Working with Text Assets

In this unit, you will learn best practices for integrating text content into Flash Lite applications including the use of fonts on a handset. You will also begin to delve into ActionScript and learn how to reference text fields at runtime.

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Objectives

After completing this unit, you should be able to:

- ▶Create text fields as either static, dynamic or input
- ▶Use fonts judiciously
- ▶Use aliased and pixel fonts for better appearance

Working with Text Assets

Text is another type of asset that you add to a Flash Lite document. Text is the primary way information about your application can be sent to mobile users.

When referring to text assets:

- ▶Text is the content that you create.
- ▶Font refers to the characters used display the text.
- ▶Font outline refers to the graphics that create the letters.

Creating text assets

All text that you add to the Stage is contained in a Text Field. Use the Text tool in the Tools panel to create Text Fields on the Stage and populate these fields with text. Text fields can be fixed-width for columns and paragraphs, or variable-width for single lines of text.

text tool

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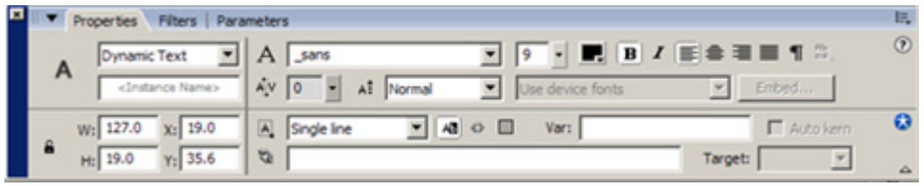
Changing text properties

Once on the Stage you can use the Selection tool to select the TextField. You can then view and modify its properties in the Property inspector to describe text and font characteristics, such as:

- ▶text type
- ▶font type
- ▶font size
- ▶font color
- ▶anti-aliasing



text field properties

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Changing text properties

- Width and height changes using the Property inspector distort the text in a TextField, which can be useful for visual effects.
- To change the width and height of a TextField to alter columns and word wrapping, use either the Text tool or the Selection tool.
- Flash Lite renders anti-aliased text using vector representations of font outlines.
  - If you want anti-aliased text to appear as smooth as possible, you should set the player's rendering quality to high.
  - Rendering quality affects all vector content on the screen, not just anti-aliased text.

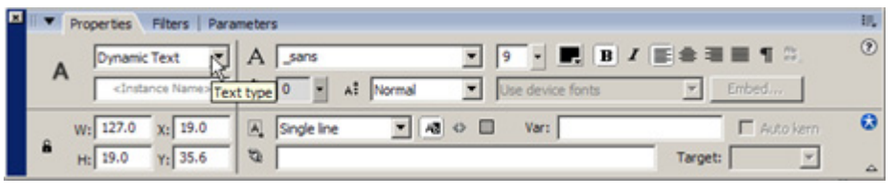
Understanding text field types

There are three text types that you can assign to TextFields in the Property inspector:

- ▶Static text
- ▶Dynamic text
- ▶Input text

Setting the text type

Use the Type field of the Property inspector to describe the type of text asset that you want the Text Field to be. When you select a text type in this field, the Property inspector updates to display appropriate fields.



text field types

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Using static text fields

Static text is used to display information that will not change on a regular basis or based on user input.

Note: It can be more efficient to use static text imported as a bitmap because text are vector images that can be taxing on a mobile phone processor.

To create a TextField on the Stage, select the Text tool then:

- To create a fixed-width TextField, press and drag with the Text tool on the Stage. Long lines of text will wrap in a fixed width TextField.
- To create a variable width text field, click once on the Stage with the Text tool and begin typing. The TextField width will expand as you type.

Static text field pros and cons

Pros:

- Static text fields automatically embed the font outline in an SWF when you publish the FLA file. This means that you can use any font you want.
- Static text fields are automatically anti-aliased, which smoothes the font out and generally produces a nicer appearance.
- Static text fields can have filter effects applied to them.

Cons:

- Static text fields will add file size to a document due to font outline embedding.
- Small fonts are difficult to read when anti-aliased.
- Static text cannot be controlled by or changed using ActionScript.
- Static text is rendered as a vector which means it can tax the processor of a mobile phone.

Using input text fields

Input text fields are used for collecting information from an end user. You may ask end users to login, or type answers to questions, or build any type of form in Flash that would need to use input text.

- In Flash Lite 2.0 or 1.1, whenever a user clicks on an input text field, it will default to the text field rendering for the device. This will appear as some device-specific modal (required input) window over the Flash Lite content.
- Flash lite 2.1 will natively display input text in the Flash Player.

Using input text fields

All input text in the Flash Lite 2.x emulator appears as such a window.

Text field in the emulator

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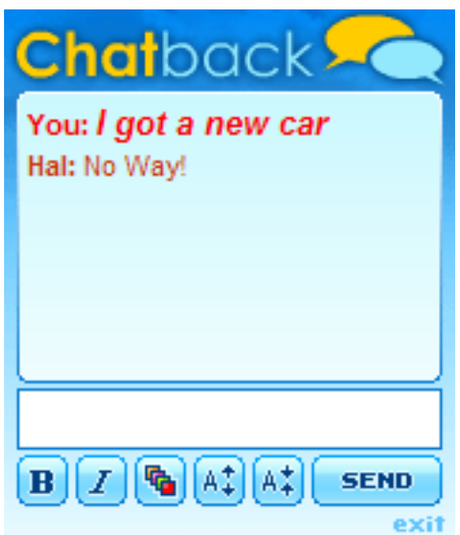
Using text in Flash Lite 2.1

Flash Lite 2.1 enables users to modify text color, size, and other properties at run time, providing improved display and handling of fonts.

- ► You can also choose to embed vector fonts into their applications which is used to render text.
- ►. Input text fields do not use the default device text field, but support this natively in the Flash Lite player.



Using Text in a 2.1 Application

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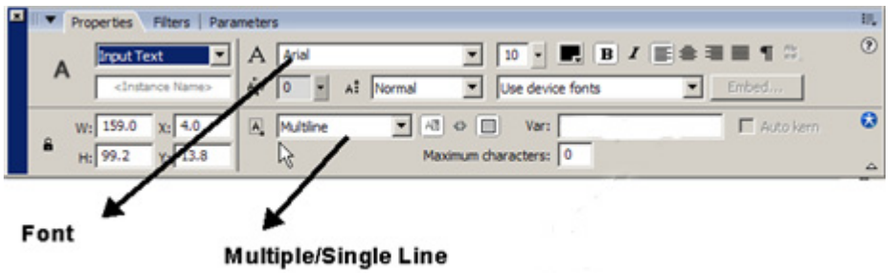
Setting input text field attributes

Attributes for the Input Text Field can be set in the Property inspector.



Property inspector: Input Text Field attributes

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Setting input text field attributes

These attributes:

- ▶Max chars: Limits the amount of text that can be entered. A zero(0) value indicates unlimited characters
- ▶Embed button: Indicates to embed a font outline to use special fonts and anti-aliasing. You can embed the entire font outline, a range of characters, or a limited set of characters.
- ▶Line Type: Specifies Single line or multiline (wraps text)
- ▶Show Border around text: Draws a border around an input text field
- ▶Instance Name: Used to retrieve information from the text field. Must be unique.

Using dynamic text fields

Dynamic text fields function similar to input text fields except users cannot enter in information. Dynamic text fields can be populated at runtime through ActionScript and are used for displaying information.

Dynamic text fields have the same attributes as input text fields, as shown in the table above.

Walkthrough 1: Creating Input Text Fields

In this walkthrough, you will perform the following tasks:

- ▶Create input text fields for user input.
- ▶Align and place the fields on a user form
- ▶Observe how input text fields appear on a mobile device.

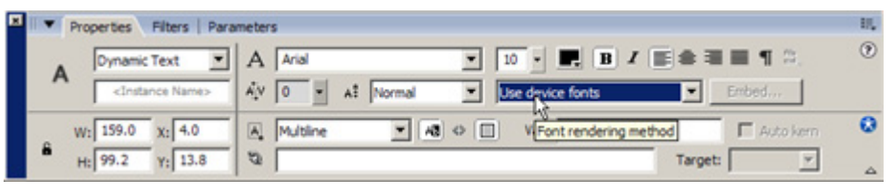
Understanding Font Handling

- To display text, the Flash Lite player must have information on how to render each font it's told to use.
  - This is commonly referred to simply as a "font" or a "font outline". The font must either be embedded in the SWF, or must be present on the device.
  - Fonts are handled differently between Static Text Fields and Input or Dynamic TextFields.

Note: recall the only difference between an Input and Dynamic TextField is whether it is editable by the user. In all other respects, including font handling, they are the same.

Working with static text and fonts

- By default, the fonts used in Static TextFields are embedded in the SWF, to guarantee you get the font display you've specified.
  - However, this increases the size of the SWF, slowing the download. The increase is limited, though, as font information is added only for the specific characters in use, not for all possible characters.
  - You can reduce SWF size by explicitly setting each or any Static TextField to use device fonts. Doing so prevents the font information from being embedded in the SWF.
  - However, if the requested font does not exist on the device, it will use whatever its default font may be, which may not work with your design.
- You must know your target device and its available fonts to effectively use device fonts.



font rendering method

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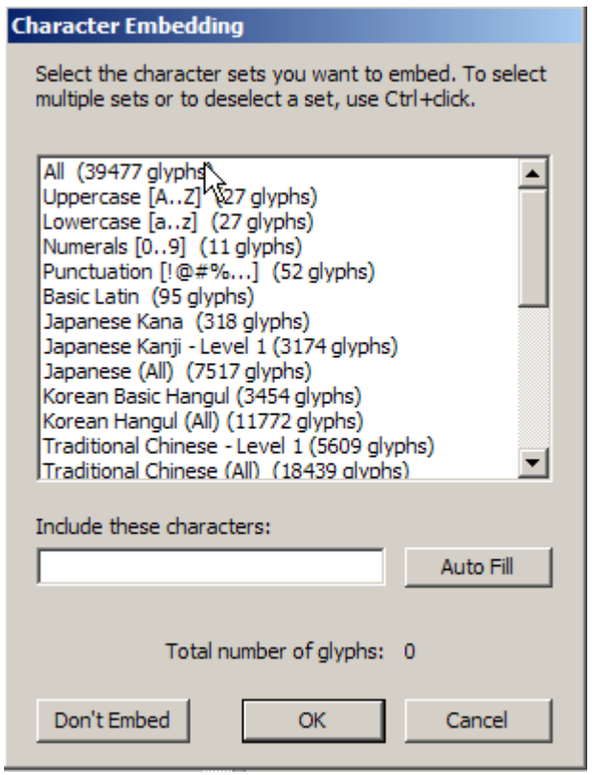
Working with dynamic and input text with fonts

- By default, the fonts used in Input/Dynamic TextFields are NOT embedded.
  - Because the text in these fields could change, whether due to user input or ActionScript, some thought must be put into what font information to embed.
  - Instead, the desired font information is retained, and the Flash Lite player search for that font on the device. Said differently, Input/Dynamic TextFields use device fonts by default.
  - If precise font control is needed for Input/Dynamic TextFields, you can choose to embed font information for specified character ranges.
  - The file size will increase. You will also gain precise font control, rather than rely on the device.

Working with dynamic and input text with fonts

The Character Embedding dialog is available from the Properties Panel for Input/ Dynamic TextFields.



Embedding Fonts inside of a SWF

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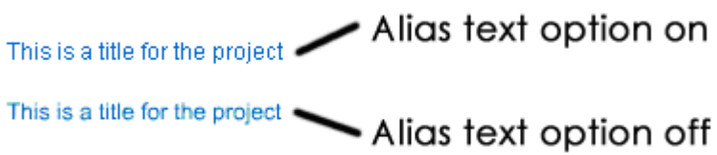
Anti-aliasing text

Each font is comprised of a series of black squares and, as the point size goes up, the edges become more distinct and can look stepped or jagged.



alias vs. anti-aliased text

Anti-aliasing refers to a process of smoothing the edges of a font. It produces the following results:

- ▶Text 12 points and larger looks better; the edges are smooth and crisp.
- ▶Text smaller than 11 points becomes blurry and difficult to read.
- ▶Anti-aliased text does not scale well in a browser; the edges become jagged and it is difficult to read.
- ▶Device fonts anti-alias nicely at 11pts or smaller.

In order to make small text more readable you can:

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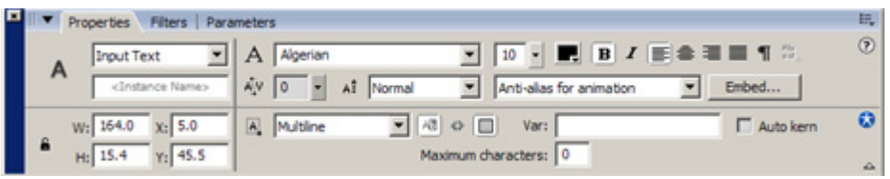
Anti-aliasing text (continued)

- Use device fonts in a Static Text Field because no anti-aliasing is performed on fields that map to device fonts.
- Use Bitmap Text because no anti-aliasing is performed on these fields
- Use a 12 point or larger point size when you using anti-aliasing
- Use pixel fonts, which are designed for very small point size display

When you want to see how a font will look before publishing to a SWF file, select View > Preview Mode or test the movie with Control > Test Movie.

Changing the font rendering method

The font rendering method determines how Flash Lite generates the shape of each letter. Flash Professional 8 supports five font rendering choices for TextFields, chosen from the Properties Panel for any TextField.



Property inspector: selecting the font rendering method

- **Use device fonts**: store the font name, size, color, etc., in the SWF, but not actual font outline information, which must be present on the device, else the default device font will be used.
- **Bitmap text**: render this TextField as a bitmap, with no anti-aliasing. Often a good choice for small font display, particularly when used with "pixel fonts" (font outlines rendered as single pixel lines, with few curves, to maximize clarity at small point sizes).

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Changing the font rendering method(continued)

- **Anti-alias for animation**: smooth the TextField edges to improve their appearance, but with a high-speed algorithm best suited for animated text. May cause blurring for small font sizes.
- **Anti-alias for readability**: smooth the TextField edges to improve their appearance, but with a high-effectiveness algorithm best suited for non-animated text. Text remains clear even at small font sizes.
- **Custom anti-alias**: explicitly set Thickness and Sharpness for aTextField.

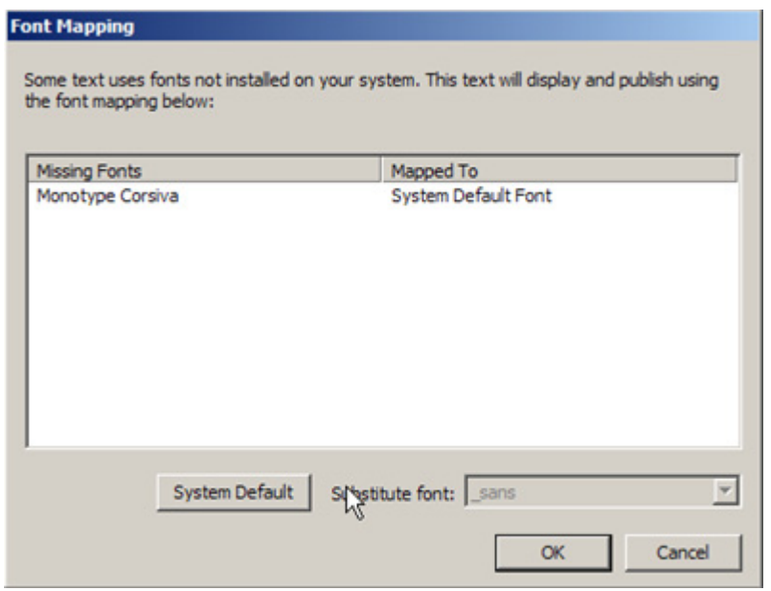
Using pixel fonts for better text appearance

Pixel fonts are are designed with minimal curves, and even thicknesses, to maximize clarity at small point sizes. Generally they should be used with Bitmap Text font rendering (no anti-aliasing), to maximize crisp display.

- ▶Are specially designed for small screen and font size display
- ▶Must be placed on whole integer positions (43.0 not 43.1)
- ▶Must have font size in multiples of 8 (8, 16, 24)
- ▶Must be embedded for Input/Dynamic TextFields, as they are unlikely to pre-exist exist on the device
- ▶Pixel fonts in dozens of styles are available from many online font sources.

Font mapping in FLA files

- When using Flash 8, the Font Mapping window appears automatically when fonts in a FLA are not installed on the computer on which it is being opened.
- You can map missing fonts to fonts available on the current computer. This creates a temporary mapping.
- Fonts will retain their original fonts if moved to a computer with that font installed.



Font Mapping dialog

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Walkthrough 2: Understanding Font Issues in Mobile Devices

In this walkthrough, you will perform the following tasks:

- ▶Use device fonts in a static text field.
- ▶Use device fonts in dynamic and input text fields.
- ▶Understand anti-aliasing.

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Summary

- Static text fields cannot be changed at runtime.
- Dynamic text fields can be assigned a variable name and can be populated at runtime, for example with a database.
- Input text fields can be assigned a variable, and whatever the user types in can be assigned a variable.
- Device fonts use the fonts already available on a handset instead of embedding them in the SWF file.
- Device fonts are the default for input and dynamic text fields. Static text fields automatically embed the font you choose.
- Anti-aliasing can make smaller text appear clearer.
- Pixel fonts can make smaller text appear clearer.