

Welcome to creating mini games with 3D Game studio A8.

Written by : René Pol 29-07-2017©

I always get inspired by looking at simple fun games that look so easy to create but still giving me a hard time to recreate them. In this workshop we will create some basic stuff that we can use in any of those mini games. All those mini games have the same basics of programming so let's create some mini game stuff.

The basic clean new script contains the paths to our work folder and some resolution settings.

```
////////////////////////////////paths to folders////////////////////////////////
```

```
#define PRAGMA_PATH "3Dmodels"  
#define PRAGMA_PATH "Graphics"  
#define PRAGMA_PATH "Sounds"
```

```
////////////////////////////////////////////////////////////////
```

```
////////////////////////////////main function////////////////////////////////
```

```
function main()  
{  
video_set(1024,768,32,0);  
sky_color.red = 0;  
sky_color.green = 0;  
sky_color.blue = 0;  
level_load("BMS.WMB");  
}
```

```
////////////////////////////////////////////////////////////////
```

Start and Finish.

All mini games start and finish and do this by using pictures and sound. I created a start and finish picture as well as 2 sound files to go with it.

Start.png – Finish.png

Start.wav – Finish.wav



Welcome to creating mini games with 3D Game studio A8.

Written by : René Pol 29-07-2017©

Now we create a function for start game and finish game.
We define the pictures and sound files to use first.

```
//////////////////////////////////////////soundfiles to use//////////////////////////////////////////
```

```
SOUND* start_snd = "start.wav";  
SOUND* finish_snd = "finish.wav";
```

```
//////////////////////////////////////////graphics to use//////////////////////////////////////////
```

```
BMAP* start_map = "start.png";  
PANEL* start_pan =
```

```
{  
  bmap = start_map;  
  pos_x = 300;  
  pos_y = 280;  
  layer = 15;  
}
```

```
BMAP* finish_map = "finish.png";
```

```
PANEL* finish_pan =
```

```
{  
  bmap = finish_map;  
  pos_x = 300;  
  pos_y = 280;  
  layer = 15;  
}
```

Time to create a start and finish function that can be called up anywhere in the script. It will show the corresponding picture and plays the right sound with it.

```
function game_start()  
{  
  set(start_pan,SHOW);  
  snd_play(start_snd,100,0);  
  wait(-1);  
  reset(start_pan,SHOW);  
}
```

```
function game_finish()  
{  
  set(finish_pan,SHOW);  
  snd_play(finish_snd,100,0);  
  wait(-1);  
  reset(finish_pan,SHOW);  
}
```

In order to test this, simply add 2 lines to the main function. On key press S or F one of the functions will get activated. You can use any key you want.

```
function main()  
{  
  video_set(1024,768,32,0);  
  sky_color.red = 0;  
  sky_color.green = 0;  
  sky_color.blue = 0;  
  level_load("BMS.WMB");  
  on_s = game_start;  
  on_f = game_finish;  
}
```

Well that was easy to do. You just learned how to create two simple functions that get activated on a key press, Show and remove pictures and play soundfiles. Well done.

Those timers.

Most of these mini games have a timer counting down from a certain number to 0. A counter is fairly easy to create so let's do this and we will make sure it cannot go lower than 0.

```
////////////////////////////////////the timer////////////////////////////////////
```

```
var countdown_timer = 60; // this timer will run for 100 seconds  
FONT* using_font = "Supercell-Magic#48b";
```

```
PANEL* timer_pan =  
{  
layer = 15;  
digits(38, 45, 2 ,using_font, 1, countdown_timer);  
flags = SHOW;green=255; blue=0; red=255;  
}
```

This example is set on 60 but you can set it on any number you like. Green, blue and red are the combinations that make the font colour in this case yellow.

Now I create a function that will start the countdown whenever we want it to start.

```
////////////////////////////////////the countdown function////////////////////////////////////
```

```
function countdown()  
{  
while (1)  
{  
countdown_timer -= time_step / 16;  
countdown_timer = maxv(countdown_timer, 0); // don't allow the timer to go below zero  
wait (1);  
}  
}
```

To make it all more visually appealing I created a panel for the timer. (Yellow circle). We define and make it visible like we learned before.

```
BMAP* timerpanel_map = "timerpanel.png";  
PANEL* timerpanel_pan =  
{  
bmap = timerpanel_map;  
pos_x = 20;  
pos_y = 20;  
layer = 14;  
flags = SHOW;  
}
```



To test this we simply call the countdown function from the main function by adding one line of script.

```
function main()
{
    video_set(1024,768,32,0);
    sky_color.red = 0;
    sky_color.green = 0;
    sky_color.blue = 0;
    level_load("BMS.WMB");
    on_s = game_start;
    on_f = game_finish;
    countdown();
}
```

And there you have it !. A working countdown timer. You can make it also start from zero and going up. Use any font or colour you want.

A combination of what we have so far.

We will make a begin_game function that will call the start function then start the countdown timer. When the countdown timer hits zero the finish function will be called. It's pretty easy to do now since we have it all waiting for us in the script.

Here is the begin function.

```
function begin_game()
{
    wait(-1);
    game_start();
}
```

In the main function we add one more line of script so on a key press the function is called. We remove the countdown function as it will be called from the game_start function.

```
function main()
{
    video_set(1024,768,32,0);
    sky_color.red = 0;
    sky_color.green = 0;
    sky_color.blue = 0;
    level_load("BMS.WMB");
    on_s = game_start;
    on_f = game_finish;
    on_b = begin_game;
}
```

In the game_start function we call the countdown function as soon as the picture disappeared.

```
function game_start()
{
    set(start_pan,SHOW);
    snd_play(start_snd,100,0);
    wait(-1);
    countdown();
    reset(start_pan,SHOW);
}
```

What we have so far is this :

- On press B key one second will be waited then the game_start function is activated.
- The countdown function is activated in the game_start script.

We make some adjustments in the countdown function. When it hit's zero it should stop completely and activate the finish function. Here is how. The command break makes the function stop.

```
function countdown()
{
while (1)
{
countdown_timer -= time_step / 16;
countdown_timer = maxv(countdown_timer, 0); // don't allow the timer to go below zero
if(countdown_timer ==0){
wait(1);
game_finish();
break;
}
wait (1);
}
```

And were done for this issue. Combine functions, experiment. In next Issue we will handle some basic movement. You are now able to use timers, start and finish functions use sounds and activate functions on a keypress. Impressive.

Happy game creations.

René Pol aka Realspawn.

