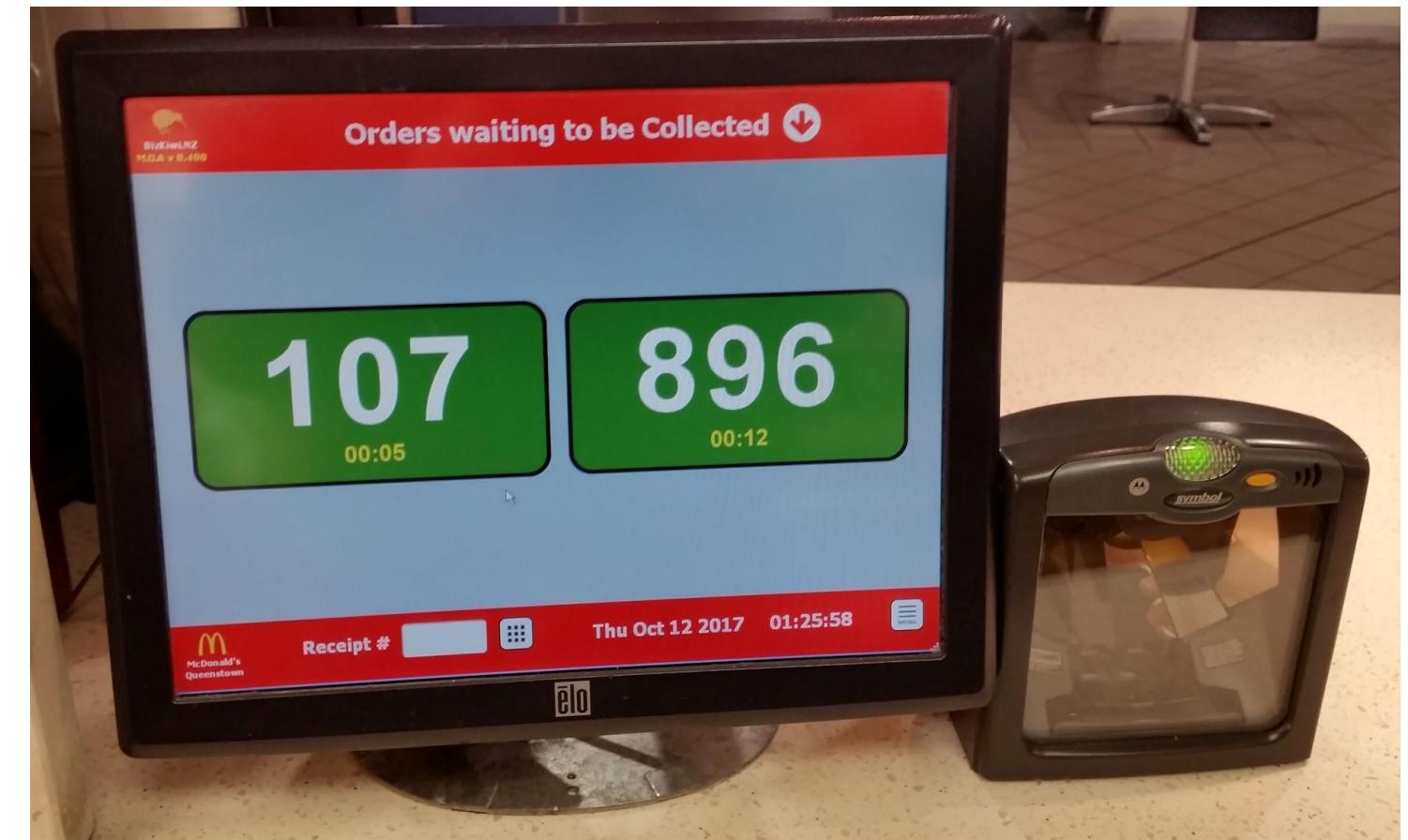
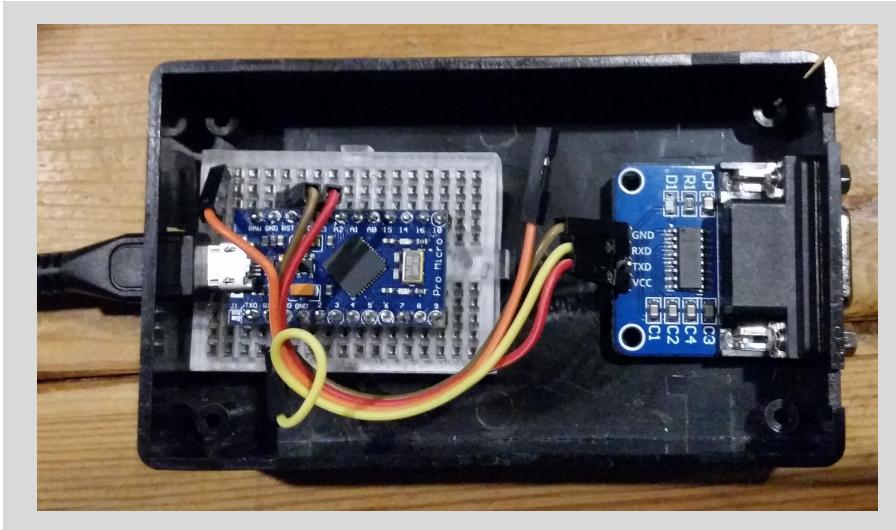


MAKING FAST SERVICE FASTER





A To make a prototype device some components are needed.



B Make a circuit to capture the data being printed via an RS-232 splitter cable.

```
ParsePickSlip | Arduino 1.8.5
File Edit Sketch Tools Help
ParsePickSlip.h

#include "Keyboard.h"

String registerNumberString = "";
String orderNumberString = "";

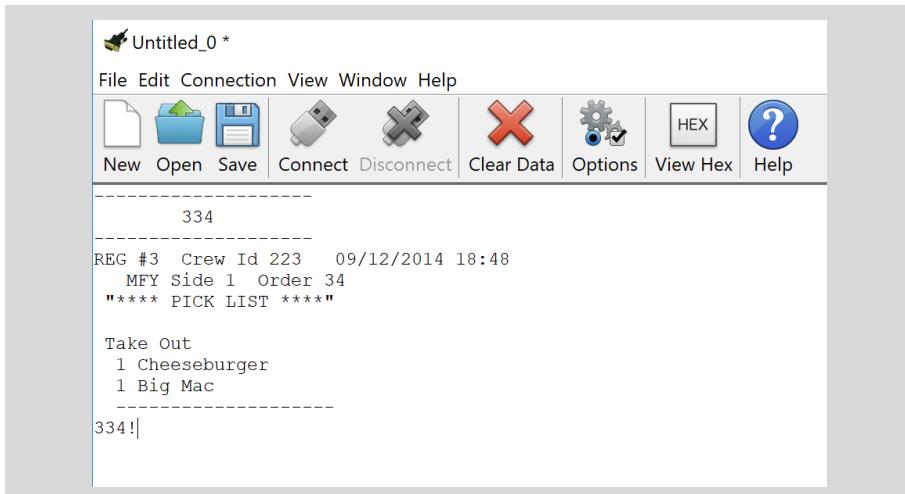
void setup() {
    Keyboard.begin();
    Serial1.begin(9600);
}

void loop() {
    if(Serial1.available()) { // If anything comes in Serial1 (pins 0 & 1)

        String rxString = Serial1.readString(); // read it and send it out Serial (USB)
        int registerDigit1 = rxString.indexOf("#"); // returns -1 if no index

        if(registerDigit1 != -1) {
            registerDigit1 = registerDigit1 + 1;
            int registerDigit2 = registerDigit1 + 1;
            char registerChar1 = rxString[registerDigit1];
            char registerChar2 = rxString[registerDigit2];
        }
    }
}
```

C Write a microcontroller program to parse captured data to find the Order Number then send it to a USB connected host PC.



D Write some Pick Slip sample data and debug the program. Success!



E Next test prototype under controlled conditions in the real world. The device emulates a barcode scanner. Success!



F Now to make a more robust and water resistant unit with visual status indicator.



G Do some fabrication work: cut a window for an LCD plus holes for a reset button and a cable gland.



H Connect micro with an I2C converter and LCD module with the I2C converter.

```
ParsePickSlip5 | Arduino 1.8.5
File Edit Sketch Tools Help
ParsePickSlip5.h

#include <Wire.h>
#include <LiquidCrystal_I2C.h>
#include <Keyboard.h>

String topLine = "AutoScan";
String bottomLine = " IDLE ";

LiquidCrystal_I2C lcd(0x27, 8, 2);

void setup() {
    Wire.begin();
    lcd.backlight();
    Keyboard.begin();
    Serial1.begin(9600);
    lcd.setCursor(0,0);
    lcd.print(topLine);
    lcd.setCursor(0,1);
    lcd.print(bottomLine);
}

void loop() {
    if(Serial1.available()) {
        String rxString = Serial1.readString();
        bool pickNumberNotFound = true;
        int stringIndex = 0;
        int pickNumberStart = rxString.indexOf("----", stringIndex); // returns -1 if no index
```

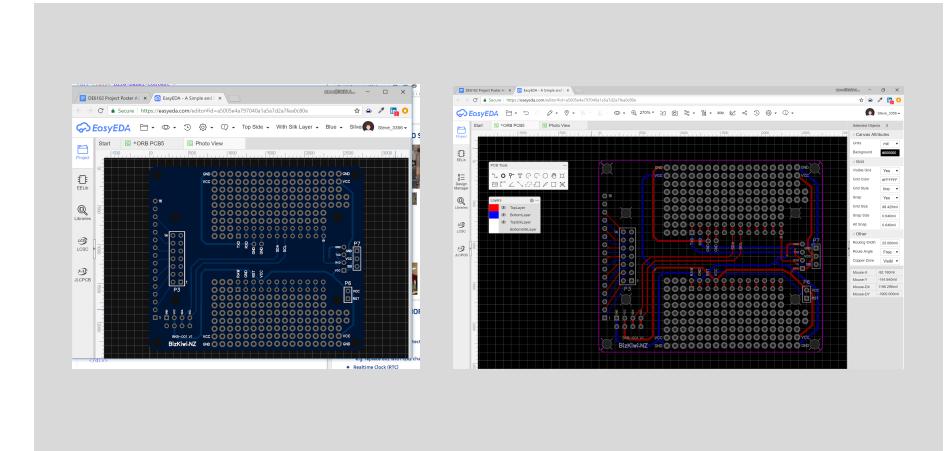
I Modify the program to display Status and the Order Number on LCD module.



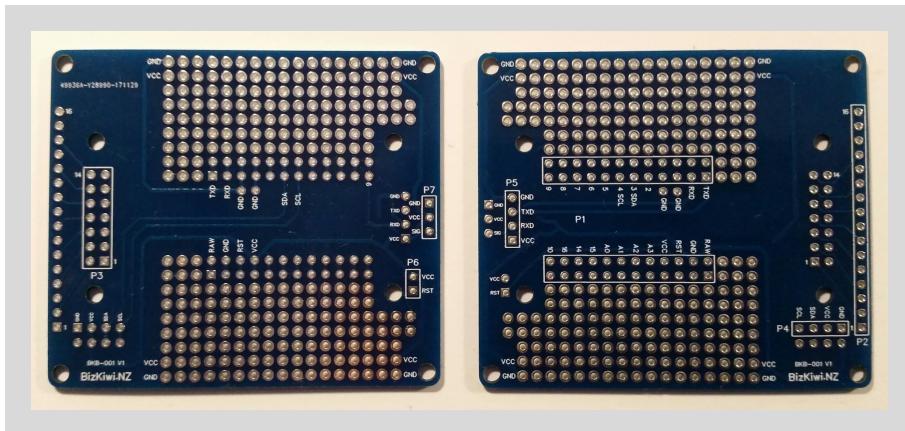
J Upload new firmware to micro. Test to ensure Status and Order Number display correctly on LCD. Success!



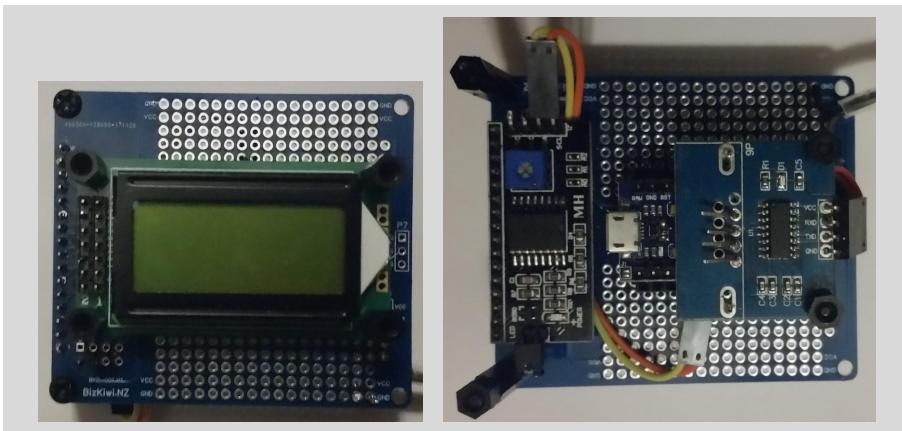
K Look at all those scary wires! What can we do about this?



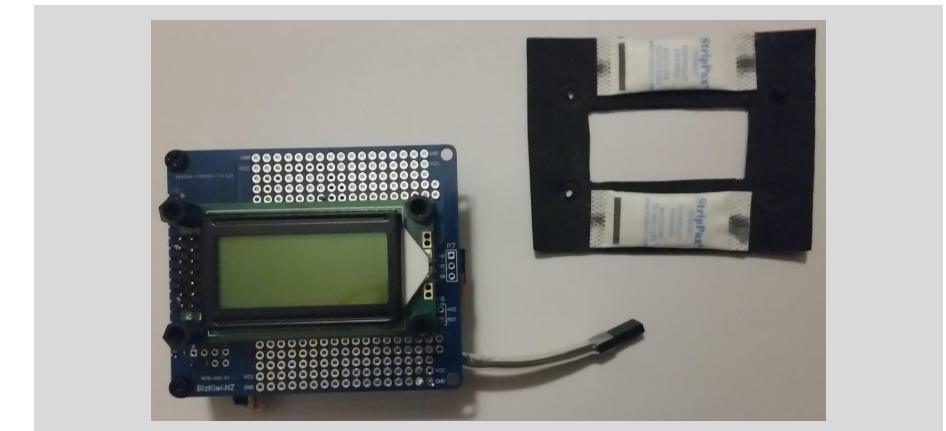
L Design and order a custom adapter PCB for the various modules to enable removal of most of the scary wires.



M The new custom adapter boards have arrived so now its time to assemble these by soldering the modules on.



N Here is an assembled device complete with nylon spacers to enable positioning when installed inside the enclosure.



O Cut window in rectangle of black card to frame LCD module nicely. Glue on some silica gel packs to absorb moisture.



P Attach the LCD frame to the assembly and position the unit inside the prepared enclosure.



Q Ensure the LCD is positioned correctly and fasten the enclosure screws tightly. Screw on the outer cable gland housing.

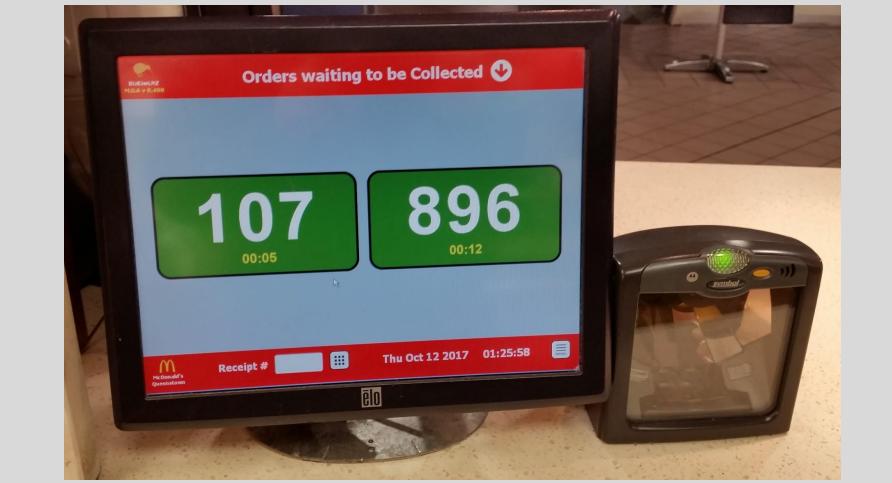


R Test the assembled device over and over. Make a second unit as a backup device.



S

Install new device in Restaurant and test again. Order Numbers are read from the printer data. Success!



T

Pick Slips still print to attach to orders however now manual barcode scanning is no longer necessary.



U

With the new device connected to the Order Ready Board customers now receive their orders ~2-6 seconds faster!