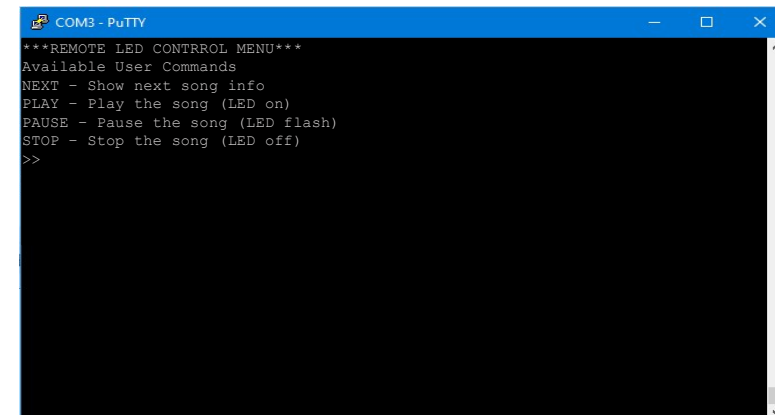# SWEN-340 MIDI Project

**MIDI Project Part 3**

# MIDI Part 3 Project – High Level Requirements

- **Using either local or remote mode, play a midi song.**
- **You do not need to pause or stop a song.**

# MIDI Project – Detailed Design/Requirements

- **Allow two modes of operation: Remote mode and Local Mode**

- **Add Remote mode and Local mode flags to manage switch back-and-forth between the modes of operation**

- **Default start shall be Remote Mode**

- **UI shall notify a remote user of current mode of operation and any changes occur over time**

- **UI shall prompt the same message as in UART LED Project at the start of the operation followed by " ***REMOTE MODE ACTIVE*** "**

- **UI shall prompt " ***MANUAL OVERRIDE MODE ACTIVE*** " when the Super User presses "B1" switch to activate the Override mode**

- **UI shall prompt " ***REMOTE MODE ACTIVE*** " again once the Super User deactivates the Override mode by pressing "B1" switch again**

# MIDI Project – Detailed Design/Requirements

- **Operation in Remote Mode**
  - A Remote user shall be able to type following commands:
    - **HELP**
      - Prompts messages on Slide # 3 (which commands are available)
    - **NEXT**
      - Displays song info (see MIDI documentation):
      - Song title (FF 03)
      - Copyright (FF 02)
      - Tempo (FF 51) – this can be displayed as a 6-digit number
    - **PLAY**
      - Turn LED on
      - Plays the selected song
    - **PAUSE**
      - (Bonus) Pauses play of the current song
    - **STOP**
      - (Bonus) Stops playback of the current song

# MIDI Project – Detailed Design/Requirements

- **Operation in Local Mode**

  - Assume that a super user exists locally who can operate and control boards physically.

  - A Super user will enable the Local Mode by pushing "B1" User switch on the Nucleo STM32L476RG Board.

  - Once B1 Switch is pressed the system enter Local Mode and disables Remote Mode.

  - While in Local Mode:

    > Pressing the switch (S1) once, plays the currently selected song.

    > Pressing the switch (S1) twice within one second, moves to the next song.

    > (Bonus) Pressing the switch (S1) while playing pauses song playback (light flashes)

    > (Bonus) Pressing and holding the switch (S1) for one second stops song playback

  - When B1 Switch is pressed again (to turn off Local mode), all LEDs will turn off and the S1 switch should no longer function.

- **S1 SWITCH**

  - Refer to images and circuit diagram provided for SWTICH circuits

# Project Demonstration & Grading

- **See Grading sheet for details**