I discuss ongoing work for musical accompaniment systems in which we remove the soloist from a full recording for soloist and accompanying ensemble (e.g. a concerto), leaving just the accompaniment. I will discuss briefly the score matching problem, which generates a correspondence between a symbolic music representation and the audio. Using this score match, straightforward masking leads to usable source separation results, since the nature of the accompaniment problem partially compensates for the damage done by masking. However, I will discuss methods of improving this separation process involving imputing unobserved audio. The presentation will include a live demonstration of the accompaniment system.