Questions and Exercises

These questions and exercises is an opportunity to see what you've learnt from the lecture as well as practice the new things we've been talking about. In other words, these questions and exercises are completely optional but it's recomended to do them. In the end of the document you will find the answers to the questions as well as possible solutions to the exercises, note that one can solve an exercise in different ways. There will also be some suggestions about what one could code if one want to continue with some more advanced things. These suggestions will not come with a possible solution and might include things that haven't been covered in the lecture.

Question 1
What is the different when drawing the foreground compared to the background apart from the background being beind the foreground?

Question 2
If you want an interface button that should increase the block's metadata when clicked, what do you need to do to make it work properly?

Question 3
What special methods do we need to use to draw dynamic textures?

Exercise
Continue with the exercise from the last lecture. Add a progress bar that shows how many cakes are missing from the inventory. Also add a button in the interface that automatically places one of the cakes on top of the block(if that spot is empty).

If you want to you can use the texture from the link below:
https://dl.dropboxusercontent.com/u/46486053/CakeBoxTexturesLecture2.zip

Further explorations
Continue with the code from the exercise. Add a button to change which direction the cake should be placed in (when the placing button is clicked it should be placed there). Also draw a texture in the interface showing which is the current direction. However, if that direction is occupied by a block already, draw that block in the interface and show some text in the interface indicating this.

Answers and solutions

Answer to Question 1
When drawing on the background layer the coordinate (0, 0) is located in the very top-left of the

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screen. However, when drawing on the foreground layer the coordinntae (0, 0) is located in the very top-left of the interface. This means that when you draw on the background layer you'll have to use guiLeft and guiTop to put things properly in the interface, this shouldn't be done on the foreground.

Answer to Question 2
The interface buttons are obviously a part of the interface. The interface, and therefore the buttons, only exists on the client side. When we change the meta data we should do so on the server side. Therefore, we'll have to send the information to the server with for instance a packet through a packet handler.

Answer to Question 3
To draw dynamic interfaces you don't need any special methods, the only thing you need it to calculate the parameters in a smart way. If you want a part of the texture to look differently depending on a value, get a different source location depending on that value. If you want a progress bar to be draw, define the size of that progress bar by the value that should control it.

Possible solution to Exercise
https://dl.dropboxusercontent.com/u/46486053/CakeBoxSolutionLecture2.zip

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