Pre-Read for Problem Definition Review
Team: 21363 Automated Player Piano V

Agenda:

- Introduce Project
- Introduce Team w/ Roles
- What is the Project?
- Current State of the Piano
- Problem Statement
- Stakeholders
- Potential/Desired Use Scenarios
- Customer Requirements
- Engineering Requirements
- House of Quality
- Scheduling
- Thank You & Questions

The automated player piano is a continuation of a multi-year effort to retrofit an existing piano with a device which will allow the piano to be played completely autonomously or as a compliment to a human pianist. Ultimately, it could be used by people who have suffered hand injuries to (re)learn how to play the piano and as a practicing tool for people to learn new techniques. The piano's functionality must not be hindered such that the piano could still be played without interference from the device. Currently, there exists a device that is capable of playing the piano however this device is in a state of disrepair due to limitations caused by the COVID-19 pandemic.

The goals for this project are to realize the scope of the previous team's work, complete unfinished features, and continue with new features determined by the stakeholders. The aforementioned features that are set as the goals for production are to complete the unfinished construction of the device, develop a system to introduce a new layer of dynamics by automating the sustain pedal, and to continue development on a feedback system. The constraints that will effect the development of these desired features include working within the bounds of the previous team's scope, ensuring that the piano itself is not damaged or augmented in a way that normal operation will be hindered, enabling different modes of play (full autonomous, half autonomy-half player, and full player control), and the final constraint is to have a fully operational system of song selection and playback.

Over the course of this review we will be presenting the topics stated in the agenda directly from our teams wiki page and then subsequently addressing any questions you may have. Listed here is the link to the problem definition section of the wiki page for your reference:

https://wiki.rit.edu/display/P21363/Problem+Definition