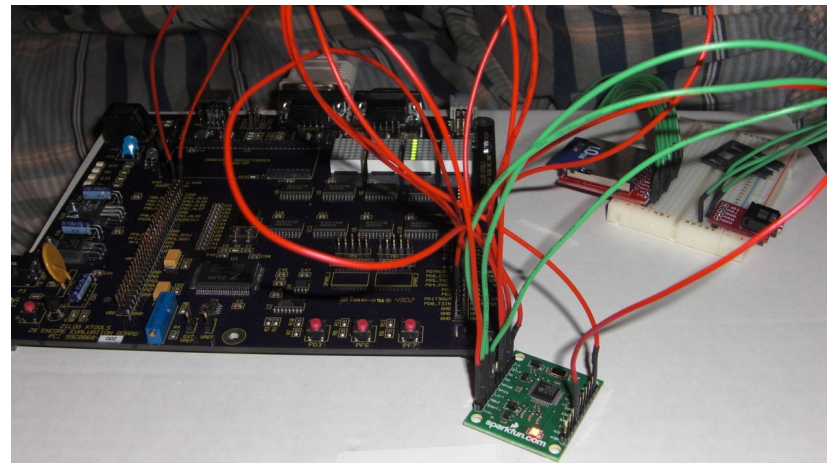


# zPlayer

Real-time Embedded Systems  
George Washington University  
Spring 2010

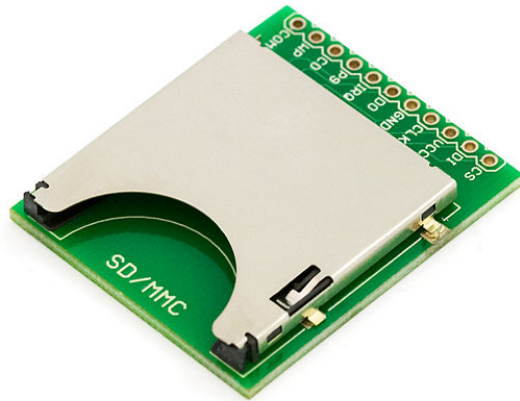
The MP3 player you can't fit in your pocket!

The zPlayer is an MP3 player based on the Zilog ZNEO Z16F flash microcontroller. The device takes MP3 files transferred over UART from a PC or stored on a Secure Digital (SD) card and streams them to a VLSI Solutions Oy VS1002d audio decoder chip for decoding and digital-to-analog conversion for audio output through a TRS connector. zPlayer supports the MP3 format, but other formats are supported as well as specified by the audio decoder chip. The purpose of this project was to learn embedded programming techniques and how to interact with other devices using various standard interfaces and protocols.

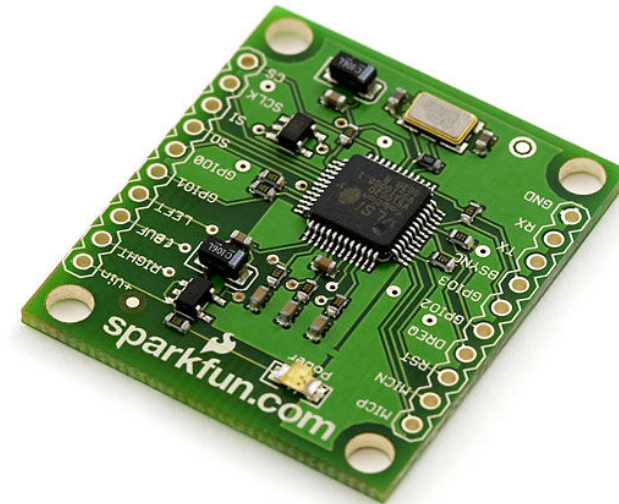


HUGE!

MP3 data starts here.



MP3 data goes through here.



Lessons learned:

- Z16F embedded development
- Combining readily available components
- SD card format
- MP3 format
- Serial peripheral interface (SPI)
- Universal asynchronous receiver/transmitter (UART)
- Soldering

Connect speakers of headphones here, and hear the MP3!

