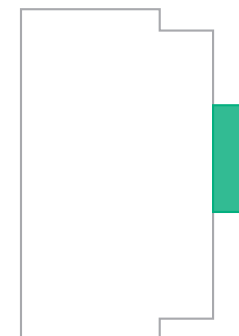- Design aids
- Pan

The Bitmap Tools are:

- Place
- Copy and Paste
- Move
- Scale
- Rotate
- Mirror
- Tile
- Mask
- Colour

Crop marks

Component editing area

Editing toolbox

© Nokia

The Layer Effects tool is:

- Layers

The pan, place, move, scale and rotate tools are not shown in the tool list but can be activated using keyboard shortcuts and mouse actions in the Editing area.
The tools are described in the following sections.

Zoom

The zoom can be adjusted in two ways.

Click the Zoom tool button and select a new value from the pop-up list. The currently active value is shown next to the tool button. You can also modify the zoom using keyboard shortcuts.

When zooming is activated, the mouse pointer indicator changes to a magnifying glass cursor. The magnifying glass contains a '+' sign when the zoom in function is active, and a '-' sign when the zoom out function is active. At maximum or minimum magnification levels the mouse pointer indicator is empty.

Pan

When items are zoomed so that the editable component or items do not fit the view, you can scroll the view by using the scrollbars or a keyboard shortcut.
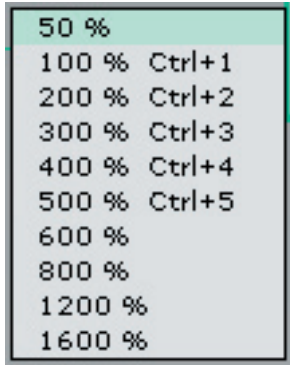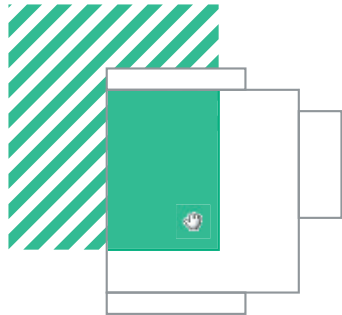

Zooming cursors

Zooming level selection list

Panning an image

Shortcuts:	
Ctrl+Spacebar+LeftMouseKey	zoom in
Ctrl+Alt+Spacebar+LeftMouseKey	zoom out
Ctrl+ '+' (plus)	zoom in
Ctrl+ '-' (minus)	zoom out
Ctrl+0	fit the view
Ctrl+1	100% magnification
Ctrl+2	200% magnification
Ctrl+3	300% magnification
Ctrl+4	400% magnification
Ctrl+5	500% magnification
Ctrl+6	600% magnification
Spacebar+LeftMouseKey	pan (move to the pointer direction)

Sections

Some components can be divided into smaller sections (for example, highlights).

You can view these sections by toggling them on and off with the Sections tool.
You can then edit section contents separately. The currently active section is indicated by crop marks. You can activate a different section by selecting it with the pointer or by using the keyboard shortcuts.

Dim

You can adjust the dim value of the bitmap image outside of the component square.

The sample image is shown dimmed behind the editable component. The dimming scale is 0-100%, from a fully visible sample image to an opaque background.
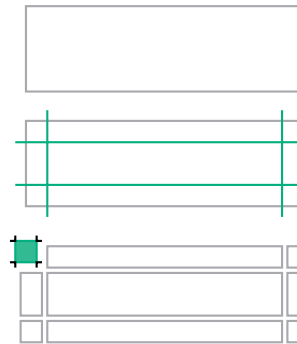
Design aids

With some components, design aids can be displayed to guide in creating components. These semi-transparent placeholders indicate a placement of another layout item or component area division.

Icon and text placeholders are shown on the components where the component contains these items on top (for example, tabs).

Level areas are shown with items where the component functionality is achieved by revealing parts of the component graphics (for example, volume graphics).
Section areas are shown with components that consist of sections. Note that the section aids are shown only when the Sections tool is active.

Design aids do not affect the use of any other tool.

Component sections

Icon/text design aids

Section design aids

Shortcuts:
Ctrl+ArrowLeft	activate the section to the left (of the active section)
Ctrl+ArrowRight	activate the section to the right
Ctrl+ArrowDown	activate the section below the active section
Ctrl+ArrowUp	activate the section above the active section

Place

You can drag-and-drop an image into the Editing area from the BROWSER tab view. (Alternatively, you can bring an image into the Editing area by double-clicking the selected image in the BROWSER tab view.) The image is placed on the top left corner of the highlighted area or section.
Images are shown using one image pixel per mobile device display pixel. The image or PC screen PPI values are not used.

You can also drag-and-drop a component for editing from the THEMES tab.

Copy and Paste

You can also copy and place the bitmap with the clipboard by using a keyboard short-cut or select Copy and Paste from edit menu. Note: Copy and paste works normally for bitmap graphics but pasting vector graphics will be pasted as a bitmap.

Move

You can drag-and-drop a bitmap image into the Editing area. Select the bitmap image, hold the mouse button down, and move the pointer to a new location. Bitmap images may also be moved using keyboard shortcuts.

Shortcuts:
Ctrl+v	place the image from the clipboard to the Editing area
Ctrl+c	copy the image to the clipboard
ArrowLeft	move the image one pixel to the left
ArrowRight	move the image one pixel to the right
ArrowUp	move the image one pixel up
ArrowDown	move the image one pixel down

See also:
Double-clicking on the image opens the component in the preferred paint application .

Scale

You can scale an image by dragging the image borders or corners.
When scaling is possible the cursor changes into scaling arrows.

Moving the top left corner adjusts the top and left sides and leaves the bottom and right side of the image static. The other corners are affected in a similar manner.

Dragging a border affects the height or width of the image to be scaled.

Scaling is arbitrary. You can use keyboard shortcuts during scaling in order to keep the image aspect ratio fixed.
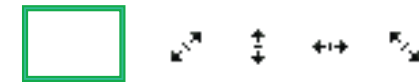
Rotate

You can rotate an image by turning the image from the corners. When you place the pointer near the outside edge of an image corner, the pointer changes into a rotate cursor.
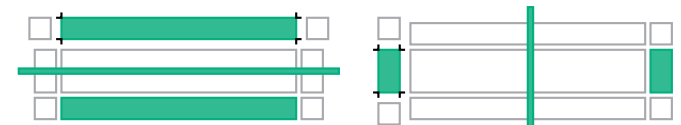
Mirror

This tool can be used together with the Sections tool to copy and mirror graphics from one section to another.

You can mirror a corner section to all other corners. You can mirror a side section horizontally or vertically.

An axis is shown when the tool is active. Select the axis with the left mouse key to carry out the action.

Scaling

Image rotate

Mirroring corners

Mirroring sides

Shortcuts:
Shift+scaling   scale the image with fixed aspect ratio
Alt+scaling   scale the image according to the image center
Shift+Alt+scaling   scale the image according to the image center and
                                 with fixed aspect ratio

Tile

When an image is smaller than the component area, use the Tile tool to fill the rest of the area.

Tiling

Mask

A mask is used in some images to remove the unwanted pixels to be shown in the UI.

Masks are created with:

- the masking wand
- the masking pen

Image1   *Image2*

Areas made up of a single colour can be masked with the masking wand. Select one pixel to affect all the connected pixels of the same colour to be included in the mask.

You can mask and unmask single pixels with the masking pen.
To paint a mask on the selection, select unmasked pixels with the tool. When the pen tool is applied to the masked area, the edited pixels become unmasked.

Masking is shown with a 30% red overlay on top of the image.

To open the mask bitmap in the pixel paint application, double-click on the mask. White colour is used where the mask is not applied; black colour is shown where the mask is effective.

Hard mask   *Soft mask*

Items can have two different types of masks: a 1-bit masks (hard masks) and an 8-bit masks (soft masks). An 8-bit mask is a greyscale image and allows creation of soft edges (anti-aliasing), and semi-transparency.

The mask type is a component specific. Generally 8-bit masks are applicable unless otherwise indicated.
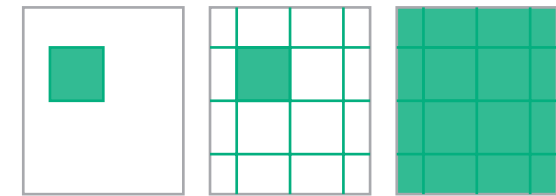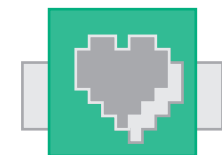

Hard mask placed on image   *Soft mask placed on image*

Note:
If a component supports an 8-bit mask, the Mask tool is shown in black.
If a component supports only a 1-bit mask, the Mask tool is followed by '(1-bit)'.
If a component does not support the use of a mask, the Mask tool is shown in grey.

Hard mask applied   *Soft mask applied*

Colour

You can use the Colour tool to adjust the colour in different ways. When selecting the tool, a pop-up window appears.

To adjust the colour, select one from the palette, enter RGB values, or adjust the Saturation or Brightness sliders.

The tool contains functions that may be used in connection with images:
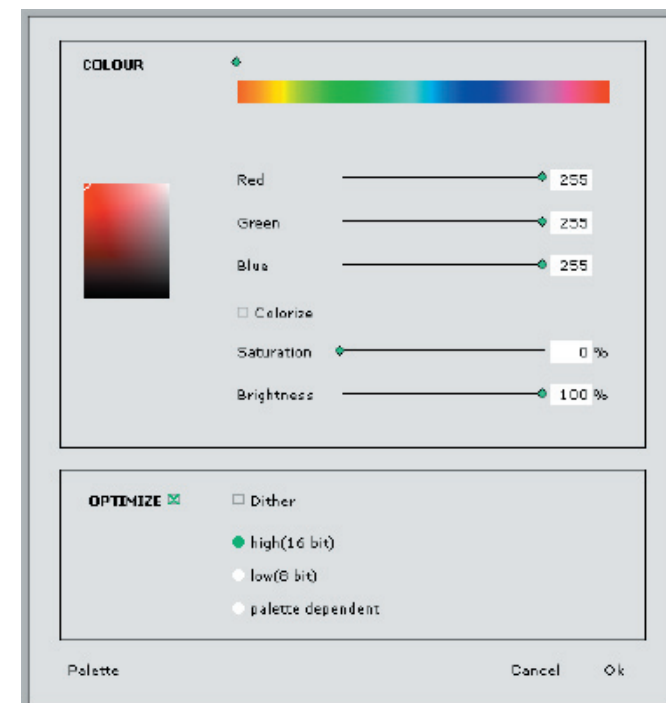
- Colourise
- Dither
- Optimise

Colourise

The Colourise tool is used to unify the hue values of an image.

Dither

You can dither images when changing colour depths. The algorithm used is Floyd-Steinberg error diffusion with a 50% threshold value.

The option is not available for palette dependent optimising.

Colour pop-up window

Note:
The colour seen on the mobile device display may not correspond fully with the colours seen in the application. Device displays vary according to the technology and colour depths used. You can check the colours on a real mobile device display by sending sample images to the device .

Optimise

You can change the colour depth of the images by selecting:

- high (16-bit)
- low (8-bit)
- palette dependent

Select the high palette option to change the colour depth of the image to 16 bits per pixel. This means that there are 65 536 possible colours to use.

Select the low palette option to change the image colour depth to 8 bits per pixel. Image colours are remapped to use 216 WEB safe colours.

A low colour setting may be applied to simple pixel graphics, like icons, in order to reduce the SIS file size.

Select the palette dependent option to index the image to a device colour scheme palette.

Indexing is carried out according to the following steps:

- First the image is saved as a greyscale image.

- Then the image is indexed to scheme values – only 16 shades of grey, black and white are used.

When the device palette is applied, the images change colour according to the active colour palette setting in the mobile device. The colour palette is user-changeable and the options available may vary from one product to another.

Original 24 bit image

16 bit image, no dithering

16 bit image, dithered

8 bit image, no dithering

8 bit image, dithered

*Phone palette, no dithering
(blue palette active)*

Note:
In Theme Studio the palette indexed colours are shown in the shades of grey, white and black. The colours from the active palette are visible only in the mobile device.
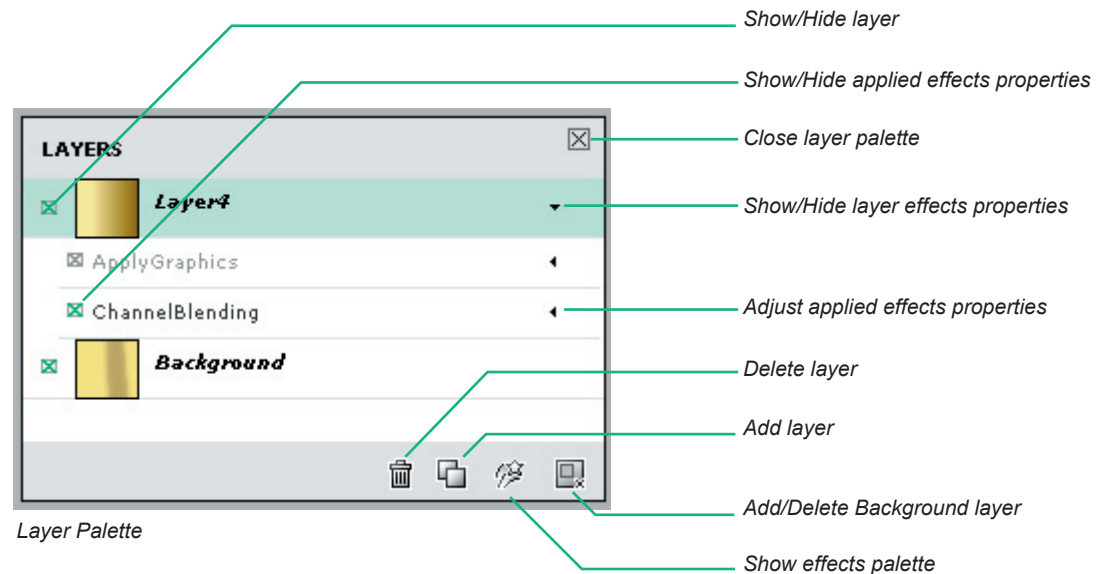
Layers and Effects

Theme Studio is capable of composing a component with graphics on different layers. When a layering component is allowed, clicking **Layers** on the last row of the Editing Toolbox will open the Layers palette. With Layers palette, controlling image layers and their effects properties are possible.

  •Add layers
  •Delete layers
  •Add/Delete Background layer
  •Show effects palette

Show/Hide layer

Show/Hide applied effects properties

Close layer palette

Show/Hide layer effects properties

Adjust applied effects properties

Delete layer

Add layer

Add/Delete Background layer

Show effects palette

Layer Palette

Note:
A layer can be activated by clicking on it. Only one layer can be active at one time. Graphics can only be placed on the active layer that is highlighted. The maximium number of layers allowed is three. The order of the layers can be rearranged by drag-and-dropping. Theme Studio will read them one by one including the properties and calculate the final composited result.

Add layers

New layers can be added by clicking the Add New Layer icon. Either an SVG or a bitmap can be added on a layer (refer to command bar/ Edit).

Delete layers

A highlighted layer can be deleted by using the Delete Layer icon.

Add/Delete Background layer

A background layer can be added clicking the Add Background Layer icon. When a background layer is added, it will automatically clip the background underneath to the size of the component. Ths is useful when attempting to create a semi-transparent effect against a background (also check Effects/Alpha blending & channnel blending). A background layer can be deleted by clicking on the Delete Background Layer icon.

Effects

Each layer may have its own effects. The effects are available when clicking on the Show Effects Palette icon. The Effects palette is divided into four areas:

- Layer Effects
- Selected Effects
- Parameters
- Preview
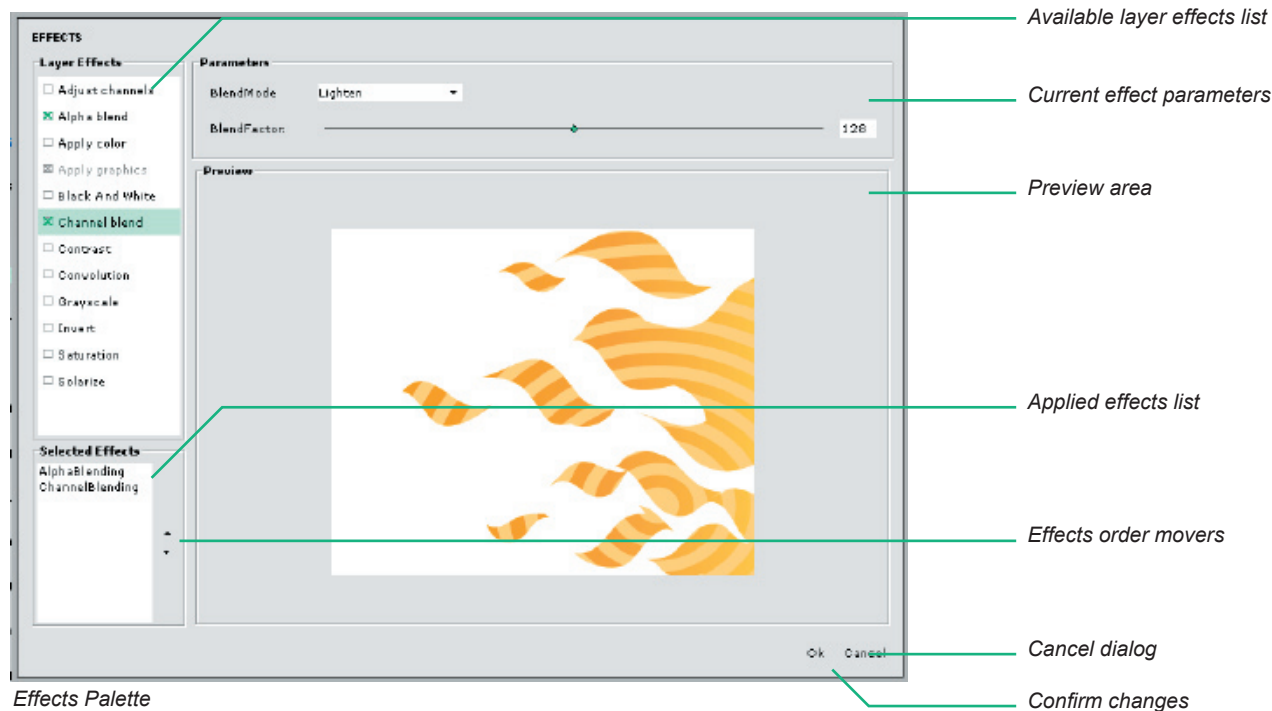
Available layer effects list

Current effect parameters

Preview area

Applied effects list

Effects order movers

Cancel dialog

Confirm changes

Effects Palette

Layer Effects

Layer Effects lists all the available effects. Some effect are disable depending on the layer type:

- Adjusting channels
- Alpha blend
- Apply color
- Apply graphics
- Black and white
- Channel blend
- Contrast
- Convolution
- Grayscale
- Invert
- Saturation
- Solarize

Adjusting channels

Adjusting channels alters the color of the image layer with RGB (Red, Green, Blue) values. The adjusting range for each color is 0-255.

Alpha blend

Alpha blend identify whether the current layer is on top of the bottom layer. If the image on the current layer doesn't show in the preview, adjust the blend mode until the current image apears. Notice: Opacity data will be removed when images are converted into Theme Studio layers.

Apply color

Apply color will replace the image with a desired color by adjusting the RGB and alpha sliders.

Apply graphics

Apply graphics is set to on as default when a layer contain an image.
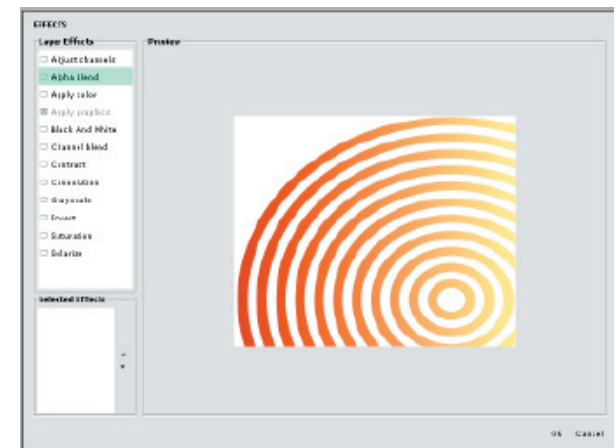
Apply graphis as default
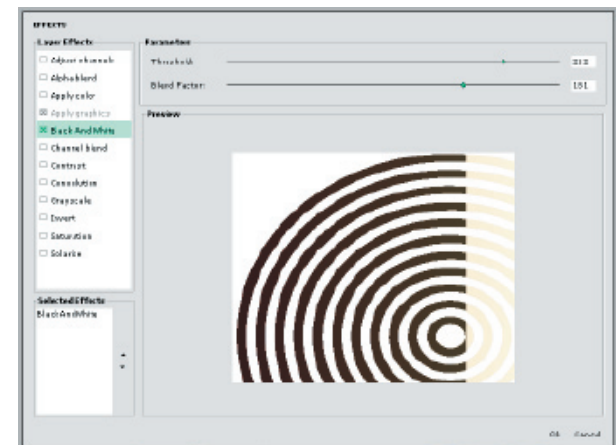
Black and white effect

Black and white

This effect will change the image to 1bit color mode (only black and white). Threshold slider is used to control the sample range of the image. Blend factor slider can set the blending of the filtered image with the original image.

Channel blend

With Channel blend you can set how the current layer is blended into the layer beneath. Different blending method can be set from the BlendMode dropdown list. BlendFactor sets the opacity of the corrent layer.

Contrast

Contrast is used to scale the brightness of the image.

Convolution

Convolution is a set of filters that affects the edges of the image, such as Blur, Sharpen, Emboss, and Edge.

Grayscale

Grayscale is similar to Black and White effect. It changes the image into grayscale and set the blending parameter to its original.

Invert

Invert will change all of the colours into the opposite colours of the image.

Saturation

The value of the image's saturation can be adjusted with this effect.

Solarize

Solarize will invert all the colours while keeping the original image's luminosity.
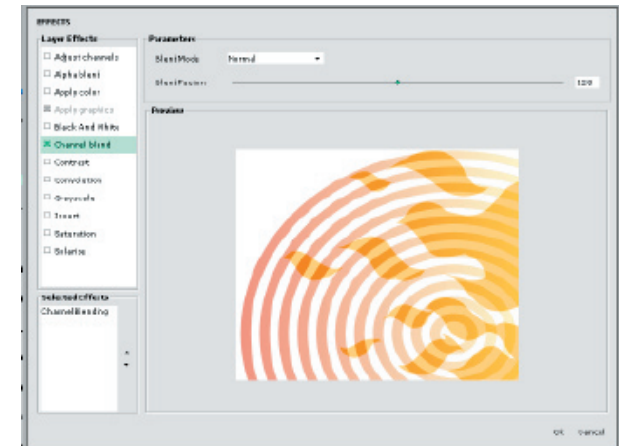
Channel blend
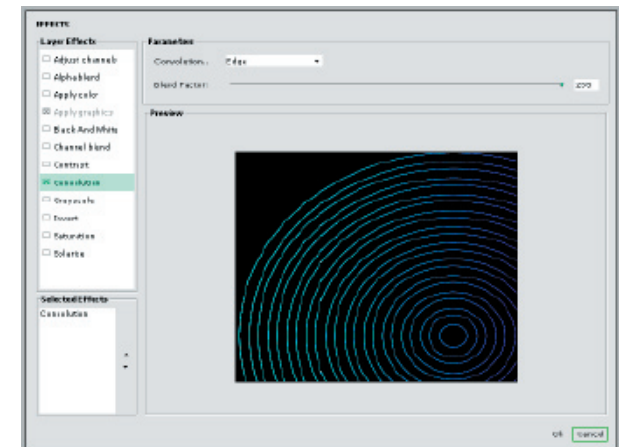
Convolution/Edge

Selected Effects

Selected Effects area lists all the applied effects in the order of the actions. The order of an effect can be changed by clicking on the two arrows on the right side of the area.
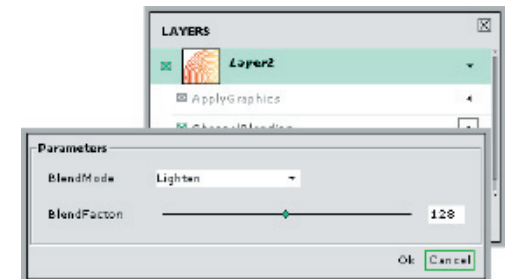
Parameter

When an effect is highlighted, its parameter can be changed in the Parameter area. Certain parameters are available depending on the selected effect.

Preview

Preview area shows the result of the applied effects.

Parameter pop-up dialog

Applied effects can also be viewed in its own layer in the Layer palette by clicking on the arrow on the right side . Parameters pop-up window can be activated by clicking on the arrow. Each applied layer effect parameters can be accessed directly with the Parameters pop-up window.

Effects Parameters popup-window

Command bar

The command bar is shown below the Editing area. It contains the following commands:

- Edit
- Clear
- Preview
- Animate
- Save

Command bar

The available commands depend on the editing state and the component. Selectable items are shown in black. Items that cannot be selected are shown in grey.
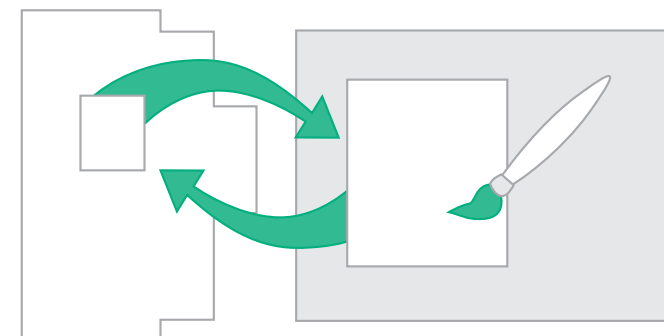
Edit

You can open a component vector/bitmap image or sound file in the preferred editing application by selecting the Edit command.

The item is shown as a new document in the editing application. You can edit the file and return to Theme Studio by saving the changes. If you close the file without saving, no changes are made.

You can only use keyboard shortcuts to transfer bitmaps between the paint application and the Editing area. Vector(SVG) will be pasted as bitmaps instead of original vector data.
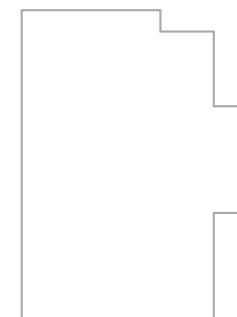
Editing in pixel paint application

Note:
The image file format in the editing program is either BMP or SVG. The edited file can not contain any additions that prevent saving it with its original title and format.
The sound file formats WAV and MP3 are supported. Additionally there may be some device specific formats included.

Ctrl+c   copy the image to the clipboard
Ctrl+v   paste the image from the clipboard to the Editing area

Clear

You can delete a saved component by selecting the Clear command. This removes the component from the saved items list, empties the Editing area, and updates the preview images.

Preview

You can view theme components on sample layouts by toggling the Preview command on and off.

Components are not saved until you select the Save command.

Animate

You can preview some of the components as an animation. Animations are shown in a pop-up window.

You can control the animation by toggling the Play/Pause command at the bottom of the window. When the animation is paused, you can move the slider to view the details of the design more precisely.

To close the window, click the **Close** button in the top right corner.

— *Close*

Frame slider

Play/Pause

Animate pop-up window

Animate:
Note icons
Pop-up windows
Tab graphics
Signal strength and battery level components
Volume level graphics
Wait/Progress bars

Save

To save a component, select the Save command or use the keyboard shortcut.

When you select this command, the theme task, component group, component and item lists are updated. A tick mark and completed colour indicator is shown in the component, item and task lists.

The preview images are updated in the Preview section. You can continue with the theme creation while the update is in progress.

Saved indicators

Note:
You may undo a save by selecting the keyboard shortcut Ctrl+z or by selecting the Clear command.

Ctrl+s   save a component and theme
Ctrl+Shift+s   copy and save a theme with a new name

Preview area

The preview window contains a set of UI images that are updated as the Preview command is selected.

A term 'updating…' is shown after the window title when the update is in progress.

The sample images are shown using 50% magnification. When you move the pointer over an image, magnification increases to 100%. You can zoom in and out the example images with the keyboard shortcuts.
You can scroll the list using the scrolling arrows.

If you have added a sound it is played when the example image is zoomed.

You can send an image to a mobile device or save it to disk by clicking the image twice. This allows you to view the designs on the actual display of the target mobile device.

To close the window, click the **Close** button in the top right corner.
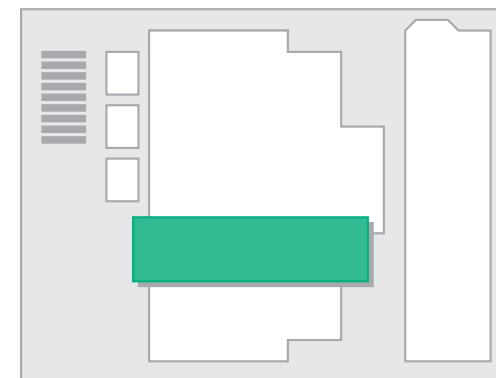
Preview window

Magnified preview image

Preview image with a sound

Shortcuts:
Ctrl+ '+' (plus)   zoom in
Ctrl+ '-' (minus)   zoom out

Image/component browser

You can use the browser area to select images for component creation. The area contains three tabbed views:

- Themes
- Components
- Browser

You can drag and drop items from any of the browser views to the Editing area.

Theme design files

The theme design files are shown in the Themes tab.

You can expand a theme design file to view the components by clicking on the expand/collapse arrow. Components are shown using the same structure as is used in the task list on the left side of Theme editor view. By default, the view of the currently edited theme is expanded.

Each component contains the currently selected item (saved item) and possible alternative designs (drafts). To change the item to be used for the theme, click on the draft image.

Components

Images used for the same component in other themes are listed in the Components tab view. You can select components from several themes from the Component browser by double-clicking or dragging them to the Editing area.

Directory browser

The Browser tab can be used to search for images from the computer or network directory.

>> See also:
The tab view contents and commands are the same as those used with the theme browser in the Theme gallery view .
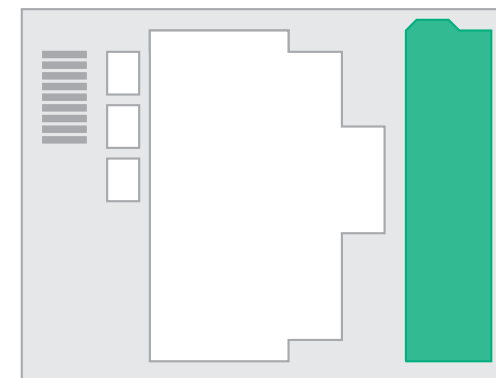
Image/component browser
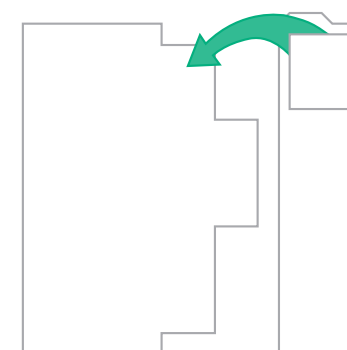
Dragging an image/component

Theme creation task list

The creation of a theme is divided into three steps:

1. initial data entry
2. component creation
3. creating a SIS file

Theme creation dialog

The initial set of theme attributes are entered in the Create New Theme dialog. Select the Create New Theme command from the command bar or choose the New command from the Theme pull down menu to open the dialog.

In this dialog you can:

- enter the name of the theme
- enter the name of the author
- select the device model (or base graphics)
- adjust the initial set of components
- Select the default screen resolution

The theme name is used to save the theme design file. You can enter a different name for the SIS file.

Different device models may support different sets of theme components.
You can create a theme based on a specific mobile device by selecting the model. The component list is modified to reflect the supported components.

The application also contains an option to create themes based on Series 60 reference graphics (base graphics). These graphics are not necessarily used in any specific device.
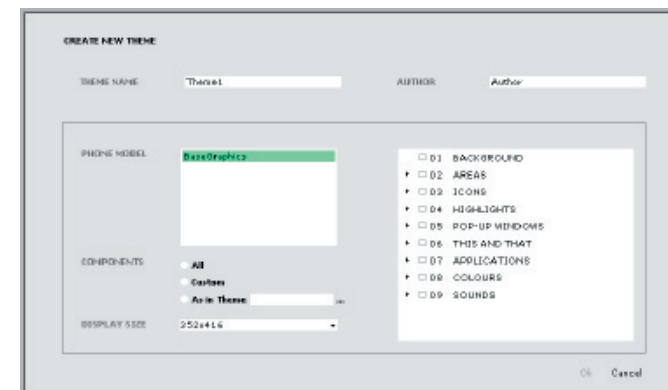
Create New Theme dialog

Note:
You can import device model plug-ins to the application by selecting Updates command from the Help pull down menu.
If a theme contains items that are not supported by a specific device model, the excess items are ignored in the device.

You can select all theme components available by choosing the All option.

You can select one component or a component group by marking the items in the numbered list. Component groups can be expanded/collapsed by double-clicking them or by clicking the arrow next to the component group.
The Custom option is automatically selected when you use the numbered list to select components.

You can base your component selection list on an existing theme. You can search for the theme from the computer or network directory by selecting the As in Theme option.

When you click the **OK** button, the Theme editor opens. The new theme name is shown in a tab next to the Theme gallery tab. You can switch between the views by clicking the tabs.

You can cancel theme creation by clicking **Cancel**.

You can save a theme by selecting Save from the Theme pull down menu or by using a keyboard shortcut. You can close a theme by selecting the Close icon in the top right corner of the theme view.
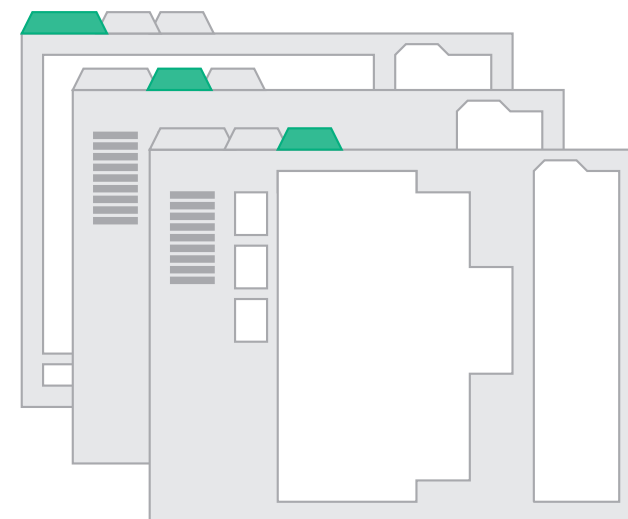
Switching between gallery view and themes
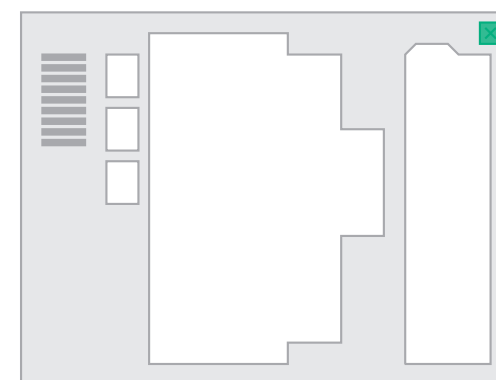
Closing a theme

Note:
You can have several themes open at the same time. To switch from one theme to another, click the tabs.

Ctrl+s   save a theme
Ctrl+Shift+s   copy and save a theme with a new name

Background

This section in the task list is used to create the images for general background in portrait and landscape mode. The component is used as a background for the entire user interface unless backgrounds for specific areas or applications are defined (see the next sections). There are two groups of backgrounds:

- Active background
- Idle background

Active background

Active background is used as a default background in most of screens such as Application grid, list view and settings.

Idle background

Idle background is shown when the phone is in idle mode.

Background portrait   *Background Labdscape*

(theme component placing is shown as a green item on the device screen)
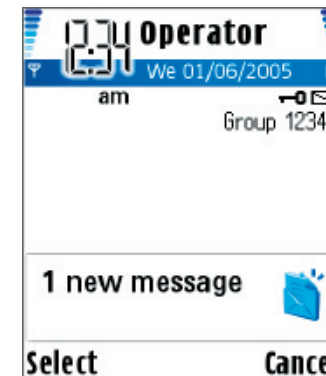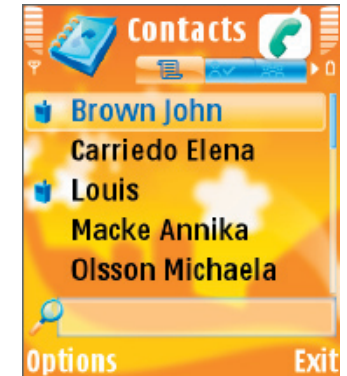
Default UI look   *Themed background*

Note:
If there is no specific theme background image defined, white colour is used by default.

The following areas may contain a specific background image:

- Idle mode
- status area
- navipane
- list column
- control area
- main area

To create a background:

1. Edit an item in a vector editing application or a pixel paint application:

    - Click on Edit from the command bar,
    - Click on the arrow next to Edit and choose either vector or bitmap, or
    - Double-clicking the graphic to launch the editing application.

    Or place an image in the Editing area:

    - Paste an image from clipboard. Note: Vector graphic will be pasted as bitmap.
    - Drag-and-drop an image from the browser views.

2. Modify item position, size orientation and colour values/dithering (only for bitmaps):

    - Move an item by holding down and drag with the left-mouse key.
    - Scale by dragging the image borders.
    - Rotate by dragging the image corners.
    - Use the Colour tool to assign colours to available options.

3. Preview the sample images:

    - Toggle Preview command on/off.

4. Save results:

    - Select the Save command.

[**Areas**

Status area

The status area contains general UI items that are explained briefly in this chapter. The background image to this specific area affects the visibility of the UI items. The items are:

- signal strength indicator
- active application indicator
  (application context pane icon)
- application or main pane content title
- navigation area
- status indicators

Status area can have its own background images.

Signal strength

Signal strength indicates the level of network reception.

A complete bitmap displaying a full strength signal is shown a part at a time. This creates the effect of different strength levels. Negative 'off' values may be drawn into the status area background image.

The network or packet data indicators are shown below the signal strength indicator. You can define the icon colour. When signal reception is turned off, an x-mark is shown instead of the reception levels.
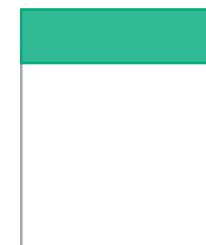
Status area

Status area without background

Status area with background
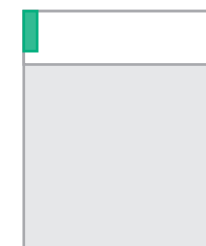
Signal strength

Signal indicators

See also:
Status area background image
Application icons
Signal strength indicator

Application icon

The application icon that is currently active is shown in the top left corner of the screen. Icons are masked to reveal the status area background.

In the Phonebook application, the icon may be replaced with a thumbnail image of the phonebook entry.

Title pane

An application title or main pane content name is shown in the title pane. You can change the colour of the text. Title text may occupy one or two rows.

Navigation area

In the navipane, visual aids are shown to the user in order to help navigate between different UI views. These aids may be text, icons, or both. For example:

- short information texts
- list icons and list ordering numbers
- view tabs with icons or text
- folder tree

You can modify the item colours (texts, icons), indicator appearance (tab graphics), navigation arrows and the background graphics (navipane background image).

Status indicators

Some of the application or device state indicators are shown in the top right part of the status area.

See also:
Navipane background images
Tab graphics
Arrow graphics/navigation indicators
Adjusting status icon colours
Adjusting Idle mode icon colours
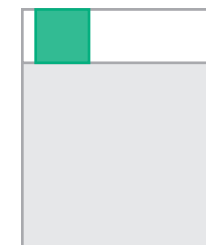
Application icon
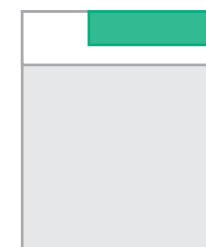
Thumbnail image

Title
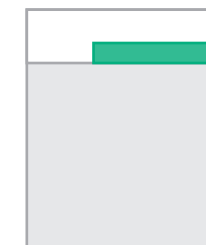
Navigation area

Short information text

List ordering numbers

Tabs with icons

Status indicator area

Status indicators

Status area background

The area background graphic is shown behind all status area items.

Navipane backgrounds

The navipane contains navigational aids such as text, icons or tabs. The background image must provide a clear background for the items on top.

The gradient image is used when there are no items in the navipane.

You can choose one of the following to use as the navipane background image for an item:

- • no graphics
- • default UI graphics
- • theme specific graphics

To change the setting, drag and drop an item from the component tab area to the editing window, or supply a graphic to the theme.

You have to add a background layer if there is no specific navipane background image used. The status area background or the screen background will be shown in this case.

The default UI graphics are rendered using the phone colour scheme palette. Therefore, the colours change according to the end user setting.

When the graphics you create are saved, the third option (theme specific) is used.
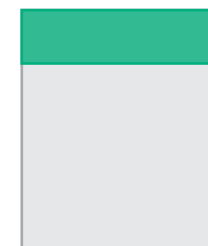
Status area background
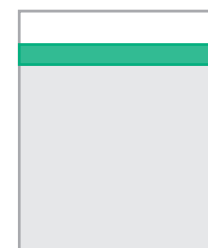
Navipane solid
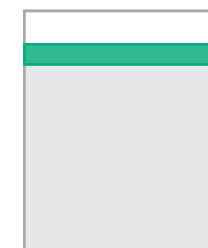
Navipane gradient

See also:
Navipane tab graphics
Navipane volume levels
Arrow graphics
Navipane icon colours
Navipane text colours

Main Area

The mobile device UI uses different types of lists. Lists have some items in common:

- list columns
- list ending graphics (slice)

Columns have three different widths (6 pixels, 16 pixels and 51 pixels). In the default UI, columns have a solid black line border.

You can replace this line with a combination of column and slice bitmaps.

Control area

A theme can contain a specific control pane image that is shown at the bottom of the display.

Main area

Narrow column

Medium column

Wide column
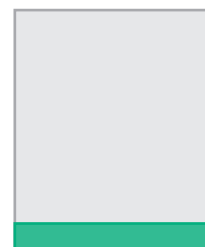
Control area

Note:
Additional control pane images can be used in the Idle mode and with pop-up windows.

See also:
General background image
Control pane image for pop-up windows
Control pane image for the Idle mode

Icons

Application icons

A theme may replace the UI application icons with graphics designed for the theme style.

A theme may contain none, all, or a selected group of icons. If there is no specific application icon in the theme, the default UI application icon is used.

Application icon are used in two places

- context pane
- application shell

Icon for context pane is shown in the status area. The icon is used to indicate the active application that is currently open.

The application shell icon is shown in Menu and the application switching window.

Masking

For bitmap icons, you can mask icons in order to show the area background within the icon bitmap area.

Masks used in themes are created with the Mask tool. A mask is an 8-bit, greyscale image.

SVG icons are parsed with their own opacity. Seperate masks are not needed.
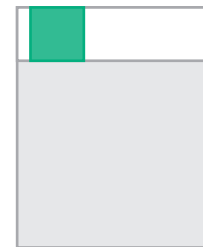
Context pane icons
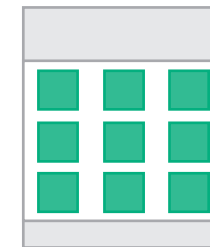
Application shell icons

Base graphics

Theme 'City' icons

Theme 'Armi' icons

Note:
Actual icon image should be smaller than the icon size. This extra space allows more freedom when creating an icon. If the area is fully utilised the image may look crowded on the device display. For SVG icons, this extra space can be reserved by creating a none-filled square in the icon background

You can view multiple icons in the Editing area at the same time .

List icons

List icons group contains large and medium icons that are generally used to create application submenus or content lists.

The icons are grouped by applications:

- Media Gallery
- Messaging
- Settings
- Messaging
- Pinboard
- Other list icons

Note icons

Note icons group contains still or animated images displayed in various notes.

You can add frames to an animation by clicking **Add New Frame** button.

You can adjust the frame duration by selecting the frame by pressing the Alt key. The animation duration pop-up window is displayed.
You can adjust the duration of multiple frames at the same time by first selecting the frames with Shift or Ctrl keys.

You can toggle the animation on/off by selecting the **Still/Animate** item type from the component information section.

Miscellaneous icons

The group contains find field indications for Phonebook, Browser, and Pinboard, and a waiting animation for Browser.

Add New Frame

Still/Animate
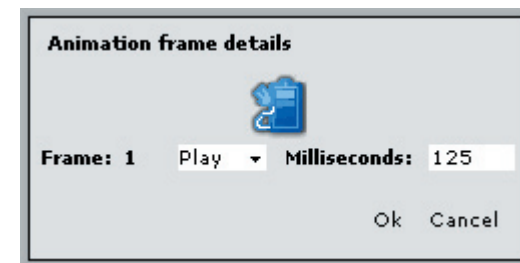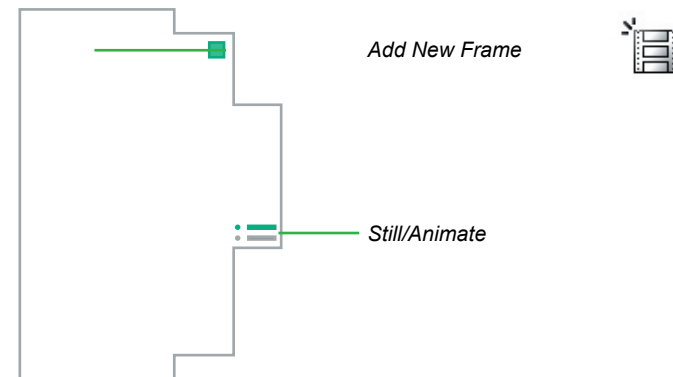
Animation frame duration pop-up window

Note:
The default frame duration is 160 milliseconds.
It is preferable that the fulll note animation duration does not exceed 1.5 seconds due to the minimum time the note is displayed.

Alt+LeftMouseKey   open animation frame duration pop-up window

The Application shell folder icon is listed in the Other list icons group.

See also:
Selecting multiple items at the same time
Using Animate command to test the animation

[Highlights

Highlights may be designed to follow a theme's appearance. The generic highlights used are:

- list highlight
- grid highlight
- input highlight

Highlight versions and structure

A theme can contain two versions of list and grid highlights:

- List/Grid Highlight
- New List/Grid Highlight

List/Grid Highlights are used in Series 60 devices based on software releases 2.0 -2.1 (for example, Nokia 6600, 7610). New highlights are used in devices based on software release 2.6 (for example, Nokia 6630), if existing in a theme.

The highlights can contain nine bitmaps:

- four corner bitmaps
- four side bitmaps
- center bitmap

Additionally the new highlights can be made of single graphic that is scaled as one entity. This allows better use of gradients and semi-transparency.

You can select the highlight type from component information section.

List highlight

Grid highlight
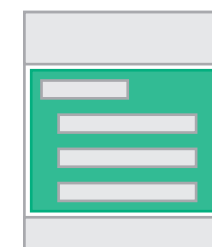
Input highlight

9 section bitmaps

Single Graphic/9 Piece Graphics
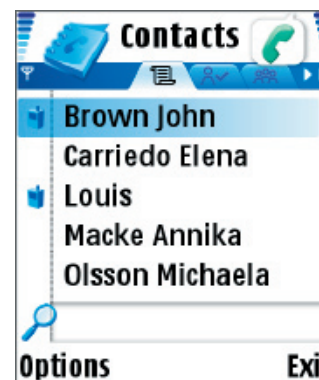
List example

Grid example
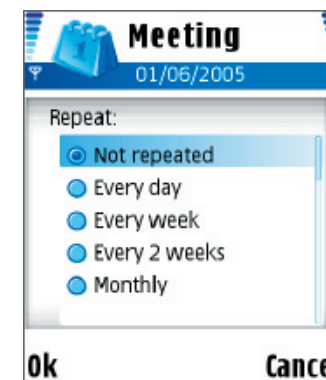
Input example

List highlight

The list highlight is used in all the lists (with the exceptions of the Edited settings list or the Form selection list).

List highlights are of different sizes, but only one theme component is used.

You can create a component according to the largest highlight.

When a graphic is used in a smaller sized component, vector (SVG) graphics will be stretched to the size of the full component. Bitmaps are shown starting from the top-left corner of each part and cropped on the bottom-right borders (9 piece highlight).

A one piece highlight is scaled as one entity to all highlight sizes.

List highlight sections
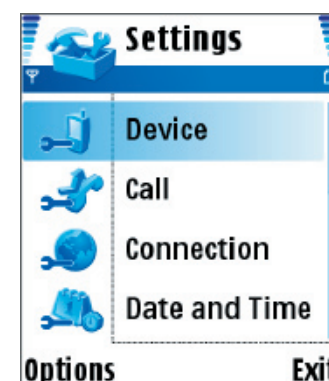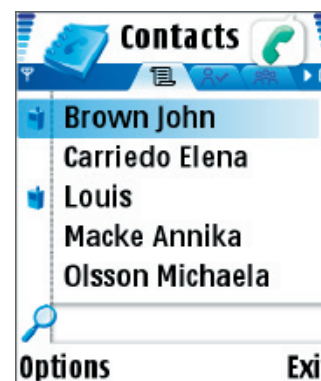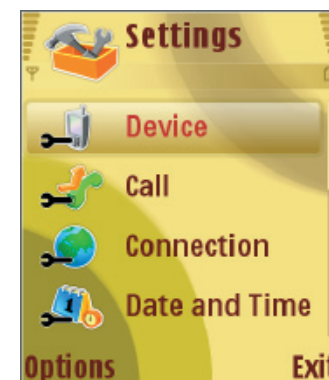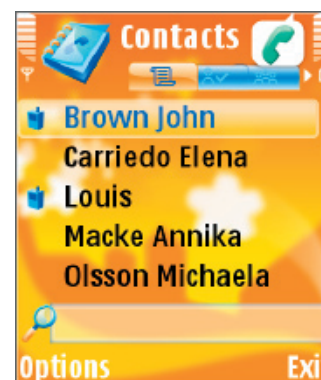
Different sized highlights (base graphics)

See also:
Using Sections tool to view component parts (page 23).
Masking highlights to show background (page 26).

Grid highlight

The grid highlight is used in all grids regardless of their cell size. For example:

- application grid
- GMS image selection
- Pinboard application grid
- special character selection grid
- Calendar week and month view grids

The rules and tools that apply for list highlight creation also apply for grid highlight creation.

Input highlight

The input highlight is used to indicate end user data entry area. For example:

- form fields
- find boxes
- data queries
- data entry in Settings
- title/search string entry in Pinboard

The highlight consists of nine graphics:

- background graphic
- four corner graphics
- four side graphics

The size of the background graphic is the same as the input area. On top of the background you can place side and corner graphics.

Grid highlight sections

Input highlight sections

Application shell

Calendar month view
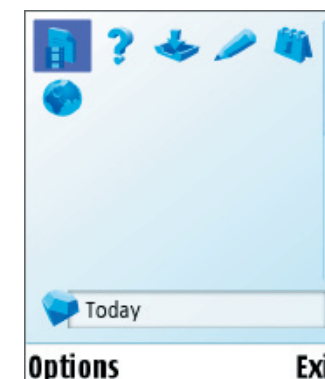
Pinboard

Theme 'City'
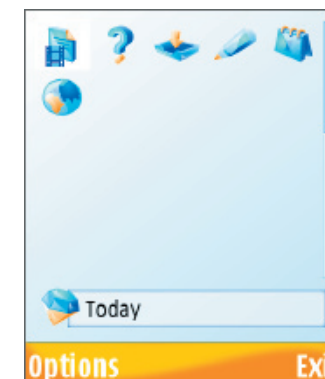
[Pop-up windows

You can create theme components to modify pop-up window graphics. The components are:

- general pop-up windows
- lower screen area
- call handling windows

General window graphics

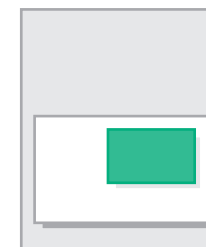There are two pop-up window components used:

- general pop-up window
- submenu pop-up window

Both components have the same structure:

- four corner graphics
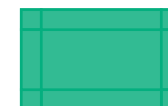- four side graphics
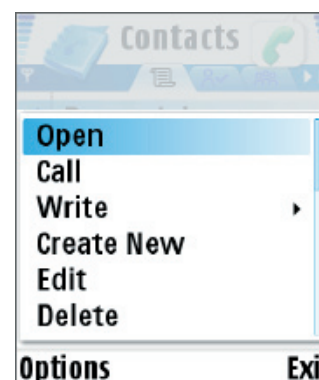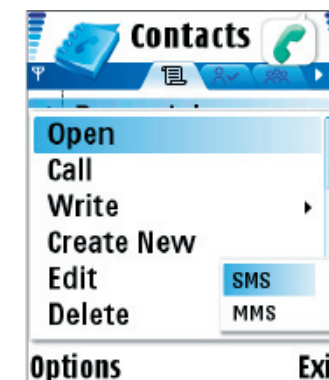- center graphic

General pop-up window

Submenu pop-up window

General pop-up window sections
(maximum value)

Submenu pop-up window sections
(maximum value)

General pop-up window

Submenu pop-up window

General pop-up window graphics

General pop-up window graphics are used for all windows with the exception of submenus. These windows are:

- options lists
- other pop-up lists
- notes
- queries
- soft notifications

The window is surrounded with some margins. The top and bottom parts are always displayed. The size of the side and center sections vary according to the pop-up window height.
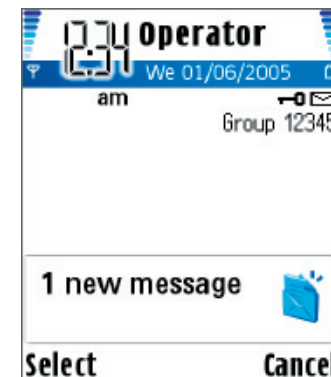
Submenu pop-up window

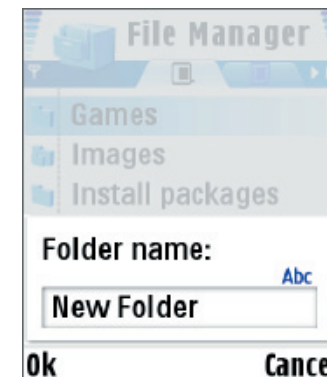The submenu pop-up window has a special theme component applied due to its more limited window size.

The submenu pop-up window graphics are used also in Calendar information pop-up window and Chinese/Japanese text entry windows.
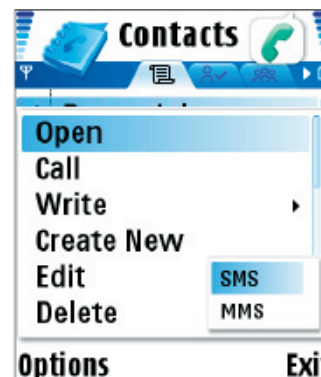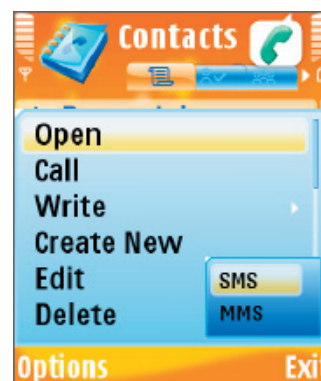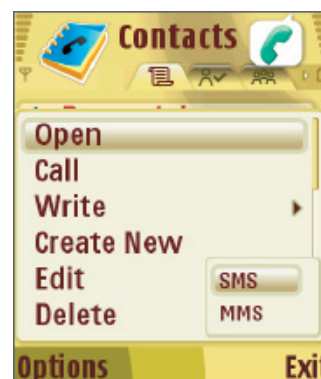

Options menu

Note
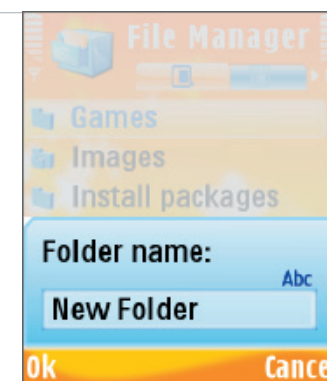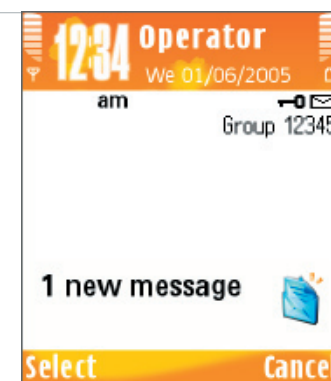

Query

Theme 'City'

Theme 'Armi'
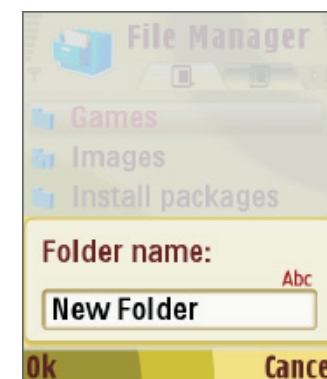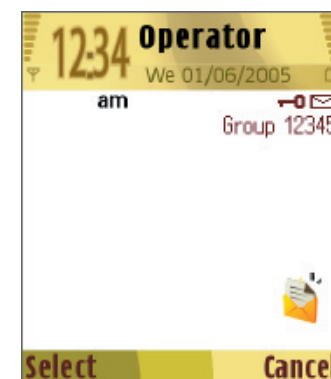
Call handling windows

Call handling Pop-up windows are used when there are incoming, outgoing and conference calls. Depending on the general functinality, there are 4 types of Call handling windows.

- Ongoing call indications
- Conference call indications
- 1st - 4th position call indications
- Outgoing call indications

Except Ongoing call indication which locates on top of the status pane, the rest of the call indications pop-upwindows appear in the main pane area.

Call handling pop-up windows are all one piece single graphics with a "bubble" appearance. In some cases a dimmed appearance is used to indicate inactive phone calls such as disconnected or on hold. Margins are used to keep all pop-up windows appear in the correct location.
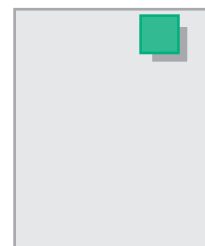
Lower screen area

A theme can contain lower main and control pane graphics that are only used with pop-up windows.

Note:
The window ending graphics need to be masked so that the underlying screen can be revealed.
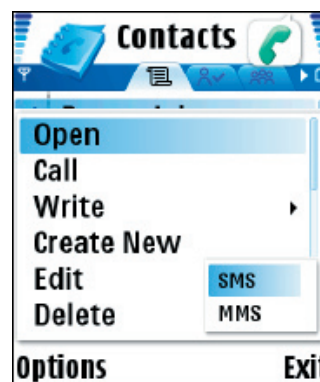
See also:
Creating control pane graphics
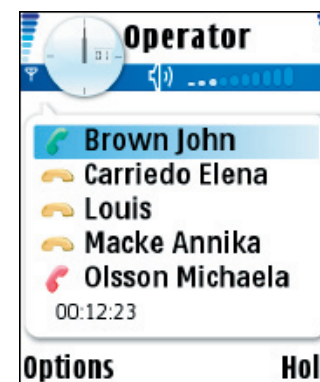Creating control pane graphics for the Idle mode (page 65)
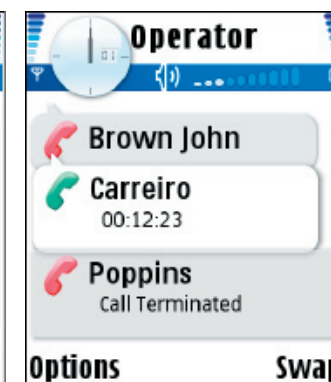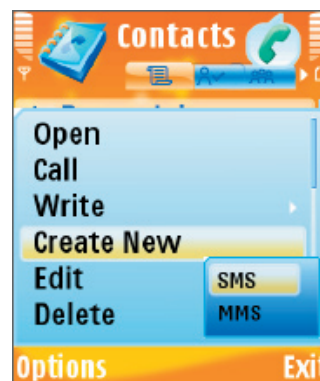

Ogonign call indications

other call indications
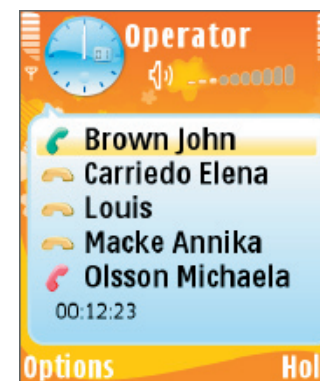

Ogonign call indications

Conference call indications
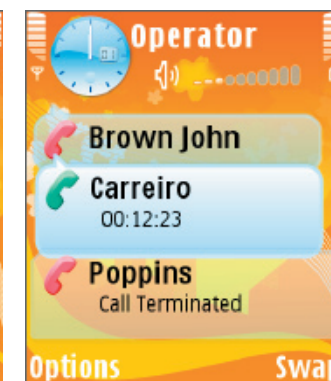

1st- 4th position and Outgoing call indications

Skin 'City'

[This and that

© Nokia

This and That section contains a different variety of theme components:

- Volume level indicators
- Tab graphics
- Signal and Battery indicators
- Slider graphics
- Navigation indicators
- Wait/Progress bars

Volume level indicators

The volume level is shown using a scale with ten levels. Levels are indicated in the default UI appearance with bar graphics in different height. These bars have on and off visual representations.

Volume levels are shown using three different layouts:

- saved volume level indicator shown in settings lists
- edited settings volume

> Note:
> Volume level images will be placed on top of certain background such as Navi pane, Unfocused list frame and Focused list frame. To make them visible, please check Areas.

Volume level default UI looking

Settings list volume   *Edited settings volume*

© Nokia

Volume indicator in settings list

Settings list volume graphics are shown in the settings list selected option area.

Edited settings volume indicator

Volume levels are edited in an opened settings view.

As the Editing area is much larger than with other volume indicators, the indicators are increased in size.

Tab graphics

Tabs are shown in the navipane. They indicate selectable views and may contain either icons or text. The end user selects the active tab with the horizontal joystick movement. The tab to the left/right is highlighted and the look of the previously active tab changes to inactive.

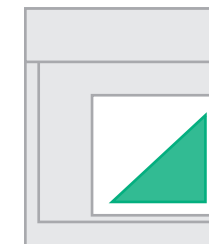Create the tabs in the same way as any other theme component. However, extra caution needs to be taken to ensure that icons or text on top of tabs are shown within the active/passive areas.

A tab is sliced into 3 pieces: left, middle and right. Both left and right pieces' aspect ratio are fixed as the ending parts. The width of the middle is dynamic depending on the whole tab's length.

Tab icon/text colours

You can choose the colours for the active and passive tab icons and texts.

Icons shown in tabs are skinable with their colours. You can change the colour by using the Colours dialog. Separate colours are used for items shown on a highlighted tab and on a passive tab(s).

>> See also:
Colours
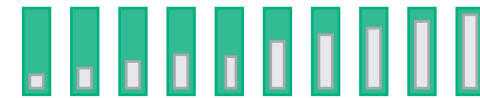
Settings list volume levels
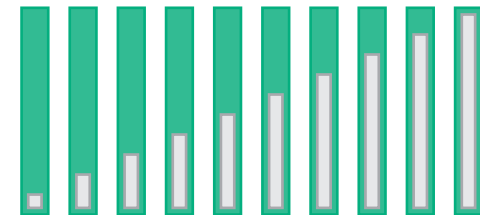
Edited settings volume levels
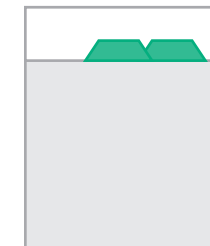
View tabs   *Left*   *Middle*   *Right*
                         Tab slices

Themed Tabs
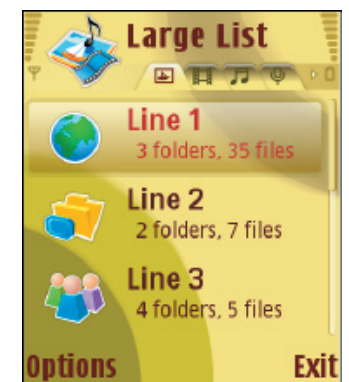
Signal and battery indicators

The mobile device UI contains two important strength level indicators:

- signal strength indicator
- battery level indicator

Both indicators have the same structure. Strength levels are shown by revealing the strength bitmap in sections. You can change the level bitmaps, but the sections are predefined.

Signal strength indicator

Battery level indicator
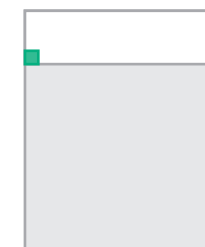
Signal and battery icons

Signal strength indicator

The signal strength indicator is shown on the top left corner of the screen.

Optimum reception is indicated by having all seven levels revealed. No reception is indicated when no levels are displayed.

It is important that levels are clearly indicated, as reception clarity and network availability may affect the end user's actions.

Full screen applications, such as Pinboard, Speed dial and games, does not display signal strength indicators.

Signal levels

Signal levels

See also:
Using the Animate command to test the levels
Creating signal off indicator in the background

© Nokia

Battery level indicator

The battery level indicator is shown only when the device is in Idle mode or during power saving mode when the mobile device is being charged.

Like the signal strength indicator, the battery level indicator consists of seven levels. The indicator measures the battery energy levels that are available.

Icon colours

The signal strength and battery level icons are shown beneath the strength levels.

You can change the colour of these icons.

Battery levels
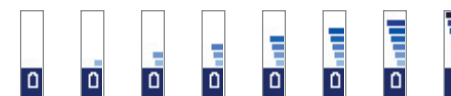
Battery levels

Signal and battery

Theme 'City'

Theme 'Armi'

Note:
Levels are animated when a device is charging. Animation consists of revealing the step levels from 0 to 7 repeatedly until the battery is full.

The signal network icon is shown with a packet data indicator when the network is available and the user has subscribed to it. The same icon colour is used.

See also:
Colours

© Nokia

Slider graphics

Sliders are used in the UI in similar way as volume indications. They measure levels. However, sliders are not limited to a number of adjustable steps.

The slider graphics consist of:

- slider line
- slider marker

You can replace the slider marker bitmap.

The slider is used in different layouts:

- settings lists
- edited settings items

Settings list slider

The settings list sliders are shown on settings item focus background.

You can replace the slider marker bitmap.

Edited settings slider

The edited settings sliders are shown when a settings item is opened for editing. The background used is the one designed for the settings option item area.

You can replace the slider marker graphic.

Settings list slider
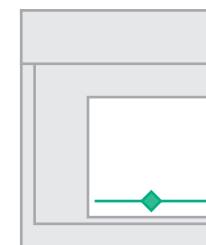
Edited settings slider

Settings list slider
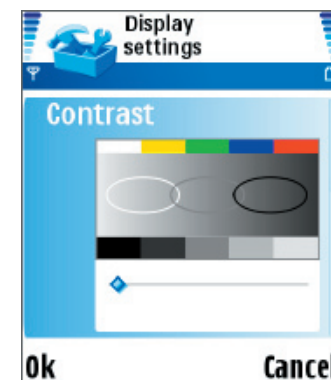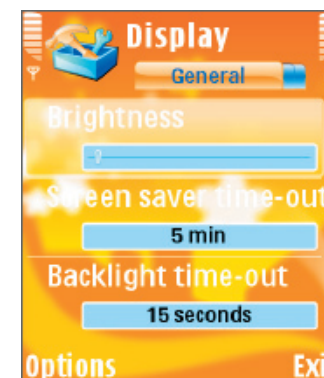
Edited settings slider

Theme 'City'
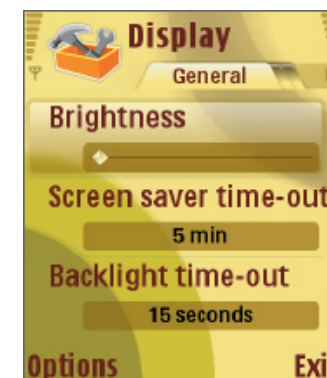
Theme 'Armi'

Navigation indicators

Arrowheads are used in the default UI look and feel to indicate possible navigation directions. The items are used in/as: navipane scrolling, list/grid scrolling and sub-menu indicator.

Navipane left/right scrolling indicators

The left and right scrolling indications are shown at the both ends of the navipane.

Indicators are either visible or invisible. If they are shown, scrolling in the indicated direction is possible.

You can change the left and right scrollling indicators with black and white images where black pixels are shown in the theme and white is used as mask.

The colour displayed is the value defined for navipane texts and icons.

Submenu indication

An arrowhead in the default UI appearance at the right side of the menu list item indicates a submenu. You can replace the indicator bitmap.
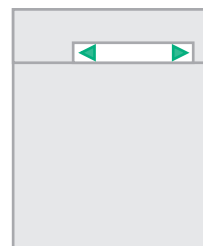
Navipane scrolling indicators
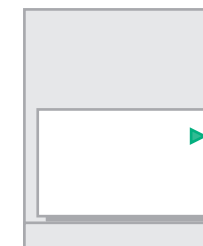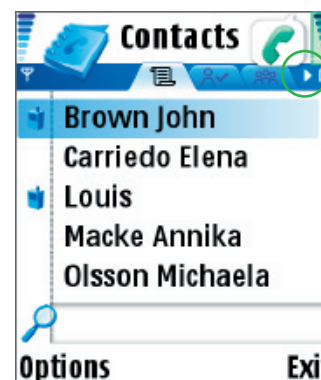
Submenu indicator

Navipane scrolling indicators
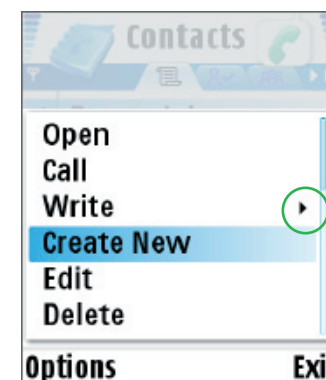
Submenu indicator

See also:
Using Animate command to test the tab graphics
Colours

Wait/progress bar indicators

You can add the animated wait and progress bar indicators. The indicators consist of:

- frame graphics
- progress bar
- waiting bars

The frame graphics are shown masked on top of the bar graphics.

The progress bar is a still image. It is moved from left to right according to the action measured.

The waiting bar images are shown animated one after another, looping, until the action measured is terminated.
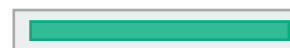
Frame mask

Frame graphics

Bar mask

Bar graphics

Waiting bar

Scroll bars

Scroll bars will appear in the list view when the list contents exceed the view. User can scroll up or down using vertical joystick movements.

A scroll bar consists of a track and a handle, each of them are composed by three graphic parts : top, middle and bottom. While scrolling the handle of scroll bar will change to a focused scroll handle.

- scroll track
- scroll handle
- focused scroll handle

Scroll bar

Scroll bar parts
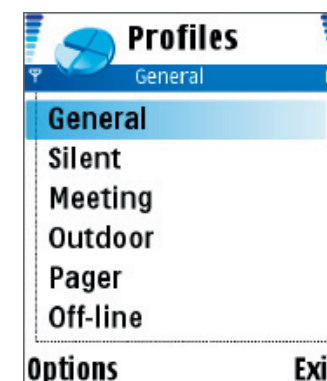
Scroll bar with default theme

Lines

Lines are used in many places of the UI such as Slider tracks, view dividers and tables like Calendar. Depending on the priority, lines have three types:

- Primary lines
- Primary dashed lines
- Secondary lines
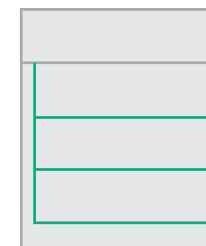
Each type of line has both horizontal and vertical graphics, which shows the correct way of how the graphic will be scaled.

Line as slider track

Line as view deviders

Applications

Some of the theme items are specific to individual applications. These applications include:

- Clock
- Pinboard
- Calendar
- Settings
- Calculator
- Notepad

Clock

The digital or analogue clock is shown on the context pane of idle view. The end user can select the clock type shown. The same clock(s) are in the Clock applications.

You can create clocks to match the overall theme design.
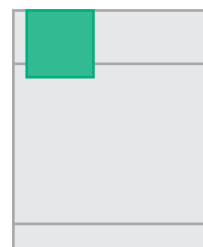
Clock
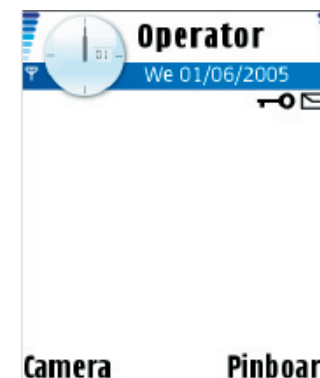
Analogue clock with default theme
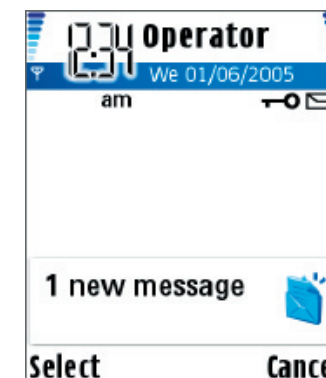
Digital clock with default theme
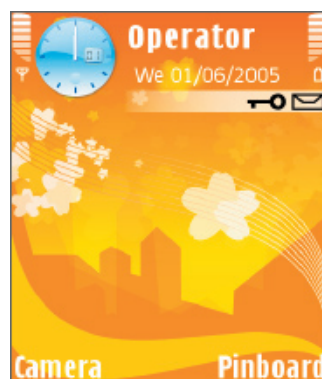
Analogue clock with 'City' theme
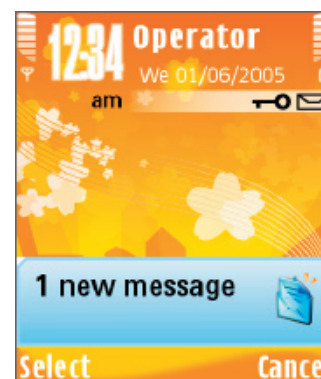
Digital clock with 'City' theme
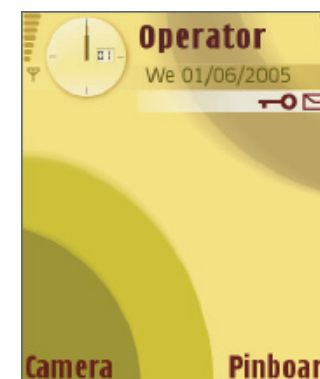
Analogue clock with 'Armi' theme
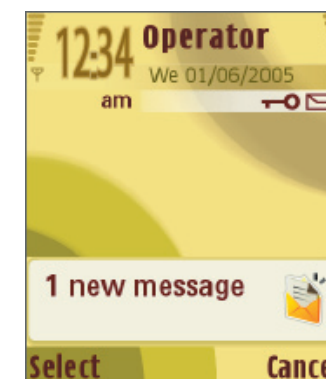
Digital clock with 'Armi' theme

Analogue clock

The analogue clock is made of five parts.

- Face1
- Current date border
- Face2
- Hour poiter
- Minute pointer

A theme may alter the graphics used, however, the outlook and position of the pointers and the date numbers are fixed.

Use the first clock Face1 to render the basic clock table and possible background effects. The image may contain clock numbers, a shadow colour or a halo effect.

Current date border is used as background for the date indicator in the right-center of the clock face.

Face2 image sets the highlight of the clock, it will be drawn on top of the rest of the images. It has to have less than 40% opacity to allow Face1 to show through.

The hour and minute hands have a bit different size of their bounding boxes. Pointer graphics must always start from the exact center of the bounding box to position the hands correctly.

Note:

You may or may not use all the clock graphics listed.

The clocks are shown also in the Clock application. The analogue clock date numbers are not shown – the third and fourth graphics are not used.
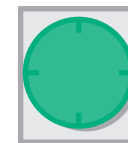
Face1(background)
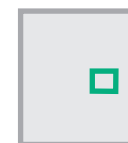
Current date border

Face2(highlight)

Hour hand

Minute hand

Note:
Please keep the bounding box and the original positions associated with your graphics, otherwise they will not be positioned correctly.

Digital clock

The digital clock is made from masked number and separator character images.

Each individual number/separator is created from two images. The first image (1) contains the character and possible effect colour or texture.

The second image (2)contains a hard mask to create clear characters.

The images overlap in the clock area in accordance with a fixed position.

The digital clock is created in two steps:

- background effect creation
- character creation

To create the background effect, use the first image. Mask the character image with the second image in order to put different types of effects, such as a shadow or halo to the background.

When drawn in a device the images overlap and the number/separator character images will get masked from the second image so the characters will be drawn on top.

In order to ensure that the characters do not overlap, they need to be placed in a defined 'safe' area.

Required numbers

Character (1) and mask (2)

Character creation (1) + (1, hard mask)

Characters result

Final result

Safe area
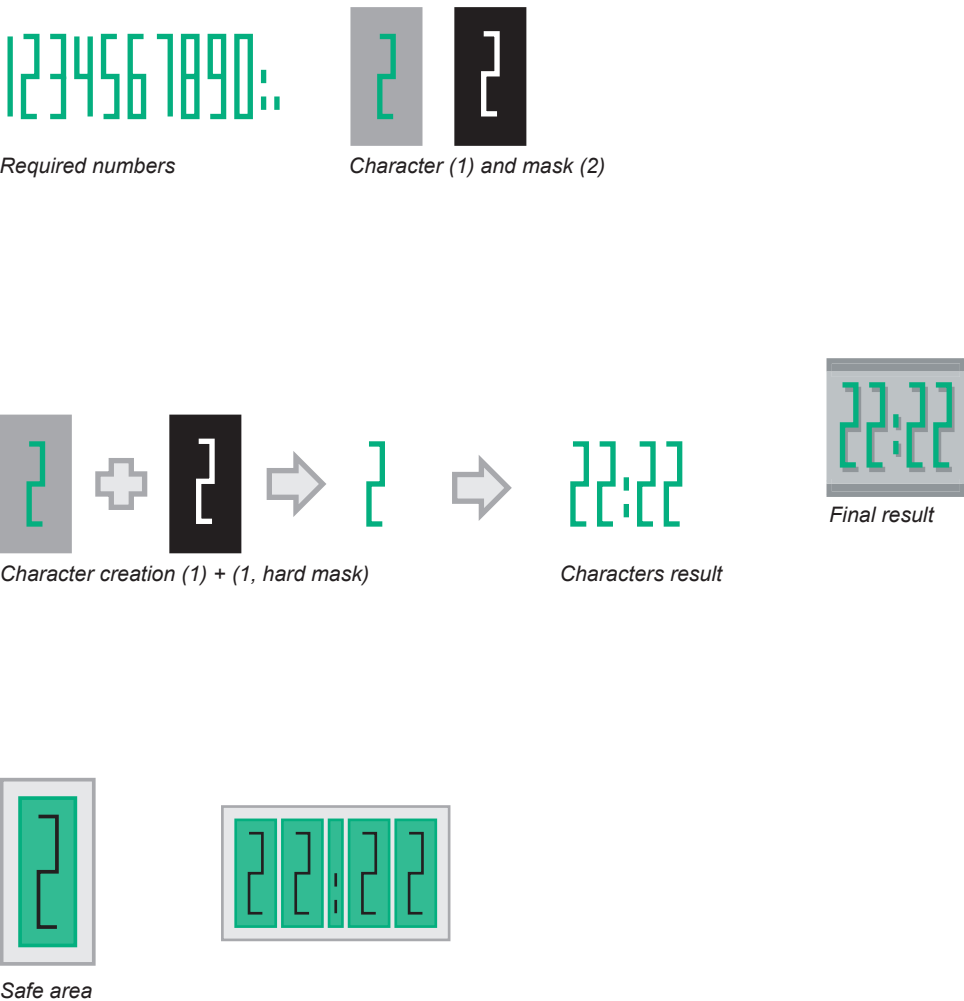
1st bitmap	character, effects	colour
2nd bitmap	mask	black and white

Pinboard

The Pinboard application main area consists of:

- background graphic
- wallpaper image

The user may choose to view the items in a format of a grid or list.

Background

The application background creates a frame where the Pinboard items can be placed. The background graphics can be theme specific.

Highlight

The displayed highlight depends on the selected view format.

If the format is a grid, the highlight used is the one defined for all grids.
If the items are shown in a list, the highlight used is the one defined for lists.

Title/search string entry

The title of the focused item and search string entry are shown in the general input highlight graphics.

See also:
General background image
List highlight
Grid highlight
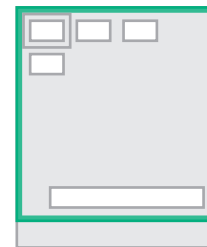
Pinboard background
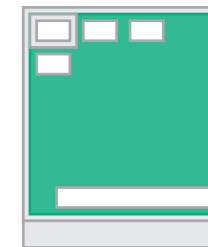
Pinboard wallpaper

Highlight
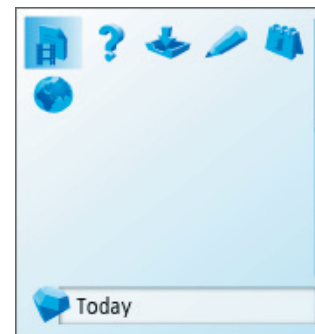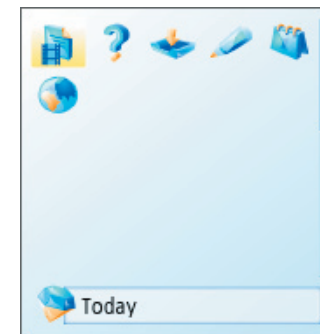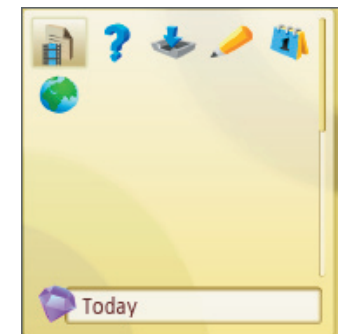
Default theme

Theme 'City'

Theme 'Armi'

Lower screen area

The lower screen area contains the general UI background graphics. If the control pane has an area specific background image defined, it is shown.
The softkey colour is the one defined for softkeys in general.

Background graphics

The application background has the same structure as the Calendar or pop-up window backgrounds. The graphics consist of nine bitmaps:

- four corner bitmaps
- four side bitmaps
- center bitmap

You can design the corner bitmaps independently. The side and center area graphics can be tiled or equal the maximum size of the component area.

Title/search string entry

Lower screen area
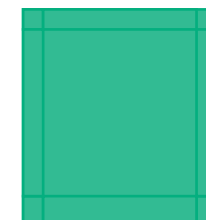
Background sections

Note:
The center section is used as wallpaper. End users may replace the wallpaper with their own image.

See also:
Using Sections tool
Using Mirror tool
Control area background image
Input highlight

Calendar

The Calendar application has two main graphics:

- Calendar frame
- Calendar header frame
- Calendar side frame

Calendar frame and calendar header frame are used as view/header background in all calendar views.

The structure is the same as with highlights and pop-ups. The parts used are:

- four corner graphics
- four sides graphics
- center graphic

You can design the corner images individually. The sides will be stretched to fill the size of the area. The center will be the maximum size of the graphics area.

Additionally you can also change the colour of the separator lines as well as the colour of the event indications in Colours section.

See also:
Using Sections tool
Colours
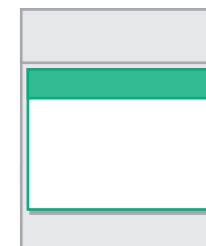
Calendar frame

Calendar header frame
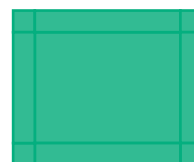
Calendar frame sections

Calendar header frame sections

Default theme

Theme 'City'
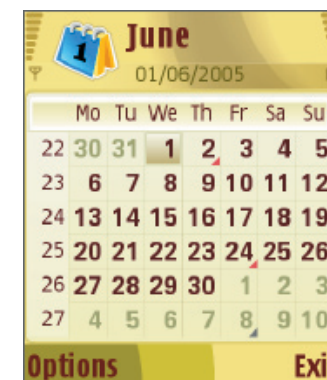
Theme 'Armi'

© Nokia

Settings

Settings items have two states:

- list state
- edit state

In a list state, setting items are scrolled and the currently selected option value is shown below the item heading.

You can alter the appearance of the value item background.

When a list item is opened for editing, the main pane is shown with only one settings item. End users are able to edit the setting value once the item is opened.

Settings values may be edited through:

- keying in a new item
- entering time, date or code values
- selecting a value from a list
- modifying a generic slider value
- modifying a volume slider

The general background for the opened item is that of the general list highlight.

See also:
List highlights

Settings list (list state)

Edited settings item (edit state)

Settings list

Edited settings item

Focused list frame

The focused option item indication is used in two cases:

- as a background for the selected option in the settings list
- as a highlight in the option list

The item structure is the same as with highlights and pop-ups. The parts used are:

- four corner graphics
- four sides graphics
- center graphic

You can design the corner graphics individually. The sides will be stretched to fill the size of the area. The center will be the maximum size of the graphics area.

When the item is used as a highlight, only prefixed sections of the item are shown.
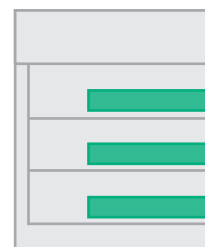
Focused item in Settings list
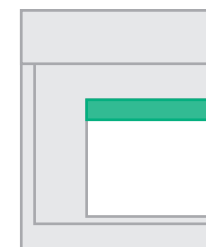
Focused item in Edited settings item

Setting focused item sections

Sections in Edited settings item

See also:
Volume level graphics
Settings options list background

Focused list frames in setting list

Focused list frames in Option list

Unfocused list frame

The unfocused list frame graphics are shown as a background for edited settings. The background is shown with:

- option list
- slider
- volume

The item structure is the same as with highlights and pop-ups. The parts are:

- four corner graphics
- four side graphics
- center graphic

You can design the corner graphics individually. The sides will be stretched to fill the size of the area. The center will be the maximum size of the graphics area.

Option area background

Setting option area sections
(maximum value)

Note:
When the device contrast is adjusted there is an example image shown in the settings area.
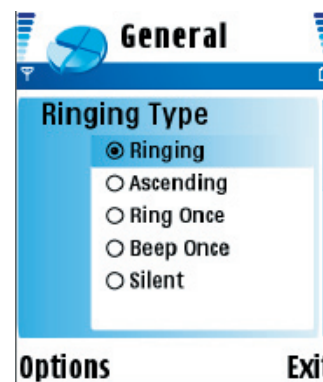
Focused list frames with options

Focused list frames with slider
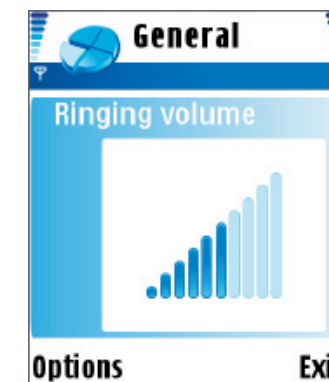
Focused list frames with volumn

Calculator

Calculator has two components skinnable:

- Display (input/output display)
- Paper (calculation log)

The Calculator paper component can be either one piece or nine piece graphics. The nine piece graphics component has:

- four corner graphics
- four side graphics
- center graphic

You can design the corner graphics individually. The sides will be stretched to fill the size of the area. The center will be the maximum size of the graphics area.

The Calculator display component requires three pieces: left, center and right. The center piece is stretched to occupy the space between the left and the right piece.

Notepad

Notepad has two types of skinable backgrounds:

- First page frame
- Continues page frame

First page frame has a different "notes" header than Continues page frame. These components can be either one piece or nine piece graphics.
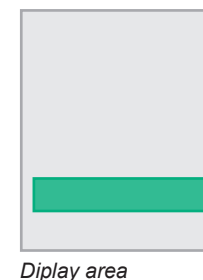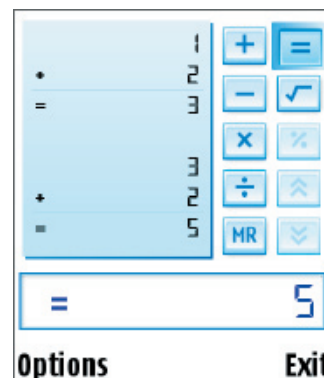
Diplay area

Paper area

Notepad background(s)

Colours

Theme   Edit   View   Help

COLOURS

- Status Pane Items
- Stacon Items
- Navi Pane Items
- Active Tab Items
- Passive Tab Items
- Main Area Items
- Highlighted Items
- Input Frame Items
- Softkey Texts
- Primary Item Indications
- Secondary Item Indications
- Pop-up Window Items
- Calendar View Items
- Setting Option Items
- Setting Option Highlighted Items
- Cut\Copy\Paste Highlight
- Cut\Copy\Paste Highlighted Items
- Link Highlight Indications
- Texts On Power Save
- Others

Red   0
Green   0
Blue   0

Saturation   0 %
Brightness   0 %

Messages

Inbox

Documents

Mailbox

Drafts

Options   Exit

Save   Cancel

- Colour group list

- Colour adjusting area

- Preview area
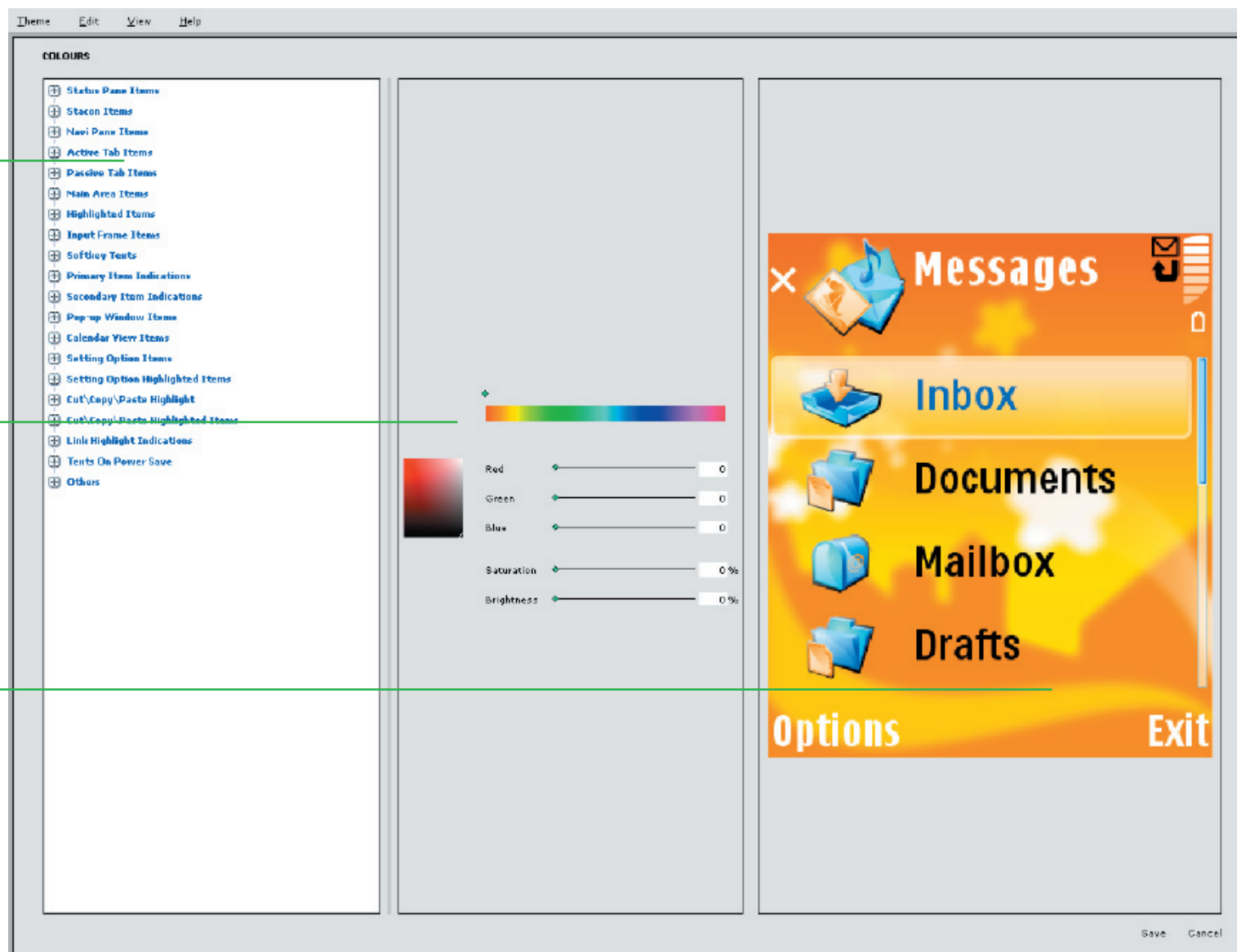
© Nokia

Colours dialog

The colours section contains a dialog for adjusting item colours.

On the left is the Colour group list that has all the skinable colours listed in groups. You can expand the group to view the skinable colour inside them.

You can adjust colour values in the Colour adjusting area which is similar to the colour palette in the Editing toolbox.

Preview area will choose the corresponding UI screen for each Colour groups and update the result when adjusting the colours by using Colour adjusting area.

Colour group list

The colours are grouped in the Colour group list according to their parent UI components and it is not necessary to go through all of them. Each colour will be affected by adjusting the colours parameters of the group:

- Status Pane Items
- Stacon Items
- Navi Pane Items
- Active Tab Items
- Passive Tab Items
- Main Area Items
- Highlighted Items
- Input Frame Items
- Softkey Texts
- Primary Item Indications
- Secondary Item Indications
- Pop-up Window Items
- Calendar View Items
- Setting Option Items
- Setting Option Highlighted Items

See also:
Using the Colour tool

- Cut\Copy\Paste Highlight
- Cut\Copy\Paste Highlighted Items
- Link Highlight Indications
- Texts On Power Save
- Others

You can also control the sub colour in each colour groups separately.

Once all the colours in a group are set and saved, the text colour of the group will turn blue indicating the setting is done and saved.

For a complete colour list, please refer to Appendix-B Colour groups.

For the detailed location and effect of each colour and its group, please refer to the preview area of the Colours dialog.

Sounds

There are two types of sounds:

- ringing tones
- message alerts

The ringing tones are used with incoming calls and the message alerts are used when messages are received. The format of the supported sounds depend on the device. Generally supported sound formats are: WAV and MP3.

You can modify sounds with the preferred sound application by double-clicking the sound icon.

You can listen to the added sound at the preview while zooming the related preview image.

WAV sound file

MP3 sound file

Device specific format
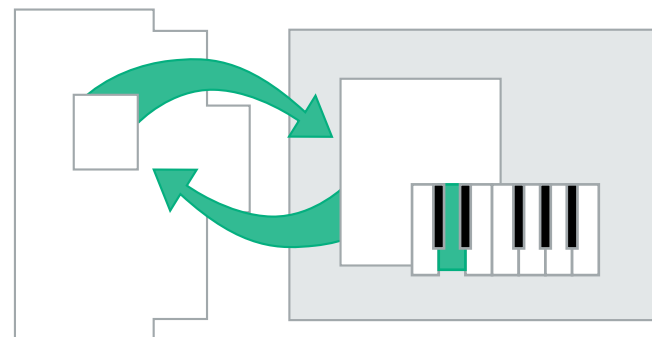
Editing in sound application

Checkout view

• Fix list

• Component selection area

• Command list
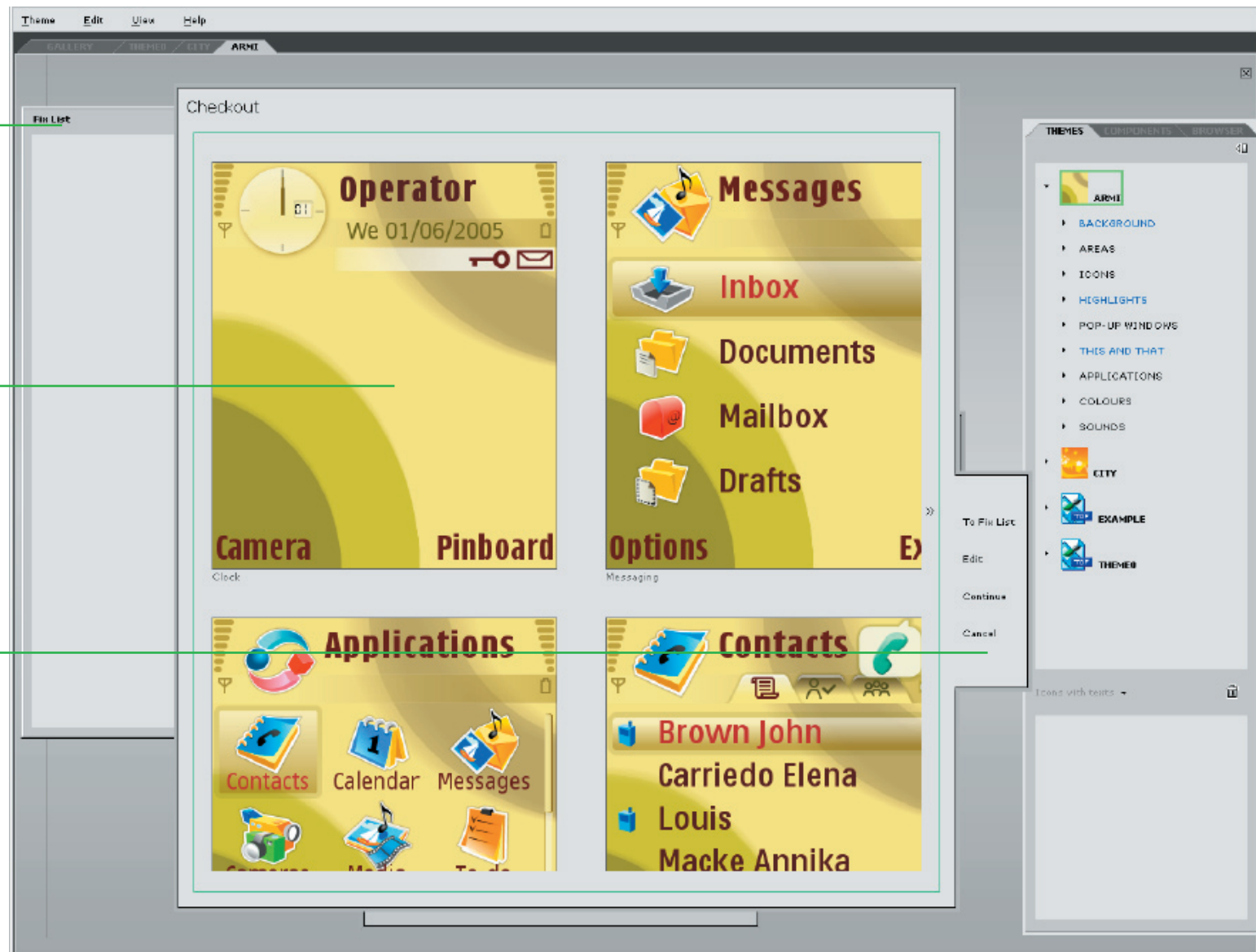
© Nokia

Checkout

You can verify the theme output in the Checkout section.

The output verification is done in three steps:

    1. theme component verification
    2. component fixing
    3. SIS file creation

Theme sample screens are shown in a pop-up window. You can scroll in the grid using the left and right arrows on the window or drag the empty areas in the preview area.

If you want to re-edit the designs, you can mark components in the images. Click the component you want to edit and then select the To Fix list command in the command list or if you wish to edit the component at once select the Edit command.

Selected items are shown in the Fix list. You can return to the editor by selecting the Edit command from the list. The sample screen window is closed and the first component in the fix list is opened for editing.

You can edit the theme component and remove the item from the fix list by saving the new design.

As corrections are made you can return to check the output by selecting the Checkout section again.

You can proceed with the theme output by selecting the Continue command.

The settings dialog for the SIS file output is opened.
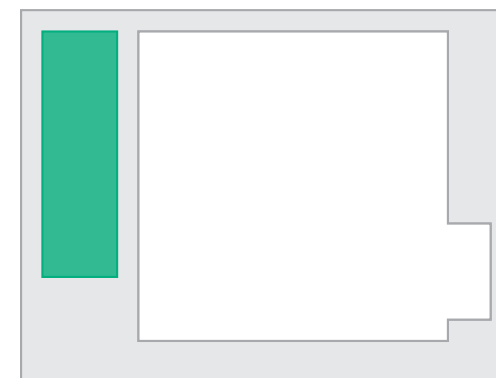
Fix list

Component selection area

Command bar

Note:
You can repeat the sample screen evaluation and component editing as many times as necessary.
You can edit the items in the fix list at any order by double-clicking the list items. The item component is shown in the Editing area.

The dialog contains the information that was entered during theme creation. You can adjust the following settings:

- theme name
- SIS file name
- author name
- copyright statement
- copy protection
- screen saver
- screen saver UID
- components used
- advanced settings

Output options pop-up window

Theme name - this name will be shown in the mobile device. The default value is the name you specified in the Create new theme dialog.

SIS file name - This name may differ from the theme name.

Author name - By default, this is the same as the program owner or the name specified in the Create new theme dialog.

Copyright statement - You can enter a copyright statement for the theme.

Copy protection - You can either allow copying or prevent the theme from being copied between the mobile phone memory and memory card.

Screen saver - a Symbian OS DLL file (within a SIS file) may be included in the theme SIS file. The file may be browsed from the computer or network directory.

Screen saver UID- defining the UID number for the screen saver.

Components - You can select the components used in the theme output. The SIS file may contain all or a subset of the components of the theme design file.

UID number:
Unique identifier number obtained from Symbian Ltd.

See also:
Create New Theme dialog

Advanced settings

Advanced settings contain:

- public key file
- private key file (certificate key file)
- DRM protection
- saving images using 24 bits/pixel

Symbian installation (SIS) file can be signed to verify the identity of the sender and to verify that the file hasn't been tampered with since it was signed. The digital signing process requires a private key and a public key certificates, which must previously have been created using the Certificate Generator.
The Certificate Generator (makekeys.exe) was installed to 'bin' directory during Theme Studio installation.

Support for Digital Rights Management (DRM) protected theme packages enables the user to create PIP packages. PIP packages can be DRM protected using corresponding tools and servers.

The theme images are saved as 16 bits/pixel by default. You can increase the colour range by selecting the 'Save images using 24 bits/pixel' option; however this will increase the theme file size.

Advanced settings pop-up window

See also:
Creating private and public keys (Appendix A, page 92)
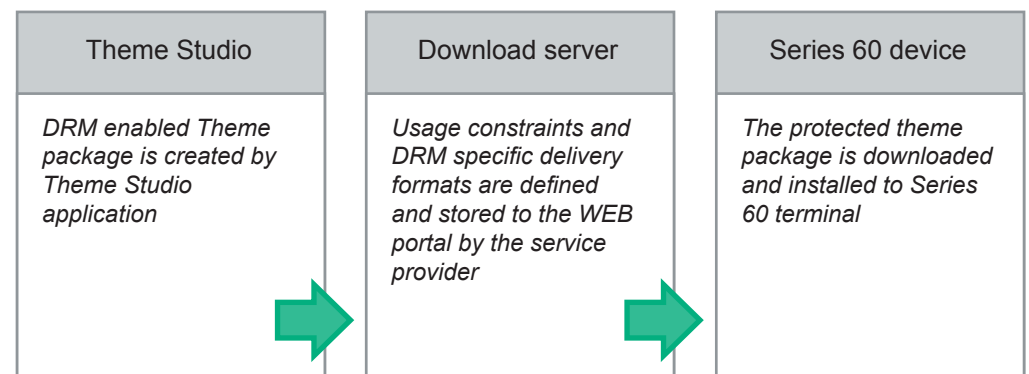
Theme Studio	Download server	Series 60 device
DRM enabled Theme package is created by Theme Studio application	*Usage constraints and DRM specific delivery formats are defined and stored to the WEB portal by the service provider*	*The protected theme package is downloaded and installed to Series 60 terminal*

Other dialogs

 in Theme Studio are:

- properties dialog
- theme settings dialog
- rubbish bin dialog
- third party icons dialog

Properties dialog

To open the Properties dialog, select Properties from the Theme pull down menu.

Directories

You can view the application installation directory path and the item editing applications that are used when you double-click images or sounds in the Editing area.
The values for these are set during program installation. To change the values, select the Browse command.

Settings

You can select the background colour of Theme Studio: no colour, white, light grey or dark grey.

You can select if you want to delete files from the rubbish bin upon exiting the program. The choices are: Delete files upon exiting, Do not delete files, and Confirm before deleting files.

Theme settings dialog

When a theme is in editing mode, theme setting dialog dialog can be opened from the File menu. With this dialog you can set the draw lines or not.

Rubbish bin

To open the Rubbish bin dialog, click the rubbish bin icon in the browser toolbar.

In the rubbish bin dialog, you have the following options:

Properties dialog directories view

Properties dialog settings view

Theme settings dialog

- To restore a deleted item, click the item and select Restore from the File menu.
- To delete all the files from the rubbish bin, select Empty Rubbish Bin from the File menu.
- To delete a single item from the rubbish bin, click the item and select Delete from the File menu.

Third Party icons

Support for third party application icon skinning enables customization of third party application icons in case Application's Unique Identification Number (UID) is known. See Symbian Developer Library for more information about the UIDs (http://www.symbian.com).

To open the third party icons dialog, select the item from the Theme pull down menu. From the first window you can see the information of the applied third party icons. Information includes status of the icons and the icon names.

You can add new third party icon by clicking New command from the Command bar. For adding a new icon you will need the Application's Unique Identification Number (UID). The information requested is:

- application icon name
- application UID
- icon type (application shell or context pane icon)
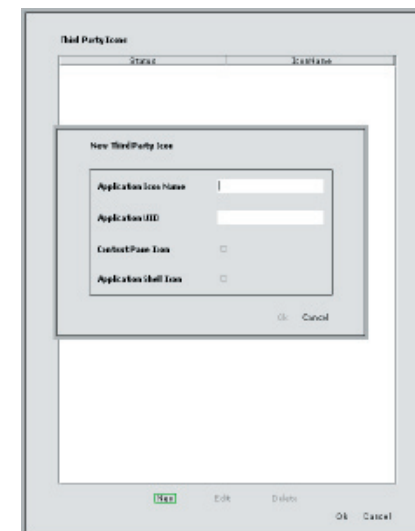
Third party icon dialog with new icon entry window

More information?
Select keyboard shortcut F1 to access the context sensitive help.

Appendix A - Creating private and public keys

NOTE: PASSWORD IS NOT SUPPORTED

1.   HOW TO DIGITALLY SIGN AN INSTALLATION FILE

  1. Create a private key and a self signed certificate using the Certificate Generator — see How to create a private key and self signed certificate Subchapter. If verification of the sender's identity is not important, then skip to step 4.

  2. Create a certificate request using the Certificate Generator, specifying the private key and self-signed certificate created in step 1 — see appropriate "How to" topic.

  3. Send the certificate request to the Certificate Authority, and get back the authenticated digital certificate.

  4. Specify the private key used to create the digital signature, and the public key certificate to be used to decrypt it. For secure installation this should be an authenticated digital certificate, however the self-signed certificate may be used.

1.1   How to create a private key and self signed certificate

The Certification Generator is a PC based command line tool which creates a private/public key pair and issues certificate requests. The resultant private key is used to digitally sign installation files, enabling the install system to authenticate them. It carries out the following tasks:

  · Creation of a private/public key pair, where the public key is in the form of a self signed certificate.
  · Construction of a certificate request.
  · Optional viewing of certificate details.

1.2   Command line syntax

1.2.1   Create a private key and self signed certificate

makekeys -cert [-v] [-len key-length] [-password password] -dname distinguished-name-string private-key-file public-key-cert

For example:
makekeys -cert -dname "CN=Symbian OU=Development OR=SymbianLtd CO=GB" mykey.key mycert.cer

1.2.1.1   Note:

The Certification Generator uses a mouse input mechanism to generate the private key. The MSDOS property QuickEdit must be turned off in order for sampling of random data from the mouse to work.

1.2.2   Create a certificate request given a self-signed certificate

makekeys – req [-v][-password password] -dname distinguished-name-string private-key-file public-key-cert cert-request-file

For example:
makekeys req -dname "CN=Symbian OU=Development OR=SymbianLtd CO=GB" mykey.key mycert.cer myreq.p10

It is then up to the developer to send the certificate request to be signed by a trusted third party, i.e. a Certificate Authority. The CA uses various means to establish that the originator of the certificate request is who they claim to be. The developer's public key is signed by the CA, using the CA's private key, creating a certificate, which is then sent back to the applicant. The CA may return a single certificate, or a file containing a chain of certificates.

It is important that certificates returned by CA's are in the base64 encoded ASCII format. The Certification Generator generates base 64 encoded certificate files and expects certificates which come back from a CA to be in the same format.
The CA may return a file containing a certificate chain. These are supported, and are needed if intermediate certificates are required between the CA's root certificate on the Symbian OS device and the developer certificate.

1.2.3   View certificate details

makekeys – view public-key-cert

Displays details of a certificate or certificate chain file. The -view command should be used with an existing certificate file (which should be in base 64 encoded format).

For example:
makekeys – view mycert.cer

1.2.4   Arguments

-cert   Create the private key (private-key-file) and self signed certificate (public-key-cert). If the private key file already exists it will be used to create the self signed certificate.

-req   Create a certificate request.

-view   View certificate details.

-v   Verbose mode — displays additional diagnostic information.

-dname distinguished-name-string
          The distinguished-name-string specifies the distinguished name parameters required for the self-signed public key certificate file. This command line option should be constructed of a string of white space separated key/value pairs as follows:

          CN=common name
          OU=organisational unit
          OR=organisation
          LO=locality
          ST=state
          CO=country
          EM=e-mail address

-password password
          Password (optional). After creation, the password must be supplied to subsequently use the private key.

-len key-length
          The key-length. The minimum is 512, maximum is 4096. The key length defaults to 1024.

-private-key-file
          The file containing the private key. The private key should kept secret by the developer, whereas the public key is usually made generally available. Has a .key extension.

-public-key-cert
          A self-signed certificate containing the public key. Has a .cer extension.

-cert-request-file
          A self-contained file which is sent to the CA. The Certification Generator will create this file given a private and public key. It is then up to the developer to send the file to the CA and arrange for the application for the certificate. Has a .p10 extension.

Reference: Symbian Developer Library, Symbian Ltd. 2002. Available at http://www.symbian.com/developer/techlib/sdl.html

Appendix B - Colour groups

Status Pane Items

Universal Indicator Icons
Reception Off Icon
Title Text

Stacon Items

Universal Indicator Icons
Reception Off Icon
Editing State Icons
Signal Icon/ Packet Data Indications
Battery Icon
Other Navi Pane Icons

Navi Pane Items

Editing State Icons
Signal Icon/ Packet Data Indications
Battery Icon
Other Navi Pane Icons
Navi Pane Texts

Active Tab Items

Active Tab Icon Colour
Active Tab Text

Passive Tab Items

Passive Tab Icon Colour
Passive Tab Text

Main Area Items

Status Indicators
Additional List Icons
Main Area Texts

Unfocused Application Title Texts

Highlighted Items

List Texts
Grid Text
List Highlight Additional List Icons/Form Checkbox
Grid Highlight Additional List Icons/Gms Images

Input Frame Items

Form List Item Textform Data Entry Text
Form Popup List Checkbox
Search String Text
Setting Text Entry
Query Text Entry
Form Slider Line

Softkey Texts

General Left Softkey Text
General Right Softkey Text
Idle Left Softkey Text
Idle Right Softkey Text
Popup Windows Left Softkey Text
Popup Windows Right Softkey Text

Primary Item Indications

View Lines
Heading Pane Separator Line
Lists Column Separator Lines
Setting List Column Separator Lines
Public Event
Private Event
Not Synchronized Event
2 Or More Events Overlapping
Event Indication On Focused Month

Secondary Item Indications

Passive Month Day Numbers
Shadow Text
View Lines
Main Pane Grid Cell Separator Lines
Popup Windows Grid Cell Separator Lines
Popup Separator Line In Options Menu
Event Indication On Unfocused Month

Pop-up Window Items

Editing State Icons
Call Status Icons
Popup Windows Text
Submenu Texts

Calendar View Items

View Day Abbreviations hours/week Numbers
Calendar Views Additional List Icons

Setting Option Items

Settings Popup List Checkbox
Settings List Item Text
Opened Settings List Value Item Slider Line

Setting Option Highlighted Items

Setting List Highlight Checkbox
Settings Value Item Text
Settings List Value Item Slider Line

Cut\Copy\Paste Highlight

Cut/Copy/Paste Highlight
Link Text And Underline Indication

Cut\Copy\Paste Highlighted Items

Copied Text

Link Highlight Indications

Link Highlight

Texts On Power Save

Power Save Text

Others

View Active Month Day Numbers/Day View List Items
Paper Operator/Operand
Display Result
Display Result Shadow
Pinboard Input Field Item Title/Find String
View Item Title
Note Text
Idle Text
Title Text In Idle
Stacon Area Title Text
Stacon Area Title Text In Idle
Stacon Area Top Softkey Text
Stacon Area Bottom Softkey Text
Stacon Area Top Softkey Text In Idle
Stacon Area Bottom Softkey Text In Idle
Stacon Navi Pane Text