The SMBX64 Level Map

It is probed by Wohlstand 02/12/2014

Introduction

Standart parameters:

Standart size of one block	32x32 pixels
On screen can showing height	19 blocks
On screen can showing width	25 blocks
Height of screen	608 pixels (non 600, 608: 608/19=32 — one block size)
Width of screen	800 pixels
Max level space size:	419998×419998 pixels (but It is allowed to come out of limits)

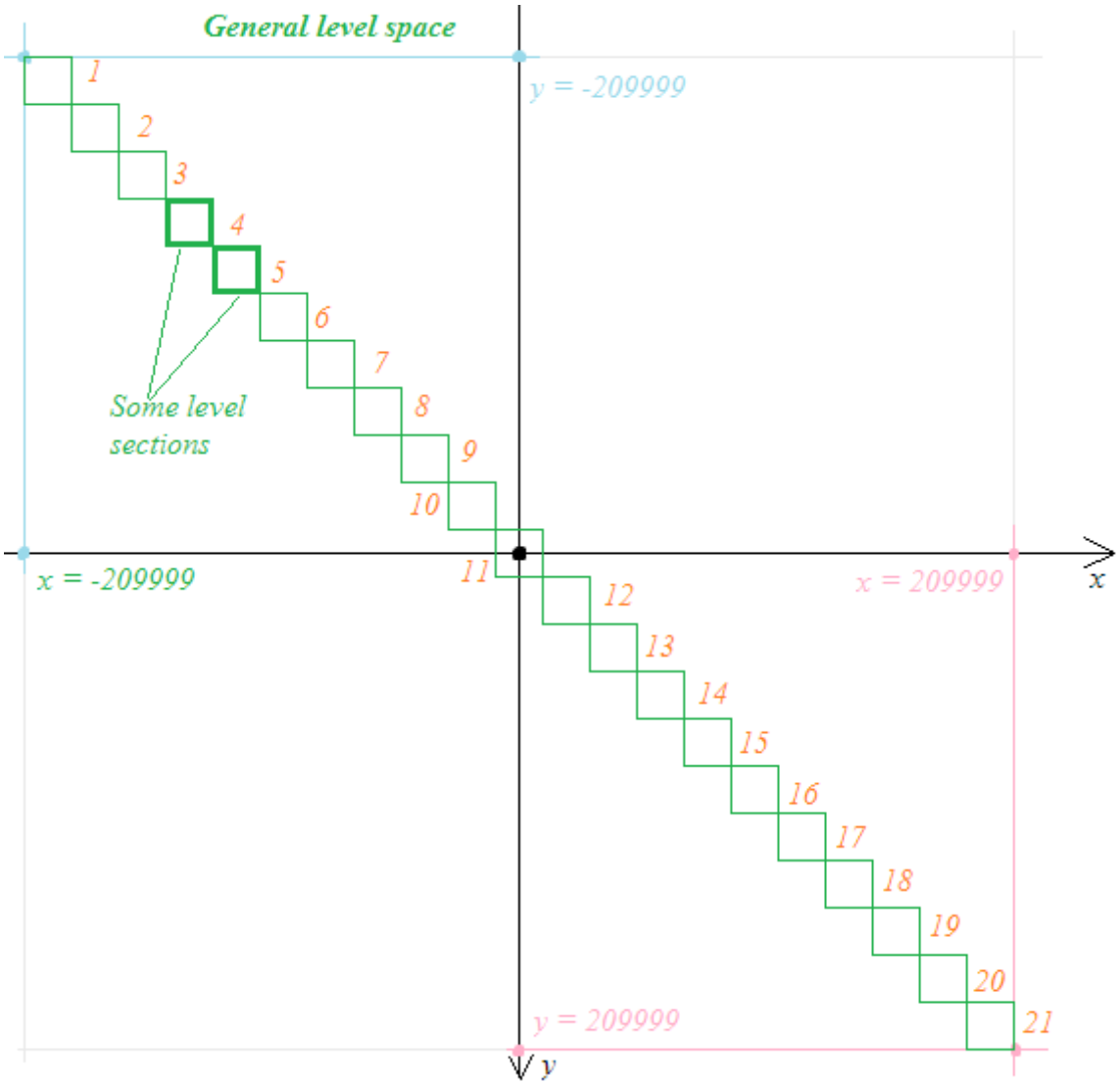
Limits of objects on one level map:

Blocks:	20000
NPCs:	5000
Background objects:	8000
Doors:	200

Level Map:

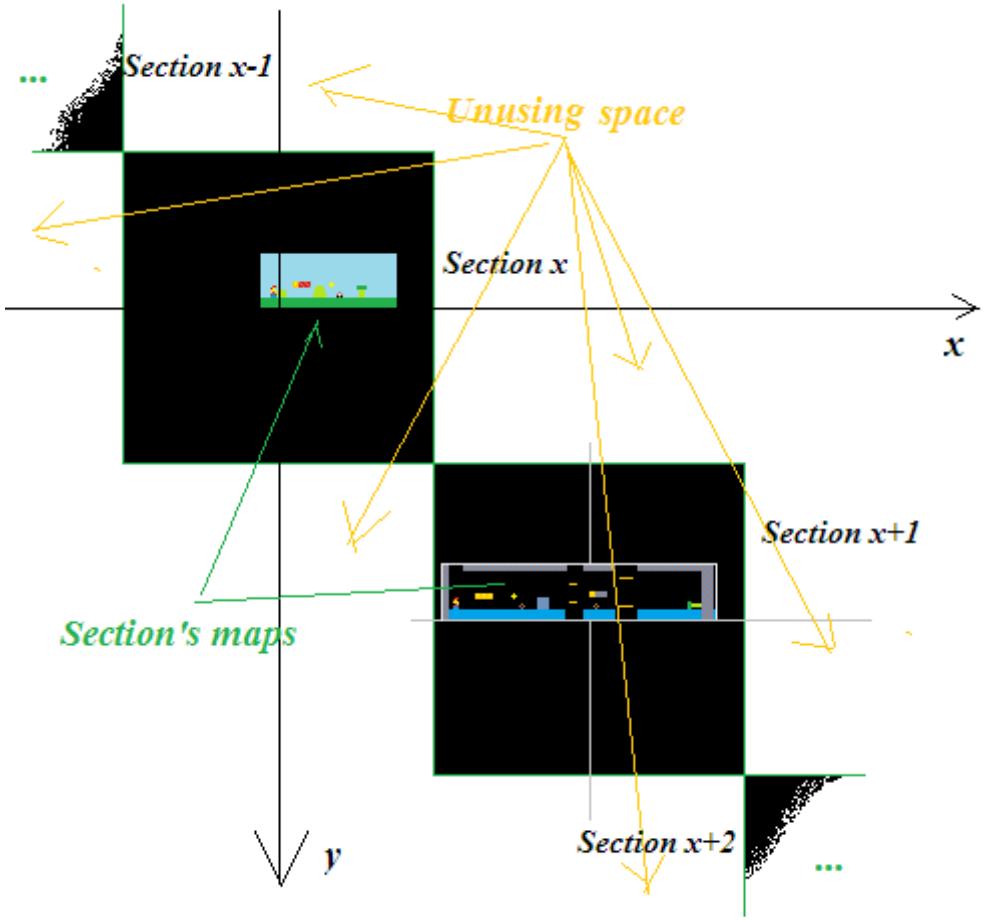
Each level map is divided into 21 sections, which can be created "room". All sections are located in the same level space. Levels are displayed on coordinates with the reflected Y.

Default section positions:

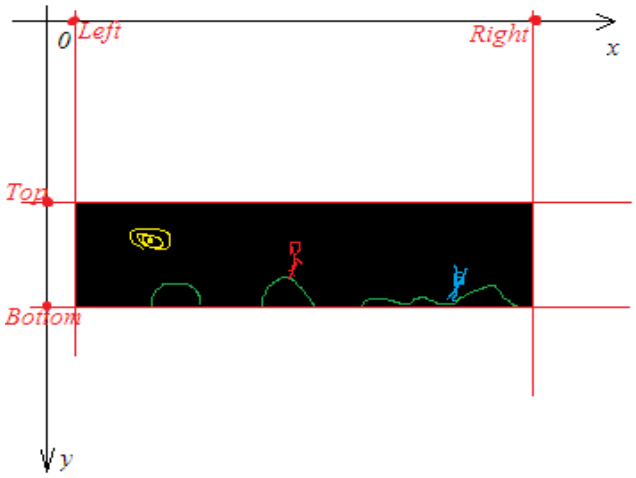


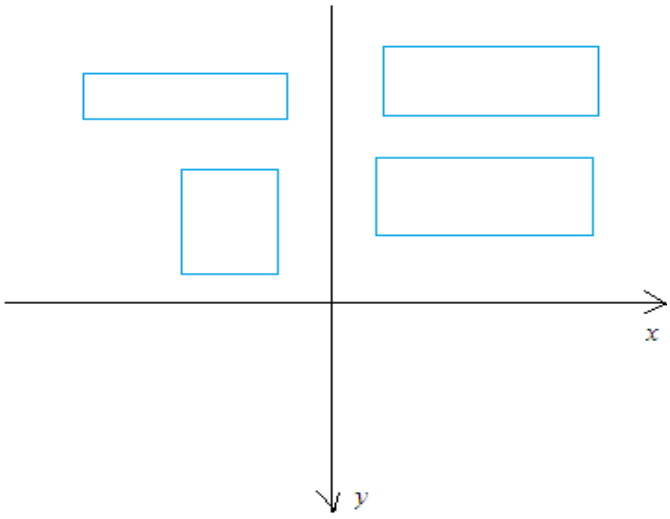
Level sections

The green squares – is a default zones of level sections:



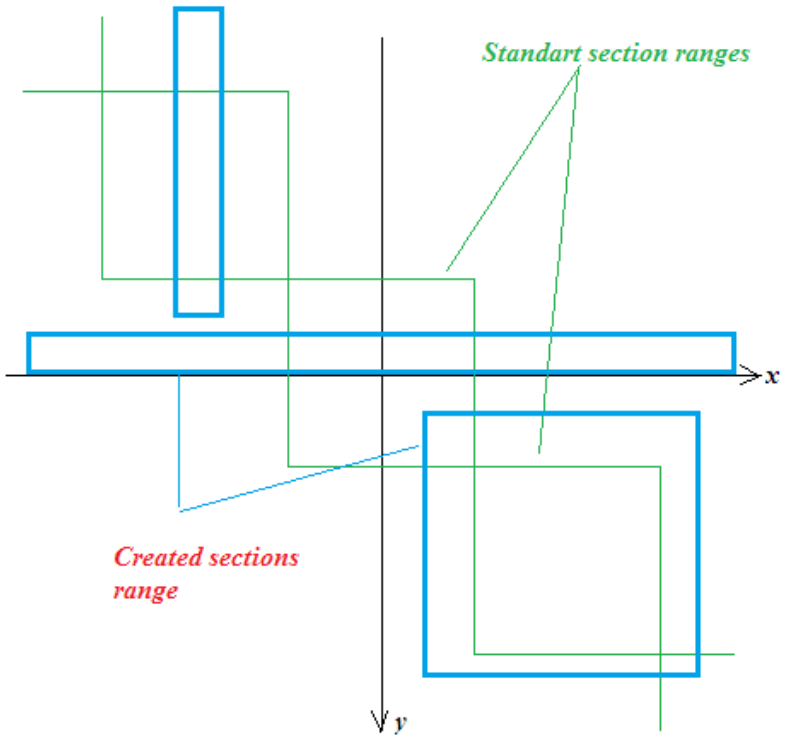
The section size and position defining by position of eash side of section.
height and width are calculated on a formula:
$W = |L-R|$ $H = |T-B|$



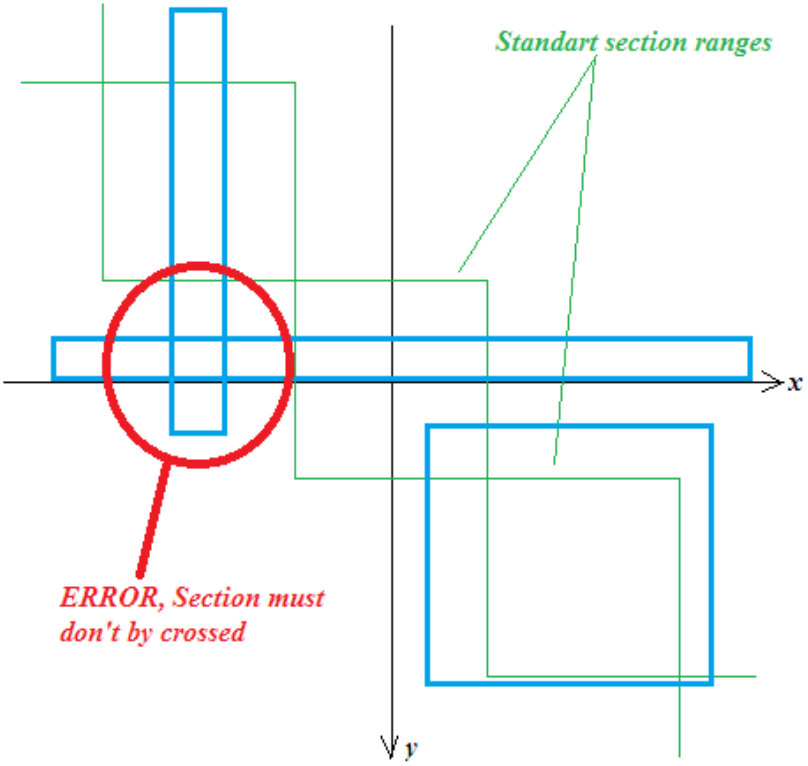


Sections can be have any size and position, but sections won't be crossed.

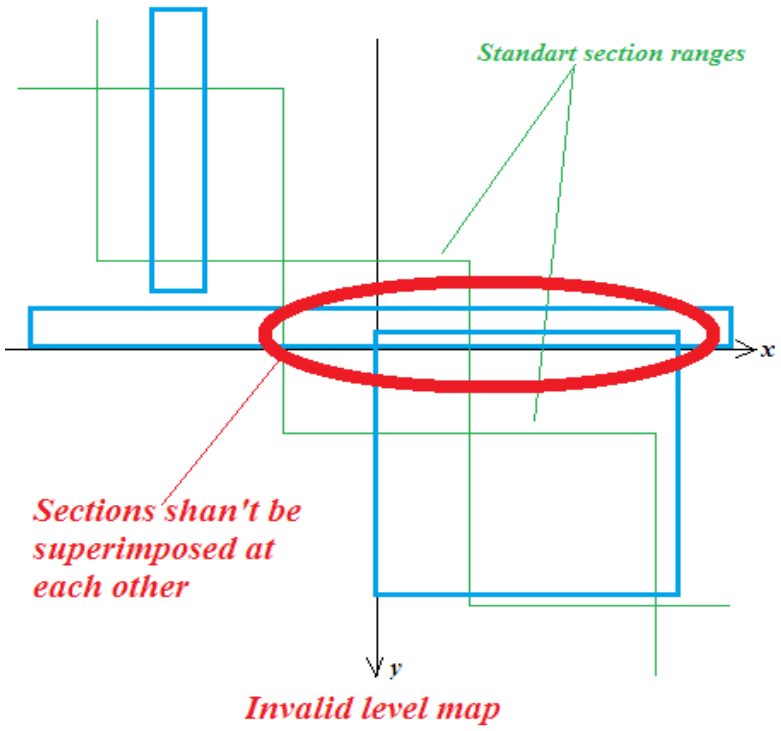
Examples:



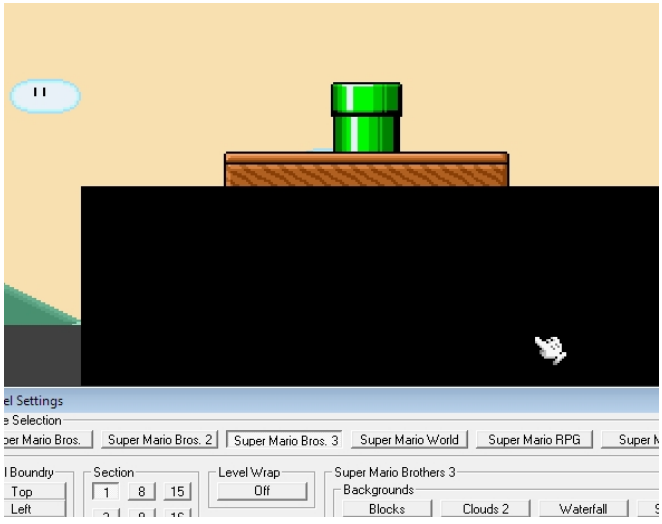
Valid level map

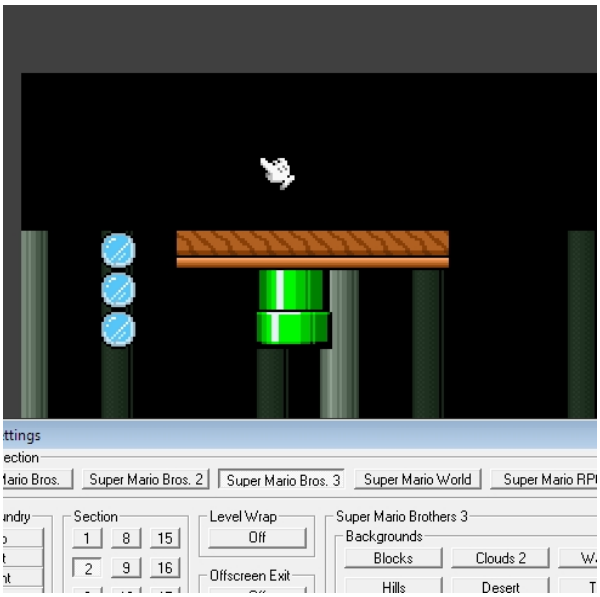


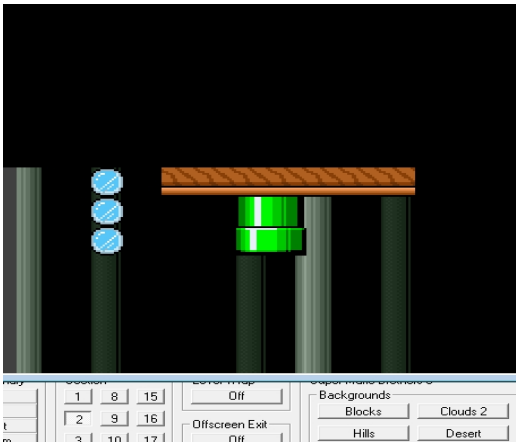
Invalid level map



Consequences of inter-crossing of sections:







Default sections position

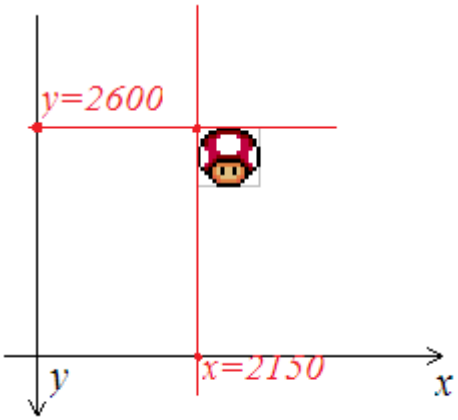
This is the default zones, used for creation of new section, if it is empty:

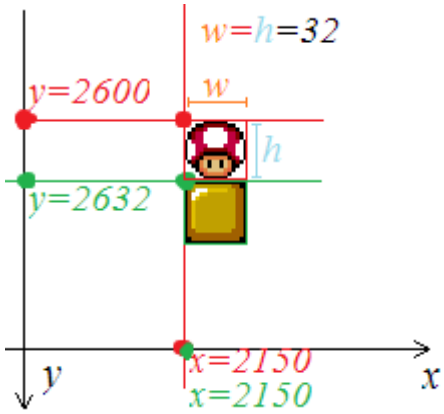
(Section Center)	Section (X and Y axis ranges)
-200000	**01** (-190000 : -219999)
-180000	**02** (-170000 : -189999)
-160000	**03** (-150000 : -189999)
-140000	**04** (-130000 : -149999)
-120000	**05** (-110000 : -129999)
-100000	**06** (-90000 : -109999)
-80000	**07** (-70000 : -89999)
-60000	**08** (-50000 : -69999)
-40000	**09** (-30000 : -49999)
-20000	**10** (-10000 : -29999)
0000	**11** (9999 : -9999)
20000	**12** (10000 : 29999)
40000	**13** (30000 : 49999)
-60000	**14** (50000 : 69999)
80000	**15** (70000 : 89999)
100000	**16** (90000 : 109999)
120000	**17** (100000 : 129999)
140000	**18** (130000 : 149999)
160000	**19** (150000 : 169999)
180000	**20** (170000 : 189999)
200000	**21** (190000 : 209999)

- Standart size of one section zone is 29999×29999 pixels
- Y is always equal to X as Section center coordinates
- where x=0 and y=0 – is a center of 11'th section.

For convert from absolute coordinates to the relative of center by one section:

$$X_{n-section} = X_{absolute} - X_{Current\,section\,center}$$
$$Y_{n-section} = Y_{absolute} - Y_{Current\,section\,center}$$





Coordinates of placement of object it is set concerning its upper left corner:
In this example, mushroom coordinates on current section is: X=2150; Y=2600
and block coordinates is: X=2150; Y=2632

Remember!
As the Y axis is turned to move object down, it is necessary to add to Y offset and to move up, it is necessary to subtract.