Class Diagram of sairoutine's faithjs
github : https://github.com/sairoutine/faithjs.git

C NES_field

```
requestID : window.reqAnimaFrm.
ctx : canvas.getCnt("2d").
────────────レジスタ────────────
A
X
Y
S
P
PC
────────────割り込み────────────
toNMI
toIRQ
CPUClock
──────────キャッシュテーブル──────────
ZNCacheTable : Array(256)
ZNCacheTableCMP : Array(512)
────────────NES PPU────────────
ScrollRegisterFlag
PPUAddressRegisterFlag
HScrollTmp
PPUAddress
PPUAddressBuffer
Palette
SpriteLineBuffer
PPUReadBuffer
BgLineBuffer
SPBitArray : Array(256)(256)(8).
PaletteArray
PpuX
PpuY
DrawFlag
──────PPU (0x2000 ～ 0x2007)──────
IO1 : Array(8)
────────────画面データ────────────
ImageData
DrawFlag
Sprite0Line
────────────NES Header────────────
PrgRomPageCount
ChrRomPageCount
HMirror : boolean
VMirror : boolean
SramEnable : boolean
TrainerEnable : boolean
FourScreen : boolean
HMirror : boolean
HMirror : boolean
MapperNumber
Mapper : Mapper
────────────NES Storage────────────
RAM  : Array(0x0800)
SRAM : Array(0x2000)
VRAM : Array(16)
VRAMS: Array(16)(0x0400)
SPRITE_RAM : Array(0x100)
ROM : Array(4)
PRGROM_STATE : Array(4)
CHRROM_STATE : Array(8)
ROM : Array(4)
PRGROM_PAGES
CHRROM_PAGES
Rom : ArrayBuffer
────────────JoyPad────────────
JoyPadStrobe : boolean
JoyPadState : Array(2)
JoyPadBuffer: Array(2)
isConnectedGamePad1P : boolean
isConnectedGamePad2P : boolean
────────────APU────────────
MainClock = 1789772.5;
WaveOut : boolean
Wave***
WaveLengthCount : Array(0x20)
WaveCh* ***
WebAudio***
──────APU (0x4000 ～ 0x4017)──────
IO2 : Array(0x20)
────────────EX Sound────────────
FDS_***
MMC5_***
VRC6_***
N163_***
AY_***
────────────定数────────────
BUTTON_***
CycleTable : Array(256)
REG_***
────────────Mapper────────────
Mapper : Mapper*(NES)
```

C NES_methods

```
Init()
ParseHeader()
MapperSelect()
Start()
Run()
Pause()
Reset()
ctx : canvas.getCnt("2d").
────────────NES CPU────────────
CpuInit()
CpuRun()
ExecuteOpCode()
Set***Flag()
Clear***Flag()
GetAddress***()
Push()
Pop()
"OpCode()"
────────────割り込み────────────
CpuReset()
NMI()
IRQ()
BRK()
────────────NES PPU────────────
PpuInit()
SetMirror()
SetMirrors()
SetChrRomPage1K()
SetChrRomPages1K()
SetChrRomPage()
initCanvas()
PpuRun()
BuildBGLine()
BuildBGLine_SUB()
BuildSpriteLine()
BuildSpriteLine_SUB()
Write***"PPURegister"()
Read***"PPU"()
──────────NES RAM or ROM──────────
StorageClear()
SetRom()
StorageInit()
Get()
Get16()
Set()
SetPrgRomPage8K()
SetPrgRomPages8K()
SetPrgRomPage()
────────────JoyPad────────────
WriteJoyPadRegister*()
ReadJoyPadRegister1()
handleKeyUp()
handleKeyDown()
_keyCodeToBitCode()
_buttonIDToBitCode()
_handleGamePads()
_handleGamePad()
────────────APU────────────
ApuInit()
ApuRun()
Web"APU"***()
Read"APU"***()
SetCh5Delta()
Out_Apu()
WaveFrameSequencer()
WaveCh***()
────────────EX Sound────────────
EXSoundInit()
Init_FDS()
Write_FDS_***()
Count_FDS()
Out_FDS()
Init_MMC5()
Write_MMC5_***()
Read_MMC5_***()
Count_MMC5()
Out_MMC5()
Init_VRC6()
Count_VRC6()
Out_VRC6()
Init_N163()
Write_N163_RAM()
Read_N163_RAM()
Count_N163()
Out_N163()
Init_AY()
Select_AY_REG()
Write_AY_REG()
Read_AY_REG()
Count_AY()
Out_AY()
webAudioContextResume()
```

User

index.html

```
title = "faithjs"
canvas : '#mainCanvas'
button : '#start'
button : '#pause'
button : '#RESET'
button : '#FULL SCREEN'
```

C Main

```
canvas : DOM('#mainCanvas')
nes : NES(canvas)
read_local_file: CB.FileReader()
read_url: CB.XMLHttpRequest()
initialize_dom_events: Fn.
────────────────────────────
nes_pause()
nes_start()
nes_reset()
nes_rom_change(arraybuffer)
resize_canvas()
fullscreen()
initialize_dom_events()
```

C Mappers

```
Init()
```

C Base

```
nes = nes
MAPPER_REG
────────────────────────────
Init()
ReadLow()
WriteLow()
ReadPPUData()
WritePPUData()
BuildBGLine()
BuildSpriteLine()
ReadSRAM()
WriteSRAM()
Write()
HSync()
CPUSync()
SetIRQ()
ClearIRQ()
OutEXSound()
EXSoundSync()
GetState()
SetState()
```