

Lab #2 (VBO ARB):

1. Upload "glx.h" library and add to the project

2. Add the following code to the declarations

```
#ifdef _WIN32
PFNGLGENBUFFERSARBPROC glGenBuffers = NULL;
PFNGLBINDBUFFERPROC glBindBuffer = NULL;
PFNGLBUFFERDATAPROC glBufferData = NULL;
PFNGLBUFFERSUBDATAARBPROC glBufferSubData = NULL;
PFNGLGETBUFFERPARAMETERIVARBPROC glGetBufferParameteriv = NULL;
PFNGLMAPBUFFERARBPROC glMapBuffer = NULL;
PFNGLUNMAPBUFFERARBPROC glUnmapBuffer = NULL;
PFNGLDELETEBUFFERSPROC glDeleteBuffers = NULL;
#endif
```

1. Declare

```
int vboSupported, vboUsed;
GLuint vboId;
int bufferSize = 0;
int dataSize = 0;
```

2. Create a new function initVBO()

3. Add the following to initVBO or before initVBO

```
#ifdef _WIN32
glGenBuffers = (PFNGLGENBUFFERSARBPROC)wglGetProcAddress("glGenBuffers");
glBindBuffer = (PFNGLBINDBUFFERPROC)wglGetProcAddress("glBindBuffer");
glBufferData = (PFNGLBUFFERDATAPROC)wglGetProcAddress("glBufferData");
glBufferSubData = (PFNGLBUFFERSUBDATAARBPROC)wglGetProcAddress("glBufferSubData");
glGetBufferParameteriv =
(PFNGLGETBUFFERPARAMETERIVARBPROC)wglGetProcAddress("glGetBufferParameteriv");
glMapBuffer = (PFNGLMAPBUFFERARBPROC)wglGetProcAddress("glMapBuffer");
glUnmapBuffer = (PFNGLUNMAPBUFFERARBPROC)wglGetProcAddress("glUnmapBuffer");
glDeleteBuffers = (PFNGLDELETEBUFFERSPROC)wglGetProcAddress("glDeleteBuffers");
#else
glGenBuffers = (PFNGLGENBUFFERSARBPROC)glXGetProcAddress((const
GLubyte*)"glGenBuffers");
glBindBuffer = (PFNGLBINDBUFFERPROC)glXGetProcAddress((const
GLubyte*)"glBindBuffer");
glBufferData = (PFNGLBUFFERDATAPROC)glXGetProcAddress((const
GLubyte*)"glBufferData");
glBufferSubData = (PFNGLBUFFERSUBDATAARBPROC)glXGetProcAddress((const
GLubyte*)"glBufferSubData");
glGetBufferParameteriv =
(PFNGLGETBUFFERPARAMETERIVARBPROC)glXGetProcAddress((const
GLubyte*)"glGetBufferParameteriv");
glMapBuffer = (PFNGLMAPBUFFERARBPROC)glXGetProcAddress((const
GLubyte*)"glMapBuffer");
glUnmapBuffer = (PFNGLUNMAPBUFFERARBPROC)glXGetProcAddress((const
GLubyte*)"glUnmapBuffer");
#endif
```

4. Check that use of OpenGL extension was successful

```

If (!glGenBuffers || !glBindBuffer || ! || !glBufferSubData ||
!glGetBufferParameteriv || !glMapBuffer || !glUnmapBuffer || !
glDeleteBuffers)
{
    printf("VBOs are not supported by your graphics card" );
    return ;
}

```

5. **Declare clearSharedMem ();**
6. **Add the following to the main loop atexit(clearSharedMem);**
7. **Clear buffer memory on exit (see slides)**