Related Works

There has been some work in recent years generally about the digital representation of sheet music. Software exists such as Noteflight, Finale, and Musescore, some of which is free and some of which costs money. There has also been some research about recognizing music from existing sources, whether they are auditory or visual.

In 1996 McNab et al.[[1]](#footnote-1) wrote a paper on retrieving a tune from a recording of music. Technology like this lies at the base of services like Shazam that can recognize music based on its sound, but it also involves transcribing notes based on sound, which is a foil of what we’re trying to do.

In 2000 Choudhury et al.[[2]](#footnote-2) published a paper detailing a project to scan large volumes of sheet music and digitize it, which is very similar to what we’re trying to do, but we’re building on that research by incorporating the digital pens. Similarly, Fremery et al.[[3]](#footnote-3) wrote a paper in 2008 to try to map scanned music to recorded audio in a library, to be used for archival purposes. Building on that research, Thomas et al.[[4]](#footnote-4) published research on mapping parts of sheet music to recorded audio. There has been so much research on this matter that in 2012, Rebelo et al.[[5]](#footnote-5) published a paper detailing the research done to that point and the questions still open. But again, we are building on this by trying to create a tool for musicians to use digital pens to be able to compose and hear at the same time.

1. https://dl.acm.org/citation.cfm?id=226934 [↑](#footnote-ref-1)
2. https://pdfs.semanticscholar.org/115c/a5ebda767d664ce5d66fdfc9335bf13731ca.pdf [↑](#footnote-ref-2)
3. https://books.google.com/books?hl=en&lr=&id=OHp3sRnZD-oC&oi=fnd&pg=PA413&dq=sheet+music+automatic+mapping&ots=oFLPqFmv73&sig=JIGvuQKC8bHp2XB9hkWpt4FETWo#v=onepage&q=sheet%20music%20automatic%20mapping&f=false [↑](#footnote-ref-3)
4. http://drops.dagstuhl.de/opus/volltexte/2012/3463/pdf/2.pdf [↑](#footnote-ref-4)
5. https://link.springer.com/article/10.1007/s13735-012-0004-6 [↑](#footnote-ref-5)