

Piano Training Simulator User Scenario

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The *Piano Training Simulator* will eventually allow a person of any skill level to simulate a piano playing experience. Players should expect to enhance and monitor their abilities on a piano keyboard. This second scenario describes what happens when a user creates an account and what kind of data they should expect to be stored while they practice, select, and play songs.

Scenario

The player starts the application by opening a command line in the root folder and typing: `mvn compile exec:java ->` in the command line.

Upon loading, the user will be presented with a prompt to login. If the user does not have an account, they can create an account and profile for themselves. Each user account will contain information regarding: personal information, song training session performance, song information, and progress.

After logging in or creating an account, the user will have the option to select a song. The simulator should display a list of songs to the user and give the option to drag-and-drop a song file in MIDI format. All songs in the list should also be in MIDI format.

After a song is selected, the screen should change to a vacant area with a piano at the bottom half of the window, and a display at the top half of the window in which notes appear inline with the notes on the piano on the bottom half. Sheet music will be displayed as well, if available for that song.

Along with the 'notes sliding down a path' that is currently available to the user, there will be a countdown before beginning. As the notes are sliding down the path, the user can play the piano keys on their midi keyboard along with the song. The timestamps of the key strikes will be recorded and saved. Once the song is over, the timestamps of the users' playing will be compared with the timestamps of the real song, and the user will be given a score.

The score will be calculated based on the closeness/accuracy of the user's playing. Scores will be displayed at the end of the song performance. If the user performed well, the application will recommend the user to move onto a more difficult song. Otherwise, the user may be recommended to continue practicing the current song, or even go back to a previous one.

The scores recorded by the application will also be stored and monitored across each play time session. This way, the user will be able to track their progress between each session.

