Other APIs: OpenAL

- **Creative Labs, Loki Entertainment**
- **Portable 3D audio API**
  - Layered on native audio API
- **Has API spec, sample progs**
  - Not quite as rigorous as OpenGL
  - “alut” contains convenience functions
- **www.openal.org**

OpenAL

- **Sample program**

```
alutInit(&argc, argv);
alGenBuffers( 1, &buf_id );
alutLoadWAV( "sound.wav", &wave, &format, &size,
  &bits, &freq);
alBufferData( buf_id, format, wave, size, freq );
```

OpenAL

- **Sample program**

```
alGenSources( 1, &source_id);
alSource3f(source_id, AL_POSITION, 0.0, 0.0, -5.0);
alSourcefv(source_id, AL_ORIENTATION, backwards);
alSourcei (source_id, AL_BUFFER, buf_id);
alSourcePlay(source_id);
sleep(10);
alutExit();
```

Other APIs: OpenML

- **Large industry consortium**
- **Multimedia library like OpenGL**
  - Audio, Images, Video using hardware
  - Integration with OpenGL
  - Detailed specification
  - Sample implementation

OpenML

- **Motivated by success of DirectX**
  - Other operating systems need something similar
- **Based on Silicon Graphics' dmSDK**
  - Compress, uncompress audio, video, images
  - Can use video as OpenGL texture source
  - Synchronization of audio, video

OpenML

- **Still in planning phase**
- **Don't expect to see an optimized OpenML within six months**
- **www.khronos.org**

Summary

- OpenGL growing fast on Linux
- Strong vendor support
- Broad hardware coverage
- Look for strong 3D and multimedia solutions in the next year

3D at LinuxWorld 2000 SJ

- **Game Development BOF**
  - Tuesday 11:00 AM - 12:00 noon
- **Writing Compelling OpenGL Games for Linux**
  - Paula Womack and Tom McReynolds from 3dfx
  - Wednesday 9:00 AM - 10:25 AM
- **Porting Windows Games to Linux**
  - Michael Vance and Bernd Kreimeier from Loki
  - Thursday 10:30 AM - 11:45 AM