

ECE 477 Digital Systems Senior Design Project – Spring 2006

The J-Team / RFID Xpr3ss

“A state-of-the-art self-checkout station utilizing RFID technology to enhance the retail store customer’s checkout experience”

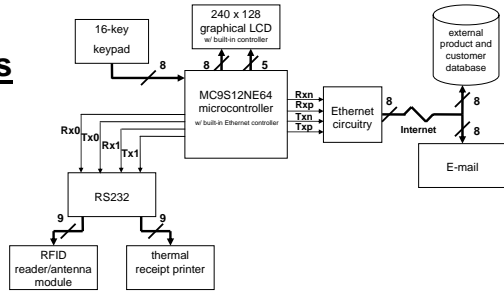
**“Two Thumbs Up!”
- Jewel & Osco**

```
typedef struct{
    char userName[20]; // Full name
    char userEmail[30]; // Full e-mail address
    int cartSizeI; // Integer value of cart items
    int cartSizeF; // Floating point value of cart items
    int timeHourI; // Integer value of the day, hour
    int timeMinI; // Integer value of the day, minute
    int timeSecsI; // Integer value of the day, seconds
    int timeHalf; // Floating point value of the day, half
    int dateMonth; // Integer value of the day, month
    int dateDayI; // Integer value of the day, day
    int dateYearI; // Integer value of the day, year
    itemStruct items[50]; // Items
};
```

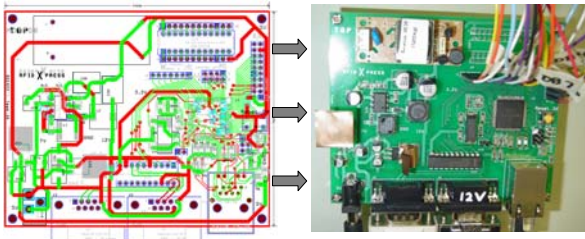


Complete Design Process

from a block diagram



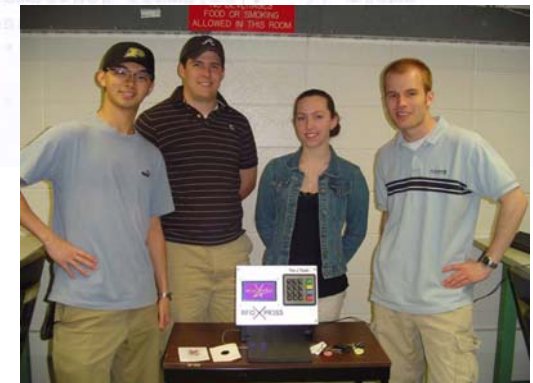
to PCB layout & fabrication



to a finished product!



“The best thing to happen to supermarkets since sliced bread!”



The J-Team:
Jonathan, Jared, Jenny, Josh

The RFID Xpr3ss system can:

- ✓ identify a customer based on a key ring transponder and PIN code entered on a keypad
- ✓ identify an item and look up data on that item based on its RFID tag
- ✓ display shopping cart information on an LCD
- ✓ print and e-mail receipts
- ✓ gather product and customer data by querying an external database using Ethernet



Customer receives e-mail and printed receipts

