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# FSDL 3.0 Recap - Elements and Attributes

This document provides a summary of the elements and attributes defined in the Frogans Slide Description Language 3.0. The elements and attributes described here are subject to change; they will be fully specified in the final FSDL 3.0 specification.

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## Legend

### <element>

Description of the element, if necessary

**"attribute"** (*mandatory | optional | applicable if <condition>*)

Description of the attribute, if necessary

- 'value' | description of a value (comment on the value, if necessary)

## Unique identifiers

A unique identifier is a case-sensitive string containing between 1 and 16 characters (inclusive).

Each character in the string is in the range from 'A' to 'Z' inclusive, in the range from 'a' to 'z' inclusive, in the range from '0' to '9' inclusive), or is the '\_' character.

The string does not contain the ' ' (space) character.

## File size limitations

The size of an FSDL document cannot exceed 64KB.

The total size of an FSDL document and all its auxiliary files (image files) cannot exceed 256KB.

## **<frogans-fsdl>**

The root element of the FSDL document.

Can contain from 0 to 32 of each of the following elements: <file>, <setfont>, <setfilter>, <setrelief>, <setshadow>, <button>.

Can contain a combined total of up to 128 of the following elements: <resimage>, <respixels>, <resdraw>, <respath>, <restext>, <resmerge>.

Contains from 1 to 128 <layer> elements (including the <layer> elements contained in <button> elements).

**"version"** (*mandatory*)

- '3.0'

## <file>

A file (an image file or a Frogans slide) in the Frogans site root directory.

The content can optionally be the image file encoded in Base64 (if the value of the "nature" attribute equals 'embedded').

### **"fileid"** (mandatory)

- unique identifier

### **"nature"** (mandatory)

- 'static'
- 'dynamic'
- 'embedded'

### **"name"** (applicable if "nature"='static' or 'dynamic'; mandatory in that case)

- complete name of the file in the Frogans root directory, starting with '/'.

The file name is a case-insensitive string that starts with '/' and contains between 2 and 1,024 characters. Each of the characters following the '/' is either in the range from 'A' to 'Z' inclusive, in the range from 'a' to 'z' inclusive, in the range from '0' to '9' inclusive, or is any of the following characters: the '.' character, the '-' character, the '\_' character, or the '/' character.

The string cannot contain the ' ' (space) character or the '\ ' character.

The string cannot contain any of the following sequences: two successive '.' characters, two successive '/' characters, a '/' character followed by a '.' character, or a '.' character followed by a '/' character.

The string cannot end with a '/' character, or with a '.' character.

### **"cache"** (applicable if "nature"='static'; optional in that case)

- 'on'
- 'off' (default value)

## <resimage>

Defines a resource based on a jpeg, png, or gif image file. Maximum size of the image (in pixels): 1,024 x 1,024.

### **"resid"** (*mandatory*)

- unique identifier

### **"size"** (*mandatory*)

- width,height; width from 1 to 640, height from 1 to 480

### **"fileref"** (*mandatory*)

- "fileid" of a previously defined <file>

### **"selection"** (*optional*)

- 'entire' (default value)
- 'extract'

### **"bounds"** (*applicable if "selection"=extract; mandatory in that case*)

- left,top,right,bottom; left,top from 0 to 1,023, right,bottom from 1 to 1,024

### **"aspect"** (*optional*)

- 'base' (default value)
- 'spread'
- 'zoom'
- 'echo'
- 'tile'

### **"adjust"** (*applicable if "aspect"='base', 'zoom' or 'echo'; mandatory in that case*)

- integer from -100 to 100; default value: 0

### **"origin"** (*applicable if "aspect"='tile'; optional in that case*)

- x,y; x from 0 to 1,023, y from 0 to 1,023; default value: '0,0'

## <respixels>

The content is a list of (columns\*rows) comma-separated values in the following formats (depending on the value of the "pix" attribute):

- if "pix"='rgba': '#rrggbaa'
- if "pix"='rgb': '#rrggbb'
- if "pix"='aa': '#aa'
- if "pix"='y': '#yy'
- if "pix"='ya': '#yyaa'

**"resid"** (*mandatory*)

- unique identifier

**"size"** (*mandatory*)

- width,height; width from 1 to 640, height from 1 to 480

**"columns"** (*mandatory*)

- integer from 1 to 16

**"rows"** (*mandatory*)

- integer from 1 to 16

**"pix"** (*mandatory*)

- 'rgba'
- 'rgb'
- 'a'
- 'y'
- 'ya'

**"color"** (*applicable if "pix"='a': optional in that case*)

- hexadecimal - 3 bytes x 2 digits (default value: '#0000ff')

**"alpha"** (*applicable if "pix"='rgb' or 'y': optional in that case*)

- hexadecimal - 1 byte x 2 digits (default value: '#ff')

**<resdraw>****"resid"** (*mandatory*)

- unique identifier

**"size"** (*mandatory*)

- width,height; width from 1 to 640, height from 1 to 480

**"figure"** (*mandatory*)

- 'rect'
- 'roundrect'
- 'ellipse'

**"stroke"** (*mandatory*)

- 'on'
- 'off'

**"thick"** (*applicable if "stroke"='on'; optional in that case*)

- integer from 1 to 64; default value: 8

**"round"** (*applicable if "figure"='roundrect'; optional in that case*)

- width,height; width from 1 to 640, height from 1 to 480; default value: '16,16'

**"color"** (*optional*)

- hexadecimal - 3 bytes x 2 digits; default value: '#0000ff'

## <respath>

The content is a list of between 2 and 512 semi-colon-separated values in any of the following formats, where each coordinate is between 0 and 2,048:

- 'Ju:xp,yp': jumps to the point p with coordinates xp, yp
- 'Li:xp,yp': draws a line from the current position to the point p with coordinates xp, yp
- 'Co:xp,yp,x1,y1': draws a Bézier curve from the current position to the point p using one control point with the coordinates x1, y1
- 'Cu:xp,yp,x1,y1,x2,y2': draws a Bézier curve from the current position to the point p using two control points with the coordinates x1, y1 and x2, y2

### **"resid"** (mandatory)

- unique identifier

### **"size"** (mandatory)

- width,height; width from 1 to 640, height from 1 to 480

### **"stroke"** (mandatory)

- 'on'
- 'off'

### **"thick"** (applicable if "stroke"='on'; optional in that case)

- integer from 1 to 64; default value: 8

### **"close"** (applicable if "stroke"='on'; optional in that case)

- 'on'
- 'off' (default value)

### **"alternate"** (applicable if "stroke"='off'; optional in that case)

- 'on'
- 'off' (default value)

### **"spread"** (mandatory)

- 'on'
- 'off'

### **"adjust"** (applicable if "spread"='off'; optional in that case)



- integer from -100 to 100; default value: 0

**"color"** (*optional*)

- hexadecimal - 3 bytes x 2 digits; default value: '#0000ff'

## <setfont>

Can contain from 1 to 16 <font> elements.

### "**fontid**" (*mandatory*)

- unique identifier

## <font> (child of <setfont>)

### "**scripts**" (*mandatory*)

- either 'default' or a comma-separated list of between 1 and 16 script names. For a list of available script names, see Appendix 1: "scripts" attribute of the <font> element.

### "**pfont**" (*mandatory*)

- name of the physical font. For a list of all available physical fonts, see Appendix 2: "pfont" attribute of the <font> element.

### "**height**" (*mandatory*)

- numeric with one optional digit after the decimal point, from 8.0 to 72.0

### "**spacing**" (*optional*)

- integer from -100 to 100; default value: 0

### "**stretching**" (*optional*)

- integer from -100 to 100; default value: 0

### "**xbold**" (*optional*)

- integer from 0 to 100; default value: 0

### "**xitalic**" (*optional*)

- integer from -100 to 100; default value: 0

### "**underline**" (*optional*)

- 'on'
- 'off' (default value)

### "**strikeout**" (*optional*)

- 'on'

- 'off' (default value)

**"opacity"** (*optional*)

- integer from 0 to 100; default value: 100

**"color"** (*optional*)

- hexadecimal - 3 bytes x 2 digits; default value: '#0000ff'

**<restext>**

Can contain from 1 to 16 <text> elements.

**"resid"** (*mandatory*)

- unique identifier

**"size"** (*mandatory*)

- width,height; width from 1 to 640, height from 1 to 480

**"orientation"** (*mandatory*)

- 'h-ttb-ltr'
- 'h-ttb-rtl'
- 'h-btt-ltr'
- 'h-btt-rtl'
- 'v-ltr-ttb'
- 'v-ltr-btt'
- 'v-rtl-ttb'
- 'v-rtl-btt'

**"fontref"** (*mandatory*)

- "fontid" of a previously defined <setfont>

**"talign"** (*optional*)

- 'begin' (default value)
- 'end'
- 'center'
- 'justify'

**"linespace"** (*optional*)

- integer from -100 to 100; default value: 0

**"vstyle"** (*applicable if "orientation" starts with 'v-'; optional in that case*)

- 'natural' (default value)
- 'opposite'
- 'upright'

**<text>** (child of <restext>)

The content is a string (max. length 768) of Unicode characters representing the text.

**"fontref"** (*mandatory*)

- "fontid" of a previously defined <setfont>

**"talign"** (*optional*)

- 'begin' (default value)
- 'end'
- 'center'
- 'justify'

default value: the "talign" attribute value of the parent

**"linespace"** (*optional*)

integer from -100 to 100; default value: the "linespace" attribute value of the parent

**"vstyle"** (*applicable if the "orientation" attribute value of the parent starts with 'v-'; optional in that case*)

- 'natural'
- 'opposite'
- 'upright'

default value: the "vstyle" attribute value of the parent

**"join"** (*optional*)

- 'none' (default value)
- 'space'
- 'nospace'

## <setfilter>

Can contain from 1 to 16 <filter> elements.

**"filterid"** (*mandatory*)

- unique identifier

## <filter> (child of <setfilter>)

**"effect"** (*mandatory*)

- 'light'
- 'contrast'
- 'saturation'
- 'hue'
- 'solarize'
- 'addcolor'
- 'mixcolor'
- 'negative'
- 'lumakey'
- 'chromakey'
- 'lumatoalpha'
- 'alphatoluma'

**"level"** (*applicable if "effect"='light', 'contrast', 'saturation', 'solarize', 'addcolor', or 'mixcolor'; mandatory in that case*)

- integer from -100 to 100; if "effect"='solarize' or 'mixcolor', then the filter is active only for values greater than zero

**"angle"** (*applicable if "effect"='hue'; mandatory in that case*)

- integer from -180 to 180

**"tolerance"** (*applicable if "effect"='lumakey' or 'chromakey'; mandatory in that case*)

- integer from 0 to 100

**"color"** (*applicable if "effect"='addcolor', 'mixcolor', 'lumakey', or 'chromakey'; mandatory in that case*)

- hexadecimal - 3 bytes x 2 digits

**<setrelief>**

Can contain from 1 to 4 <relief> elements.

**"reliefid"** (*mandatory*)

- unique identifier

**<relief>** (child of <setrelief>)

**"rpos"** (*mandatory*)

- x,y; x from -64 to 64, y from -64 to 64

**"color"** (*optional*)

- hexadecimal - 3 bytes x 2 digits; default value: '#ffffff'

**"blur"** (*optional*)

- integer from 0 to 64; default value: 0

**"opacity"** (*optional*)

- integer from 0 to 100; default value: 100

## **<setshadow>**

Can contain from 1 to 4 <shadow> elements.

**"shadowid"** (*mandatory*)

- unique identifier

## **<shadow>** (child of <setshadow>)

**"rpos"** (*mandatory*)

- x,y; x from -64 to 64, y from -64 to 64

**"color"** (*optional*)

- hexadecimal - 3 bytes x 2 digits; default value: '#000000'

**"blur"** (*optional*)

- integer from 0 to 64; default value: 0

**"opacity"** (*optional*)

- integer from 0 to 100; default value: 100

**"combine"** (*mandatory*)

- 'add'
- 'clip'
- 'cutout'
- 'inter'



## <resmerge>

Can contain from 1 to 16 <merge> elements.

**"resid"** (*mandatory*)

- unique identifier

**"size"** (*mandatory*)

- width,height; width from 1 to 640, height from 1 to 480

## <merge> (child of <resmerge>)

**"resref"** (*mandatory*)

- "resid" of the prepared resource

**"flip"** (*optional*)

- 'none' (default value)
- 'xdir'
- 'ydir'
- 'xydir'

**"filterref"** (*optional*)

- "filterid" of a previously defined <setfilter>; default value: "" (the empty string)

**"reliefref"** (*optional*)

- "reliefid" of a previously defined <setrelief>; default value: "" (the empty string)

**"blur"** (*optional*)

- integer from 0 to 64; default value: 0

**"opacity"** (*optional*)

- integer from 0 to 100; default value: 100

**"angle"** (*optional*)

- integer from -180 to 180; default value: 0

**"pos"** (*mandatory*)

- x,y; x from -640 to 1,280, y from -480 to 960

**"align"** (*optional*)

- 'top-left'
- 'top-center'
- 'top-right'
- 'middle-left'
- 'middle-center' (default value)
- 'middle-right'
- 'bottom-left'
- 'bottom-center'
- 'bottom-right'

**"combine"** (*mandatory*)

- 'add'
- 'clip'
- 'cutout'
- 'inter'

**"shadowref"** (*optional*)

- "shadowid" of a previously defined <setshadow>; default value: "" (the empty string)

**<layer>** (child of <frogans-fsdl> or <button>)

**"layerid"** (*mandatory*)

- unique identifier

**"leapout"** (*mandatory*)

- 'all'
- 'lead' (*only possible value if child of <button>*)
- 'vignette'

**"resref"** (*mandatory*)

- "resid" of a previously prepared resource

**"flip"** (*optional*)

- 'none' (default value)
- 'xdir'
- 'ydir'
- 'xydir'

**"filterref"** (*optional*)

- "filterid" of a previously defined <setfilter>; default value: "" (the empty string)

**"reliefref"** (*optional*)

- "reliefid" of a previously defined <setrelief>; default value: "" (the empty string)

**"blur"** (*optional*)

- integer from 0 to 64; default value: 0

**"opacity"** (*optional*)

- integer from 0 to 100; default value: 100

**"angle"** (*optional*)

- integer from -180 to 180; default value: 0

**"pos"** (*mandatory*)

- x,y; x from -640 to 1,280, y from -480 to 960

**"align"** (*optional*)

- 'top-left'
- 'top-center'
- 'top-right'
- 'middle-left'
- 'middle-center' (default value)
- 'middle-right'
- 'bottom-left'
- 'bottom-center'
- 'bottom-right'

**"combine"** (*mandatory*)

- 'add'
- 'clip' (*only possible value if child of <button>*)
- 'cutout'
- 'inter'

**"shadowref"** (*optional*)

- "shadowid" of a previously defined <setshadow>; default value: "" (the empty string)

**"visible"** (*applicable if child of <button>; mandatory in that case*)

- 'always'
- 'nofocus'
- 'focus'

## <button>

Contains from 1 to 128 <layer> elements (including the <layer> elements contained in the <frogans-fsdl> element).

**"buttonid"** (*mandatory*)

- unique identifier

**"goto"** (*mandatory*)

- 'slide'
- 'frogans-site'
- 'web-site' (*for future use*)
- 'email-message' (*for future use*)

**"fileref"** (*applicable if "goto"='slide'; mandatory in that case*)

- "fileid" of a previously defined <file>

**"address"** (*applicable if "goto"='frogans-site'; mandatory in that case*)

- Frogans address of another Frogans site (e.g. 'network-name\*site-name')

## Appendix 1: "scripts" attribute of the <font> element

The following case-sensitive script names can be used to compose the value of the "scripts" attribute of the <font> element. They are listed in the order defined for Unicode scripts in the Unicode standard.

default        *(to be used alone)*

Common

Latin

Greek

Cyrillic

Cyrillic:Macedonian

Cyrillic:Serbian

Armenian

Hebrew

Arabic

Arabic:Kurdish

Arabic:Sindhi

Arabic:Urdu

Syriac

Thaana

Devanagari

Bengali

Gurmukhi

Gujarati

Oriya

Tamil

Telugu

Kannada

Malayalam

Thai

Lao

Tibetan  
Myanmar  
Georgian  
Hangul  
Ethiopic  
Cherokee  
Canadian\_Aboriginal  
Ogham  
Runic  
Khmer  
Mongolian  
Hiragana  
Katakana  
Bopomofo  
Han:Chinese\_Simplified  
Han:Chinese\_Traditional  
Han:Japanese  
Han:Korean  
Yi  
Buhid  
Limbu  
Braille  
Buginese  
Coptic  
Tifinagh  
Phags\_Pa  
Nko

## Appendix 2: "pfont" attribute of the <font> element

| <b>"pfont" attribute value</b> | <b>Corresponding font name</b>      |
|--------------------------------|-------------------------------------|
| 101-1-serif-r                  | Abyssinica SIL, Regular             |
| 102-1-serif-r                  | Amiri Quran, Regular                |
| 102-2-serif-b                  | Amiri, Bold                         |
| 102-3-serif-bi                 | Amiri, Bold Slanted                 |
| 102-4-serif-r                  | Amiri, Regular                      |
| 102-5-serif-i                  | Amiri, Slanted                      |
| 103-1-sans-r                   | AnjaliOldLipi, Regular              |
| 104-1-serif-b                  | Annapurna SIL, Bold                 |
| 104-2-serif-r                  | Annapurna SIL, Regular              |
| 105-1-serif-r                  | AR PL Ukai CN, Regular              |
| 105-2-serif-r                  | AR PL Ukai HK, Regular              |
| 105-3-serif-r                  | AR PL Ukai TW MBE, Regular          |
| 105-4-serif-r                  | AR PL Ukai TW, Regular              |
| 106-1-serif-r                  | Caslon, Roman                       |
| 107-1-serif-r                  | Caudex, Regular                     |
| 108-1-sans-r                   | Comic Relief, Regular               |
| 109-1-mono-r                   | Consola Mono, Book                  |
| 110-1-mono-r                   | Courier Prime, Regular              |
| 111-1-sans-r                   | Cousine, Regular                    |
| 112-1-mono-r                   | DejaVu Sans Mono, Book              |
| 112-2-sans-r                   | DejaVu Sans, Book                   |
| 112-3-sans-r                   | DejaVu Sans, Condensed              |
| 112-4-sans-r                   | DejaVu Sans, ExtraLight             |
| 112-5-serif-b                  | DejaVu Serif, Bold                  |
| 112-6-serif-bi                 | DejaVu Serif, Bold Italic           |
| 112-7-serif-i                  | DejaVu Serif, Italic                |
| 112-8-serif-r                  | DejaVu Serif, Book                  |
| 112-9-serif-r                  | DejaVu Serif, Condensed             |
| 112-10-serif-b                 | DejaVu Serif, Condensed Bold        |
| 112-11-serif-bi                | DejaVu Serif, Condensed Bold Italic |



| <b>"pfont" attribute value</b> | <b>Corresponding font name</b>         |
|--------------------------------|--|
| 112-12-serif-i                 | DejaVu Serif, Condensed Italic         |
| 113-1-serif-i                  | EB Garamond, 08 Italic                 |
| 113-2-serif-r                  | EB Garamond, 08 Regular                |
| 114-1-sans-r                   | Ekushey Lohit, Normal                  |
| 115-1-serif-r                  | Ethiopic Fantuwua, Regular             |
| 116-1-serif-r                  | Ethiopic Wookianos, Regular            |
| 117-1-serif-r                  | Ethiopic Yigezu Bisrat Gothic, Regular |
| 118-1-serif-r                  | HanaMinA, Regular                      |
| 119-1-serif-r                  | Jomolhari, Regular                     |
| 120-1-serif-r                  | Kalpurush, Regular                     |
| 121-1-sans-r                   | Lohit Devanagari, Regular              |
| 121-2-sans-r                   | Lohit Marathi, Regular                 |
| 122-1-sans-b                   | Noto Kufi Arabic, Bold                 |
| 122-2-sans-r                   | Noto Kufi Arabic, Regular              |
| 122-3-sans-b                   | Noto Naskh Arabic, Bold                |
| 122-4-sans-r                   | Noto Naskh Arabic, Regular             |
| 122-5-serif-r                  | Noto Nastaliq Urdu Draft, Regular      |
| 122-6-sans-r                   | Noto Sans CJK JP, DemiLight            |
| 122-7-sans-r                   | Noto Sans CJK KR, DemiLight            |
| 122-8-sans-r                   | Noto Sans CJK SC, DemiLight            |
| 122-9-sans-r                   | Noto Sans CJK TC, DemiLight            |
| 122-10-sans-r                  | Noto Sans Hebrew, Regular              |
| 122-11-sans-b                  | Noto Sans Kannada, Bold                |
| 122-12-sans-r                  | Noto Sans Kannada, Regular             |
| 122-13-sans-b                  | Noto Sans Malayalam, Bold              |
| 122-14-sans-r                  | Noto Sans Malayalam, Regular           |
| 122-15-sans-b                  | Noto Sans Myanmar, Bold                |
| 122-16-sans-r                  | Noto Sans Myanmar, Regular             |
| 122-17-sans-b                  | Noto Sans Oriya, Bold                  |
| 122-18-sans-r                  | Noto Sans Oriya, Regular               |
| 122-19-sans-b                  | Noto Sans Tamil UI, Bold               |
| 122-20-sans-r                  | Noto Sans Tamil UI, Regular            |
| 122-21-sans-b                  | Noto Sans Telugu, Bold                 |

| <b>"pfont" attribute value</b> | <b>Corresponding font name</b> |
|--------------------------------|--------------------------------|
| 122-22-sans-r                  | Noto Sans Telugu, Regular      |
| 122-23-sans-b                  | Noto Sans Thai, Bold           |
| 122-24-sans-r                  | Noto Sans Thai, Regular        |
| 122-25-sans-b                  | Noto Sans, Bold [Khmer]        |
| 122-26-sans-r                  | Noto Sans, Regular [Khmer]     |
| 122-27-serif-b                 | Noto Serif Thai, Bold          |
| 122-28-serif-r                 | Noto Serif Thai, Regular       |
| 123-1-sans-b                   | Padauk, Bold                   |
| 123-2-sans-r                   | Padauk, Regular                |
| 124-1-sans-r                   | Rupali, Regular                |
| 125-1-serif-b                  | SeoulHangang, B                |
| 125-2-serif-r                  | SeoulHangang, M                |
| 126-1-serif-r                  | SolaimanLipi, Normal           |
| 127-1-sans-r                   | TharLon, Regular               |
| 128-1-serif-b                  | Tinos, Bold                    |
| 128-2-serif-bi                 | Tinos, Bold Italic             |
| 128-3-serif-i                  | Tinos, Italic                  |
| 128-4-serif-r                  | Tinos, Regular                 |