

# 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\_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\_TEXT\_CURSOR**

Changes the cursor position for drawing text.

output (integer,integer) GFX\_SET\_TEXT\_CURSOR

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

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

Changes the font for drawing text.

output (text,integer) GFX\_SET\_TEXT\_FONT

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

## **Drawing Operations**

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

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

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

Draws a pixel on the screen.

output (integer,integer) GFX\_DRAW\_PIXEL

- Parameters:
  - **integer**: drawing position in the **x-axis**
  - **integer**: drawing 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: drawing position in the x-axis
  - integer: drawing 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 (text) GFX\_DRAW\_TEXT

- Parameters:
  - text: text to draw

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

## **GFX\_DRAW\_TEXTLN**

Draws a line of text on the screen.

output (text) GFX\_DRAW\_TEXTLN

The drawing position is first specified with GFX\_SET\_TEXT\_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\_TEXT\_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 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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