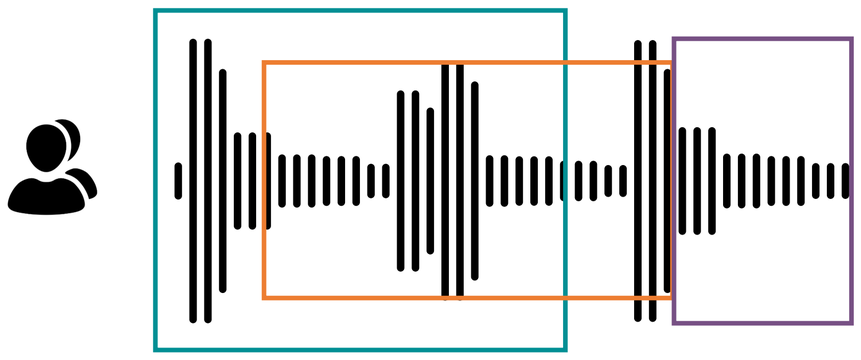
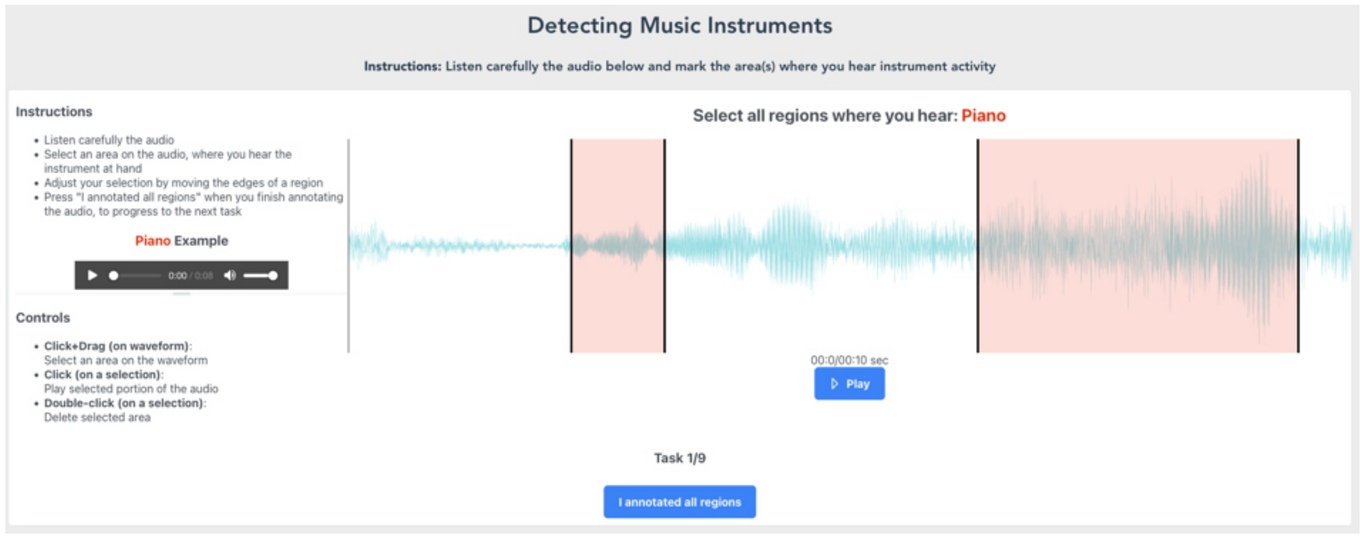
Crowd's Performance on Temporal Activity Detection of Instruments in Music

Ioannis Petros Samiotis, i.p.samiotis@tudelft.nl | Christoph Lofi | Alessandro Bozzon

Instrument Activity Annotation





Results

Rock

	Accuracy	Precision	Recall
Electric Guitar	**91.7%**	96.5%	**91.6%**
Bass Guitar	82.4%	**100%**	82.4%
Drums	73%	**100%**	73%

Jazz

	Accuracy	Precision	Recall
Piano	81.8%	70.9%	**87.7%**
Double Bass	64%	**100%**	64%
Drums	**84.4%**	**100%**	84.4%

Classical

	Accuracy	Precision	Recall
Piano	70.6%	91.5%	66.5%
Clarinet	**84.5%**	**95.8%**	**82.9%**
Cello	62.6%	95.5%	59.6%

	Range	Median	Standard Deviation(1σ)
Perceptual Abilities	29-63	47.5	8.19
Musical Training	7-41	18.5	9.04

"Study was very well thought out. Nothing else to add."

"It was fun, I would love to take part similar studies again"

"The study was interesting and I am finding the piano very interesting instrument after this study"

"Put more instruments in there!"

Conclusion

- Untrained crowd workers can successfully detect the activity of instruments in polyphonic music, one at a time, given an example of the instruments timbre
- The overall cognitive load of crowd workers was average during these tasks
- Most expressed their enjoyment of the process through the free form feedback

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