SMBX-38A file formats

Developed by Chinese developer named as 5438A38A for usage in re-developed SMBX 1.4.x (Unofficial implementation of SMBX Engine)

All files are written as ASCII-text. Every header contains line "SMBXFile??", where ?? is a version number of file generator standard (first version is 65, latest 66). Non-ASCII data is encoding into URI and BASE64 formats. Every line begins from a marker of element type, and parameters are going in strict order. Parameters are separating with "|" character, sub-parameters (extra parameters or array elements between one parent parameter cell) are spliting with "/" or "," characters. Extra parameters are allowed on end of every line (extra parameters are can be added to end of every parameter chain, but replacing or appending into middle of this chain is not allowed). Entries of extra types are allowed too, but there are must not use busy markers!

Note: Red entries are introduced in updated SMBX66-38A

LVL file specification

Data type markers: - Level header settings P1, P2 – Player spawn points - Section settings M - blocks В Т - Background objects - Non-playable characters N Liquid/Environment boxes Q W - Warp entries - Layers L Е - Events V - Local level variables S - UTF-8 encoded local level scripts Su - ASCII-encoded local level scripts line 1: SMBXFile?? ??=Version number next line: level settings A|param1|param2[|param3|param4] []=optional param1=the number of stars on this level param2=level title param3=a filename, when player died, the player will be sent to this level. param4=normal entrance / to warp [0-WARPMAX] next line: player start points P1|x1|y1P2|x2|v2x1=first player position x y1=first player position y x2=second player position x y2=second player position y next line: section properties M|id|x|y|w|h|b1|b2|b3|b4|b5|b6|music|background|musicfile id=[1-SectionMAX] x=Left size[-left/+right]:render(

```
v=Top size[-down/+up]
       w=width of the section[if (w < 800) w = 800]
       h=height of the section[if (h < 600) h = 600]
       b1=under water?[0=false !0=true]
       b2=is x-level wrap[0=false !0=true]
       b3=enable off screen exit[0=false !0=true]
       b4=no turn back(x)[0=no x-scrolllock 1=scrolllock left 2=scrolllock right]
       b5=no turn back(y)[0=no y-scrolllock 1=scrolllock up 2=scrolllock down]
       b6=is v-level wrap[0=false !0=true]
       music=music number[same as smbx1.3]
       background=background number[same as the filename in 'background2' folder]
       musicfile=custom music file[***urlencode!***]
next line: blocks
       B|layer|id|x|y|contain|b1|b2|e1,e2,e3|w|h
       layer=layer name["" == "Default"][***urlencode!***]
       id=block id
       x=block position x
       y=block position y
       contain=containing npc number
               [1001-1000+NPCMAX] npc-id
               [1-999] coin number
               [0] nothing
       b1=slippery[0=false !0=true]
       b2=invisible[0=false !0=true]
       e1=block destory event name[***urlencode!***]
       e2=block hit event name[***urlencode!***]
       e3=no more object in layer event name[***urlencode!***]4
       w=width
       h=height
next line: backgrounds
       T|layer|id|x|y
       layer=layer name["" == "Default"][***urlencode!***]
       id=background id
       x=background position x
       y=background position y
next line: npcs
       N|layer|id|x|y|b1,b2,b3,b4|sp|e1,e2,e3,e4,e5,e6,e7|a1,a2|c1[,c2,c3,c4,c5,c6,c7]|msg|
       layer=layer name["" == "Default"][***urlencode!***]
       id=npc id
       x=npc position x
       v=npc position v
       b1=[1]left [0]random [-1]right
       b2=friendly npc
       b3=don't move npc
       b4=[1=npc91][2=npc96][3=npc283][4=npc284][5=npc300]
       sp=special option
               [***urlencode!***]
               e1=death event
               e2=talk event
               e3=activate event
               e4=no more object in layer event
               e5=grabed event
               e6=next frame event
               e7=touch event
               a1=layer name to attach
```

```
a2=variable name to send
       c1=generator enable
               [if c1!=0]
               c2=generator period[1 frame]
               c3=generator effect
                       c3-1[1=warp][0=projective][4=no effect]
                       c3-2[0=center][1=up][2=left][3=down][4=right][9=up+left][10=left+down][11=down+right]
[12=right+up]
                               if (c3-2)!=0
                               c3=4*(c3-1)+(c3-2)
                               else
                               c_3 = 0
               c4=generator direction[angle][when c3=0]
               c5=batch[when c3=0][MAX=32]
               c6=angle range[when c3=0]
               c7=speed[when c3=0][float]
       msg=message by this npc talkative[***urlencode!***]
next line: waters
       Q|layer|x|y|w|h|b1,b2,b3,b4,b5|event
       layer=layer name["" == "Default"][***urlencode!***]
       x=position x
       y=position y
       w=width
       h=height
       b1=liquid type
               01-Water[friction=0.5]
               02-Quicksand[friction=0.1]
               03-Custom Water
               04-Gravitational Field
               05-Event Once
               06-Event Always
               07-NPC Event Once
               08-NPC Event Always
               09-Click Event
               10-Collision Script
               11-Click Script
               12-Collision Event
               13-Air
       b2=friction
       b3=Acceleration Direction
       b4=Acceleration
       b5=Maximum Velocity
       event=touch event
next line: warps
       W|layer|x|y|ex|ey|type|enterd|exitd|sn,msg,hide|locked,noyoshi,canpick,bomb,hidef,anpc,mini,size|lik|liid|noexit|wx|wy|
le|we
       layer=layer name["" == "Default"][***urlencode!***]
       x=entrance position x
       y=entrance postion y
       ex=exit position x
       ey=exit position y
       type=[1=pipe][2=door][0=instant]
       enterd=entrance direction[1=up 2=left 3=down 4=right]
       exitd=exit direction[1=up 2=left 3=down 4=right]
       sn=need stars for enter
```

```
msg=a message when you have not enough stars
       hide=hide the star number in this warp
       locked=locked
       noyoshi=no yoshi
       canpick=allow npc
       bomb=need a bomb
       hide=hide the entry scene
       anpc=allow npc interlevel
       mini=Mini-Only
       size=Warp Size(pixel)
       lik=warp to level[***urlencode!***]
       liid=normal enterance / to warp[0-WARPMAX]
       noexit=level entrance
       wx=warp to x on world map
       wy=warp to y on world map
       le=level exit
       we=warp event[***urlencode!***]
next line: layers
       L|name|status
       name=layer name[***urlencode!***]
       status=is vizible layer
next line: events
       E|name|msg|ea|el|elm|epy|eps|eef|ecn|evc|ene
       name=event name[***urlencode!***]
       msg=show message after start event[***urlencode!***]
       ea=val,syntax
               val=[0=not auto start][1=auto start when level start][2=auto start when match all condition][3=start when
called and match all condidtion]
               syntax=condidtion expression[***urlencode!***]
       el=b/s1,s2...sn/h1,h2...hn/t1,t2...tn
               b=no smoke[0=false !0=true]
               [***urlencode!***]
               s(n)=show layer
               l(n)=hide layer
               t(n)=toggle layer
       elm=elm1/elm2...elmn
               elm(n)=layername,horizontal syntax,vertical syntax,way
               layername=layer name for movement[***urlencode!***]
               horizontal syntax, vertical syntax[***urlencode!***][syntax]
               way=[0=by speed][1=by Coordinate]
       epy=b1,b2,b3,b4,b5,b6,b7,b8,b9,b10,b11,b12
               b1=enable player controls
               b2=drop
               b3=alt run
               b4=run
               b5=jump
               b6=alt jump
               b7=up
               b8=down
               b9=left
               b10=right
               b11=start
               b12=lock keyboard
       eps=esection/ebackground/emusic
               esection=es1:es2...esn
```

```
ebackground=eb1:eb2...ebn
       emusic=em1:em2...emn
               es=id,stype,x,y,w,h,auto,sx,sy
                       id=section id
                       stype=[0=don't change][1=default][2=custom]
                       x=left x coordinates for section [id][***urlencode!***][syntax]
                       y=top y coordinates for section [id][***urlencode!***][syntax]
                       w=width for section [id][***urlencode!***][syntax]
                       h=height for section [id][***urlencode!***][svntax]
                       auto=enable autoscroll controls[0=false !0=true]
                       sx=move screen horizontal syntax[***urlencode!***][syntax]
                       sy=move screen vertical syntax[***urlencode!***][syntax]
               eb=id,btype,backgroundid
                       id=section id
                       btype=[0=don't change][1=default][2=custom]
                       backgroundid=[when btype=2]custom background id
               em=id,mtype,musicid,customfile
                       id=section id
                       mtype=[0=don't change][1=default][2=custom]
                       musicid=[when mtype=2]custom music id
                       customfile=[when mtype=3]custom music file name[***urlencode!***]
eef=sound/endgame/ce1/ce2...cen
       sound=play sound number
       endgame=[0=none][1=bowser defeat]
       ce(n)=id,x,y,sx,sy,grv,fsp,life
               id=effect id
               x=effect position x[***urlencode!***][syntax]
               y=effect position y[***urlencode!***][syntax]
               sx=effect horizontal speed[***urlencode!***][syntax]
               sy=effect vertical speed[***urlencode!***][syntax]
               grv=to decide whether the effects are affected by gravity[0=false !0=true]
               fsp=frame speed of effect generated
               life=effect existed over this time will be destroyed.
ecn=cn1/cn2...cnn
       cn(n)=id,x,y,sx,sy,sp
               id=npc id
               x=npc position x[***urlencode!***][syntax]
               y=npc position y[***urlencode!***][syntax]
               sx=npc horizontal speed[***urlencode!***][syntax]
               sy=npc vertical speed[***urlencode!***][syntax]
               sp=advanced settings of generated npc
evc=vc1/vc2...vcn
       vc(n)=name,newvalue
               name=variable name[***urlencode!***]
               newvalue=new value[***urlencode!***][syntax]
ene=nextevent/timer/apievent/scriptname
       nextevent=name,delay
               name=trigger event name[***urlencode!***]
               delay=trigger delay[1 frame]
       timer=enable,count,interval,type,show
               enable=enable the game timer controlling[0=false !0=true]
               count=set the time left of the game timer
               interval=set the time count interval of the game timer
               type=to choose the way timer counts[0=counting down][1=counting up]
               show=to choose whether the game timer is showed in hud[0=false !0=true]
```

```
apievent=the id of apievent
scriptname=script name[***urlencode!***]
next line: variables
V|name|value
name=variable name[***urlencode!***]
value=initial value of the variable
next line: scripts
S|name|script
Su|name|scriptu
name=name of script[***urlencode!***]
script=script[***base64encode!***][utf-8]
scriptu=script[***base64encode!***][ASCII]
```

WLD file description

```
Data type markers:
       - World settings header
ws1
ws2
       - Credits
       - List of additional strings
ws3

    Saving locker setup

ws4
T
       – Terrain tiles
S
       - Sceneries
P
       - Paths
M
       - Areas - Music boxes, viewports, etc.
       - Level entrances
L
WL
       - Layers
WE
       - Events
line 1:
       SMBXFile??
       ??=Version number
next line: world settings
       ws1|wn|bp1,bp2,bp3,bp4,bp5|asn|dtp,nwm,rsd,dcp,sc,sm,asg,smb3|sn,mis|acm|sc
       ws2|credits
       ws3|list
       ws4|se|msg
       wn=episode name[***urlencode!***]
       bp(n)=don't use player(n) as player's character
       asn=auto start level file name[***urlencode!***]
       dtp=disable two player[0=false !0=true]
       nwm=no world map[0=false !0=true]
       rsd=restart last level on player's character death[0=false !0=true]
       dcp=disable change player[0=false !0=true]
       sc=save machine code to sav file[0=false !0=true]
       sm=save mode
               -1=Restart at auto start level
               0=Restart at the world map where we saved last time
               1=Restart at the level where we saved last time
       asg=auto save game[0=false !0=true]
       smb3=smb3 style world map[0=false !0=true]
       sn=star number
       mis=max item number in world inventory
       acm=anti cheat mode[0=don't allow in list !0=allow in list]
       sc=enable save locker[0=false !0=true]
       credits=[1]
               #DEFT#xxxxxx[***base64encode!***]
               xxxxxx=name1 /n name2 /n ...
               #CUST#xxxxx[***base64encode!***]
               xxxxxx=any string
       list=xxxxx[***base64encode!***]
               xxxxxx=string1,string2...stringn
       se=save locker syntax[***urlencode!***][syntax]
       msg=message when save was locked[***urlencode!***]
next line: tiles
       T|id|x|y|layer
       id=tile id
```

```
x=tile position x
       y=tile position y
       layer=layer name["" == "Default"][***urlencode!***]
next line: scenerys
       S|id|x|y|layer
       id=scenery id
       x=scenery position x
       y=scenery position y
       layer=layer name["" == "Default"][***urlencode!***]
next line: paths
       P|id|x|v|laver
       id=path id
       x=path position x
       y=path position y
       layer=layer name["" == "Default"][***urlencode!***]
next line: Areas
       M|id|x|y|name|layer|w|h|flag|te,eflag|ie1,ie2,ie3
       id=music id
       x=Area position x
       y=Area position y
       name=custom music name[***urlencode!***]
       layer=layer name["" == "Default"][***urlencode!***]
       w=width
       h=height
        flag=area settings[***Bitwise operation***]
               0=False !0=True
               b1=(flag & 1) World Music
               b2=(flag & 2) Set Viewport
               b3=(flag & 4) Ship Route
               b4=(flag & 8) Forced Walking
               b5=(flag & 16) Item-triggered events
       te:Touch Event[***urlencode!***]
               eflag:0=Triggered every time entering
                   1=Triggered on entrance and level completion
           2=Triggered only once
       ie1=Hammer Event[***urlencode!***]
       ie2=Warp Whistle Event[***urlencode!***]
       ie3=Anchor Event[***urlencode!***]
next line: levels
       L|id|x|y|fn|n|eu\el\ed\er|wx|wy|w|z|bg,pb,av,ls,f,nsc,otl,li,lcm|s|Layer|Lmt
       id=level id
       x=level position x
       y=level position y
       fn=level file name[***urlencode!***]
       n=level name[***urlencode!***]
       eu,el,ed,er=e[up,left,down,right]
               e=c1,c2,c3,c4
               c1,c2,c3=level exit type
               c4=condidtion expression[***urlencode!***][syntax]
               exit = (c1 \parallel c2 \parallel c3) \&\& c4
       wx=go to world map position x
       wy=go to world map position y
       wlz=nunber of doors to warp
       bg=big background
       pb=path background
```

```
av=always visible
       ls=is game start point
       f=forced
       nsc=no star coin count
       otl=destory after clear
       li=level ID
       lcm=Affected by Music Box
       s=entrance syntax
               s=ds1/ds2...dsn
               ds=ds1,ds2[***urlencode!***][syntax]
               ds1=condidtion expression
               ds2=index
       layer=layer name["" == "Default"][***urlencode!***]
       Lmt=Level Movement Command
               lmt=NodeInfo\PathInfo
                      NodeInfo=Node1:Node2:...:NodeN
                              Node=x,y,chance
                      PathInfo=Path1:Path2:...:PathN
                              Path=NodeID1,NodeID2
next line: layers
       WL|name|status
       name=layer name[***urlencode!***]
       status=is hidden layer
next line: events
       WE|name|layer|layerm|world|other
       name=event name[***urlencode!***]
       layer=way/hidelist/showlist/togglelist
               list=name1,name2,name3...namen
                      name[***urlencode!***]
               if (way \% 10 == 1) nosmoke = true;
               if (way > 10) object state = true; else layer state = true;
       layerm=movementcommand1\movementcommand2\...\movementcommandn
               movementcommand=way,layer,hp,vp,ap
                      way:0=speed,1=coordinate,2=moveto,4=spin
                       layer=layer name[***urlencode!***]
                       hp=Horizontal Parameter[***urlencode!***]
                       vp=Vertical Parameter[***urlencode!***]
                      ap=Additional Parameter[***urlencode!***]
       world=aw/cs,le,inpc,msgc,syntax,msg
               aw=AutoStart Settings
                      0=Not Auto Start
                       1=Triggered on loading the world the first time.
                      2=Triggered every time loading the world.
                       3=Triggered on level exit.
               cs=Start when match all condition[0=false !0=true]
               le:0=This is a Normal Event.
                1=This is a Level Enter/Exit Event.
               inpc=Interrupt the process if 'false' returned
               msgc=Show a message if 'false' returned
               syntax=Condition expression[***urlencode!***]
               msg=message[***urlencode!***]
       other=sd/ld/event,delay/script/msg/wwx,wwy,lockl
               sd=play sound number
               ld=lock keyboard (frames)
               event=trigger event name[***urlencode!***]
```

```
delay=trigger delay[1 frame]
script=script name[***urlencode!***]
msg=show message after start event[***urlencode!***]
wwx=Warp Whistle: Map Warp Location x
wwy=Warp Whistle: Map Warp Location y
if (wwx == -1 && wwy == -1) [means not moving]
lockl=[Level ID]Affected by Anchor
```

WLS file description(world settings)

Data type markers: – Global variables G - Global script UTF-8 Encoded GS - Global script ASCII-encoded GSu CW - Custom sounds entires (alternate implementation of sounds.ini from PGE and LunaLUA) line 1: SMBXFile?? ??=Version number next line: global variables G|name|value name=variable name[***urlencode!***] value=initial value of the variable next line: global scripts GS|name|script GSu|name|scriptu name=name of script[***urlencode!***] script=script[***base64encode!***][utf-8] scriptu=script[***base64encode!***][ASCII] next line: custom sounds CW|cdata1|cdata2|...|cdatan

cdata=sound-id,sound-filename

sound-filename:[***urlencode!***]