A white board with writing on it

Description automatically generated with low confidence

Draw one squad at a time, you need to provide vertex buffer, index buffer, and transform matrix

A picture containing text, handwriting, whiteboard, ink

Description automatically generated

We can combine all the vertex buffers into one single vertex buffer, and all the index buffers into one single buffer, and draw the whole scene in one go.

We can’t use uniform for color.

Batch rendering for texture: we can use the 32 texture slots, for each slot, give it a texture map. And for each object, give it an id to point to that texture. The object can select that texture map in the fragment shader.

Or, we can combine those texture maps into one big texture map.

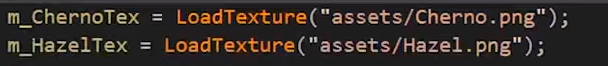
A screenshot of a computer program

Description automatically generated with medium confidence

For each vertex, it contains 3 float for position, 4 float for color, and 2 float for texture coordinate.

A picture containing text, screenshot, font

Description automatically generated

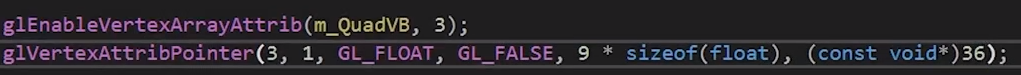


Now, add the texture id on the last column.

A picture containing text, screenshot, font, number

Description automatically generated

Add layout.



In the vertex shader

A screenshot of a computer program

Description automatically generated with medium confidence

Finally, in the fragment shader.

A computer screen with white text

Description automatically generated with low confidence

If you have more than 32 texture (for example, 100 texture) that want to render at the same time, you still can use this strategy, but instead, each draw call, you can render a batch of 32 texture, and you need to separate the 100 texture into 4 batch.