Music 15

Lecture 1

Wednesday, Jan 15, 2020

Lecture Outline

1. **Introduction**

   a. What is this course?
   b. Why even do this?
   c. Who am I?
   d. Who are you?

2. **Section Information**

3. **Terminology from Main Lecture**

4. **LMMS Installation and Overview**

   a. Needed for Assignment 1

Introduction - What is this course?

- **An overview of music composition techniques for interactive media**

    - No formal education in music is required for this course.

    - <u>Disclaimer</u>: This is the first time this course is taught. Because we use some technology and the class size is large, questions may come up related to the mechanics of course (e.g. how do we get the software running for everyone?). Let us know how we can accommodate you.

Introduction - Why even do this?

- Music can be instrumental in telling a story. You can use it to:
    - Give a character an identity or theme
    - Create a mood or atmosphere for a scene (e.g. signal when danger looms)
    - Make scene changes more cohesive

- Music can make games more immersive or exciting

- What do *you* hope to get out of this course?

Introduction - Who am I?

Chad McKell

- Originally from L.A. area (near Magic Mountain)
- 1st-year Ph.D. Student in Computer Music
- *Background*: physics and music technology
  - Razer Nari Ultimate
  - Moog Music
- *Research interests*: sound synthesis for computer animation

Introduction - Who are you?

Background

- What's your educational background (major or academic interests)?
- Any experience with music or video games?
- Other relevant experience?

Roll

- Attendance is mandatory (worth 15% of your grade)
- Please put your name on the sign-in sheet

Section Information

Section Webpage: chadmckell.com/mus15

- Section slides will be posted here

- Links to interesting and/or helpful material relevant to the course may appear here as well

Terminology - general music/game concepts

Linear composition: music is composed to a fixed timeline or sequence of events that is known ahead of time.

Non-linear composition: Game and music are somehow integrated.

Terminology - general music/game concepts

Adaptive music: music made using non-linear composition (e.g. music that is somehow affected by the gameplay).

- *Vertical re-orchestration*: several tracks of pre-composed music are mixed and re-mixed according to what happens in the game.

- *Horizontal re-sequencing*: pre-composed music is re-shuffled by the gameplay (e.g. the audio may crossfade from one score to another between scenes).

Terminology - general music/game concepts

Ludology: the study of games, the act of playing them, and the players and cultures surrounding them. (Wikipedia)

Narratology: the study of narrative and narrative structure and the ways that these affect our perception. (Wikipedia)

Ludology vs. Narratology debate: an argument about whether games are in fact stories and should be studied as such.

Terminology - technology concepts

Game audio middleware: software that is integrated into a game engine to handle the audio (e.g. Wwise). (Wikipedia)

Digital Audio Workstation (DAW): a software application used for recording and/or producing audio (e.g. music, sound effects, TV/film audio, podcasts, etc).

- Examples: GarageBand, Pro Tools, Ableton Live, and **LMMS**.

LMMS Installation

- Why LMMS (Linux MultiMedia Studio)? It's open source (i.e. free)!

- Install it here: lmms.io/wiki/index.php?title=Main_Page

- What do you do if you have issues installing or using LMMS?

    1. Search the web to find answers in forums, etc.
    2. Check the LMMS documentation
    3. Hover over icons to see pop-up labels
    4. Ask the instructor, TAs, or other classmates for help
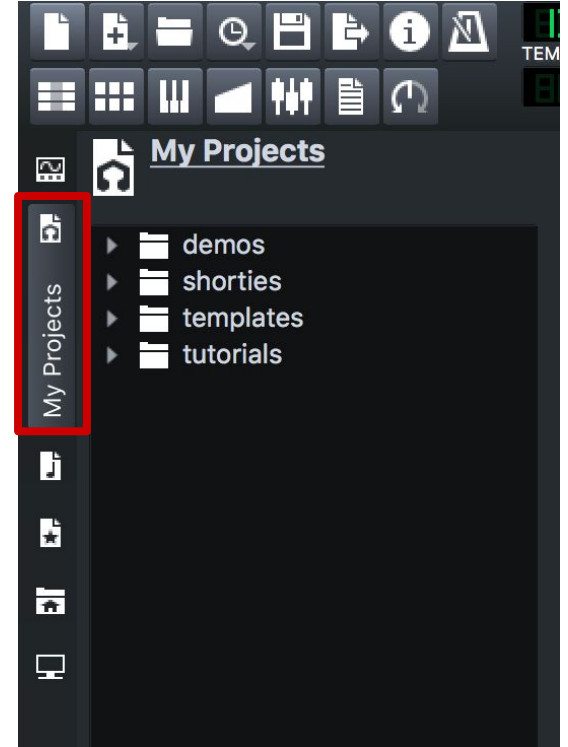
- Note that LMMS is actively supported

LMMS Overview

- Configure audio for Mac as shown at right (PC should be similar):

  - To open this setup window, go to LMMS-> Preferences-> Audio Settings

- Ask me for help if you have any issues configuring your audio
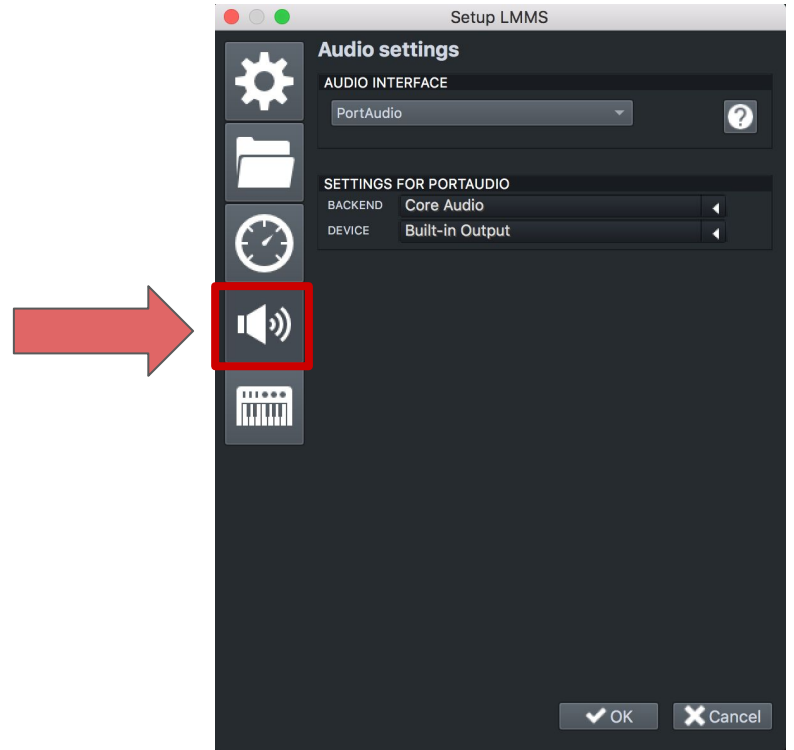
LMMS Overview

- Check out the demos:

  - Click on "My Projects" in left panel
  - Open "demos" folder

LMMS Overview

- Classic 8-bit Nintendo music examples:

  a.   Playlist: youtube.com/watch?v=NTa6Xbzfq1U&list=PL14A0FADA7F00DE1F&index=1
  b.   Instrumentation: youtube.com/watch?time_continue=15&v=la3coK5pq5w

- BitInvader

  a.   Go to "Instrument Plugins"-> BitInvader
  b.   Create 4 tracks each with a different waveform: sine, square, triangle, and noise
  c.   Command + Drag to copy/paste looped audio
  d.   Analyze the waveforms (time and frequency domain)
  e.   Turn volume of each track down so you don't clip the audio
  f.   Make a simple composition