CS397 Project Assignment

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Project Objective

The project objective is to utilise both the TM4C123G Tiva Launchpad and Nucleo-F767ZI to implement transfer of data/message from the TM4C123G board via CAN to the Nucleo-F767ZI board.

Project Description (Tiva Launchpad)

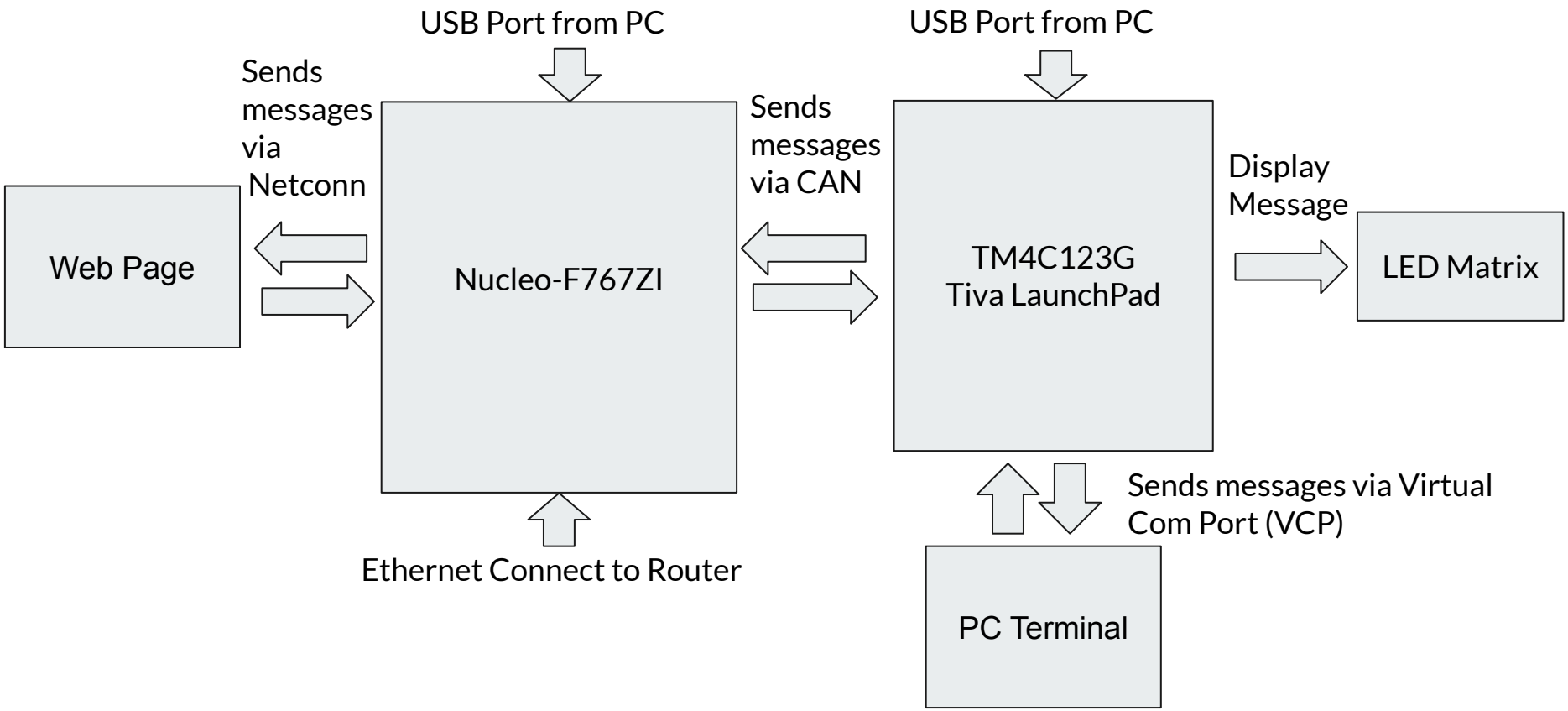
1. Send data/message up to 8 bytes from the PC terminal through the Virtual Com Port (VCP) to the Tiva Launchpad.
2. Display data/message on the LED matrix as a continuous scrolling message.
3. Send data/message through the Controller Area Network (CAN) to the Nucleo-F767ZI.

Project Description (Nucleo-F767ZI)

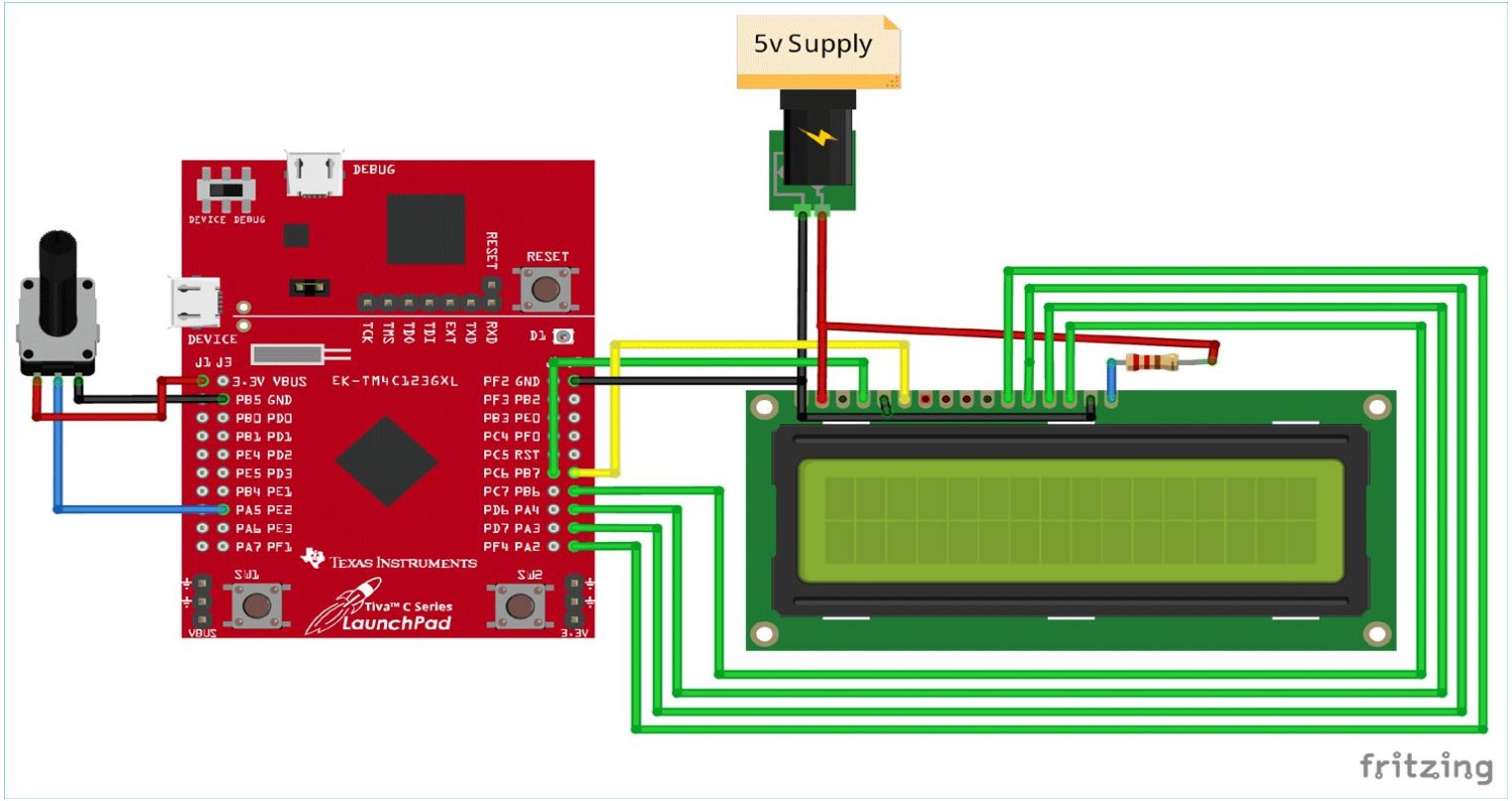
Demonstrate data can be sent between the server (Nucleo board) and any clients (PC or mobile device) that connected to the same local network.

1. Configure 2 channel of DAC, 4 channels of ADC
2. Configure 1 USART for displaying information
3. Utilize all on-board LEDs for meaningful indications.
4. Implement CAN (Controller Area Network) for data transfer

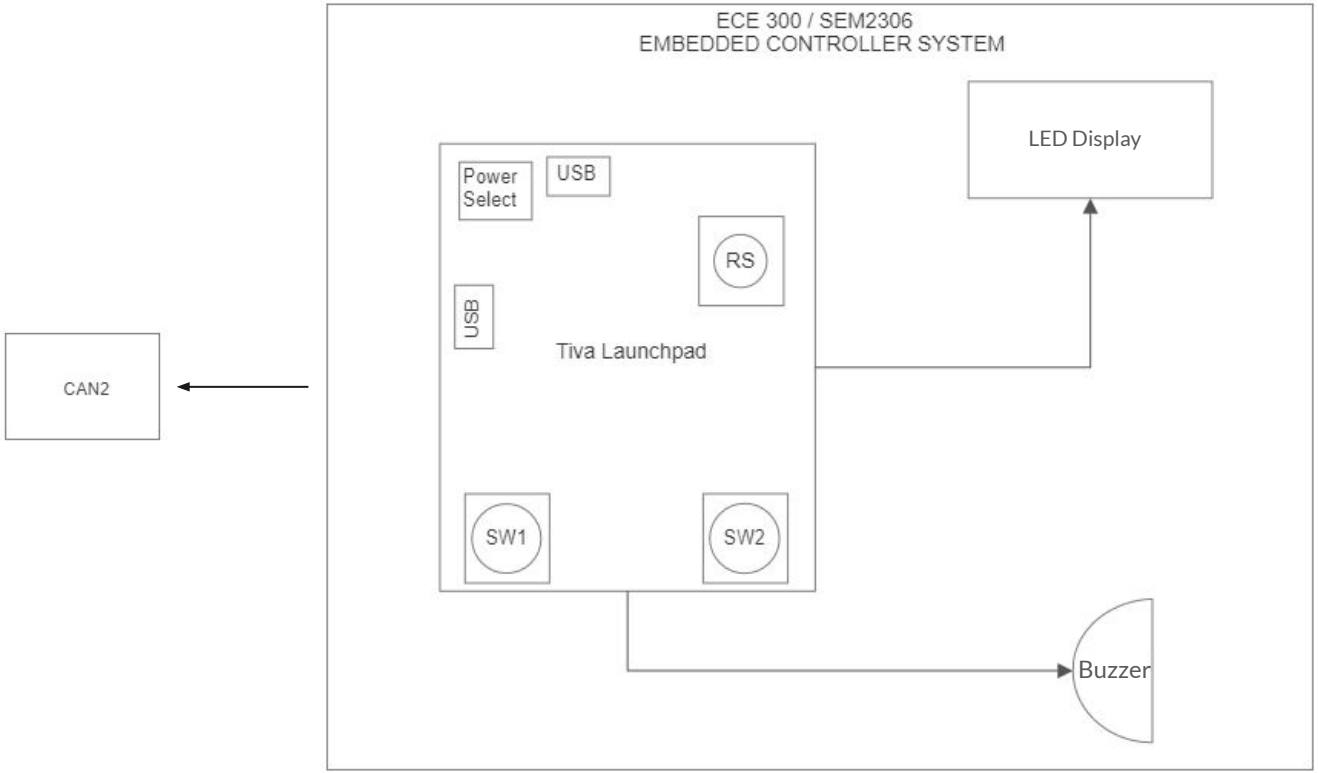
Diagram of Implemented System



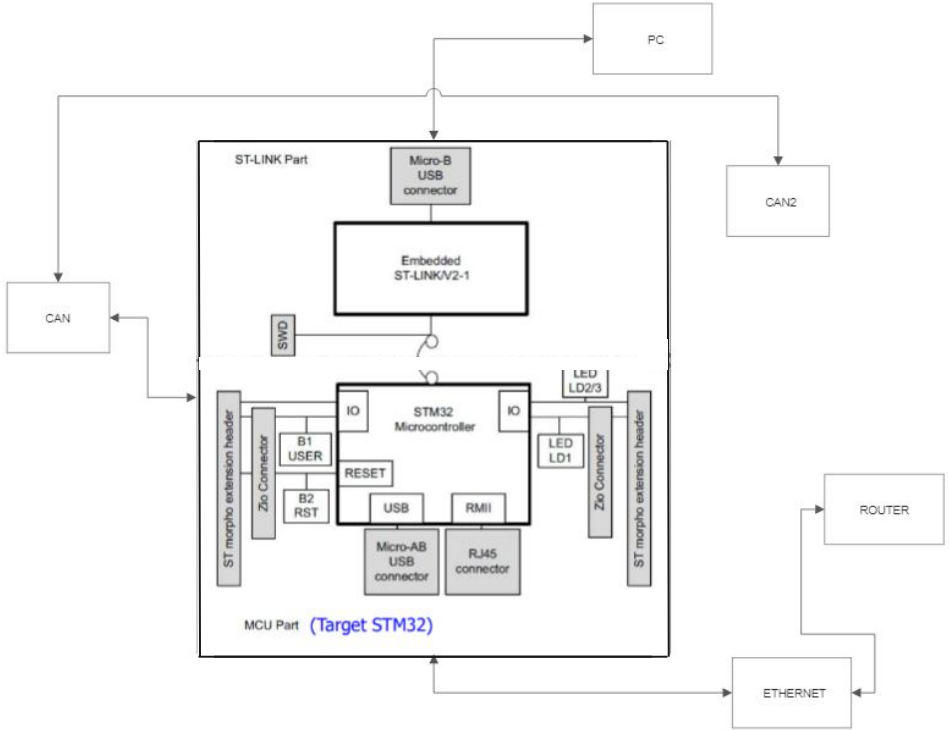
Block Diagrams (Tiva Launchpad)



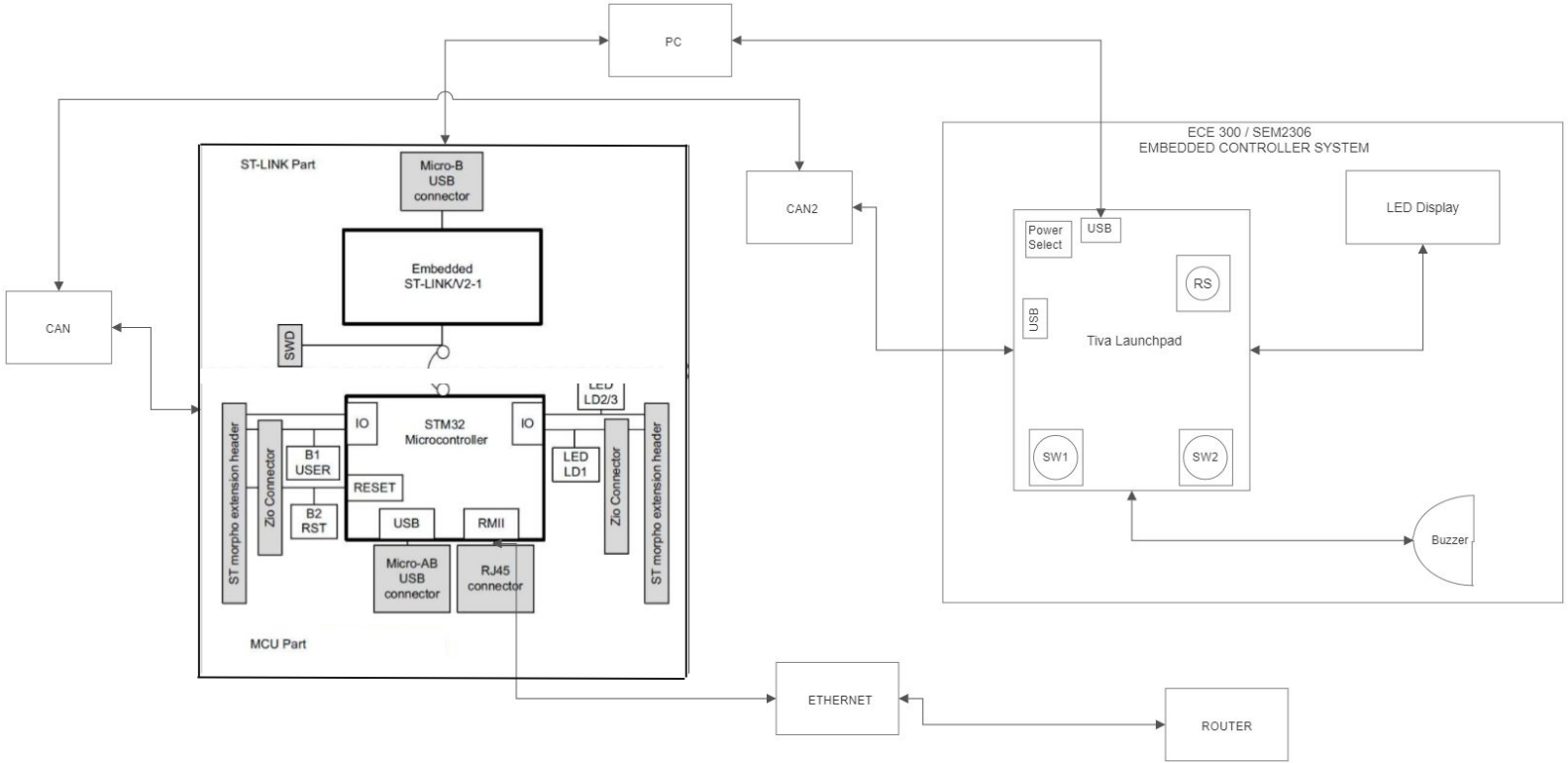
Block Diagrams (Tiva Launchpad)



Block Diagrams (Nucleo F767zl)



Block Diagrams (Full)



Demo

Conclusion

- STM32 is easier to configure compared to the Tiva Launchpad.
- HTML website is not simple to edit and configure.
- Embedded systems are useful in implementing certain features that is applicable for applications and the web.

Thank You