EFS File System (EFS)

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Preliminary V1.0

1 Features

- Designed for EEPROM (1KiB – 64KiB)
- Fixed File Count File System
- Flat hierarchy File System
- Supports R/W File attributes
- Supports all Read, Write, Append mode.
- Page aligned storage.
- Syscall like API.
- Possible future support for folders and symlinks.
- Possible future support for wear leveling.

2 Specifications

2.1 File System Header

Offset	
00	Magic Key (0x0EF5)
01	
02	Checksum
03	
04	Page Size
05	
06	Page Count
07	
08	Fixed File Count
09	
0A	Bitmap Size (Bytes)
0B	
	Bitmap data
	File 1 Header
	File 2 Header
	⋮
	File N Header

Table 1: File System Header

2.2 File Entry Header

Offset	
00	Attributes
01	File Size
02	
03	Page Address
04	
05	File Name
06	
07	
08	
09	
0A	
0B	
0C	
0D	
0E	
0F	

Table 2: FAT Entry Header

2.2.1 Flags

7	6	5	4	3	2	1	0
		Read Acess	Write Access				In Use
		0: No	0: No				0: No
		1: Yes	1: Yes				1: Yes

2.2.2 File Size

File Size in Bytes

2.2.3 Page Address

Page Address of File content start
Absolute 32-bit address of file content start = Page Address × Page Size

2.2.4 File/Folder Name

11 Byte File/Folder Name
File Extension (if present) will be the part of name.
Should be NULL character terminated if File Name < 11 Bytes

2.3 Data Page format

Files Aligned to Page Size

<file data>	<next page index> 2 Byte
← Page Width →	