

tk

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Chapter 1

tk

libtk is a helper for **terminal keyboard bindings**. This project is for my own fun, there are many mature alternatives like **ncurses**. libtk does not have all the features that ncurses has, tk is minimalistic, small and simple. tk is just a helper to bind functions to keyboard, like in this code, where the keys Ctrl+L are binded with the function clear screen (common convention em cli/tui programs):

```
#include <stdio.h>
#include <tk.h>

void clear_screen(void*)
{
    char clear [ 5 ] = { 27, '[', '2', 'J', 0 };
    printf ( "%s", clear );
}

int main()
{
    tk_init();

    tk_bind_key(TK_CTRL_L, clear_screen, NULL);

    tk_finish();

    return 0;
}
```

dependencies

- **libgenerics**;

install

```
1 $ make
2 $ sudo make install
```

uninstall

```
1 $ sudo make uninstall
```

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Chapter 2

Class Index

2.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

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Chapter 3

File Index

3.1 File List

Here is a list of all files with brief descriptions:

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Chapter 4

Class Documentation

4.1 tk_bind Struct Reference

Public Attributes

- [bind_function](#) function
- void * [argument](#)

4.1.1 Member Data Documentation

4.1.1.1 void* tk_bind::argument

4.1.1.2 [bind_function](#) tk_bind::function

The documentation for this struct was generated from the following file:

- [src/tk.c](#)

Chapter 5

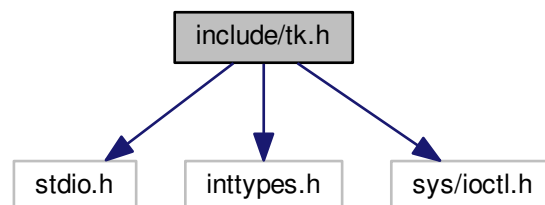
File Documentation

5.1 .dox File Reference

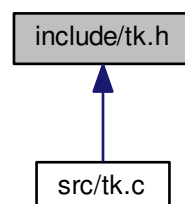
5.2 include/tk.h File Reference

```
#include <stdio.h>
#include <inttypes.h>
#include <sys/ioctl.h>
```

Include dependency graph for tk.h:



This graph shows which files directly or indirectly include this file:



Macros

- `#define TK_NUL 0x00`
- `#define TK_ALL_KEY TK_NUL`
- `#define TK_CTRL_A 0x01`
- `#define TK_CTRL_B 0x02`
- `#define TK_CTRL_C 0x03`
- `#define TK_CTRL_D 0x04`
- `#define TK_END_OF_FILE TK_CTRL_D`
- `#define TK_CTRL_E 0x05`
- `#define TK_CTRL_F 0x06`
- `#define TK_CTRL_G 0x07`
- `#define TK_CTRL_H 0x08`
- `#define TK_TAB 0x09`
- `#define TK_ENTER 0x0a`
- `#define TK_EOF TK_ENTER`
- `#define TK_CTRL_K 0x0b`
- `#define TK_CTRL_M 0x0d`
- `#define TK_CTRL_L 0x0c`
- `#define TK_CTRL_N 0x0e`
- `#define TK_CTRL_O 0x0f`
- `#define TK_CTRL_P 0x10`
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- `#define TK_CTRL_S 0x13`
- `#define TK_CTRL_T 0x14`
- `#define TK_CTRL_U 0x15`
- `#define TK_CTRL_V 0x16`
- `#define TK_CTRL_W 0x17`
- `#define TK_CTRL_X 0x18`
- `#define TK_CTRL_Y 0x19`
- `#define TK_CTRL_Z 0x1a`
- `#define TK_ESC 0x1b`
- `#define TK_SPACE 0x20`
- `#define TK_EXCLAMATION_MARK 0x21`
- `#define TK_QUOTATION_MARK 0x22`
- `#define TK_NUMBER_SIGN 0x23`
- `#define TK_DOLLAR 0x24`
- `#define TK_PERCENT 0x25`
- `#define TK_AMPERSAND 0x26`
- `#define TK_APOSTROPHE 0x27`
- `#define TK_PARENTHESIS_OPEN 0x28`
- `#define TK_PARENTHESIS_CLOSE 0x29`
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- `#define TK_PLUS 0x2b`
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- #define [TK_BACKSLASH](#) 0x5c
- #define [TK_SQUARE_BRACKET_CLOSE](#) 0x5d
- #define [TK_CARET](#) 0x5e
- #define [TK_UNDERSCORE](#) 0x5f
- #define [TK_GRAVE_ACCENT](#) 0x60
- #define [TK_a](#) 0x61
- #define [TK_b](#) 0x62
- #define [TK_c](#) 0x63
- #define [TK_d](#) 0x64
- #define [TK_e](#) 0x65
- #define [TK_f](#) 0x66
- #define [TK_g](#) 0x67
- #define [TK_h](#) 0x68
- #define [TK_i](#) 0x69
- #define [TK_j](#) 0x6a
- #define [TK_k](#) 0x6b
- #define [TK_l](#) 0x6c

- #define [TK_m](#) 0x6d
- #define [TK_n](#) 0x6e
- #define [TK_o](#) 0x6f
- #define [TK_p](#) 0x70
- #define [TK_q](#) 0x71
- #define [TK_r](#) 0x72
- #define [TK_s](#) 0x73
- #define [TK_t](#) 0x74
- #define [TK_u](#) 0x75
- #define [TK_v](#) 0x76
- #define [TK_w](#) 0x77
- #define [TK_x](#) 0x78
- #define [TK_y](#) 0x79
- #define [TK_z](#) 0x7a
- #define [TK_CURLY_BRACKET_OPEN](#) 0x7b
- #define [TK_PIPE](#) 0x7c
- #define [TK_CURLY_BRACKET_CLOSE](#) 0x7d
- #define [TK_TILDE](#) 0x7e
- #define [TK_BACKSPACE](#) 0x7f
- #define [TK_F1](#) 0x504f1b
- #define [TK_F2](#) 0x514f1b
- #define [TK_F3](#) 0x524f1b
- #define [TK_F4](#) 0x534f1b
- #define [TK_F5](#) 0x7e35315b1b
- #define [TK_F6](#) 0x7e37315b1b
- #define [TK_F7](#) 0x7e38315b1b
- #define [TK_F8](#) 0x7e39315b1b
- #define [TK_F9](#) 0x7e30325b1b
- #define [TK_F10](#) 0x7e31325b1b
- #define [TK_F11](#) 0x7e33325b1b
- #define [TK_F12](#) 0x7e34325b1b
- #define [TK_UP](#) 0x415b1b
- #define [TK_DOWN](#) 0x425b1b
- #define [TK_RIGHT](#) 0x435b1b
- #define [TK_LEFT](#) 0x445b1b
- #define [TK_HOME](#) 0x7e315b1b
- #define [TK_INSERT](#) 0x7e325b1b
- #define [TK_DELETE](#) 0x7e335b1b
- #define [TK_END](#) 0x7e345b1b
- #define [TK_PAGE_DOWN](#) 0x7e365b1b
- #define [TK_PAGE_UP](#) 0x7e355b1b
- #define [TK_CTRL_UP](#) 0x414f1b
- #define [TK_CTRL_DOWN](#) 0x424f1b
- #define [TK_CTRL_RIGHT](#) 0x434f1b
- #define [TK_CTRL_LEFT](#) 0x444f1b
- #define [TK_ALT_\(CODE\)](#) ((CODE<<8)|[TK_ESC](#))
- #define [TK_ALT_0](#) 0x301b
- #define [TK_ALT_1](#) 0x311b
- #define [TK_ALT_2](#) 0x321b
- #define [TK_ALT_3](#) 0x331b
- #define [TK_ALT_4](#) 0x341b
- #define [TK_ALT_5](#) 0x351b
- #define [TK_ALT_6](#) 0x361b
- #define [TK_ALT_7](#) 0x371b
- #define [TK_ALT_8](#) 0x381b

- `#define TK_ALT_9 0x391b`
- `#define TK_ALT_A 0x411b`
- `#define TK_ALT_B 0x421b`
- `#define TK_ALT_C 0x431b`
- `#define TK_ALT_D 0x441b`
- `#define TK_ALT_E 0x451b`
- `#define TK_ALT_F 0x461b`
- `#define TK_ALT_G 0x471b`
- `#define TK_ALT_H 0x481b`
- `#define TK_ALT_I 0x491b`
- `#define TK_ALT_J 0x4a1b`
- `#define TK_ALT_K 0x4b1b`
- `#define TK_ALT_L 0x4c1b`
- `#define TK_ALT_M 0x4d1b`
- `#define TK_ALT_N 0x4e1b`
- `#define TK_ALT_O 0x4f1b`
- `#define TK_ALT_P 0x501b`
- `#define TK_ALT_Q 0x511b`
- `#define TK_ALT_R 0x521b`
- `#define TK_ALT_S 0x531b`
- `#define TK_ALT_T 0x541b`
- `#define TK_ALT_U 0x551b`
- `#define TK_ALT_V 0x561b`
- `#define TK_ALT_W 0x571b`
- `#define TK_ALT_X 0x581b`
- `#define TK_ALT_Y 0x591b`
- `#define TK_ALT_Z 0x5a1b`
- `#define TK_ALT_a 0x611b`
- `#define TK_ALT_b 0x621b`
- `#define TK_ALT_c 0x631b`
- `#define TK_ALT_d 0x641b`
- `#define TK_ALT_e 0x651b`
- `#define TK_ALT_f 0x661b`
- `#define TK_ALT_g 0x671b`
- `#define TK_ALT_h 0x681b`
- `#define TK_ALT_i 0x691b`
- `#define TK_ALT_j 0x6a1b`
- `#define TK_ALT_k 0x6b1b`
- `#define TK_ALT_l 0x6c1b`
- `#define TK_ALT_m 0x6d1b`
- `#define TK_ALT_n 0x6e1b`
- `#define TK_ALT_o 0x6f1b`
- `#define TK_ALT_p 0x701b`
- `#define TK_ALT_q 0x711b`
- `#define TK_ALT_r 0x721b`
- `#define TK_ALT_s 0x731b`
- `#define TK_ALT_t 0x741b`
- `#define TK_ALT_u 0x751b`
- `#define TK_ALT_v 0x761b`
- `#define TK_ALT_w 0x771b`
- `#define TK_ALT_x 0x781b`
- `#define TK_ALT_y 0x791b`
- `#define TK_ALT_z 0x7a1b`
- `#define TK_PRINTABLE_BEGIN TK_SPACE`
- `#define TK_PRINTABLE_END TK_TILDE`

Typedefs

- typedef uint64_t [tkey_t](#)
- typedef void(* [bind_function](#)) ([tkey_t](#), void *)

Enumerations

- enum [tk_util](#) {
 [TK_CURSOR_UP](#), [TK_CURSOR_DOWN](#), [TK_CURSOR_RIGHT](#), [TK_CURSOR_LEFT](#),
 [TK_CLEAR_SCREEN](#), [TK_CLEAR_LINE_END](#), [TK_CLEAR_LINE_BEGINNING](#), [TK_CLEAR_WHOLE_LINE](#) }

Functions

- void [tk_init](#) (void)
- void [tk_finish](#) (void)
- void [tk_bind_key](#) ([tkey_t](#) k, [bind_function](#) f, void *argument_data)
- void [tk_bind_all_key](#) ([bind_function](#) f, void *argument_data)
- void [tk_bind_all_printable_key](#) ([bind_function](#) f, void *argument_data)
- int [tk_is_printable](#) ([tkey_t](#) k)
- void [tk_wait](#) (void)
- void [tk_cursor_move](#) (size_t row, size_t col)
- void [tk_cursor_movement](#) ([tk_util](#) movement, size_t n)
- void [tk_clear](#) ([tk_util](#) clear_comm)
- void [tk_cursor_visible](#) (int visible)
- void [tk_cursor_save](#) (void)
- void [tk_cursor_restore](#) (void)
- struct winsize [tk_screen_size](#) (void)

5.2.1 Detailed Description

Declarations of the libtk

5.2.2 Macro Definition Documentation

5.2.2.1 `#define TK_0 0x30`

5.2.2.2 `#define TK_1 0x31`

5.2.2.3 `#define TK_2 0x32`

5.2.2.4 `#define TK_3 0x33`

5.2.2.5 `#define TK_4 0x34`

5.2.2.6 `#define TK_5 0x35`

5.2.2.7 `#define TK_6 0x36`

5.2.2.8 `#define TK_7 0x37`

5.2.2.9 `#define TK_8 0x38`

5.2.2.10 `#define TK_9 0x39`

5.2.2.11 `#define TK_A 0x41`

5.2.2.12 `#define TK_a 0x61`

5.2.2.13 `#define TK_ALL_KEY TK_NUL`

5.2.2.14 `#define TK_ALT_(CODE) ((CODE<<8)|TK_ESC)`

5.2.2.15 `#define TK_ALT_0 0x301b`

5.2.2.16 `#define TK_ALT_1 0x311b`

5.2.2.17 `#define TK_ALT_2 0x321b`

5.2.2.18 `#define TK_ALT_3 0x331b`

5.2.2.19 `#define TK_ALT_4 0x341b`

5.2.2.20 `#define TK_ALT_5 0x351b`

5.2.2.21 `#define TK_ALT_6 0x361b`

5.2.2.22 `#define TK_ALT_7 0x371b`

5.2.2.23 `#define TK_ALT_8 0x381b`

5.2.2.24 `#define TK_ALT_9 0x391b`

5.2.2.25 `#define TK_ALT_A 0x411b`

5.2.2.26 `#define TK_ALT_a 0x611b`

5.2.2.27 `#define TK_ALT_B 0x421b`

5.2.2.28 `#define TK_ALT_b 0x621b`

5.2.2.29 `#define TK_ALT_C 0x431b`

5.2.2.30 `#define TK_ALT_c 0x631b`

5.2.2.31 `#define TK_ALT_D 0x441b`

5.2.2.32 `#define TK_ALT_d 0x641b`

5.2.2.33 `#define TK_ALT_E 0x451b`

5.2.2.34 `#define TK_ALT_e 0x651b`

5.2.2.35 `#define TK_ALT_F 0x461b`

5.2.2.36 `#define TK_ALT_f 0x661b`

5.2.2.37 `#define TK_ALT_G 0x471b`

5.2.2.38 `#define TK_ALT_g 0x671b`

5.2.2.39 `#define TK_ALT_H 0x481b`

5.2.2.40 `#define TK_ALT_h 0x681b`

5.2.2.41 `#define TK_ALT_I 0x491b`

5.2.2.42 `#define TK_ALT_i 0x691b`

5.2.2.43 `#define TK_ALT_J 0x4a1b`

5.2.2.44 `#define TK_ALT_j 0x6a1b`

5.2.2.45 `#define TK_ALT_K 0x4b1b`

5.2.2.46 `#define TK_ALT_k 0x6b1b`

5.2.2.47 `#define TK_ALT_L 0x4c1b`

5.2.2.48 `#define TK_ALT_l 0x6c1b`

5.2.2.49 `#define TK_ALT_M 0x4d1b`

5.2.2.50 `#define TK_ALT_m 0x6d1b`

5.2.2.51 `#define TK_ALT_N 0x4e1b`

5.2.2.52 `#define TK_ALT_n 0x6e1b`

5.2.2.53 `#define TK_ALT_O 0x4f1b`

5.2.2.54 `#define TK_ALT_o 0x6f1b`

5.2.2.55 `#define TK_ALT_P 0x501b`

5.2.2.56 `#define TK_ALT_p 0x701b`

5.2.2.57 `#define TK_ALT_Q 0x511b`

5.2.2.58 `#define TK_ALT_q 0x711b`

5.2.2.59 `#define TK_ALT_R 0x521b`

5.2.2.60 `#define TK_ALT_r 0x721b`

5.2.2.61 `#define TK_ALT_S 0x531b`

5.2.2.62 `#define TK_ALT_s 0x731b`

5.2.2.63 `#define TK_ALT_T 0x541b`

5.2.2.64 `#define TK_ALT_t 0x741b`

5.2.2.65 `#define TK_ALT_U 0x551b`

5.2.2.66 `#define TK_ALT_u 0x751b`

5.2.2.67 `#define TK_ALT_V 0x561b`

5.2.2.68 `#define TK_ALT_v 0x761b`

5.2.2.69 `#define TK_ALT_W 0x571b`

5.2.2.70 `#define TK_ALT_w 0x771b`

5.2.2.71 `#define TK_ALT_X 0x581b`

5.2.2.72 `#define TK_ALT_x 0x781b`

5.2.2.73 `#define TK_ALT_Y 0x591b`

5.2.2.74 `#define TK_ALT_y 0x791b`

5.2.2.75 `#define TK_ALT_Z 0x5a1b`

5.2.2.76 `#define TK_ALT_z 0x7a1b`

5.2.2.77 `#define TK_AMBERSAND 0x26`

5.2.2.78 `#define TK_APOSTROPHE 0x27`

5.2.2.79 `#define TK_ASTERISK 0x2a`

5.2.2.80 `#define TK_AT 0x40`

5.2.2.81 `#define TK_B 0x42`

5.2.2.82 `#define TK_b 0x62`

5.2.2.83 `#define TK_BACKSLASH 0x5c`

5.2.2.84 `#define TK_BACKSPACE 0x7f`

5.2.2.85 `#define TK_C 0x43`

5.2.2.86 `#define TK_c 0x63`

5.2.2.87 `#define TK_CARET 0x5e`

5.2.2.88 `#define TK_COLON 0x3a`

5.2.2.89 `#define TK_COMMA 0x2c`

5.2.2.90 `#define TK_CTRL_A 0x01`

5.2.2.91 `#define TK_CTRL_B 0x02`

5.2.2.92 `#define TK_CTRL_C 0x03`

5.2.2.93 `#define TK_CTRL_D 0x04`

5.2.2.94 `#define TK_CTRL_DOWN 0x424f1b`

5.2.2.95 `#define TK_CTRL_E 0x05`

5.2.2.96 `#define TK_CTRL_F 0x06`

5.2.2.97 `#define TK_CTRL_G 0x07`

5.2.2.98 `#define TK_CTRL_H 0x08`

5.2.2.99 `#define TK_CTRL_K 0x0b`

5.2.2.100 `#define TK_CTRL_L 0x0c`

5.2.2.101 `#define TK_CTRL_LEFT 0x444f1b`

5.2.2.102 `#define TK_CTRL_M 0x0d`

5.2.2.103 `#define TK_CTRL_N 0x0e`

5.2.2.104 `#define TK_CTRL_O 0x0f`

5.2.2.105 `#define TK_CTRL_P 0x10`

5.2.2.106 `#define TK_CTRL_Q 0x11`

5.2.2.107 `#define TK_CTRL_R 0x12`

5.2.2.108 `#define TK_CTRL_RIGHT 0x434f1b`

5.2.2.109 `#define TK_CTRL_S 0x13`

5.2.2.110 `#define TK_CTRL_T 0x14`

5.2.2.111 `#define TK_CTRL_U 0x15`

5.2.2.112 `#define TK_CTRL_UP 0x414f1b`

5.2.2.113 `#define TK_CTRL_V 0x16`

5.2.2.114 `#define TK_CTRL_W 0x17`

5.2.2.115 `#define TK_CTRL_X 0x18`

5.2.2.116 `#define TK_CTRL_Y 0x19`

5.2.2.117 `#define TK_CTRL_Z 0x1a`

5.2.2.118 `#define TK_CURLY_BRACKET_CLOSE 0x7d`

5.2.2.119 `#define TK_CURLY_BRACKET_OPEN 0x7b`

5.2.2.120 `#define TK_D 0x44`

5.2.2.121 `#define TK_d 0x64`

5.2.2.122 `#define TK_DELETE 0x7e335b1b`

5.2.2.123 `#define TK_DOLLAR 0x24`

5.2.2.124 `#define TK_DOWN 0x425b1b`

5.2.2.125 `#define TK_E 0x45`

5.2.2.126 `#define TK_e 0x65`

5.2.2.127 `#define TK_END 0x7e345b1b`

5.2.2.128 `#define TK_END_OF_FILE TK_CTRL_D`

5.2.2.129 `#define TK_ENTER 0x0a`

5.2.2.130 `#define TK_EOF TK_ENTER`

5.2.2.131 `#define TK_EQUAL 0x3d`

5.2.2.132 `#define TK_ESC 0x1b`

5.2.2.133 `#define TK_EXCLAMATION_MARK 0x21`

5.2.2.134 `#define TK_F 0x46`

5.2.2.135 `#define TK_f 0x66`

5.2.2.136 `#define TK_F1 0x504f1b`

5.2.2.137 `#define TK_F10 0x7e31325b1b`

5.2.2.138 `#define TK_F11 0x7e33325b1b`

5.2.2.139 `#define TK_F12 0x7e34325b1b`

5.2.2.140 `#define TK_F2 0x514f1b`

5.2.2.141 `#define TK_F3 0x524f1b`

5.2.2.142 `#define TK_F4 0x534f1b`

5.2.2.143 `#define TK_F5 0x7e35315b1b`

5.2.2.144 `#define TK_F6 0x7e37315b1b`

5.2.2.145 `#define TK_F7 0x7e38315b1b`

5.2.2.146 `#define TK_F8 0x7e39315b1b`

5.2.2.147 `#define TK_F9 0x7e30325b1b`

5.2.2.148 `#define TK_G 0x47`

5.2.2.149 `#define TK_g 0x67`

5.2.2.150 `#define TK_GRAVE_ACCENT 0x60`

5.2.2.151 `#define TK_GREATER_THAN 0x3e`

5.2.2.152 `#define TK_H 0x48`

5.2.2.153 `#define TK_h 0x68`

5.2.2.154 `#define TK_HOME 0x7e315b1b`

5.2.2.155 `#define TK_I 0x49`

5.2.2.156 `#define TK_i 0x69`

5.2.2.157 `#define TK_INSERT 0x7e325b1b`

5.2.2.158 `#define TK_J 0x4a`

5.2.2.159 `#define TK_j 0x6a`

5.2.2.160 `#define TK_K 0x4b`

5.2.2.161 `#define TK_k 0x6b`

5.2.2.162 `#define TK_L 0x4c`

5.2.2.163 `#define TK_l 0x6c`

5.2.2.164 `#define TK_LEFT 0x445b1b`

5.2.2.165 `#define TK_LESS_THAN 0x3c`

5.2.2.166 `#define TK_M 0x4d`

5.2.2.167 `#define TK_m 0x6d`

5.2.2.168 `#define TK_MINUS 0x2d`

5.2.2.169 `#define TK_N 0x4e`

5.2.2.170 `#define TK_n 0x6e`

5.2.2.171 `#define TK_NUL 0x00`

5.2.2.172 `#define TK_NUMBER_SIGN 0x23`

5.2.2.173 `#define TK_O 0x4f`

5.2.2.174 `#define TK_o 0x6f`

5.2.2.175 `#define TK_P 0x50`

5.2.2.176 `#define TK_p 0x70`

5.2.2.177 `#define TK_PAGE_DOWN 0x7e365b1b`

5.2.2.178 `#define TK_PAGE_UP 0x7e355b1b`

5.2.2.179 `#define TK_PARENTHESIS_CLOSE 0x29`

5.2.2.180 `#define TK_PARENTHESIS_OPEN 0x28`

5.2.2.181 `#define TK_PERCENT 0x25`

5.2.2.182 `#define TK_PERIOD 0x2e`

5.2.2.183 `#define TK_PIPE 0x7c`

5.2.2.184 `#define TK_PLUS 0x2b`

5.2.2.185 `#define TK_PRINTABLE_BEGIN TK_SPACE`

5.2.2.186 `#define TK_PRINTABLE_END TK_TILDE`

5.2.2.187 `#define TK_Q 0x51`

5.2.2.188 `#define TK_q 0x71`

5.2.2.189 `#define TK_QUESTION_MARK 0x3f`

5.2.2.190 `#define TK_QUOTATION_MARK 0x22`

- 5.2.2.191 `#define TK_R 0x52`
- 5.2.2.192 `#define TK_r 0x72`
- 5.2.2.193 `#define TK_RIGHT 0x435b1b`
- 5.2.2.194 `#define TK_S 0x53`
- 5.2.2.195 `#define TK_s 0x73`
- 5.2.2.196 `#define TK_SEMICOLON 0x3b`
- 5.2.2.197 `#define TK_SLASH 0x2f`
- 5.2.2.198 `#define TK_SPACE 0x20`
- 5.2.2.199 `#define TK_SQUARE_BRACKET_CLOSE 0x5d`
- 5.2.2.200 `#define TK_SQUARE_BRACKET_OPEN 0x5b`
- 5.2.2.201 `#define TK_T 0x54`
- 5.2.2.202 `#define TK_t 0x74`
- 5.2.2.203 `#define TK_TAB 0x09`
- 5.2.2.204 `#define TK_TILDE 0x7e`
- 5.2.2.205 `#define TK_U 0x55`
- 5.2.2.206 `#define TK_u 0x75`
- 5.2.2.207 `#define TK_UNDERSCORE 0x5f`
- 5.2.2.208 `#define TK_UP 0x415b1b`
- 5.2.2.209 `#define TK_V 0x56`
- 5.2.2.210 `#define TK_v 0x76`
- 5.2.2.211 `#define TK_W 0x57`
- 5.2.2.212 `#define TK_w 0x77`
- 5.2.2.213 `#define TK_X 0x58`

5.2.2.214 `#define TK_x 0x78`

5.2.2.215 `#define TK_Y 0x59`

5.2.2.216 `#define TK_y 0x79`

5.2.2.217 `#define TK_Z 0x5a`

5.2.2.218 `#define TK_z 0x7a`

5.2.3 Typedef Documentation

5.2.3.1 `typedef void(* bind_function) (tkey_t, void *)`

5.2.3.2 `typedef uint64_t tkey_t`

5.2.4 Enumeration Type Documentation

5.2.4.1 `enum tk_util`

Enumerator

`TK_CURSOR_UP`
`TK_CURSOR_DOWN`
`TK_CURSOR_RIGHT`
`TK_CURSOR_LEFT`
`TK_CLEAR_SCREEN`
`TK_CLEAR_LINE_END`
`TK_CLEAR_LINE_BEGINNING`
`TK_CLEAR_WHOLE_LINE`

5.2.5 Function Documentation

5.2.5.1 `void tk_bind_all_key (bind_function f, void * argument_data)`

Bind all keys to the function `f`.

Parameters

| | |
|----------------------------|----------------------------------|
| <code>f</code> | the function callback |
| <code>argument_data</code> | argument to pass to the function |

5.2.5.2 `void tk_bind_all_printable_key (bind_function f, void * argument_data)`

Bind all printable keys (characteres). Does not bind the special keys, neither the escape keys.

Parameters

| | |
|----------------------|----------------------------------|
| <i>f</i> | the function callback |
| <i>argument_data</i> | argument to pass to the function |

5.2.5.3 void tk_bind_key (tkey_t *k*, bind_function *f*, void * *argument_data*)

Bind a key to a functions. Bind the key *k* to a function *f* and will pass to *f*.

Parameters

| | |
|----------------------|----------------------------------|
| <i>k</i> | the key to bind |
| <i>f</i> | the function callback |
| <i>argument_data</i> | argument to pass to the function |

5.2.5.4 void tk_clear (tk_util clear_comm)

clear the screen with `clear_comm` predefined command.

`clear_comm` may have these values:

TK_CLEAR_SCREEN clears the whole screen TK_CLEAR clears from the cursor to the end of line TK_CLEAR clears from the cursor to the beginning of line TK_CLEAR clears the whole line

5.2.5.5 void tk_cursor_move (size_t *row*, size_t *col*)

moves the terminal cursor to the row *row* and column *col*

5.2.5.6 void tk_cursor_movement (tk_util movement, size_t *n*)

move *n* times the cursor with the predefined cursor movements:

TK_CURSOR_UP TK_CURSOR_DOWN TK_CURSOR_LEFT TK_CURSOR_RIGHT

5.2.5.7 void tk_cursor_restore (void)

restores the cursor position

5.2.5.8 void tk_cursor_save (void)

saves the cursor position

5.2.5.9 void tk_cursor_visible (int *visible*)

sets the cursor visibility

Parameters

| | |
|----------------|---|
| <i>visible</i> | whether the cursor is set to (1) visible or (0) invisible |
|----------------|---|

5.2.5.10 void tk_finish (void)

Finish all internal structures of the libtk.

5.2.5.11 void tk_init (void)

Initialize all the internal structures of the libtk. This includes all the necessary changes in the terminal instance with `termios.h`. The thread that will monitor the key presses will be launched here, in `tk_init`.

5.2.5.12 int tk_is_printable (tkey_t k)

Returns whether the key `k` is printable.

Parameters

| | |
|----------|-------------|
| <i>k</i> | key tk code |
|----------|-------------|

Returns

1 if the string is printable, 0 otherwise.

5.2.5.13 struct winsize tk_screen_size (void)

Writes the terminal width in the address pointed by `w` and the terminal height in the address pointed by `w`.

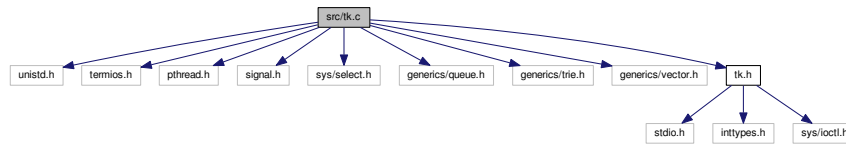
5.2.5.14 void tk_wait (void)

Wait until the tk thread exits.

5.3 README.md File Reference**5.4 src/tk.c File Reference**

```
#include <unistd.h>
#include <termios.h>
#include <pthread.h>
#include <signal.h>
#include <sys/select.h>
#include <generics/queue.h>
#include <generics/trie.h>
#include <generics/vector.h>
#include "tk.h"
```

Include dependency graph for tk.c:



Classes

- struct [tk_bind](#)

Typedefs

- typedef struct [tk_bind](#) [tk_bind](#)

Functions

- void [initialize_tk_structures](#) (void)
- void * [getchar_monitor_and_dispatch](#) (void *d)
- int [process_escape](#) (void)
- void [add_escape_sequence](#) (char *seq, [tkey_t](#) k)
- void [sigint_handler](#) (int sig)
- void [exec_queue](#) ([queue_t](#) *bind_queue, [tkey_t](#) k)
- void [call_bind](#) ([tkey_t](#) k)
- int [tk_is_printable](#) ([tkey_t](#) k)
- void [tk_init](#) (void)
- void [destroy_bind_queues](#) ([tnode_t](#) *node)
- void [tk_finish](#) (void)
- void [tk_bind_key](#) ([tkey_t](#) k, [bind_function](#) f, void *argument_data)
- void [tk_bind_all_key](#) ([bind_function](#) f, void *argument_data)
- void [tk_bind_all_printable_key](#) ([bind_function](#) f, void *argument_data)
- void [tk_wait](#) (void)
- void [tk_cursor_move](#) ([size_t](#) row, [size_t](#) col)
- struct winsize [tk_screen_size](#) (void)
- void [tk_cursor_movement](#) ([tk_util](#) movement, [size_t](#) n)
- void [tk_clear](#) ([tk_util](#) clear_comm)
- void [tk_cursor_visible](#) (int visible)
- void [tk_cursor_save](#) (void)
- void [tk_cursor_restore](#) (void)
- void [tk_cursor_position](#) ([size_t](#) *row, [size_t](#) *col)

Variables

- struct termios [old_term_attr](#)
- struct termios [new_term_attr](#)
- struct termios [escape_term_attr](#)
- pthread_t [getchar_monitor_thread](#)
- [trie_t](#) [bind](#)
- int [tk_pipe](#) [2]

5.4.1 Detailed Description

Implementations of the libtk

5.4.2 Typedef Documentation

5.4.2.1 typedef struct tk_bind tk_bind

5.4.3 Function Documentation

5.4.3.1 void add_escape_sequence (char * *seq*, tkey_t *k*)

5.4.3.2 void call_bind (tkey_t *k*)

5.4.3.3 void destroy_bind_queues (tnode_t * *node*)

5.4.3.4 void exec_queue (queue_t * *bind_queue*, tkey_t *k*)

5.4.3.5 void * getchar_monitor_and_dispatch (void * *d*)

Monitor the keys and dispatch to the bind functions.

Parameters

| | |
|----------|------|
| <i>d</i> | data |
|----------|------|

5.4.3.6 void initialize_tk_structures (void)

5.4.3.7 int process_escape (void)

5.4.3.8 void sigint_handler (int *sig*)

5.4.3.9 void tk_bind_all_key (bind_function *f*, void * *argument_data*)

Bind all keys to the function *f*.

Parameters

| | |
|----------------------|----------------------------------|
| <i>f</i> | the function callback |
| <i>argument_data</i> | argument to pass to the function |

5.4.3.10 void tk_bind_all_printable_key (bind_function *f*, void * *argument_data*)

Bind all printable keys (character). Does not bind the special keys, neither the escape keys.

Parameters

| | |
|----------------------|----------------------------------|
| <i>f</i> | the function callback |
| <i>argument_data</i> | argument to pass to the function |

5.4.3.11 void tk_bind_key (tkey_t *k*, bind_function *f*, void * *argument_data*)

Bind a key to a functions. Bind the key *k* to a function *f* and will pass to *f*.

Parameters

| | |
|----------------------|----------------------------------|
| <i>k</i> | the key to bind |
| <i>f</i> | the function callback |
| <i>argument_data</i> | argument to pass to the function |

5.4.3.12 void tk_clear (tk_util clear_comm)

clear the screen with `clear_comm` predefined command.

`clear_comm` may have these values:

TK_CLEAR_SCREEN clears the whole screen TK_CLEAR clears from the cursor to the end of line TK_CLEAR clears from the cursor to the beginning of line TK_CLEAR clears the whole line

5.4.3.13 void tk_cursor_move (size_t *row*, size_t *col*)

moves the terminal cursor to the row *row* and column *col*

5.4.3.14 void tk_cursor_movement (tk_util movement, size_t *n*)

move *n* times the cursor with the predefined cursor movements:

TK_CURSOR_UP TK_CURSOR_DOWN TK_CURSOR_LEFT TK_CURSOR_RIGHT

5.4.3.15 void tk_cursor_position (size_t * *row*, size_t * *col*)

Write the cursor position to the pointers *row* and *col*.

5.4.3.16 void tk_cursor_restore (void)

restores the cursor position

5.4.3.17 void tk_cursor_save (void)

saves the cursor position

5.4.3.18 void tk_cursor_visible (int *visible*)

sets the cursor visibility

Parameters

| | |
|----------------|---|
| <i>visible</i> | whether the cursor is set to (1) visible or (0) invisible |
|----------------|---|

5.4.3.19 void tk_finish (void)

Finish all internal structures of the libtk.

5.4.3.20 void tk_init (void)

Initialize all the internal structures of the libtk. This includes all the necessary changes in the terminal instance with `termios.h`. The thread that will monitor the key presses will be launched here, in `tk_init`.

5.4.3.21 int tk_is_printable (tkey_t k)

Returns whether the key `k` is printable.

Parameters

| | |
|----------|-------------|
| <i>k</i> | key tk code |
|----------|-------------|

Returns

1 if the string is printable, 0 otherwise.

5.4.3.22 struct winsize tk_screen_size (void)

Writes the terminal width in the address pointed by `w` and the terminal height in the address pointed by `w`.

5.4.3.23 void tk_wait (void)

Wait until the tk thread exits.

5.4.4 Variable Documentation

5.4.4.1 trie_t bind

5.4.4.2 struct termios escape_term_attr

5.4.4.3 pthread_t getchar_monitor_thread

5.4.4.4 struct termios new_term_attr

5.4.4.5 struct termios old_term_attr

5.4.4.6 int tk_pipe[2]

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