



PianoTracker

Instrument Management System

Team: TEAM

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Functional Requirements

PianoTrackr is a piano management system that tracks an institution's instrument inventory. The system will offer authenticated role-based access which will allow a limited number of users to have full administrative access, while restricting the actions of other users such as technicians and assistants. The system stores detailed information about instruments, as well as tracking the maintenance and repair work done on the instruments. An instrument's history and information will all be viewable at a glance from one screen. Tracking data about instruments and work done on them is the system's primary function, but it will also offer supply stock tracking, rudimentary issue tracking which will allow customers to submit work requests and the ability to track loans of parts to and from other organizations. Additionally, basic accounting and budgeting capabilities will be included. One of the more substantial aspects of the system will be its reporting capabilities, which will offer a variety of customizable reports on the system's data concerning instruments, work, accounts and so on based on user's needs.

Data Requirements

The first portion of data that our system will need to store is the collection of all instruments for which the system is responsible. Each instrument entry will be a persistent set of data which will not generally change regardless of the maintenance and sale conditions of the instrument. This information is created as soon as the system becomes aware of an instrument's existence and remains resident in the system forever.

Another portion of data is the work information. Work objects represent tasks which must be completed a given instrument. There are many varieties of work which can be performed, such as pitch adjustments and tunings. The Procedure entity is an umbrella entity which stores information about all the other various procedures related to piano maintenance, such as voicing, case repair and humidity control. Works can be assigned to people and are given dates of completion. Instruments can be assigned multiple works. Works can also be assigned before they are completed or even started. This allows issues, like tuning requests by instrument players, to be tracked. Works are also archived after they are completed. This allows work process turnaround to be audited later. It also allows tracking repair patterns on a per-instrument basis.

We also store personnel information. This table requires contact information for everyone in the system. This allows responsibilities for instruments and tasks to be assigned and tracked on a per-person basis. People can be responsible for one, many, or zero instruments and works. People can also belong to groups, and these groups can perform special group tuning works on the instruments. The final element of the system is the supply information. A collection of all supplies in the system is maintained to keep track of tools and utilities used in the maintenance process of instruments involved.

