

"Looking at inscriptions/graffiti" puzzle - Tutorial (advanced)

This script adds the possibility to require the player to literally *Look* towards something, such as inscriptions on walls, symbols to spot etc.

This gameplay dynamic was present in my Tibet BtB level, but it was lacking of a refinement I've added here. In my case, the puzzle consisted in 4 hidden graffiti to spot with the Look + Direction button and they were counted by a variable.

To see it in action, please go watching a walkthrough of the first 5 minutes of gameplay of "The Holy Shell".

Note: Here I chosen random IDs for the Triggergroups, Globaltriggers, Testposition etc, using some that probably you aren't using already, since they must stay unique and they're easier to recognize while learning how it works.

First of all, let's set up the counter. I chosen the variable Global Byte Alfa 1 (GBA1).

This Triggergroup will be triggered when Lara actually *Looks* at one of the graffiti.

It plays a rewarding audio file, adds +1 to GBA1, shows a text with the quantity of found graffiti and displays an azure flash on screen.

```
Triggergroup= 550, $2000,129,$008E, $2000,231,$0100, $2000,203,$0808, $2000,355,$1408
```

This is the text line it prints (to be added in the ExtraNG strings; the #0000 tag means that it must include the content of GBA1. Each variable has a label):

```
8: \n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\n\nGraffiti: #0000/4
```

To simulate the fact that Lara might take 1+ seconds to move the head and "realize" what she is looking at, we'll make this action happen with a delay, using this organizer, that will trigger the triggergroup 550 after 40 frames (a bit more than one second).

```
Organizer= 200, FO_TICK_TIME, IGNORE, 40, 550
```

Now, we will declare and set the conditions required to make that happen:

- Lara must be **turned towards** the graffiti, with some tolerance (about 30° on the left and right)
- Lara must be somewhere in a zone where the graffiti is **visible**
- Lara must hold the **Look button** + optionally a direction (if the graffiti is upward, it's realistic to have the Down command required too, because in this way she'd look upward); or, any other key, for example she could be required to Crawl + Look, etc.

To check if Lara is turned towards the graffiti, we'll need a Testposition to include in a MultEnvContition command, because from the editor you can export conditions that are attached to a MultEnvCondition command (but not directly from a Testposition).

A Testposition indicates Lara's position and rotation relative to another moveable item. In this case, the **Item ID in the editor is 1805** because I used a CAMERA_TARGET object with that ID to indicate the position of the graffiti to look at, so **you'll have to put your ID**.

This Testposition defines that:

- It doesn't matter the rotation of the object itself, it only matters the facing of Lara relative to it
- We are putting the ID of a specific object in the level, to look at, instead of a Slot
- The object can be max 8 squares (8192 units) distant in X, Y and Z directions, from Lara (one square is 1024, so you might want to reduce this distance if for example you want Lara to examine a carved text on rock from close)

- The tolerance of Lara's facing can vary of 6000 units left and right. This value isn't expressed in grades but it's equivalent of, about, 30° per side (it's expressed from 0 to 16k). Having some tolerance is realistic: you don't need to be perfectly at 0° with something to be able to see it.

```
Testposition= 80, TPOS_ROUND_HORIENT+TPOS_TEST_ITEM_INDEX, 1805, -8192, 8192, -8192, 8192, -8192, 8192, -6000, 6000, IGNORE, IGNORE, IGNORE, IGNORE
```

```
MultEnvCondition= 90, ENV_ITEM_TEST_POSITION, 80, IGNORE
```

Note: since you've to use ID numbers, you'll need a new Testposition and MultEnvCondition for each graffito.

Now let's include all the conditions together in one triggergroup, to be able to put it in the Globaltrigger. This triggergroup says: "If the **Look button is pressed**, AND the **Down button is pressed**, AND **Lara is inside the allowed distance and rotation we defined in the Testposition**" (... "then, the globaltrigger will execute the next triggergroup").

Note: Of course, this is only an example. If you want to make her only Look, or require another Key, then export the right conditions from the editor, or delete the second triplet here to delete the Down key.

```
Triggergroup= 861, $8000,11,$030D, $8000,1,$030D, $8000,90,$0110
```

The next triggergroup is what the Globaltrigger will execute if the condition (triggergroup above) is TRUE. So, if it's all true, the Organizer 200 will be triggered! That means, the variable counts, the text and flash effect appears.

Note: the "+TGROUP_SINGLE_SHOT" means that the triggergroup cannot be executed more than once during the whole game. So, if a second time Lara will hold Look + Down + she will be in the correct position and facing, anything will be executed anymore.

```
Triggergroup= 862, $2000+TGROUP_SINGLE_SHOT,127,$00C8; exec-org200
```

And now the final Globaltrigger, that will make everything happen. A globaltrigger is a function that, once activated, will, frame by frame of the game, "listen" and wait for the condition to be true. It will then execute the triggergroup (862 in this case) every time the condition is true.

```
Globaltrigger= 400, FGT_DISABLED, GT_CONDITION_GROUP, IGNORE, 861, 862, IGNORE
```

Appendix: It would be more optimal to put a FGT_SINGLE_SHOT flag in the Globaltrigger, because it means that it would be deactivated forever once the triggergroup is executed, but given the nature of the puzzle, the player might be allowed to look at the graffito only from a specific zone. That means the globaltrigger has to be activated on the floor when the player reaches the zone (he can't see the graffito through a wall, right?), and deactivated if leaving. Unfortunately, when you activate again a globaltrigger that has been deactivated by itself using the Single Shot flag, it gets active again as new, vanishing the single shot effect. That's why the single shot effect is been put in the triggergroup it will execute.

Last detail: when Lara finds all the graffiti, something is supposed to happen, right? To check it, you'll have to place a condition on the floor, or in another globaltrigger (with a fgt_single_shot flag and without the fgt_disabled one), that checks when the variable (in this case GBA1) is equal to 4 (or another number you'll decide), something else will trigger. In my case I triggered a cutscene. You can find the condition in the ConditionNg menu, scrolling down to the Variables section.



Compact version to copy and modify in your script

(Note: This script won't work as it is, you need to fully understand the tutorial and to adapt it to your level).

```
; #### Graffiti Spotting Puzzle
Triggergroup= 550, $2000,129,$008E, $2000,231,$0100, $2000,203,$0808,
$2000,355,$1408; Sound + Add1-to-GBA1 + PrintText + AzureFlash
Organizer= 200, FO_TICK_TIME, IGNORE, 40, 550 ; Delay

Testposition= 80, TPOS_ROUND_HORIENT+TPOS_TEST_ITEM_INDEX, 1805, -8192,
8192, -8192, 8192, -8192, 8192, -6000, 6000, IGNORE, IGNORE, IGNORE,
IGNORE
MultEnvCondition= 90, ENV_ITEM_TEST_POSITION, 80, IGNORE

Triggergroup= 861, $8000,11,$030D, $8000,1,$030D, $8000,90,$0110 ; If
Lara Look+Down and Testposition is TRUE
Triggergroup= 862, $2000+TGROUP_SINGLE_SHOT,127,$00C8; Exec Organizer
200
Globaltrigger= 400, FGT_DISABLED, GT_CONDITION_GROUP, IGNORE, 861, 862,
IGNORE
```

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