2010-2011 Capstone Senior Project Presentations
ECE 189A/B Short Descriptions

**BITS – Bluetooth Imaging Theater System:** BITS is a system designed to simplify the process of giving PowerPoint presentations. An Android device runs a process in the background. The user presses an on-screen button to send the current display. Bluetooth signal is received by the BITS project board and processed to create a video-compatible display for projection.

**Jam Session – a portable audio recorder subsystem that can be clipped inside an acoustic guitar to make a recording:** the system senses motion or sound to automatically turn-on and off. The compressed recorded results are available for transfer to a host computer via flash memory SD card.

**Kwik-E-Kart – a smart shopping cart that "knows" what items are currently residing within it:** RFID readers attached to the body of the cart sense when new items are added or items are removed. A running total cost appears in a display on the cart’s handle. A wireless connection is made to assist the cashier during checkout.

**Spin Screen – spinning color display system:** Spin Screen is a whirling linear array of color LEDs with each LED’s presentation timed to create a full color display system. Because of the spinning aspect of this project, all communication between the Spin Screen display project and other external equipment is wireless.

**SSSS – Super Scalable Sonic Sensor:** this project utilizes a transducer and an array of ultrasonic microphones to estimate the distance and angle of objects nearby. The project emits an ultrasonic "ping" and measures and time and phase of the responses received.