

# Introduction

## Introduction

TODO

## Graphics

### Graphics

Provides graphics operations, such as for drawing pixels and images on the screen.

### Configuration

#### **GFX\_SET\_GRID**

Enables or disables a visual grid delimiting the screen pixels.

output (yesno) GFX\_SET\_GRID

- Parameters:
  - **yesno**: new state
    - \* **yes**: enables the grid
    - \* **no**: disables the grid

The ratio between the real and logical dimensions set with WINDOW\_SET\_SIZE must be greater then one.

#### **GFX\_SET\_FONT**

Changes the font for drawing and writing text.

output (text,integer) GFX\_SET\_FONT

- Parameters:
  - **text**: path for the **.ttf** font filename
  - **integer**: height of the new font in pixels

#### **GFX\_SET\_RGB**

Changes the color of all subsequent drawing operations.

output (integer,integer,integer) GFX\_SET\_RGB

- Parameters:

- **integer**: new red component
- **integer**: new green component
- **integer**: new blue component

## **GFX\_SET\_WRITE\_CURSOR**

Changes the cursor position for writing text with **GFX\_WRITE** and **GFX\_WRITELN**.

output (**integer**,**integer**) **GFX\_SET\_WRITE\_CURSOR**

- Parameters:
  - **integer**: new position in the x-axis
  - **integer**: new position in the y-axis

## **Drawing**

### **GFX\_CLEAR**

Clears the screen.

output (**none**) **GFX\_CLEAR**

- Parameters:
  - **none**: no parameters

The clear color is specified with **GFX\_SET\_RGB**.

### **GFX\_DRAW\_BMP**

Draws a bitmap image on the screen.

output (**integer**,**integer**,**text**) **GFX\_DRAW\_BMP**

- Parameters:
  - **integer**: position in the x-axis
  - **integer**: position in the y-axis
  - **text**: path for the **.bmp** image filename

### **GFX\_DRAW\_PIXEL**

Draws a pixel on the screen.

output (**integer**,**integer**) **GFX\_DRAW\_PIXEL**

- Parameters:
  - **integer**: position in the x-axis
  - **integer**: position in the y-axis

The drawing color is specified with **GFX\_SET\_RGB**.

## **GFX\_DRAW\_LINE**

Draws a line on the screen.

output (integer, integer, integer, integer) GFX\_DRAW\_LINE;

- Parameters:
  - integer: start position in the x-axis
  - integer: start position in the y-axis
  - integer: end position in the x-axis
  - integer: end position in the y-axis

The drawing color is specified with GFX\_SET\_RGB.

## **GFX\_DRAW\_RECT**

Draws a rectangle on the screen.

output (integer, integer, integer, integer) GFX\_DRAW\_RECT

- Parameters:
  - integer: position in the x-axis
  - integer: position in the y-axis
  - integer: rectangle width
  - integer: rectangle height

The drawing color is specified with GFX\_SET\_RGB.

## **GFX\_DRAW\_TEXT**

Draws a text on the screen.

output (int, int, text) GFX\_DRAW\_TEXT;

- Parameters:
  - integer: position in the x-axis
  - integer: position in the y-axis
  - text: text to draw

The drawing font is specified with GFX\_SET\_FONT. The drawing color is specified with GFX\_SET\_RGB.

## **Writing**

### **GFX\_WRITE**

Writes a text on the screen.

output (text) GFX\_WRITE;

- Parameters:

- **text**: text to draw

The drawing position is first specified with **GFX\_SET\_WRITE\_CURSOR**. The cursor advances automatically for the position after the text. The drawing font is specified with **GFX\_SET\_FONT**. The drawing color is specified with **GFX\_SET\_RGB**.

## **GFX\_WRITELN**

Writes a line of text on the screen.

```
output (text) GFX_WRITELN;
```

The drawing position is first specified with **GFX\_SET\_WRITE\_CURSOR**. The cursor advances automatically for the next line after the text, at the same initial position. The drawing font is specified with **GFX\_SET\_FONT**. The drawing color is specified with **GFX\_SET\_RGB**.

## **Other**

### **GFX\_SCREENSHOT**

Takes a screen shot.

```
output (text) GFX_SCREENSHOT
```

- Parameters:
  - **text**: path for the **.bmp** image filename to generate

# **Input Devices**

## **Input Devices**

Provides input handling, such as for keyboard and mouse.

### **Keyboard**

#### **KEY\_PRESS**

```
input (yesno,integer) KEY_PRESS
```

- Occurrences:
  - whenever a keyboard key is pressed or released
- Payload:
  - **yesno**: new key state
    - \* **yes**: key is now pressed
    - \* **no**: key is now released

- **integer**: numeric key code

TODO: key codes

## Mouse

### MOUSE\_CLICK

input (yesno, integer, integer, integer) MOUSE\_CLICK

- Occurrences:
  - whenever a mouse button is pressed or released
- Payload:
  - **yesno**: new button state
    - \* **yes**: button is now pressed
    - \* **no**: button is now released
  - **integer**: numeric button code (TODO: left, middle, right?)
  - **integer**: current mouse position in the x-axis
  - **integer**: current mouse position in the y-axis

### MOUSE\_MOVE

input (integer, integer) MOUSE\_MOVE

- Occurrences:
  - whenever the mouse moves
- Payload:
  - **integer**: current mouse position in the x-axis
  - **integer**: current mouse position in the y-axis

## Frame Management

### Frame Management

Manages the game frames, such as for updating animations and redrawing the screen.

### Configuration

#### FRAMES\_SET

Enables or disables the generation of periodic FRAMES\_UPDATE and FRAMES\_REDRAW inputs to the application.

output (yesno) FRAMES\_SET

- Parameters:
  - **yesno**: new state
    - \* **yes**: enables the generation of frames
    - \* **no**: disables the generation of frames

## **FRAMES\_SET\_CLEAR\_RGB**

Changes the redrawing background color.

output (integer, integer, integer) FRAMES\_SET\_CLEAR\_RGB

- Parameters:
  - **integer**: new red component
  - **integer**: new green component
  - **integer**: new blue component

On every frame before **FRAMES\_REDRAW**, the screen is cleared with the background color.

The default color is black.

## **Update**

### **FRAMES\_UPDATE**

input (integer) FRAMES\_UPDATE

- Occurrences:
  - on every frame, before **FRAMES\_REDRAW**
- Payload:
  - **integer**: the number of elapsed milliseconds since the previous frame

## **Redraw**

### **FRAMES\_REDRAW**

input (none) FRAMES\_REDRAW

- Occurrences:
  - on every frame, after **FRAMES\_UPDATE**
- Payload:
  - **none**: no payload

Before the input occurs, the screen is cleared with the color set with **FRAMES\_SET\_CLEAR\_RGB**.

# Window Management

## Window Management

Manages the application window.

### Configuration

#### WINDOW\_SET\_SIZE

Changes the real and logical sizes of the window.

output (integer, integer, integer, integer) WINDOW\_SET\_SIZE

- Parameters:
  - `integer`: new real width
  - `integer`: new real height
  - `integer`: new logical width
  - `integer`: new logical height

The window is automatically cleared with black.

The arithmetic division between the real and logical dimensions must be exact.

#### WINDOW\_SET\_TITLE

Changes the title of the window.

output (text) WINDOW\_SET\_TITLE

- Parameters:
  - `text`: new window title

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