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 (bool) GFX_SET_GRID`

- Parameters:
  - `bool`: new state
    * `true`: enables the grid
    * `false`: 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 (u8,u8,u8) GFX_SET_RGB`

- Parameters:
  - `u8`: new red component
  - `u8`: new green component
  - `u8`: new blue component

GFX_SET_TEXT_CURSOR

Changes the cursor position for drawing text.

`output (u16,u16) GFX_SET_TEXT_CURSOR`

- Parameters:
    - `u16`: new position in the `x-axis`
    - `u16`: new position in the `y-axis`

GFX_SET_TEXT_FONT

Changes the font for drawing text.

`output (string,u16) GFX_SET_TEXT_FONT`

- Parameters:
    - `string`: path for the `.ttf` font filename
    - `u16`: height of the new font in pixels

Drawing Operations

GFX_CLEAR

Clears the screen.

`output (void) GFX_CLEAR`

The clear color is specified with `GFX_SET_RGB`.

GFX_DRAW_BMP

Draws a bitmap image on the screen.

`output (string,u16,u16) GFX_DRAW_BMP`

- Parameters:
    - `string`: path for the `.bmp` image filename
    - `u16`: drawing position in the `x-axis`
    - `u16`: drawing position in the `y-axis`

GFX_DRAW_PIXEL

Draws a pixel on the screen.

`output (u16,u16) GFX_DRAW_PIXEL`

- Parameters:
    - `u16`: drawing position in the `x-axis`
    - `u16`: 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 (u16,u16,u16,u16) GFX_DRAW_RECT
```

- Parameters:
  - `u16`: drawing position in the `x-axis`
  - `u16`: drawing position in the `y-axis`
  - `u16`: rectangle width
  - `u16`: rectangle height

The drawing color is specified with `GFX_SET_RGB`.

GFX_DRAW_TEXT

Draws a text on the screen.

```
output (string) GFX_DRAW_TEXT
```

- Parameters:
  - `string`: 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 (string) 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 (string) GFX_SCREENSHOT
```

- Parameters:
  - `string`: 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 (bool,u16) KEY_PRESS`

- Occurrences:
    - whenever a keyboard key is pressed or released
- Payload:
    - `bool`: new key state
        * `true`: key is now pressed
        * `false`: key is now released
    - `u16`: numeric key code

`TODO: key codes`

Mouse

MOUSE_CLICK

`input (bool,int,u16,u16) MOUSE_CLICK`

- Occurrences:
    - whenever a mouse button is pressed or released
- Payload:
    - `bool`: new button state
        * `true`: button is now pressed
        * `false`: button is now released
    - `int`: numeric button code (`TODO: left, middle, right?`)
    - `u16`: current mouse position in the `x-axis`
    - `u16`: current mouse position in the `y-axis`

MOUSE_MOVE

`input (u16,u16) MOUSE_MOVE`

- Occurrences:
    - whenever the mouse moves
- Payload:
    - `u16`: current mouse position in the `x-axis`

– `u16`: 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 (bool) FRAMES_SET`

- Parameters:
    - `bool`: new state
        * `true`: enables the generation of frames
        * `false`: disables the generation of frames

FRAMES_SET_CLEAR_RGB

Changes the redrawing background color.

`output (u8,u8,u8) FRAMES_SET_CLEAR_RGB`

- Parameters:
    - `u8`: new red component
    - `u8`: new green component
    - `u8`: 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 (int) FRAMES_UPDATE`

- Occurrences:
    - on every frame, before `FRAMES_REDRAW`

- Payload:
  - `int`: the number of elapsed milliseconds since the previous frame

Redraw

FRAMES_REDRAW

`input (void) FRAMES_REDRAW`

- Occurrences:
  - on every frame, after `FRAMES_UPDATE`

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 (u16,u16,u16,u16) WINDOW_SET_SIZE`

- Parameters:
  - `u16`: new real width
  - `u16`: new real height
  - `u16`: new logical width
  - `u16`: 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 (string) WINDOW_SET_TITLE`

- Parameters:
  - `string`: new window title

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```