APIs and Flow Chart for

Non-Blocking Driver for Keypad

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KeyPad_eGetKey API

Function Name	KeyPad_eGetKey(u8* u8KeyID)		
Arguments	Inputs	N/A	
		description:	
	Outputs	u8KeyID	u8*
		description: Contain u8 value for Key which pressed	
	Input/Output	N/A	
		description:	
Return	E_OK	0	
	E_NOK	1	
	NO_PRESSED	2	
Description	Call this API Periodically to get pressed key		

Name	u8KeyID
Type	u8*
Range	{0,...,15}
Description	from 0 to 15 are Keys IDs u8 is defined in common "STD_TYPES.h"

Name	Return
Type	ERROR_t
Range	{0,...,2}
Description	NO_PRESSED for no pressed Key, E_OK indicate a key pressed, E_NOK indicate u8KeyID is NULL ERROR_t is defined in common "STD_TYPES.h"

```
                                              ┌──────────┐
                                              │  Start   │
                                              └────┬─────┘
                                                   │
                    No ◄───────────────────────────◇ u8KeyID != NULL
                    │                              └────┬─────┘
                    │                                   │ Yes
                    │                          ┌──────────────────────┐
                    │                          │ static u8ColNo  = 0   │
                    │                          │ static u8RowNo = 0    │
                    │                          │ static u8Counter = 1  │
                    │                          └──────────┬───────────┘
                    │                                      │
     ◇ KEYPAD_STATE == LAST_CHECK ◄─No─ ◇ KEYPAD_STATE == TIMING_STATE ◄─No─ ◇ KEYPAD_STATE == FIRST_CHECK
          │                                │                                      │ Yes
          │ Yes                            │ Yes                                  │
     ◇ Rows[u8RowNo] ==LOW            ◇ u8Counter == 3              ◇ u8ColNo < NO_OF_COLMS ─Yes─
          │                   NO──       │                         No│                        │
     Yes  │                     │    Yes │                           │                        │
  ┌───────────────┐             │  ┌──────────────────┐    ┌──────────────┐       ┌──────────────────┐
  │ u8KeyID = (u8RowNo          │  │ u8Counter = 1 ;  │    │ u8ColNo = 0  │       │ Columns[u8ColNo] =LOW │
  │ *NO_OF_COLMS) +u8ColNo      │  │ KEYPAD_STATE =   │    │ u8RowNo = 0  │       └──────────────────┘
  └───────┬───────┘    No       │  │ LAST_CHECK       │    └──────┬───────┘
          │              │      │  └────────┬─────────┘           │
  ┌──────────────┐ ┌──────────────┐ ┌──────────────┐             │      ◇ u8RowNo < NO_OF_ROWS ─NO─
  │ u8ColNo  = 0 │ │ u8ColNo  = 0 │ │ u8Counter++  │             │            │        
  │ u8RowNo  = 0 │ │ u8RowNo  = 0 │ └──────────────┘             │         Yes│       u8ColNo++;
  └──────┬───────┘ └──────┬───────┘                              │            │     Columns[u8ColNo] =HIGH;
  ┌──────────────┐ ┌──────────────────┐                         │     ◇ Rows[u8RowNo] ==LOW ─Yes─
  │ KEPAD_STATE =│ │ KEPAD_STATE =    │                         │            │
  │ FIRST_CHECK  │ │ FIRST_CHECK      │                  No      │            │
  └──────┬───────┘ └──────┬───────────┘                  u8Row++ │
         │                │                                      │
  ┌──────────────┐ ┌──────────────┐        ┌──────────────────┐  ┌──────────────────────┐
  │ Return E_NOK │ │ Return E_OK  │        │ Return NOT_PRESSED◄──│ KEYPAD_STATE = TIMING_STATE │
  └──────────────┘ └──────────────┘        └──────────────────┘  └──────────────────────┘
```