

Wow Issue number 4 is here !. We will expand our game with an enemy that bounces of walls and models and when our hero is hit by this enemy it will take 10 points of the score. So you better avoid this Shygyu model also created by Otter. This model has some fun animations as well so we will use the walking animation to make it more alive. In order to keep the enemy inside the play area I created a border in the level. This way it has walls to bounce off to.

Creating the enemy.

We start with an action for the enemy.

```
action bouncing_enemy()
{
my.emask |= (ENABLE_BLOCK | ENABLE_ENTITY);
my.event = enemy_collides;
c_setminmax(me);
set(my.SHADOW);
var walking_percentage;
while(1)
{
walking_percentage %= 100;
walking_percentage += 10 * time_step;
ent_animate(my, "walk", walking_percentage, ANM_CYCLE);
c_move(my, vector(8 * time_step, 0, 0), nullvector, NULL | IGNORE_SPRITES | IGNORE_PASSABLE);
wait(1);
if(countdown_timer == 0){
ent_remove(me);
break;
}
}
```

The command my.emask makes in this case sure it will react on entities (models) and blocks (level blocks). Every time the enemy hits something the event (function) enemy collides gets called. When the timer hits zero the model will be removed.



Now we add the function for when the enemy hits something.

```
function enemy_collides()
{
  if(event_type == EVENT_BLOCK)
  {
    vec_to_angle(my.pan,bounce);
    my.pan += 10 - random(20);
    my.tilt = 0;
  }
  if(event_type == EVENT_ENTITY)
  {
    vec_to_angle(my.pan,bounce);
    my.pan += 40 - random(20);
    my.tilt = 0;
    if(score > 0)
    score -= 10;
  }
}
```

When a block is hit the enemy will bounce off. When a model is hit it will also bounce off but it will take 10 of the score. We will make the enemy model appear on game start like we did with our player model.

```
function game_start()
{
  set(start_pan,SHOW);
  snd_play(start_snd,100,0);
  wait(-1);
  ent_create("sid.mdl", vector(1.597,0, 19.507),walking_sid);
  ent_create("shyguy.mdl", vector(205.857,160.444, 11.476),bouncing_enemy);
  countdown();
  reset(start_pan,SHOW);
}
```

Play the game and see the enemy walk around and bouncing of when it hits something 😊 Now it's a lot harder to get all those shiny stars right ?

We can make a sound play when our hero is hit by the enemy. First we define the sound we use.

```
SOUND* auch_snd = "auch.wav";
```

Then we make it play in the enemy colliding function.

```
function enemy_collides()
{
  if(event_type == EVENT_BLOCK)
  {
    vec_to_angle(my.pan,bounce);
    my.pan += 10 - random(20);
    my.tilt = 0;
  }
  if(event_type == EVENT_ENTITY)
  {
    snd_play(auch_snd,100,0);
    vec_to_angle(my.pan,bounce);
    my.pan += 40 - random(20);
    my.tilt = 0;
    if(score > 0)
    score -= 10;
  }
}
```

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

Written by : René Pol 30-07-2017©

We start the game with the press of a key. Let's use some menu buttons and a mouse cursor to start our game. I am so nice I created all graphics for you so let's make use of them shall we?

We begin with the mouse cursor. The picture to use must be defined first :

```
////////////////////////////////////mouse cursor////////////////////////////////////  
BMAP* pointer_png = "pointer.png";
```

Then in the main function we add 2 lines to make the mouse cursor visible and ready to be used.

```
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;  
  mouse_map = pointer_png;  
  mouse_mode = 3;  
}
```

When we run the level now we have the mouse cursor visible and working. Well that was easy. Time to make our menu appear in the game. For each button there are 3 different versions made.

- Mouse click
- Mouse over
- Mouse Normal

We define a menu panel and place the buttons used right on them.

```
BMAP* menu_map = "menu.png";  
PANEL* menu_pan =  
{  
  bmap = menu_map;  
  pos_x = 0;  
  pos_y = 0;  
  button(20,650, "playbut02.png", "playbut01.png", "playbut03.png", NULL, NULL, NULL);  
  button(220,650, "exitbut02.png", "exitbut01.png", "exitbut03.png", NULL, NULL, NULL);  
  layer = 25;  
  flags = SHOW;  
}
```

So NULL,NULL,NULL means the button does not do a thing on click. (First button) Replace the NULL into begin_game so that function is called when the button is clicked.

```
BMAP* menu_map = "menu.png";  
PANEL* menu_pan =  
{  
  bmap = menu_map;  
  pos_x = 0;  
  pos_y = 0;  
  button(20,650, "playbut02.png", "playbut01.png", "playbut03.png", begin_game, NULL, NULL);  
  button(220,650, "exitbut02.png", "exitbut01.png", "exitbut03.png", NULL, NULL, NULL);  
  layer = 25;  
  flags = SHOW;  
}
```

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Now when the button is clicked the game will start. Nicely done if I say so myself.

We don't need the key press scripts in the main function so delete them as we will use our menu buttons from now.

```
function main()
{
video_set(1024,768,32,0);
sky_color.red = 0;
sky_color.green = 0;
sky_color.blue = 0;
level_load("BMS.WMB");
mouse_map = pointer_png;
mouse_mode = 3;
}
```

Did you notice that the menu stays visible during the game ? This also happens with the mouse cursor. This is simple to resolve by adding 3 lines of script to the begin_game function.

```
function begin_game()
{
if(game_begin ==0){
reset(menu_pan,SHOW);
mouse_mode = 0;
mouse_pointer = NULL;
score=0;
countdown_timer = 60;
game_begin =1;
wait(-1);
game_start();
}
}
```

Now when the game is over we will make the menu and mouse visible again.

```
function game_finish()
{
set(finish_pan,SHOW);
snd_play(finish_snd,100,0);
set(sid,PASSABLE | INVISIBLE);
sid.event = NULL;
wait(1);
ent_remove(sid);
wait(-1);
reset(finish_pan,SHOW);
game_begin =0;
set(menu_pan,SHOW);
mouse_mode = 3;
}
```



So in order to make the exit button work we need to create a function that does exit the game. Here is the function.

```
function exit_event()
{
wait(-1);
sys_exit(NULL);
}
```

Now all left to do is call the function by the click on the exit button.

```
BMAP* menu_map = "menu.png";
PANEL* menu_pan =
{
bmap = menu_map;
pos_x = 0;
pos_y = 0;
button (20,650, "playbut02.png", "playbut01.png", "playbut03.png", begin_game,NULL, NULL);
button (220,650, "exitbut02.png", "exitbut01.png", "exitbut03.png", exit_event,NULL, NULL);
layer = 25;
flags = SHOW;
}
```

I hope you are enjoying these issues as I am having fun to create them. Next issue we will add more enemies, start using some music and we create a pause game function that you can use in all of your own projects.

Until then happy game creations !
Rene Pol aka Realspawn.