Introduction

The way we listen to and create music has been changing fundamentally in past two decades with the increasing availability of digital recordings, digital audio workstations and portability of computers and smart devices. So far, a large amount of research and product development in the area of Music Information Retrieval (MIR) has focused on the needs of listeners. As a result, the use of online music streaming and recommender services is becoming a norm; 22% of the total US population is subscribed to Spotify – one of the most popular services. On the other hand, less attention has been given to music producers, who use extensive amount of sound material on a daily basis in their creative process. This opens up both exciting research and business opportunities.

Building on my previous research, I propose to develop an interactive computer system that will assist professional musicians and sound designers in their creative process and enhance the potential of creative expression in the age of AI. At the basic level, the system should organize and recommend sound material for use in the composition process. At the more advanced levels, such an interactive system should allow musicians to guide AI assisted music or soundscape composition.

Problem description

The majority of musicians and sound designers today use pre-recorded or live-generated sound material. The use of such material is common in most music genres, and it is particularly important in the composition of electronic music – a genre that attracts around 1.5 billion listeners [1]. To inform the future technological developments in MIR, Andersen and Knees conducted in-depth interviews with professional musicians and found that sample[1] retrieval is the central problem in the creative process of making electronic music [2]. For example, participants said that they have to manually browse libraries containing 500.000 chords, or sample libraries occupying hundreds of gigabytes of memory. In addition to expressing a need for easier sound retrieval methods, they could also see the computer as a potential collaborator in the creative process, much like a band mate.

In other creative domains, such as design, motion graphics and illustration, research has also shown that makers see the potential of AI and machine learning to help with their workload and act as a creative assistant [3]. Artists and designers do not fear that the AI will replace their creativity, but do recognize that the ways they work will change with the rapid technology advancements. In the future, AI may might shift the designers and some music producers to become creative directors instead.

A common thread in the two studies mentioned above is that the creatives want the kind of help from technology that is not yet available to them. However, in comparison to more passive users (e.g. users of recommendation systems such as Spotify), creatives want significantly more control over the technology. This makes music producers an ideal group of people who would benefit from interactive computer systems that allow powerful analysis, filtering, visualizations and recommendation of their work material.

Business proposal

I envision a product or series of products that will: (1) address immediate needs of musicians and sound designers to help with the manual workload, (2) enable new, audience adaptive, ways to create music and soundscape, (3) enable musicians and sound designers to be in control of AI systems for generating content.

1 Portion of a sound recording. Samples may comprise elements such as rhythm, melody, speech, sounds etc.