ABET Constraints

Economic:
In order to build the HeyJuke jukebox web server, there are a few hardware requirements. As of now, the funds to purchase this hardware will be supplied personally. Unless the unlikely scenario occurs where the University of Cincinnati decides to sponsor its students with a tiny percentage of the tens of thousands of dollars we've paid to it over the years, we will be opting for the cheapest available hardware. The software, which we will be writing ourselves, needs to run on hardware that has access to WiFi, Bluetooth, and/or NFC. The raspberry pi is ideal for this, as it is cheap ($35 for the most expensive version), runs an open source free operating system (Linux), and has a wide variety of cheap attachable parts available. When our project is finished, the source code will be available online free of charge, and instructions will be posted for anyone to be able to assemble a similar device themselves. We will not be charging money for our work so we can minimize our participation in the archaic economic system destroying our planet.

Social:
Our project benefits people who want to host parties or events but don't have the money to hire a DJ. It allows anyone at a given event to simply go up to our device and add or suggest songs. It will also allow the other participants at a party to vet the queued songs to prevent trash from being played. This will enhance the mood and by extension the quality of life of the individuals at these events, harmlessly giving them a taste of actually being in control of something for a short while. Since the code and instructions will be open source, our project can be used for any public or private event. The end result of this is more parties where the participants have control over the music, rather than just the host or the first guy to grab the aux cable.

Security:
Though there is not a lot of data being handled by HeyJuke, there are a number of potential threats. Login information for streaming services would be the primary target, but trolls remotely accessing and changing the playlist as the software is running could also be a problem. An apk of a fake update is a common tactic for extracting login information from an Android user, and this is definitely something that, as developers, we should take steps to guard against. To connect to the device and deliver spam to the queue, an attacker would need physical access to the HeyJuke server. This is easily possible, and an attacker could be someone who was at one point welcome to contribute to the queue. Permissioning that can be regularly purged or otherwise updated is a step that can be taken to lower the likelihood of an attack like this.

Legal:
HeyJuke's main operation is playing music. Music traditionally has been protected via copyright through a variety of corporations which sell licenses to play music. HeyJuke uses a variety of music distributors, such as Spotify and YouTube, to source the copyrighted materials. Spotify restricts music playback through its Terms of Service to 'personal, non-commercial, entertainment' use. This personal, non-commercial, entertainment use is the primary target of HeyJuke, however excludes HeyJuke from being used in any commercial setting, such as a restaurant, bar, or any other commercial non-personal venture. It can be imagined that YouTube has a similar Terms of Service towards usage of their service. This will not limit HeyJuke's design, but will limit HeyJuke's applicability to be used in a commercial non-personal setting.