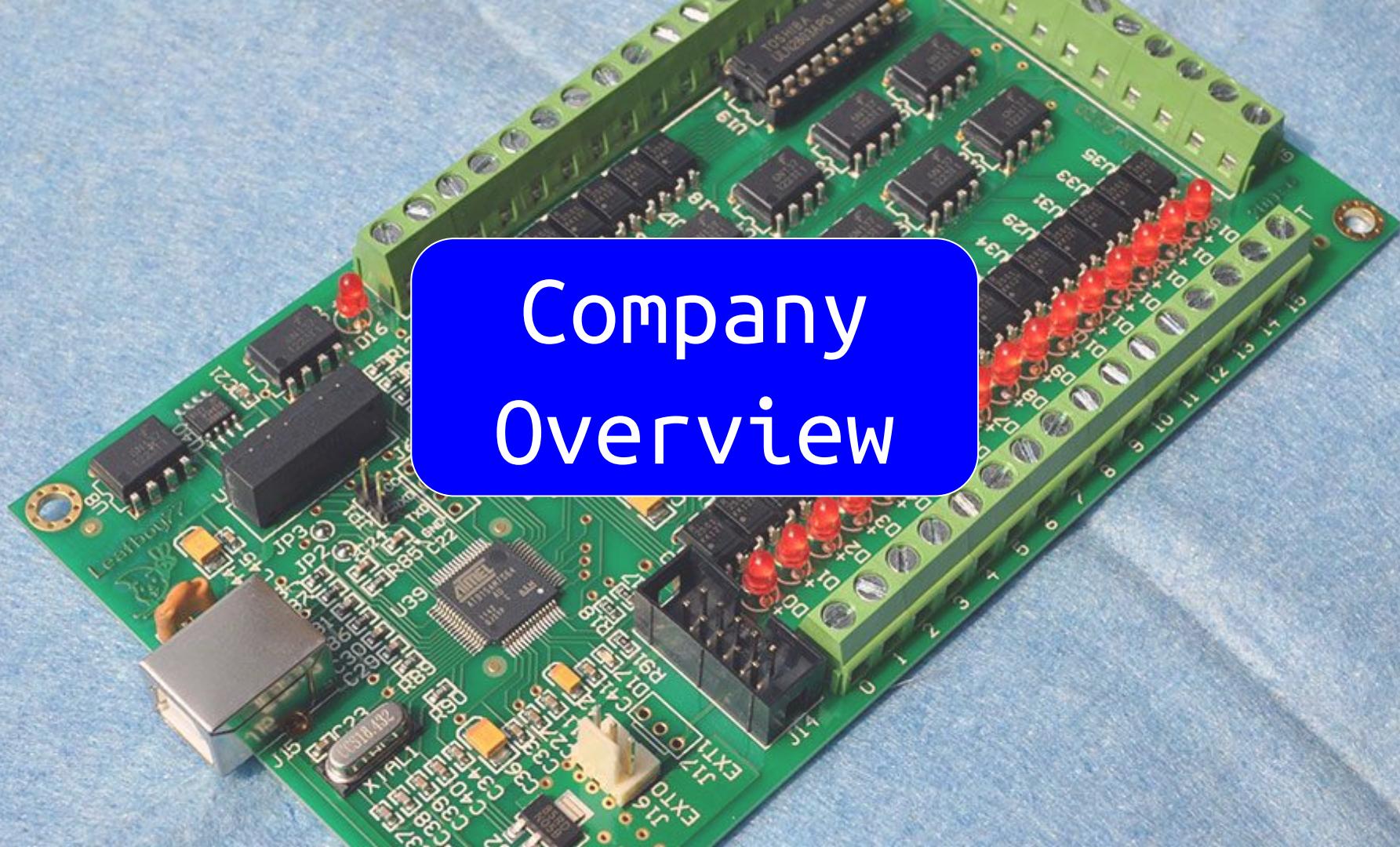


ExtraTech Systems



Dig'nIT
Internship Program
Crista Falk

Company Overview





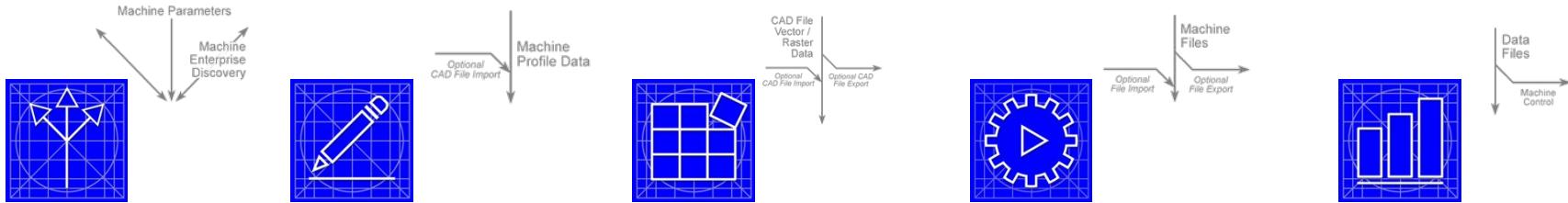
For over 25 years ExtraTech Systems has **designed and manufactured motion control technology for** thousands of **CNC motion applications** across North America and into Europe. Working exclusively with OEM's and high-volume users, our technology **provides cost-effective, powerful and flexible solutions for motion automation.**



MOTION CONTROLLERS



SOFTWARE



PERIPHERALS





Coreo is an intuitive, well thought out CAD/CAM software experience. A suite for five individual modules, clarity and ease of use are platform cornerstones. Standardized parameters and terminology, intelligent libraries, user defined processes, and sophisticated processing techniques are all features that bolster Coreo's exceptional functionality. With Coreo, work errors decrease and tempo quickens.



Coreo Connect: common interface to start each Coreo module.



Coreo Design: CAD-based creation environment.



Coreo Build: applies parameters and tool paths to CAD drawings, converting them to machine-ready CAM files.



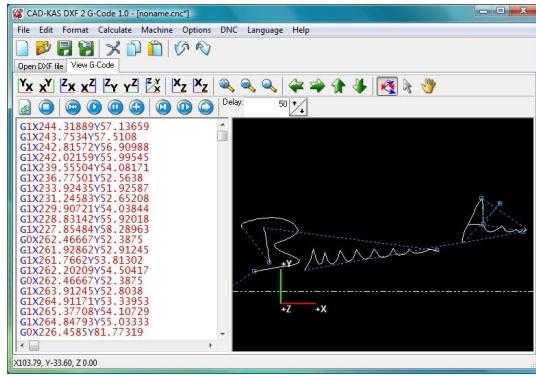
Coreo Command: opens CAD / CAM files for execution on machine tools.



Coreo Report: assortment of reports that summarize job and machine status.

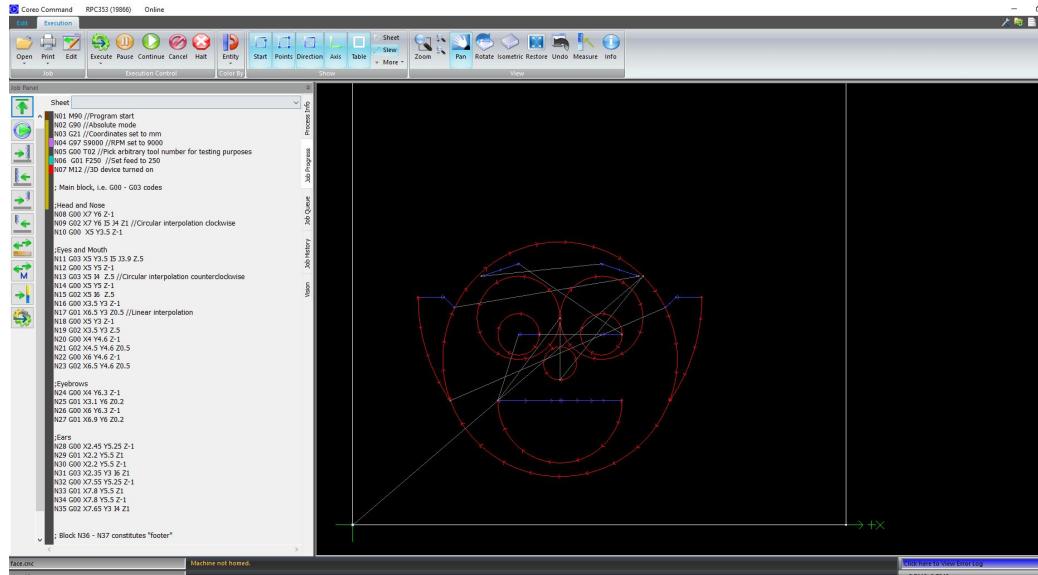
Skills Overview





Computer Numerical Code (CNC)

"G"-Code



```

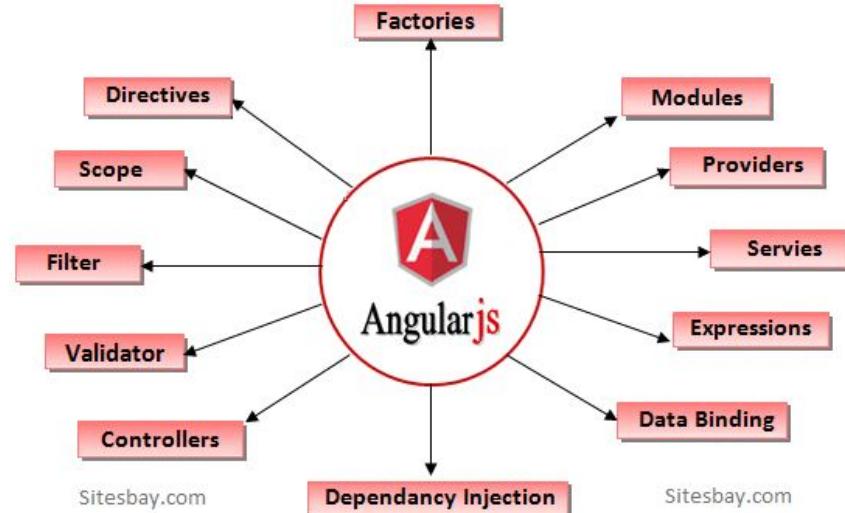
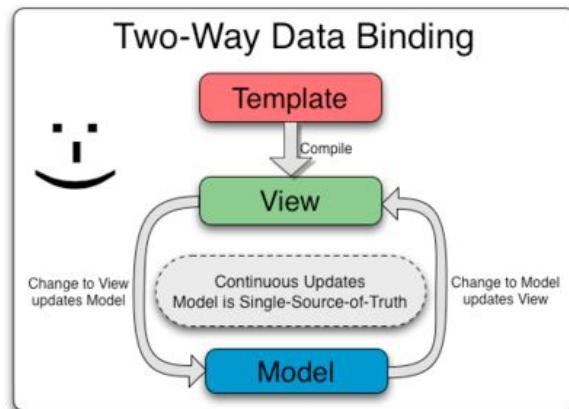
G00 X-25 Y20
G91 X-10
G02 X10 Y-10 I10 J0 F200 M3
G02 X-10 Y10 I0 J10;
G90 G00 M5 X0 Y0;
G00 X25 Y20
G91 X-10
G02 X10 Y-10 I10 J0 F200M3
G02 X-10 Y10 I0 J10;
G90 G00 M5 X0 Y0;
G00 X40 Y0
G02 X-40 Y0 I-40 J0 F200 M3
G02 X-10 Y10 I0 J10 F200 M3
G00 G00 M5 X-55 Y0 ;
G2 X0 Y-55 I55 J0 F200 M3
G2 X-55 Y0 I0 J55
G02 X-55 Y0 I0 J55

```



Model- View- Controller (MVC) Application Design Pattern

AngularJS



µCito

*ExtraTech's
Proprietary Macro
Language*

```
PC(RD) 204501 - ModisMechanic
File Edit View Control Tools Window Help
[ModisMechanic] [ModisMechanic] [ModisMechanic]
Loading RV264 Support
Loading Z-Tracking Module Version 2046501.0.2 Location 71
Found File Param for strack Table

fiparam.strack.upc is loaded

Loading Plasma Module Version 2046801.4.0 Location 11
Warning! Incompatible version of Module 11
Found File Param for plasma Table

fiparam.plasma.upc is loaded

Found File Param for plasma_config Table

fiparam.plasma_config.upc is loaded

Found File Param for oxy_config Table

fiparam.oxy_config.upc is loaded

Found File Param for scribe_config Table

fiparam.scribe_config.upc is loaded

Found File Param for pen_config Table

fiparam.pen_config.upc is loaded

Found File Param for plasma_proc Table

fiparam.plasma_proc.upc is loaded

Found File Param for plasmal_config Table

fiparam.plasmal_config.upc is loaded

Loading EC-Cut UI Module Version 2046501.0.0 Location 2
Error 16: Not in compile mode for .c

Loading User Module Version 2046501.0.0 Location 21None Loading User Module
Init file loaded.
>
>
Setup Hardware...
Powering up web
Setup Configuration...
WARNING: ETCH DEBUG TURNED ON
...Plasma setup configuration
Found File Param for plasmaTable

fiparam.plasmaTable.upc is loaded

Found File Param for tool_71 Table

fiparam.tool_71.upc is loaded
fiparam.tool_71.upc->_MODS_PRIMES = 7

int z-tracking
Machine Startup...
Limit(s) active on boot!

Machine Ready.
(4)AI(0)DPRIV = 14, ridirw1
turbo_jump key_func13 broken_fade clearAll_display americas
```

File Edit Selection Find View Goto Tools Project Preferences Help

FOLDERS

- █ devel
- █ Autodesk
- █ CEJet
- █ Coherent
- █ ENCRYPTED Modules
- █ Extratech
- █ http
- █ Kinesiq
- █ Multicam
- █ Otherlab
- █ Permboss
- █ Precision Jet
- █ Radian
- █ Roland
- █ SailScience
- █ Vytek
- █ Western
- █ jshintrc
- █ .tern-project
- ↳ INIT_core8.uc
- ↳ MOD11_plasma_Module.uc
- ↳ MOD13_teknic.uc
- ↳ MOD16_galvo_module.uc
- ↳ MOD17_galvo_font.uc
- ↳ MOD19_Printer.uc
- ↳ MOD20_3DPrinter.uc
- ↳ MOD23_Laser_Pointer.uc
- ↳ MOD24_io_desc.uc
- ↳ MOD25_Vacuum_Zones.uc
- ↳ MOD26_bevel_wj uc
- ↳ MOD27_rotary.uc
- ↳ MOD28_Vision.uc
- ↳ MOD2_3DPrinter.ui.uc
- ↳ MOD2_generic_ui.uc
- ↳ MOD44_web_web.uc
- ↳ MOD64_xmd_edit.uc
- ↳ MOD6_atcb_tc uc
- ↳ MOD6_rio_tc uc
- ↳ MOD70_LaserHead_support.uc
- ↳ MOD71_marking uc

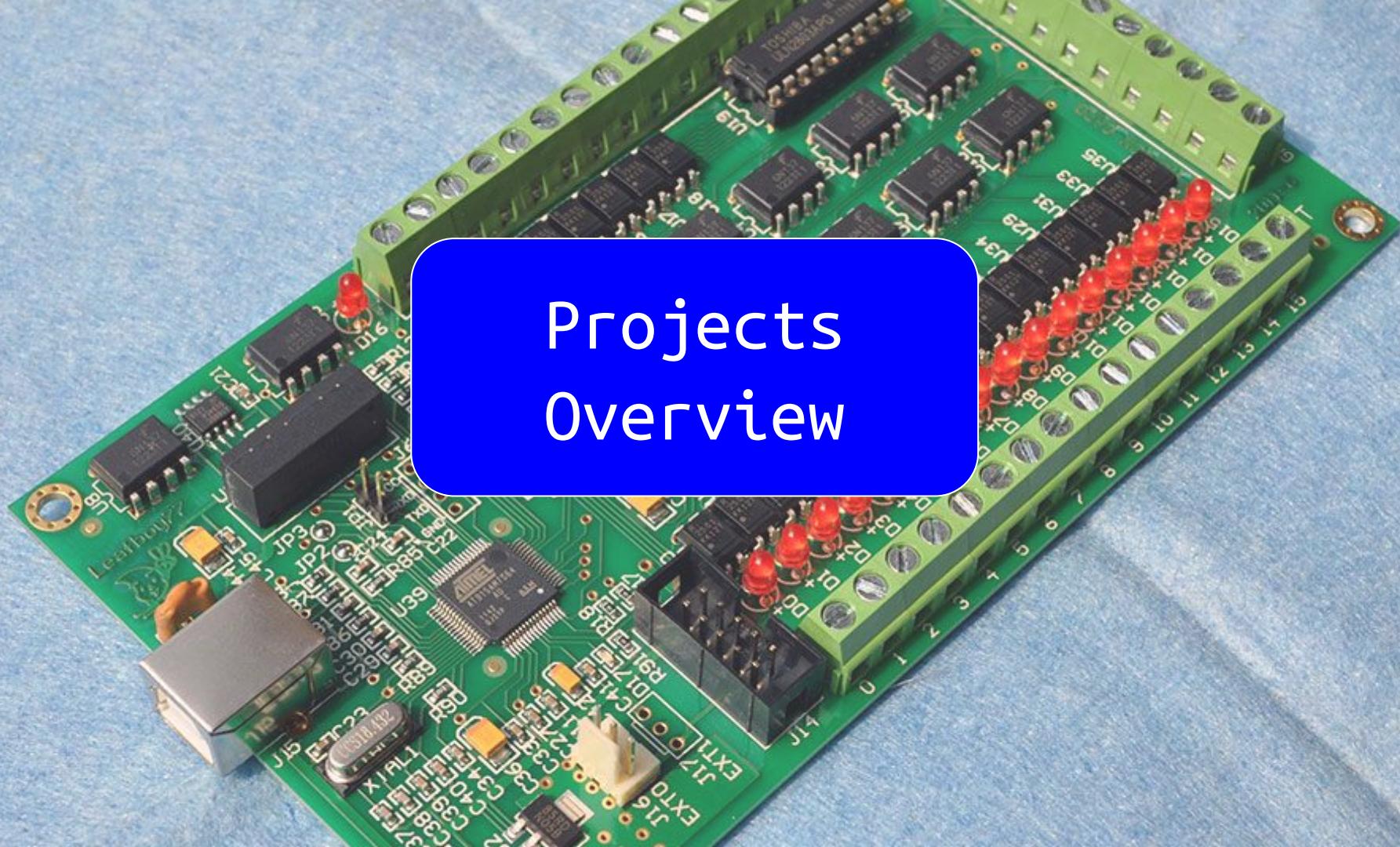
```

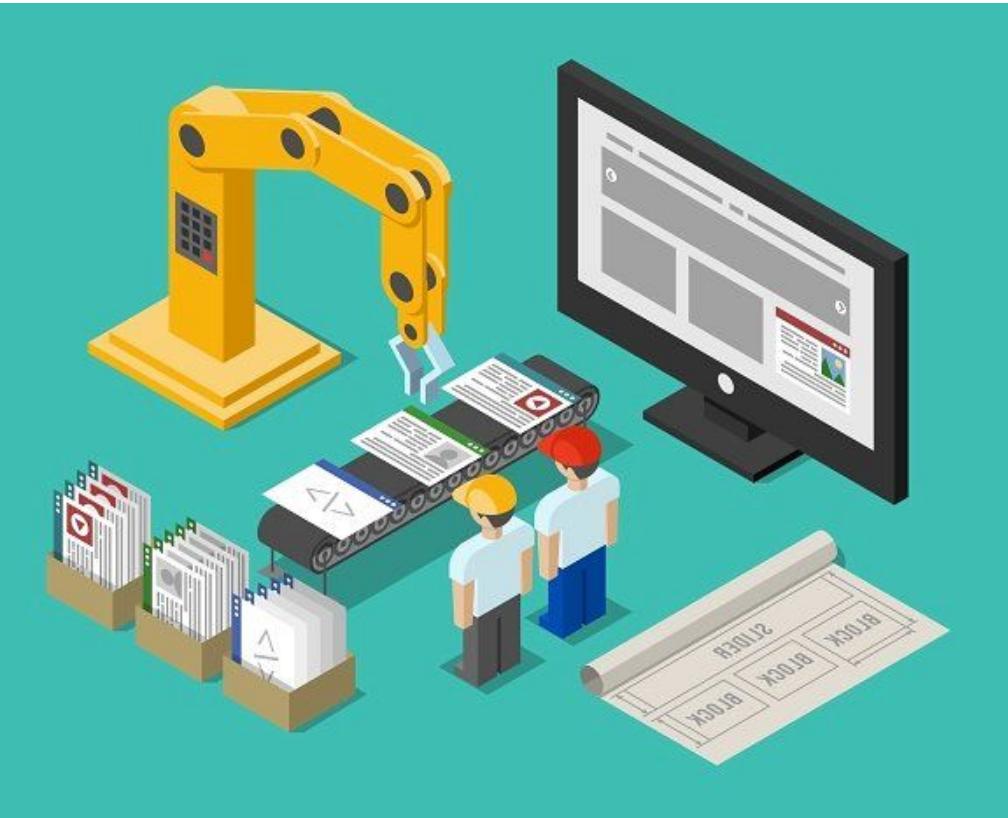
< > INIT_core8.uc           MOD2_CristaUI.uc       Buffered_Commands.uc   ●   MOD2_generic_ui.uc      MOD11_plasma_Module.uc    MOD2_Multicam_init.uc

1 : line
2     start_motion 5. 5. 0. 0. 0. 0. 0. umaline fp end_motion ` Absolute positioning
3 ;
4 : line_pack
5     start_motion get_soft_home? umaline fp end_motion ` Relative coordinates
6 ;
7 : three_dim_arc
8     start_motion 5. 5. laxisz get_pos? 3. 30. 150. 10. 180. arc3 fp end_motion
9 ;
10 : go_home
11     start_motion 0. 0. 0. 0. 0. 0. 0. umaline fp end_motion
12 ;
13 : bezier_curve
14     start_motion
15         laxisz get_pos? laxisy get_pos?
16         fover fover 0. 5. 10. 0. 6 fpluck 6 fpluck bz2 fp end_motion
17 ;
18 :
19 : arc_helix
20     start_motion
21         2. 2. -0.2 1. 20. 240. 2 -0.2 ahelic
22         fp end_motion
23 ;
24 : move_axes_individually
25     laxixx get_pos? ivar start_x
26     laxisy get_pos? ivar start_y
27     laxisz get_pos? ivar start_z
28 ;
29     start_motion
30         5. laxixx axis_umline 1000 delay start_x laxixx axis_umaline
31         5. laxisy axis_umline 1000 delay start_y laxisy axis_umaline
32         .5 laxisz axis_umline 1000 delay start_z laxisz axis_umaline
33         fp
34         end_motion
35 ;
36 : two_dim_arc
37     start_motion 8. 8. laxisz get_pos? 2. 0. 120. 0. 0. arc3 fp end_motion
38 ;
39 : frog_slew_curve
40     start_motion
41         get_soft_home? umaline fp
42         0.2 set_frogslew_factor
43         3. 4. laxisz get_coord? frog_slew
44         500 delay
45 ;
46     0.1 set_frogslew_factor
47     5. 6. laxisz get_coord? frog_slew
48     500 delay
49 ;
50     0.5 set_frogslew_factor
51     0. 0. laxisz get_coord? frog_slew
52     fp
53     end_motion
54 ;
55 /*
56     <TODO: --Crista-->
57     QUESTIONS:
58     ✓ Ask about running buffer commands remotely (Without physically homing the machine every time.) Right now, when I attempt to run most of my macros, a dialog pops up on the keypad's screen:
59         Line [173]M[0]0[709] Warning: System Interrupt:
60         Y HOME
61         DCD(3) PNP Input 2 / HM2 Pin 7{172}
62         and nothing else happens. I know that the Y pos is -1.1325000, but how do I move it back?
63     SOLUTION: Physically move machine back into bounds
64 ;
65 ;
66     ✓ OTHERWISE, is there a way I can home the machine myself or, at the least, fix my macros to enable them to run (assuming the issue isn't with my syntax, etc).
67     SOLUTION: Click HOME and ENTER. Then click HOME again.
68 */

```

Projects Overview





- Learning:
 - Coreo software suite
 - CNC (G-codes, M-codes)
 - μ Cito
 - AngularJS
 - CAM Processes
 - Cut, Engrave, Raster
- Coreo Command HMI for Vytek
- Modifying Extended Metadata (XMD) files
- Using μ Cito to run motion commands
- LCD interface of keypad controllers (my own; the Predator UI for Cincinnati)
- Firmware Testing

Creating Human Machine Interfaces (HMI)

*Languages: uCito, HTML/CSS/JS
Device: CNC Machine*

The image displays three screenshots of a CNC machine's Human Machine Interface (HMI) software, illustrating its functionality across different screens.

Left Screen: Here is a Thing

- Likes:** Shows a count of 0.
- Dislikes:** Shows a count of 0.
- Request message:** A text input field.
- Submit:** A green button.
- Feedback:** A list of options: Good, Great, Fantastic, Ok, Bad, Horrible, and No comment.

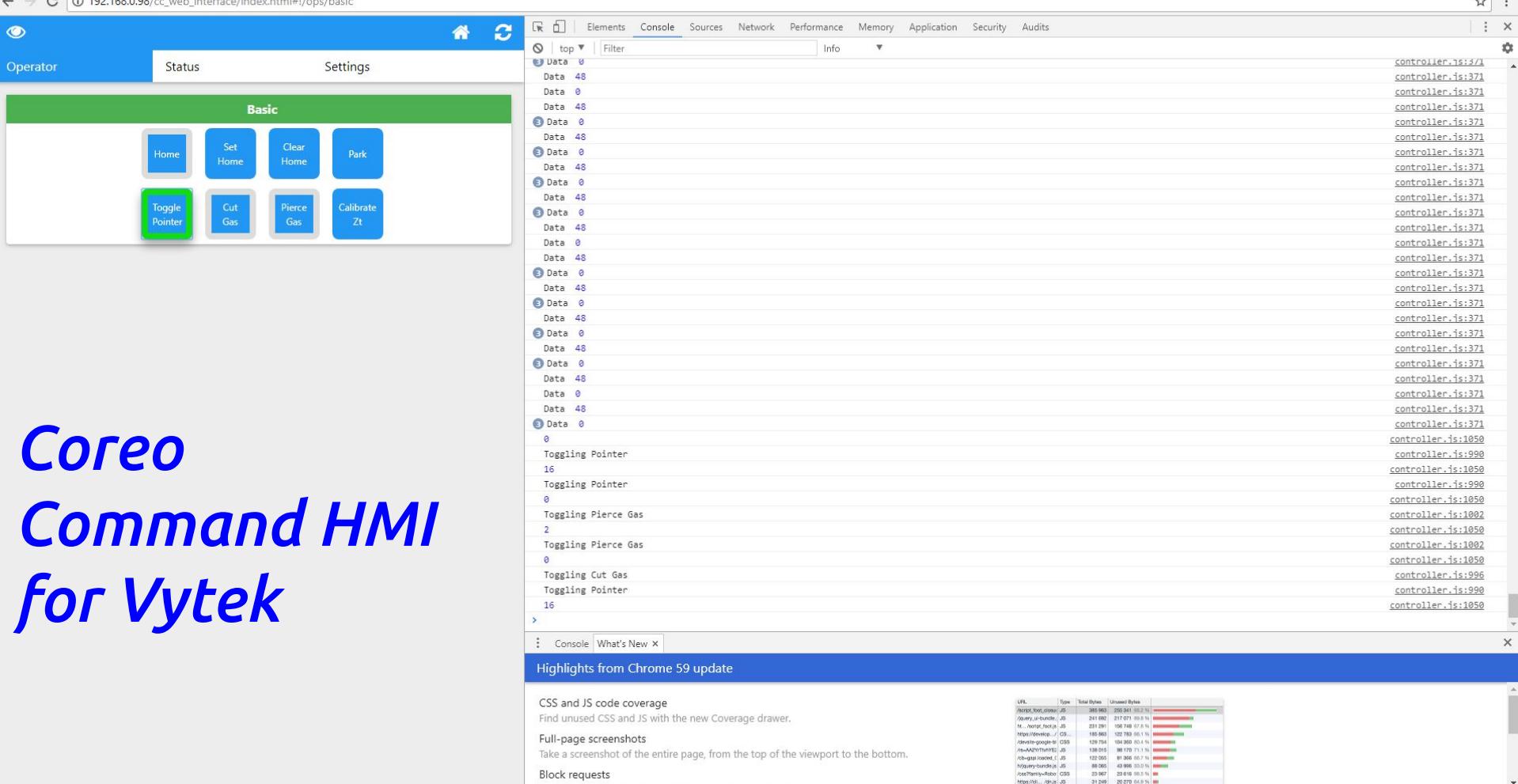
Middle Screen: Here is a Commands Interface Thing

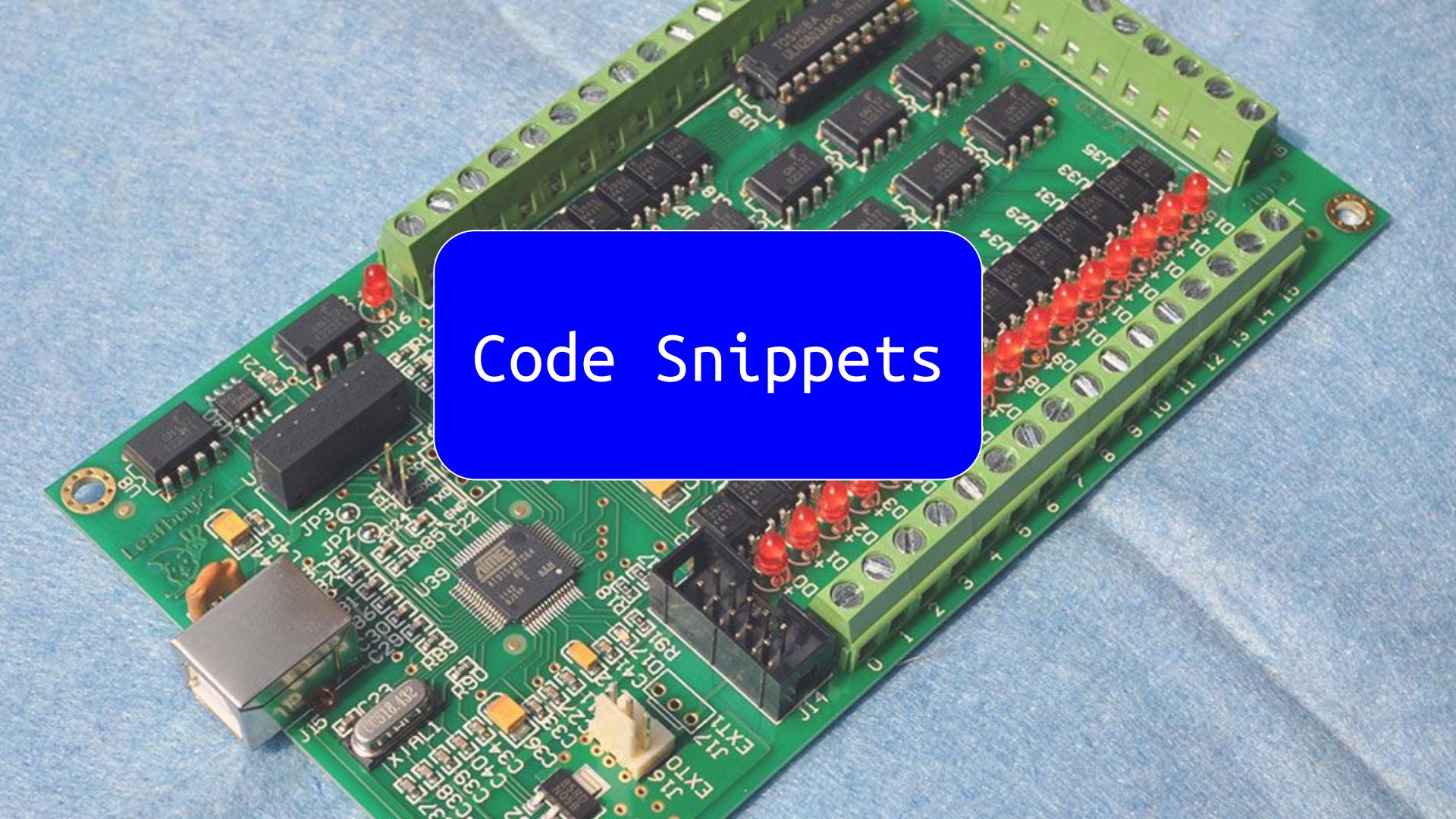
- Command:** A dropdown menu showing "command 3 ▾".
- Message:** You selected: Do that last thing.
- Instruction:** Click to do that last thing.
- Text:** While doing that thing, let's turn on this thing.
This one turns on Kevin's machine's spindle, so don't use!
- Reset:** A button labeled "Reset All Things!".

Right Screen: Third Thing

- Control:** Uncheck to enable.
- Tool 1:** A checkbox labeled "Not yet activated" which is checked.
- Control:** Check to disable.
- Tool 2:** A checkbox labeled "Ready" which is checked.
- Control:** Uncheck to enable.
- Tool 3:** A checkbox labeled "Not yet activated" which is checked.
- Cancel:** A blue button labeled "Cancel program execution".
- Tools in use:**
 - TOOL 1
 - TOOL 2
 - TOOL 3

Coreo Command HMI for Vytek





Code Snippets

AngularJS (i.e. controller)

```
angular.module('CoreoCommand')
.controller('statusCtrl', ['$scope', 'baseService', 'HMI', function ($scope, baseService, HMI){
    $scope.strings = {};
    void function getStrings(){
        var stringsTimer = null;
        stringsTimer = setInterval(function() {
            angular.copy(baseService.strings, $scope.strings);
            if($scope.strings !== null && $scope.strings !== undefined &&
$scope.strings.hasOwnProperty('quality')){
                clearInterval(stringsTimer);
                stringsTimer = null;
            }
        });
    };
    $scope.gasPressure = 0;
    $scope.sysError = 0;
    var timer = null;
    $scope.gerrnum = 0;
    HMI.registerMessageHandler('STATUS', function(data, cmd){
        var statusBtns = gebcn('statusButton');
        switch(cmd){
            case 2000:{  
                // CHS Head Crash
                if((data[0]&1<<4)){
                    statusBtns[0].css('background-color', '#11dd11');
                }else{
                    statusBtns[0].css('background-color', '#dddddd');
                }
                // Machine Error
                if((data[0]&1<<11)){
                    statusBtns[2].css('background-color', '#11dd11');
                }else{
                    statusBtns[2].css('background-color', '#dddddd');
                }
                // G-Errno Code
                if((data[0]&1<<7)){
                    statusBtns[4].css('background-color', '#11dd11');
                }else{
                    statusBtns[4].css('background-color', '#dddddd');
                }
            } break;
        }
    });
}]);
```

```
case 2001:{  
    // Cut Gas On
    if((data[0]&1<<2)){
        statusBtns[1].css('background-color', '#11dd11');
    }else{
        statusBtns[1].css('background-color', '#dddddd');
    }
    // Pierce Gas On
    if((data[0]&1<<1)){
        statusBtns[3].css('background-color', '#11dd11');
    }else{
        statusBtns[3].css('background-color', '#dddddd');
    }
    // Head Crash
    if((data[0]&1<<3)){
        statusBtns[5].css('background-color', '#11dd11');
    }else{
        statusBtns[5].css('background-color', '#dddddd');
    }
    // Tip Touch
    if((data[0]&1<<0)){
        statusBtns[6].css('background-color', '#11dd11');
    }else{
        statusBtns[6].css('background-color', '#dddddd');
    }
} break;
case 2002:{  
    if(data[0] !== null){
        $scope.gerrnum = data[0];
    }
} break;
}
console.log("Data ", data[0]);
});
HMI.refresh();
$scope.$on("$destroy", function(){
    HMI.unregisterMessageHandler('STATUS');
    clearInterval(timer);
    timer = null;
});});
```

HMI

AngularJS pt 2 (i.e. routing)

```
app.config(['$locationProvider', '$routeProvider', function ($locationProvider, $routeProvider){
    $locationProvider.html5Mode(false);
    $routeProvider
        .when('/ops/basic',{
            templateUrl: '/cc_web_interface/views/selection_menu_div.html',
            controller: 'selectionMenuCtrl'
        }).when('/ops/advanced',{
            templateUrl: '/cc_web_interface/views/selection_menu_div.html',
            controller: 'selectionMenuCtrl'
        }).when('/ops/advanced/gasControl',{
            templateUrl: '/cc_web_interface/views/gas_control_div.html',
            controller: 'gasControlCtrl'
        }).when('/ioMonitor',{
            templateUrl: '/cc_web_interface/views/io_monitor_div.html',
            controller: 'ioMonitorCtrl'
        }).when('/jogging',{
            templateUrl: '/cc_web_interface/views/jogging_div.html',
            controller: 'joggingCtrl'
        }).when('/status',{
            templateUrl: '/cc_web_interface/views/status_div.html',
            controller: 'statusCtrl'
        }).when('/ops/advanced/laserPowerTest',{
            templateUrl: '/cc_web_interface/views/laser_power_test_div.html',
            controller: 'laserPowerTestCtrl'
        // }).when('/ops/advanced',{
        //     templateUrl: '/cc_web_interface/views/settings_div.html',
        //     controller: 'settingsCtrl'
        }).when('/ops/advanced/zTracking',{
            templateUrl: '/cc_web_interface/views/z_tracking_div.html',
            controller: 'zTrackingCtrl'
        }).when('/setup',{
            templateUrl: '/cc_web_interface/views/setup_div.html',
            controller: 'setupCtrl'
        }).when('/ops/advanced/squareTest',{
            templateUrl: '/cc_web_interface/views/square_test_div.html',
            controller: 'squareTestCtrl'
        }).when('/ops/advanced/focusTest',{
            templateUrl: '/cc_web_interface/views/focus_test_div.html',
            controller: 'focusTestCtrl'
        }).when('/ops/advanced/focusArmOffsets',{
            templateUrl: '/cc_web_interface/views/focus_arm_offsets_div.html',
            controller: 'focusArmOffsetsCtrl'
        }).when('/ops/advanced/cameraOffsets',{
            templateUrl: '/cc_web_interface/views/camera_offsets_div.html',
            controller: 'cameraOffsetsCtrl'
        }).when('/userSettings',{
            templateUrl: '/cc_web_interface/views/user_settings_div.html',
            controller: 'userSettingsCtrl'
        }).otherwise({ redirectTo: '/ops/basic' });
}]);
```

The “Brains”

HTML (i.e. view)

```
<!-- Controller Status View -->
<div ng-controller="statusCtrl" class="w3-animate-right" style="padding-bottom: 16px; padding-top: 16px;">
<!--<div ng-controller="statusCtrl" class="w3-animate-right">-->
<div style="padding-bottom: 16px;">
  <div class="w3-card-2 etc-theme-card">
    <table class="w3-table w3-responsive">
      <thead class="w3-green">
        <th colspan="4" style="text-align:center;"><!-- System Status -->{{strings.system_status}}</th>
      </thead>
      <tr>
        <td style="float: right;"><!-- Homing Limit Status -->{{strings.homing_limit_status}}:</td><td><button
style="float:left;" class="statusButton"></button></td>
        <td style="float: right;"><!-- Cut Gas On -->{{strings.cut_gas_on}}:</td><td><button style="float:left;">
class="statusButton"></button></td>
      </tr>
      <tr>
        <td style="float: right;"><!-- Machine Error -->{{strings.machine_error}}:</td><td><button style="float:left;">
class="statusButton"></button></td>
        <td style="float: right;"><!-- Pierce Gas On -->{{strings.pierce_gas_on}}:</td><td><button style="float:left;">
class="statusButton"></button></td>
      </tr>
      <tr>
        <td style="float: right;"><!-- Pause State -->{{strings.pause_state}}:</td><td><button style="float:left;">
class="statusButton"></button></td>
        <td style="float: right;"><!-- Tip Touch -->{{strings.tip_touch}}:</td><td><button style="float:left;">
class="statusButton"></button></td>
      </tr>
      <tr>
        <td style="float: right;"><!-- Head Crash -->{{strings.head_crash}}:</td><td><button style="float:left;">
class="statusButton"></button></td>
      </tr>
      <tr>
        <td></td><td style="float: right;"><!-- G-Errno Code-->{{strings.g_errno_code}}:</td><td><label
>{{gerrnum}}</label></td>
      </tr>
    </table>
  </div>
</div>
</div>
```

The “Body”

μCito (i.e. communication & control of machines)

```

: hmi_GGER
  _ERRNO HMI_PARAM_INT mover hmi_put_param hmi_send
;
: hmi_SVFO
  drop ifexists u_set_vision_focus_offset "" u_set_vision_focus_offset\n" hmi_23exec
;
  \ Toggle Laser Pointer
: hmi_TLPT
  drop "" u_pointer_toggle" macro_exec
;
  \ Toggle CutGas
: hmi_TCUT
  drop "" u_cutgas_toggle" macro_exec
;
  \ Toggle Pierce Gas
: hmi_TPCE
  drop "" u_pcegas_toggle" macro_exec
;

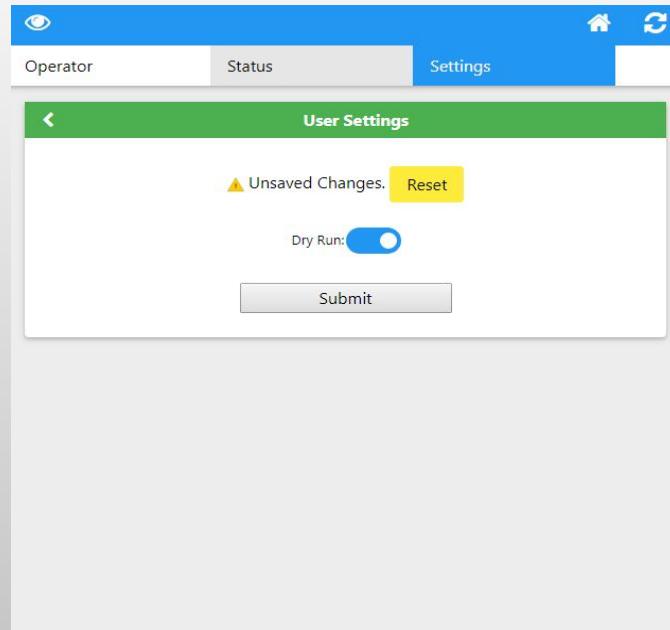
0 ivar STA0_REGISTER \ common system status
  b 0 = estop
  b 1 = sw stop
  b 2 = drive fault
  b 3 = machine fault
  b 4 = hw limit
  b 5 = overtemp
  b 6 = hw pause
  b 7 = paused
  b 8 = not homed
  b 9 = motors disabled
b10 = controller in motion
b11 = machine error
0 ivar DEV0_REGISTER \ user system status
  b 0 = chs tip touch
  b 1 = Purge gas on
  b 2 = cut gas on
  b 3 = head crash
  b 4 = laser pointer on

: u_goto_home
  "" Goto home request" 1 debugMsg
  0 motion_active? if :exit endif
  \ this covers both normal and pause motion
  EXECUTING? if :exit endif
  MACHINE_FAULT dup 2 <> land if :exit endif
  MACHINE_FAULT 2 = if
    find_limits
  else
    mon? not if mon mon? not if :exit endif endif
    goto_softhome0
  endif
  ;
: u_set_home
  "" Set home request" 1 debugMsg
  0 motion_active? if :exit endif
  EXECUTING? if :exit endif
  MACHINE_FAULT if :exit endif
  chk_paused? if :exit endif
  set_softhome0
  ;
: u_clr_home
  "" Clear home request" 1 debugMsg
  0 motion_active? if :exit endif
  EXECUTING? if :exit endif
  MACHINE_FAULT if :exit endif
  chk_paused? if :exit endif
  #clr_home
  ;

: u_park
  "" Park request" 1 debugMsg
  0 motion_active? if :exit endif
  EXECUTING? if :exit endif
  MACHINE_FAULT if :exit endif
  xchk if :exit endif
  mon? not if mon mon? not if :exit endif endif
  start_motion
  slew_node
  CORE.PARK_OPTIONS program_park \ force xy park
  end_motion
  ;
: u_pointer_toggle
  "" Toggle Pointer request" 1 debugMsg
  EXECUTING? if :exit endif
  laser_pointer_on? if laser_pointer_off else laser_pointer_on endif
  ;
: u_cutgas_toggle
  "" Toggle CutGas request" 1 debugMsg
  CutGas? if CutGas_pff else CutGas_pn endif
  ;
: u_pcegas_toggle
  "" Toggle PceGas request" 1 debugMsg
  PceGas? if PceGas_pff else PceGas_pn endif
  ;
#TRACE_RESUME

```

The “Nervous System”



The Final Product

Root	
└ ETCXML	
└ MaterialLibrary	
└ Attrb_Value_Ranges	
└ MaterialGroup - Anodized Aluminum (air)	
└ MaterialGroup - Cardboard (air)	
└ Material - 0.017 in	
└ Processes	
└ Head - Laser	
└ Process - Cut	
└ Process - Vision	
└ Sheets	
└ MaterialGroup - MDF (air)	
└ MaterialGroup - Acrylic (air-fast)	
└ MaterialGroup - Acrylic (air)	
└ EZGCode	

M2C_5FL.xmld

File Edit View Help

Name	Value	ValueDescription	Type	TypeDescription	Unit	ID	Head	Details	Category
L_VPOWER	0 100	0 TO 100	I	Laser Cutting Power...	N	1051	Head_10	Cut power in percen...	[Cut Parameters]
L_VSPEED	1 2000	1 TO 2000 IPM	F	Cut Feedrate	F	1050	Head_10	Speed to cut at.	[Cut Parameters]
L_VACCEL_MODE	1 3	1=Slow, 2=Medium,...	E	Cut Acceleration M...	N	1062	Head_10	[Cut Parameters]	
L_VFREQUENCY	0.1 100.0	0.1 TO 100.0	F	Cut Frequency (KHz)	N	1053	Head_10	Enter the desired cut...	[Cut Parameters]
L_VPOWER_MIN	0 100	0 TO 100%	I	Minimum Laser Cut...	N	1052	Head_10	Minimum power is ...	[Cut Parameters]
L_FOCUS_LENS	0 1	0=2.5, 1=5.0	E	*Focus Lens	N	1096	Head_10	0=2.5FL 1=5.0FL	[Cut Parameters]

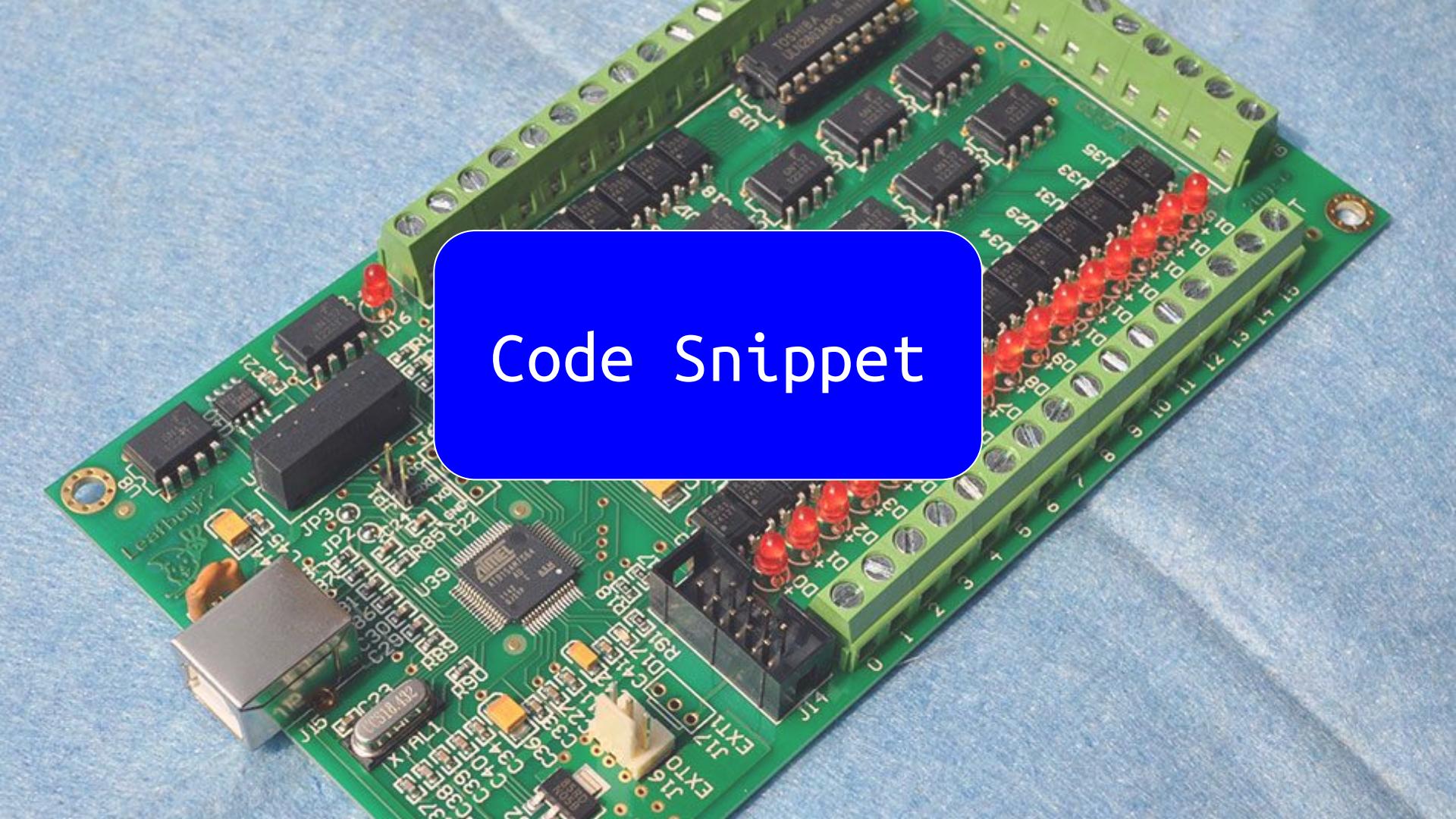
M2C_5FL.xmld

File Edit View Help

Name	Value	ValueDescription	Type	TypeDescription	Unit	ID	Head
L_TYPE	1 99	1 TO 99	I	TYPE #	N	200	Head_10
L_TOOL	1 20	1 TO 20	I	TOOL #	N	201	Head_10
L_THICKNESS	P	P	S	MATERIAL THICK...	S	202	Head_10
L_VPOWER	0 100	0 TO 100	I	Laser Power when...	N	1051	Head_10
L_USE_POWER_RA...	0 1	0=Off, 1=On	H	Laser Power Ram...	N	1091	Head_10
L_VSPEED	1 2000	1 TO 2000	F	Cut Feedrate in in...	F	1050	Head_10
L_VACCEL_MODE	1 3	1=Slow, 2=Mediu...	E	User Acceleration ...	N	1062	Head_10
L_FOCUS_OFFSET	-10.0 20.0	-10.0 TO 0.2	F	Focus Offset	D	1059	Head_10
L_CUT_HEIGHT	0 0.5	0 TO 0.5	H	Nozzle Gap	D	1058	Head_10
L_ENABLE_PIERCE	0 1	0=No, 1=Yes	E	Enable Pierce	N	1078	Head_10
L_PCE_PDURATION	0 5000	0 TO 5000	I	Pierce time in mill...	N	1073	Head_10
L_PCE_POWER	0 100	0 TO 100	I	Laser Power when...	N	1070	Head_10
L_PCE_HEIGHT	-0.30 0.30	0.0 TO 0.5	H	Distance from ma...	D	1074	Head_10
L_USE_PIERCE_PRE...	0 1	0=No, 1=Yes	H	Use Pierce Pressure	N	1079	Head_10
L_PGAS_PRESSURE	10 260	10 TO 260	I	Pierce Gas Pressur...	N	1075	Head_10
L_NOZZLE_TYPE	0 99	0 TO 99	I	Nozzle Type. The ...	N	1092	Head_10
L_CGAS_PRESSURE	0 260	10 TO 260	I	Cut Gas Pressure (...	N	1056	Head_10
L_CGAS_TYPE	0 1	0=Nitrogen, 1=Ox...	H	Gas Type 0=Nitro...	N	1063	Head_10
L_VFREQUENCY	1000 16000	1000 TO 16000	H	Cut Frequency in ...	N	1053	Head_10
L_DRILL_FREQUEN...	1000 16000	1000 TO 16000	H	Drill Frequency in ...	N	1093	Head_10
L_USE_CHS	0 1	0=No, 1=Yes	H	Metal Option 0=...	N	1090	Head_10
L_ROTARY_DIA	0 6	0 TO 6	F	Rotary Diameter	N	1094	Head_10
L_PAUSE_FLAG	0 1	0=No, 1=Yes	E	Pause Flag 0=Off ...	N	1095	Head_10
L_FOCUS_LENS	0 1	0=2.5, 1=5.0	E	Focus Lens 0=2.5...	N	1096	Head_10

Ready

Modifying XMD files



Code Snippet

XMD Files (i.e. Materials Library, Processes Info)

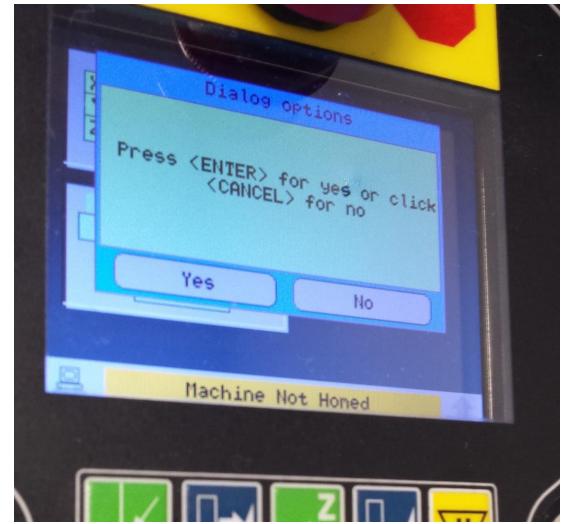
```

<ETCXML version="2" SavedBy="C:\\Program Files (x86)\\Coreo Suite for ExtraTech\\ETCXMLUI.exe" Time="7/12/2017 11:34:51" NodeCount="265" />
<ETC_Document Name="MaterialLibrary" g_ZAlias="Cut Through=100%" g_ScribeFeed="-1" g_KnifePref="0" g_JC_Toolpath_CAD_Files="0">
  <MaterialGroup Name="Acrylic (air-fast)">
    <Material Name="0.125 (1/8) in" g_Thickness="0.125" g_Fudge="0" g_Flags="0" g_MaterialCutOut="0" g_TrackRemnant="0" g_RemnantX="0" g_RemnantY="0" g_RemnantCutTool="" g_DisableNest="0" g_MovePartsToOrigin="0" g_RandomNest="1"
      g_GroupNest="0" g_ArrayNest="0" g_ChainCut="0" g_CanMoveStartPoint="0" g_CommonLineCut="0" g_CmnLinePairOnly="0" g_NestToDefaultSheet="1" g_Clearance="0" g_RotationStep="180" g_CanFlip="0" g_MaxTilt="0" g_NestResolution="0.44"
      g_XSpanPenalty="400" g_YSpanPenalty="100" g_AutoNestFillDirection="1" g_DegradedAreaSeverity="0" g_SheetPriorityFactor="100" g_StartPointFactor="800" g_StartPointParam="0" g_ProcessOrder="0" g_PocketType="0" g_PocketOverlap="0"
      g_PocketConnectionLen="0" g_ThresholdArea="100" g_Tabs="0" g_TriangularTab="0" g_TabMaxDist="0" g_TabMinDist="0" g_TabCount="4" g_TabHeight="0.2" g_TabWidth="0.2" g_TabClearance="0" g_DoOnionSkin="0" g_OnionSkinThickness="0"
      g_OnInSkinOnlyOuter="0" g_OnInSkinOnlySmallParts="0" g_DrainZMin="0" g_DrainZMax="0" g_CmnLineMinLen="0" g_ChainMaxLen="0" g_ZAlias="">
      <Processes>
        <Head Name="Laser">
          <Process Name="Cut" g_ToolType="1052672" g_Flags="0" g_Diameter="0.01" g_Slot="61" g_Dwell="0" g_Power="0" g_IsMiscTool="0" g_Raster="0" g_LeadIn="0" g_LeadInParam="0.05" g_LeadInParam2="90"
            g_LeadOut="0" g_LeadOutParam="0.02" g_LeadOutParam2="90" g_XYFeedFullLoad="0" g_RollCorners="1" g_StartOnCorner="0" g_StartOnLongEdge="0" g_StartStraight="1" g_LeadOutOnlyOuter="0" g_StopShort="0" g_StopShortOnlyExterior="0"
            g_StopShortLen="0.02" g_TorchSuspend="0" g_TorchSuspendLen="0" MarkerGroup="" L_VPOWER="50" L_VSPEED="30" L_VACCEL_MODE="2" L_VFREQUENCY="8" L_VPOWER_MIN="10" L_CUT_HEIGHT=".020" L_FOCUS_LENS="1=5.0" L_FOCUS_OFFSET="0.000"
            L_LIFT_HEIGHT=".125" L_USE_CHS="0" L_USE_POWER_RAMPING="0" L_CGAS_TYPE="0" L_CGAS_DELAY="15" L_ENABLE_PIERCE="0" L_PCE_POWER="0" L_PCE_FREQ="5" L_PCE_PDURATION="0" L_PCE_HEIGHT="0.000" L_PGAS_DELAY="0"
            L_PGAS_PRESSURE="0" L_ROTARY_DIA="6.0" L_PAUSE_FLAG="0" L_DRILL_FREQUENCY="8" L_NOZZLE_TYPE="6" g_ToolNumber="61" e_PDTime="0" e_PUTime="0" e_CostPerPDI="0" e_CostPerMinute="0" />
          <Process Name="Vision" g_ToolType="5246976" g_Flags="0" g_Diameter="0" g_Slot="99" g_Dwell="0" g_Power="0" g_IsMiscTool="1" g_IsMarker="0" g_Raster="0" g_LeadIn="0" g_LeadInParam="0" g_LeadInParam2="0"
            g_LeadOut="0" g_LeadOutParam="0" g_LeadOutParam2="0" g_XYFeedFullLoad="0" g_RollCorners="0" g_StartOnCorner="0" g_StartOnLongEdge="0" g_StartStraight="0" g_LeadOutOnlyOuter="0" g_StopShort="0" g_StopShortOnlyExterior="0"
            g_StopShortLen="0" g_TorchSuspend="0" g_TorchSuspendLen="0" MarkerGroup="" />
        </Head>
      </Processes>
    </Material>
  </MaterialGroup>
  <Attrib_Value_Ranges>
    <Attrib_Value_Range Name="g_Diameter" Value="0|0.05" ValueDescription="0 TO 0.05" Type="F" TypeDescription="*Laser Spot Size" Unit="F" ID="601" Head="Head_10" Details="Spot size of laser." Category="CAD Toolpath" />
    <Attrib_Value_Range Name="g_ToolNumber" Values="61|62" ValueDescription="61=vector, 62=raster" Type="I" TypeDescription="Tool Number" Unit="N" ID="600" Head="Head_10" Details="" Category="" />
    <Attrib_Value_Range Name="g_LeadInParam" Value="0|0.5" ValueDescription="0 TO 0.5" Type="F" TypeDescription="*Lead In Length" Unit="F" ID="602" Head="Head_10" Details="Straight line lead in length." Category="CAD Toolpath" />
    <Attrib_Value_Range Name="L_BRIGHTNESS" Values="0|100" ValueDescription="0 TO 100" Type="I" TypeDescription="Brightness" Unit="N" ID="1084" Head="Head_10" Details="Adjust raster brightness." Category="[" Raster Parameters ]" />
    <Attrib_Value_Range Name="L_CGAS_DELAY" Value="0|260" ValueDescription="0 TO 260 (msec)" Type="I" TypeDescription="Cut Gas On Delay" Unit="N" ID="1057" Head="Head_10" Details="Time to wait after turning on the cut gas." Category="[" Cut Gas Parameters ]" />
    <AttribMap Name="Job-Tool -- Process" CAD_Attrib="9" CAM_Attrib="102">
      <Values>
        <Map CAD_Value="1" CAM_Value="Engrave" />
        <Map CAD_Value="2" CAM_Value="Engrave" />
      </Values>
    </AttribMap>
  </AttribMaps>
  <ToolMaps />
  </Configuration>
</Configurations>
</ETC_Document>

```

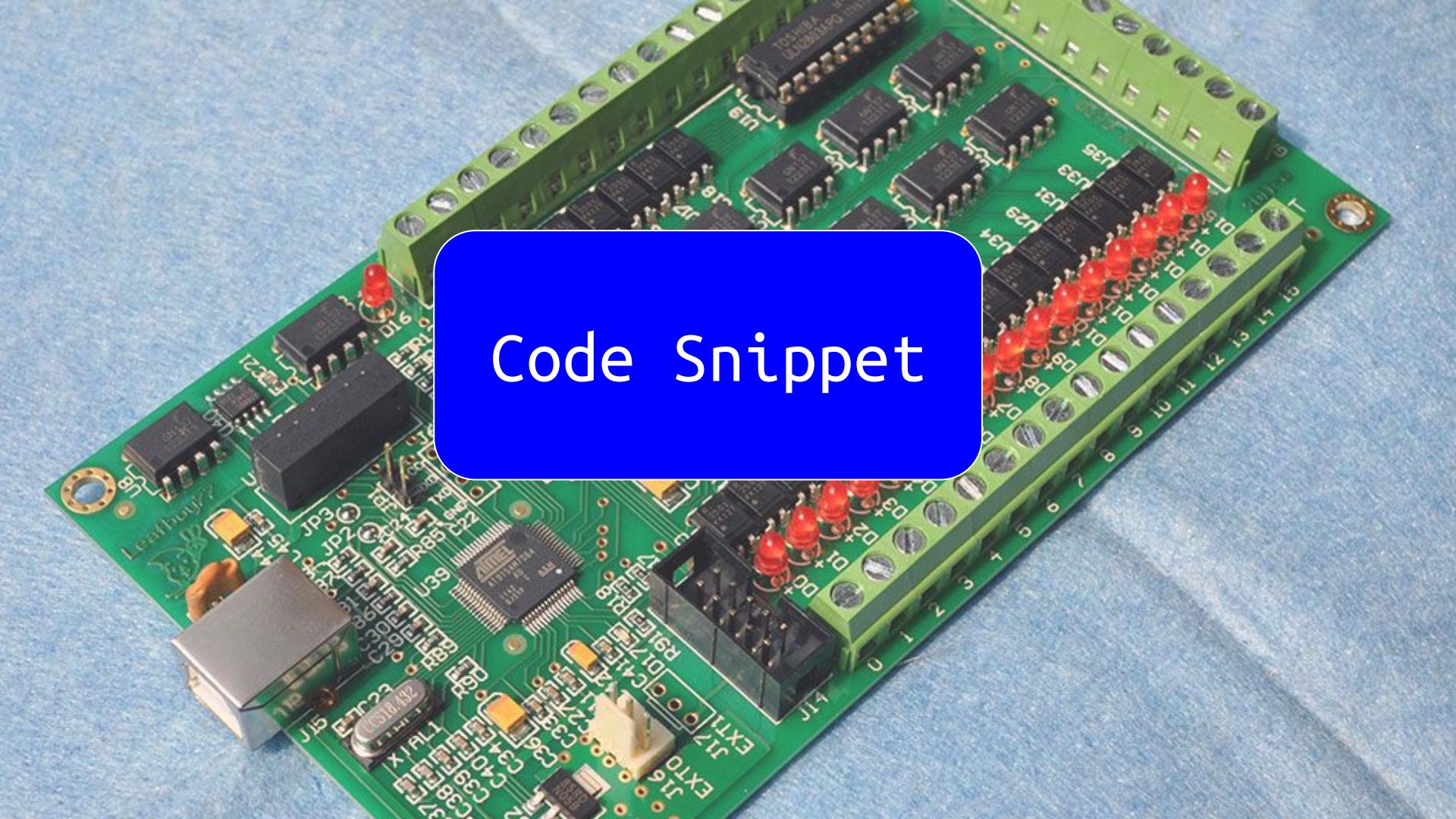
Keypad Controller UI

(my own)





Keypad UI
(for Cincinnati's
Predator Controller)



Code Snippet

Keypad UI

µCito (Keypad Controller UI)

```
: turtle_up
" 170 170 glcd_text
" 170 167 glcd_text
" 170 164 glcd_text
" 170 152 glcd_text
" 170 112 glcd_text
" .\_\_/\_.|^\_} " 170 124 glcd_text
" \_\_<\_>_ ] " 170 136 glcd_text
" /_\ \_\ " 170 148 glcd_text
;
:turtle_down
" 170 166 glcd_text
" 170 112 glcd_text
" 170 116 glcd_text
" 170 128 glcd_text
" .\_\_/\_.|^\_} " 170 140 glcd_text
" |_\_<\_>_ ] " 170 152 glcd_text
" \_\_\ /_\ " 170 164 glcd_text
;
:turtle_jump
cTEAL cWHITE glcd_text_colors
" 165 90 140 90 222 sunkin_cbox_add drop
270 9 -3 step
  turtle_down i msd
  turtle_up i 10 - msd
endstep
" 170 166 glcd_text
" 170 112 glcd_text
" 170 116 glcd_text
" 170 128 glcd_text
" .\_\_/\_.|^\_} " 170 140 glcd_text
" \_\_\ /_\ ;-] " 170 152 glcd_text
" /_\<\_>_\ " 170 164 glcd_text
;
:: baseScreen
  set_small_text

  cBannerBG dup dup cBannerFG >TextWindowColors
  170 50 140 133 0 add_TextWindow kdm_config

  cBannerBG glcd_fg cBannerSF glcd_bg
  10 100 150 80 101 sunkin_cbox_add drop
  10 100 150 80 102 sunkin_cbox_add drop
  " 10 10 150 200 glcd_box
  " 105 20 110 80 glcd_line

  107 20 47 60 103 sunkin_cbox_add drop

  set_small_gtext
  cBannerSF cBannerBG glcd_text_colors
  23 25 1 xpos_widget drop
  " X:" 27 27 glcd_text
  23 40 1 ypos_widget drop
  " Y:" 27 42 glcd_text
  CORE.NUM_Z_AXES if
    23 55 1 zpos_widget drop
    " Z:" 27 57 glcd_text
  endif
  cTRANSPARENT cTEAL glcd_text_colors
  " 60 18 >widget_size
  " JOG: " 25 107 glcd_text
  20 120 1 jspd_widget drop
  [<index#>] <><> <mode=1> jspd_widget
  " TOOL: " 110 107 glcd_text
  90 120 1 tool_widget drop
  " HOME: " 25 142 glcd_text
  20 155 1 home_widget drop
  " DRIVE: " 100 142 glcd_text
  90 155 1 dena_widget drop
;

: dialog_with_btns
  " " Yes " " No " " Press <ENTER> for yes or click <CANCEL> for no" " Dialog options" dlg_2button
loop
  kdm_getkey
  dup 12 = if drop " You selected YES" " GO" dlg_textbox 800 msd DestroyDialog break endif
  dup 13 = if drop " You selected NO" " CANCEL" dlg_textbox 800 msd DestroyDialog break endif
  drop
repeat
DestroyDialog
reset_kdm
;

:bannerScreenModule
baseScreen
[ ?PLASMA ] #ifdef
  " 100 176 1 third_widget
  187 29 1 widget
  " PLA: " 110 34 glcd_text
  110 47 1 plasmaEna_widget
  cBannerSF cBannerSF cBannerSF cRED
  0xF000 glcd_control_colors drop
  cTRANSPARENT cWHITE glcd_text_colors
  " Cristal's " 205 17 glcd_text
  " 202 172 1 test_widget
  cBannerSF cBannerSF cBannerSF cRED
  0xF000 glcd_control_colors drop
  create_widgets_module
#endif
ifeffects bannerScreen_module bannerScreen_module
;

" bannerScreenModule == bannerScreenModule_ptr
```

```
Terminal (RPC353 (28529)) Online
Loading RPD68 Support
Loading Z-Tracking Module Version 2046501.0.2 Location 71
Found File Param for ztrack Table

flparam.ztrack.ucp is loaded

Loading Plasma Module Version 2046801.4.0 Location 11
Warning: Incompatible version of Module 11
Found File Param for plasma Table

flparam.plasma.ucp is loaded

Found File Param for plasma_config Table

flparam.plasma_config.ucp is loaded

Found File Param for oxy_config Table

flparam.oxy_config.ucp is loaded

Found File Param for scribe_config Table

flparam.scribe_config.ucp is loaded

Found File Param for pen_config Table

flparam.pen_config.ucp is loaded

Found File Param for plasma_proc Table

flparam.plasma_proc.ucp is loaded

Found File Param for plasmal_config Table

flparam.plasmal_config.ucp is loaded

Loading EZ-Cut UI Module Version 2046501.0.0 Location 2
Error 16: Not in compile mode for ;.

Loading User Module Version 2046501.0.0 Location 21Done Loading User Module
Init file loaded.

>
>
Setup Hardware...

Powering up web
Setup Configuration...
WARNING: ETCX DEBUG TURNED ON

...Plasma setup configuration
Found File Param for plasmal Table

flparam.plasmal.ucp is loaded

Found File Param for tool_71 Table

flparam.tool_71.ucp is loaded
LaserInit2 mpgd->LAS_PRDAXIS = 7

init_z_tracking
Machine Startup...
Limit(s) active on boot!

Machine Ready.
{6}A1{6}DPRINT = 14, ridir=11
turtle_jump key_func13 "" Done." ksm_dsp_line
```

```
Terminal (RPC353 (28529); port 43) Online
flparam.scribe_config.ucp is loaded

Found File Param for pen_config Table

flparam.pen_config.ucp is loaded

Found File Param for plasma_proc Table

flparam.plasma_proc.ucp is loaded

Found File Param for plasmal_config Table

flparam.plasmal_config.ucp is loaded

Loading EZ-Cut UI Module Version 2046501.0.0 Location 2
Error 16: Not in compile mode for ;.

Loading User Module Version 2046501.0.0 Location 21Done Loading User Module
Init file loaded.

>
>
Setup Hardware...

Powering up web
Setup Configuration...
WARNING: ETCX DEBUG TURNED ON

...Plasma setup configuration
Found File Param for plasmal Table

flparam.plasmal.ucp is loaded

Found File Param for tool_71 Table

flparam.tool_71.ucp is loaded
LaserInit2 mpgd->LAS_PRDAXIS = 7

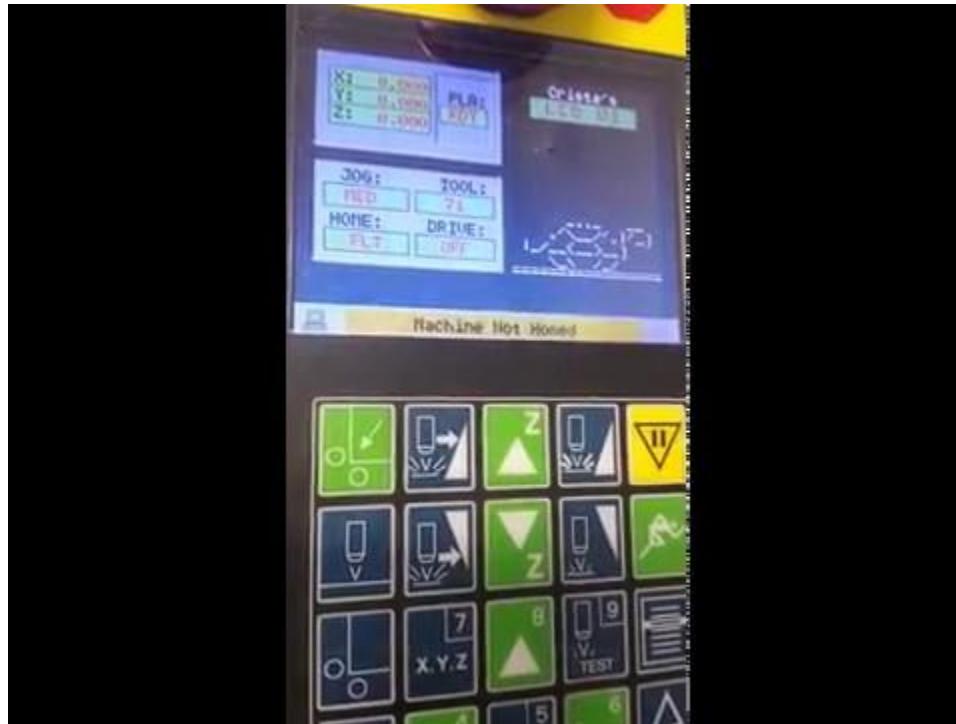
init_z_tracking
Machine Startup...
Limit(s) active on boot!

Machine Ready.
{6}A1{6}DPRINT = 14, ridir=11
turtle_jump key_func13 "" Done." ksm_dsp_line
```

```
Terminal (RPC353 (28529); port 33) Online
>
>
```

Motion Mechanic (command line)

Keypad UI



Keypad UI

µCito (Keypad Controller UI Cont.)

```
: america
    cWHITE cLGRAY cGRAY cWHITE set_sunkin_effect_colors
    0 30 320 35 3 sunkin_cbox_add drop
    0 60 320 35 3 sunkin_cbox_add drop
    0 120 320 35 3 sunkin_cbox_add drop
    0 180 320 35 3 sunkin_cbox_add drop
    0 240 320 30 3 sunkin_cbox_add drop

    cRED cLRED cMAROON cRED set_sunkin_effect_colors
    0 0 320 35 5 sunkin_cbox_add drop
    0 90 320 35 5 sunkin_cbox_add drop
    0 150 320 35 5 sunkin_cbox_add drop
    0 210 320 30 5 sunkin_cbox_add drop

    cBLUE cLBLUE cTEAL cBLUE set_sunkin_effect_colors
    0 0 180 120 4 sunkin_cbox_add drop

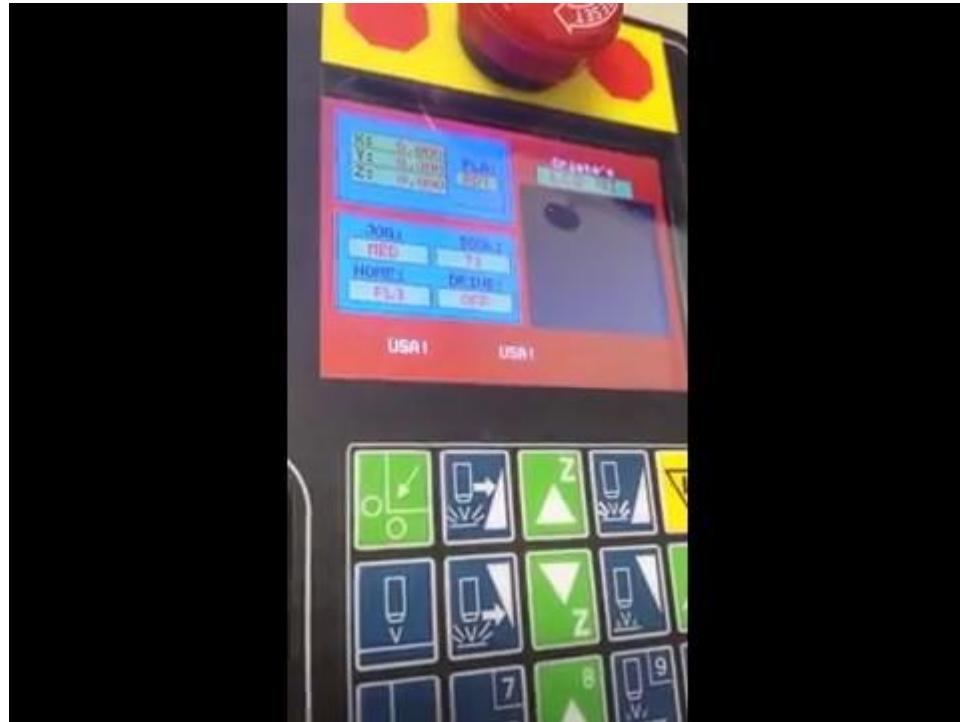
    1000 msd

    cRED glcd_clear_display 10 msd

    baseScreen bannerScreenModule

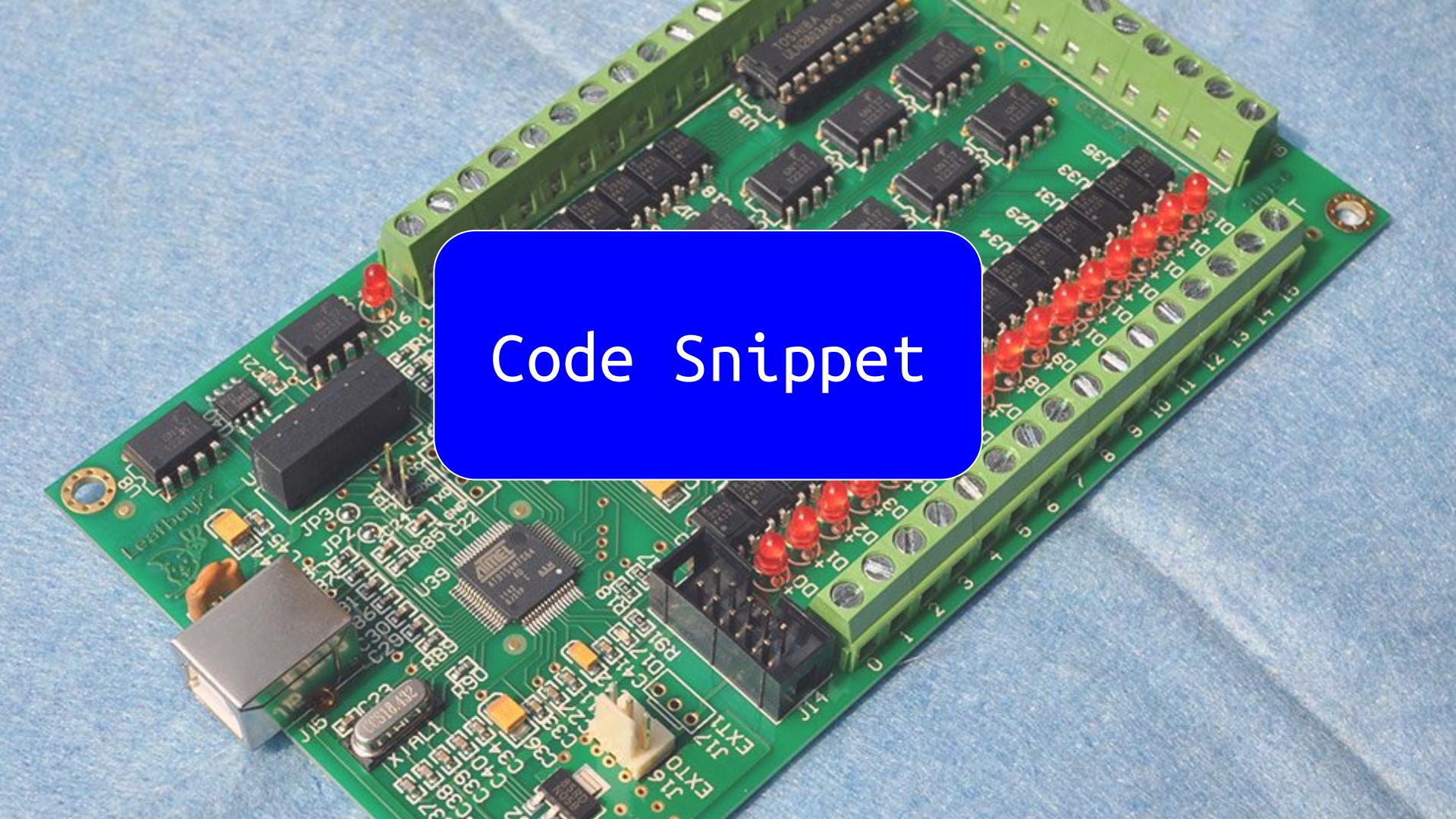
    "" USA! " 50 200 glcd_text 1000 msd
    "" USA! " 140 200 glcd_text 1000 msd
    "" USA! " 230 200 glcd_text
;

;
```



uCito Job Commands





Code Snippet

μ Cito (Machine Movement)

```
: line
    start_motion 5. 5. 0. 0. 0. 0. 0. umaline fp
end_motion | Absolute positioning
;

: line_back
    start_motion get_soft_home? umaline fp end_motion
| Relative coordinates
;

: three_dim_arc
    start_motion 5. 5. laxisz get_pos? 3. 30. 150. 10.
180. arc3 fp end_motion
;

: go_home
    start_motion 0. 0. 0. 0. 0. 0. 0. umaline fp
end_motion
;

: bezier_curve
    start_motion
        laxisx get_pos? laxisy get_pos?
        fover fover 0. 5. 10. 0. 6 fpluck 6 fpluck bz2 fp
end_motion
;

: arc_helix
    start_motion
        2. 2. -0.2 1. 20. 240. 2 -0.2 ahelic
    fp end_motion
;
```

```
: move_axes_individually
    laxisx get_pos? ivar start_x
    laxisy get_pos? ivar start_y
    laxisz get_pos? ivar start_z

    start_motion
        5. 0 axis_umaline 1000 delay start_x 0 axis_umaline
        5. 1 axis_umaline 1000 delay start_y 1 axis_umaline
        .5 2 axis_umaline 1000 delay start_z 2 axis_umaline
    fp
    end_motion
;

: two_dim_arc
    start_motion 8. 8. laxisz get_pos? 2. 0. 120. 0. 0. arc3 fp end_motion
;

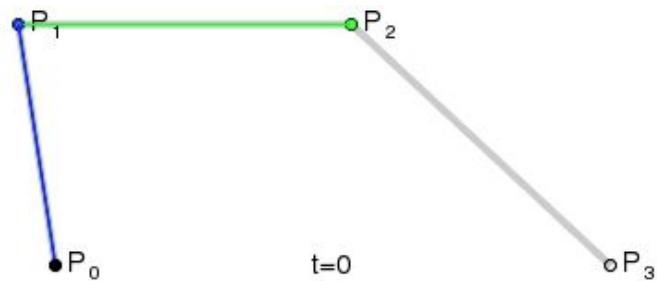
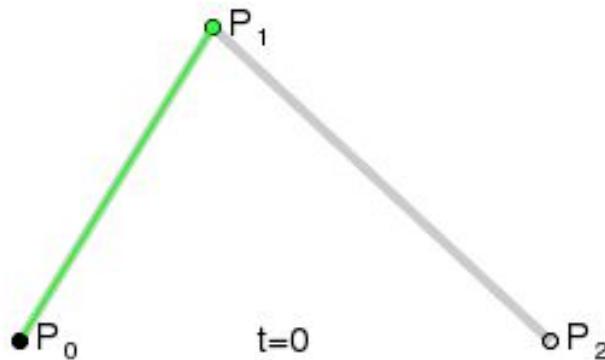
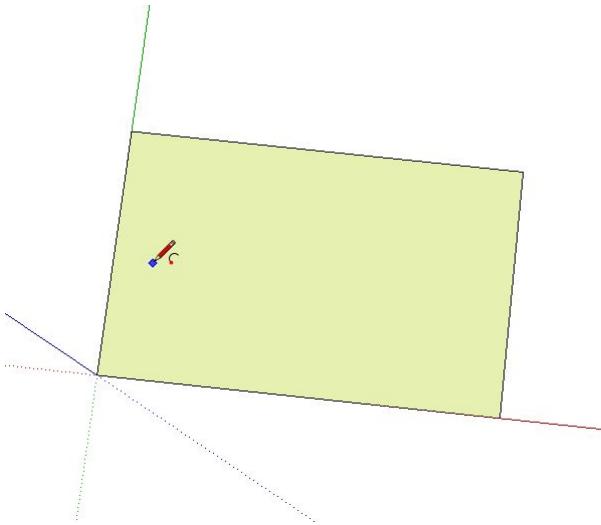
: frog_slew_curve
    start_motion
        get_soft_home? umaline fp
        0.2 set_frogslew_factor
        3. 4. laxisz get_coord? frog_slew
        500 delay

        0.1 set_frogslew_factor
        5. 6. laxisz get_coord? frog_slew
        500 delay

        0.5 set_frogslew_factor
        0. 0. laxisz get_coord? frog_slew
    fp
    end_motion
;
```

Buffered Commands

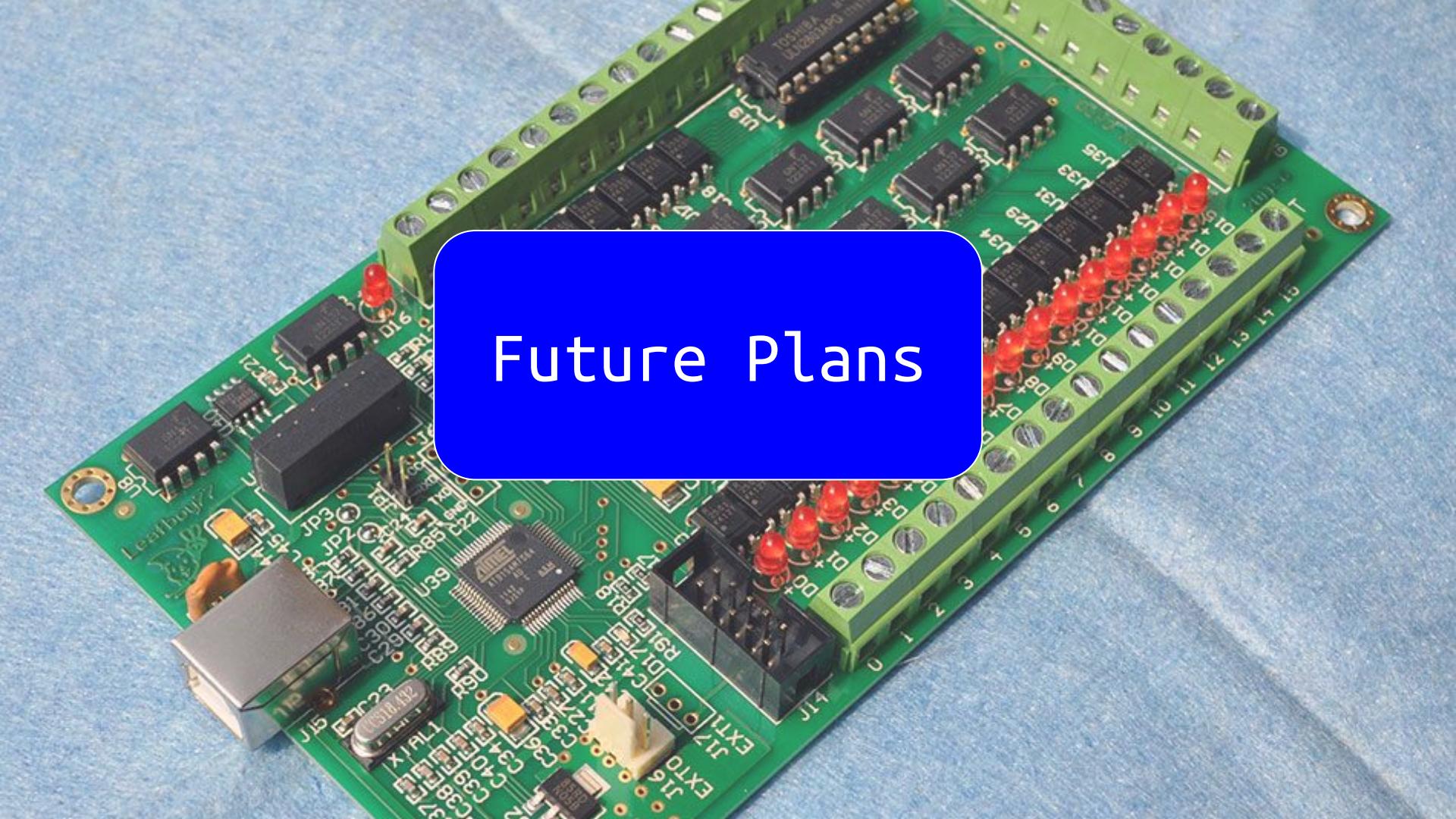
Job Commands



Bezier Curves

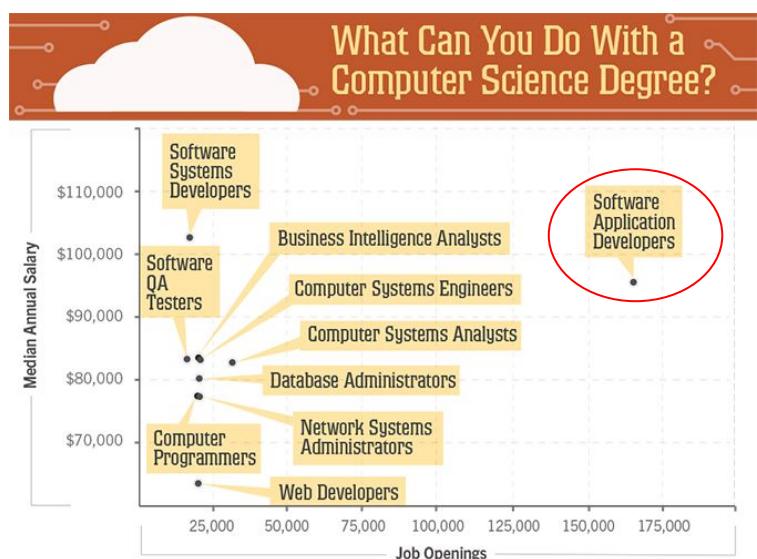
`<x start> <y start> <x c1> <y c1> <x c2> <y c2> <x stop> <y stop> BZ2`

`<x start> <y start> <z start> <x c1> <y c1> <z c1> <x c2> <y c2> <z c2> <x stop> <y stop> <z stop> BZ3`



Future Plans

- Education:
 - Massachusetts Institute of Technology
 - Stanford University
 - Carnegie Mellon University
 - UCLA
- Major:
 - B.S. in Computer Science
 - Potentially dual-major in another physical science (e.g. chemistry, physics)
- Career:
 - Software Engineering

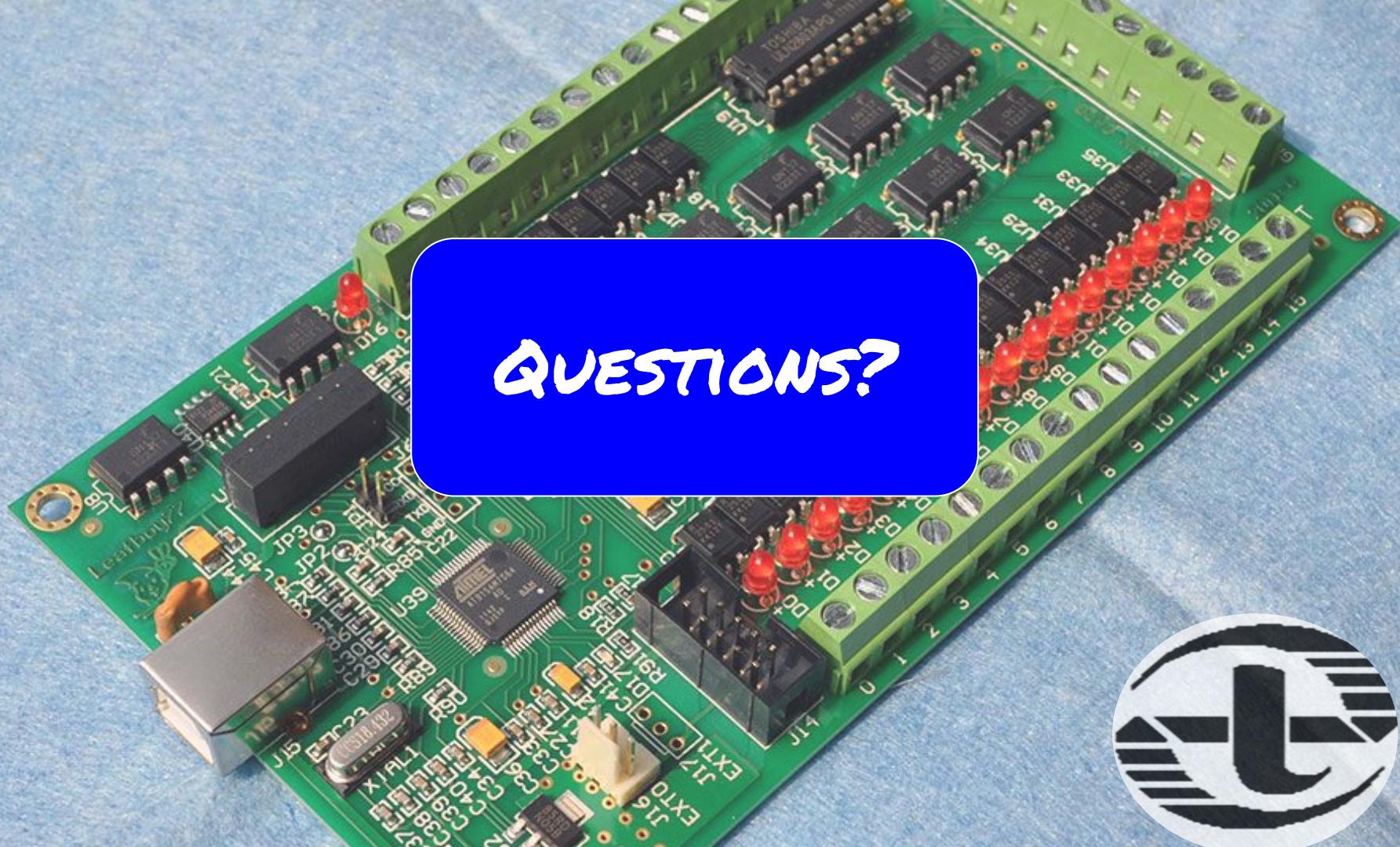


Sources: Burning-Glass.com (analysis of 561,194 computer science degree job postings, Jul. 01, 2014 - Jun. 30, 2015)
U.S. Department of Labor (onetonline.com)

```

1 <?php header('Content-Type: text/html; charset=UTF-8'); ?>
2 <?php session_start(); ?>
3 <?php
4     $host = 'localhost';
5     $username = 'root';
6     $password = '';
7     $database = 'test';
8
9     $conn = mysqli_connect($host, $username, $password, $database);
10    if (!$conn) {
11        die("Connection failed: " . mysqli_connect_error());
12    }
13
14    // Set character encoding to UTF-8
15    mysqli_set_charset($conn, "utf8");
16
17    // Create a new user
18    $sql = "CREATE USER 'newuser'@'%' IDENTIFIED BY 'password'";
19    if (!mysqli_query($conn, $sql)) {
20        die("Error creating user: " . mysqli_error($conn));
21    }
22
23    // Grant all privileges to the new user
24    $sql = "GRANT ALL PRIVILEGES ON test.* TO 'newuser'@'%'";
25    if (!mysqli_query($conn, $sql)) {
26        die("Error granting privileges: " . mysqli_error($conn));
27    }
28
29    // Flush privileges
30    $sql = "FLUSH PRIVILEGES";
31    if (!mysqli_query($conn, $sql)) {
32        die("Error flushing privileges: " . mysqli_error($conn));
33    }
34
35    echo "User created successfully!";
36
37    mysqli_close($conn);
38
39    exit();
40
41    // Test connection
42    $conn = mysqli_connect($host, $username, $password, $database);
43    if ($conn) {
44        echo "Connected successfully!";
45    } else {
46        die("Connection failed: " . mysqli_error($conn));
47    }
48
49    // Insert data
50    $sql = "INSERT INTO users (name, email, password) VALUES ('John Doe', 'john.doe@example.com', '$2y$10$...')";
51    if (!mysqli_query($conn, $sql)) {
52        die("Error inserting data: " . mysqli_error($conn));
53    }
54
55    // Select data
56    $sql = "SELECT * FROM users";
57    $result = mysqli_query($conn, $sql);
58    if ($result) {
59        while ($row = mysqli_fetch_assoc($result)) {
60            echo "Name: " . $row['name'] . ", Email: " . $row['email'];
61        }
62    } else {
63        die("Error selecting data: " . mysqli_error($conn));
64    }
65
66    // Update data
67    $sql = "UPDATE users SET name='Jane Doe' WHERE id=1";
68    if (!mysqli_query($conn, $sql)) {
69        die("Error updating data: " . mysqli_error($conn));
70    }
71
72    // Delete data
73    $sql = "DELETE FROM users WHERE id=1";
74    if (!mysqli_query($conn, $sql)) {
75        die("Error deleting data: " . mysqli_error($conn));
76    }
77
78    // Close connection
79    mysqli_close($conn);
80
81    exit();
82
83    // Test connection again
84    $conn = mysqli_connect($host, $username, $password, $database);
85    if ($conn) {
86        echo "Connected successfully!";
87    } else {
88        die("Connection failed: " . mysqli_error($conn));
89    }
90
91    // Insert data again
92    $sql = "INSERT INTO users (name, email, password) VALUES ('Jane Doe', 'jane.doe@example.com', '$2y$10$...')";
93    if (!mysqli_query($conn, $sql)) {
94        die("Error inserting data: " . mysqli_error($conn));
95    }
96
97    // Select data again
98    $sql = "SELECT * FROM users";
99    $result = mysqli_query($conn, $sql);
100   if ($result) {
101       while ($row = mysqli_fetch_assoc($result)) {
102           echo "Name: " . $row['name'] . ", Email: " . $row['email'];
103       }
104   } else {
105       die("Error selecting data: " . mysqli_error($conn));
106   }
107
108   // Update data again
109   $sql = "UPDATE users SET name='John Doe' WHERE id=2";
110   if (!mysqli_query($conn, $sql)) {
111       die("Error updating data: " . mysqli_error($conn));
112   }
113
114   // Delete data again
115   $sql = "DELETE FROM users WHERE id=2";
116   if (!mysqli_query($conn, $sql)) {
117       die("Error deleting data: " . mysqli_error($conn));
118   }
119
120   // Close connection again
121   mysqli_close($conn);
122
123   exit();
124
125   // Test connection again
126   $conn = mysqli_connect($host, $username, $password, $database);
127   if ($conn) {
128       echo "Connected successfully!";
129   } else {
130       die("Connection failed: " . mysqli_error($conn));
131   }
132
133   // Insert data again
134   $sql = "INSERT INTO users (name, email, password) VALUES ('Jane Doe', 'jane.doe@example.com', '$2y$10$...')";
135   if (!mysqli_query($conn, $sql)) {
136       die("Error inserting data: " . mysqli_error($conn));
137   }
138
139   // Select data again
140   $sql = "SELECT * FROM users";
141   $result = mysqli_query($conn, $sql);
142   if ($result) {
143       while ($row = mysqli_fetch_assoc($result)) {
144           echo "Name: " . $row['name'] . ", Email: " . $row['email'];
145       }
146   } else {
147       die("Error selecting data: " . mysqli_error($conn));
148   }
149
150   // Update data again
151   $sql = "UPDATE users SET name='John Doe' WHERE id=3";
152   if (!mysqli_query($conn, $sql)) {
153       die("Error updating data: " . mysqli_error($conn));
154   }
155
156   // Delete data again
157   $sql = "DELETE FROM users WHERE id=3";
158   if (!mysqli_query($conn, $sql)) {
159       die("Error deleting data: " . mysqli_error($conn));
160   }
161
162   // Close connection again
163   mysqli_close($conn);
164
165   exit();
166
167   // Test connection again
168   $conn = mysqli_connect($host, $username, $password, $database);
169   if ($conn) {
170       echo "Connected successfully!";
171   } else {
172       die("Connection failed: " . mysqli_error($conn));
173   }
174
175   // Insert data again
176   $sql = "INSERT INTO users (name, email, password) VALUES ('Jane Doe', 'jane.doe@example.com', '$2y$10$...')";
177   if (!mysqli_query($conn, $sql)) {
178       die("Error inserting data: " . mysqli_error($conn));
179   }
180
181   // Select data again
182   $sql = "SELECT * FROM users";
183   $result = mysqli_query($conn, $sql);
184   if ($result) {
185       while ($row = mysqli_fetch_assoc($result)) {
186           echo "Name: " . $row['name'] . ", Email: " . $row['email'];
187       }
188   } else {
189       die("Error selecting data: " . mysqli_error($conn));
190   }
191
192   // Update data again
193   $sql = "UPDATE users SET name='John Doe' WHERE id=4";
194   if (!mysqli_query($conn, $sql)) {
195       die("Error updating data: " . mysqli_error($conn));
196   }
197
198   // Delete data again
199   $sql = "DELETE FROM users WHERE id=4";
200   if (!mysqli_query($conn, $sql)) {
201       die("Error deleting data: " . mysqli_error($conn));
202   }
203
204   // Close connection again
205   mysqli_close($conn);
206
207   exit();
208
209   // Test connection again
210   $conn = mysqli_connect($host, $username, $password, $database);
211   if ($conn) {
212       echo "Connected successfully!";
213   } else {
214       die("Connection failed: " . mysqli_error($conn));
215   }
216
217   // Insert data again
218   $sql = "INSERT INTO users (name, email, password) VALUES ('Jane Doe', 'jane.doe@example.com', '$2y$10$...')";
219   if (!mysqli_query($conn, $sql)) {
220       die("Error inserting data: " . mysqli_error($conn));
221   }
222
223   // Select data again
224   $sql = "SELECT * FROM users";
225   $result = mysqli_query($conn, $sql);
226   if ($result) {
227       while ($row = mysqli_fetch_assoc($result)) {
228           echo "Name: " . $row['name'] . ", Email: " . $row['email'];
229       }
230   } else {
231       die("Error selecting data: " . mysqli_error($conn));
232   }
233
234   // Update data again
235   $sql = "UPDATE users SET name='John Doe' WHERE id=5";
236   if (!mysqli_query($conn, $sql)) {
237       die("Error updating data: " . mysqli_error($conn));
238   }
239
240   // Delete data again
241   $sql = "DELETE FROM users WHERE id=5";
242   if (!mysqli_query($conn, $sql)) {
243       die("Error deleting data: " . mysqli_error($conn));
244   }
245
246   // Close connection again
247   mysqli_close($conn);
248
249   exit();
250
251   // Test connection again
252   $conn = mysqli_connect($host, $username, $password, $database);
253   if ($conn) {
254       echo "Connected successfully!";
255   } else {
256       die("Connection failed: " . mysqli_error($conn));
257   }
258
259   // Insert data again
260   $sql = "INSERT INTO users (name, email, password) VALUES ('Jane Doe', 'jane.doe@example.com', '$2y$10$...')";
261   if (!mysqli_query($conn, $sql)) {
262       die("Error inserting data: " . mysqli_error($conn));
263   }
264
265   // Select data again
266   $sql = "SELECT * FROM users";
267   $result = mysqli_query($conn, $sql);
268   if ($result) {
269       while ($row = mysqli_fetch_assoc($result)) {
270           echo "Name: " . $row['name'] . ", Email: " . $row['email'];
271       }
272   } else {
273       die("Error selecting data: " . mysqli_error($conn));
274   }
275
276   // Update data again
277   $sql = "UPDATE users SET name='John Doe' WHERE id=6";
278   if (!mysqli_query($conn, $sql)) {
279       die("Error updating data: " . mysqli_error($conn));
280   }
281
282   // Delete data again
283   $sql = "DELETE FROM users WHERE id=6";
284   if (!mysqli_query($conn, $sql)) {
285       die("Error deleting data: " . mysqli_error($conn));
286   }
287
288   // Close connection again
289   mysqli_close($conn);
290
291   exit();
292
293   // Test connection again
294   $conn = mysqli_connect($host, $username, $password, $database);
295   if ($conn) {
296       echo "Connected successfully!";
297   } else {
298       die("Connection failed: " . mysqli_error($conn));
299   }
300
301   // Insert data again
302   $sql = "INSERT INTO users (name, email, password) VALUES ('Jane Doe', 'jane.doe@example.com', '$2y$10$...')";
303   if (!mysqli_query($conn, $sql)) {
304       die("Error inserting data: " . mysqli_error($conn));
305   }
306
307   // Select data again
308   $sql = "SELECT * FROM users";
309   $result = mysqli_query($conn, $sql);
310   if ($result) {
311       while ($row = mysqli_fetch_assoc($result)) {
312           echo "Name: " . $row['name'] . ", Email: " . $row['email'];
313       }
314   } else {
315       die("Error selecting data: " . mysqli_error($conn));
316   }
317
318   // Update data again
319   $sql = "UPDATE users SET name='John Doe' WHERE id=7";
320   if (!mysqli_query($conn, $sql)) {
321       die("Error updating data: " . mysqli_error($conn));
322   }
323
324   // Delete data again
325   $sql = "DELETE FROM users WHERE id=7";
326   if (!mysqli_query($conn, $sql)) {
327       die("Error deleting data: " . mysqli_error($conn));
328   }
329
330   // Close connection again
331   mysqli_close($conn);
332
333   exit();
334
335   // Test connection again
336   $conn = mysqli_connect($host, $username, $password, $database);
337   if ($conn) {
338       echo "Connected successfully!";
339   } else {
340       die("Connection failed: " . mysqli_error($conn));
341   }
342
343   // Insert data again
344   $sql = "INSERT INTO users (name, email, password) VALUES ('Jane Doe', 'jane.doe@example.com', '$2y$10$...')";
345   if (!mysqli_query($conn, $sql)) {
346       die("Error inserting data: " . mysqli_error($conn));
347   }
348
349   // Select data again
350   $sql = "SELECT * FROM users";
351   $result = mysqli_query($conn, $sql);
352   if ($result) {
353       while ($row = mysqli_fetch_assoc($result)) {
354           echo "Name: " . $row['name'] . ", Email: " . $row['email'];
355       }
356   } else {
357       die("Error selecting data: " . mysqli_error($conn));
358   }
359
360   // Update data again
361   $sql = "UPDATE users SET name='John Doe' WHERE id=8";
362   if (!mysqli_query($conn, $sql)) {
363       die("Error updating data: " . mysqli_error($conn));
364   }
365
366   // Delete data again
367   $sql = "DELETE FROM users WHERE id=8";
368   if (!mysqli_query($conn, $sql)) {
369       die("Error deleting data: " . mysqli_error($conn));
370   }
371
372   // Close connection again
373   mysqli_close($conn);
374
375   exit();
376
377   // Test connection again
378   $conn = mysqli_connect($host, $username, $password, $database);
379   if ($conn) {
380       echo "Connected successfully!";
381   } else {
382       die("Connection failed: " . mysqli_error($conn));
383   }
384
385   // Insert data again
386   $sql = "INSERT INTO users (name, email, password) VALUES ('Jane Doe', 'jane.doe@example.com', '$2y$10$...')";
387   if (!mysqli_query($conn, $sql)) {
388       die("Error inserting data: " . mysqli_error($conn));
389   }
390
391   // Select data again
392   $sql = "SELECT * FROM users";
393   $result = mysqli_query($conn, $sql);
394   if ($result) {
395       while ($row = mysqli_fetch_assoc($result)) {
396           echo "Name: " . $row['name'] . ", Email: " . $row['email'];
397       }
398   } else {
399       die("Error selecting data: " . mysqli_error($conn));
400   }
401
402   // Update data again
403   $sql = "UPDATE users SET name='John Doe' WHERE id=9";
404   if (!mysqli_query($conn, $sql)) {
405       die("Error updating data: " . mysqli_error($conn));
406   }
407
408   // Delete data again
409   $sql = "DELETE FROM users WHERE id=9";
410   if (!mysqli_query($conn, $sql)) {
411       die("Error deleting data: " . mysqli_error($conn));
412   }
413
414   // Close connection again
415   mysqli_close($conn);
416
417   exit();
418
419   // Test connection again
420   $conn = mysqli_connect($host, $username, $password, $database);
421   if ($conn) {
422       echo "Connected successfully!";
423   } else {
424       die("Connection failed: " . mysqli_error($conn));
425   }
426
427   // Insert data again
428   $sql = "INSERT INTO users (name, email, password) VALUES ('Jane Doe', 'jane.doe@example.com', '$2y$10$...')";
429   if (!mysqli_query($conn, $sql)) {
430       die("Error inserting data: " . mysqli_error($conn));
431   }
432
433   // Select data again
434   $sql = "SELECT * FROM users";
435   $result = mysqli_query($conn, $sql);
436   if ($result) {
437       while ($row = mysqli_fetch_assoc($result)) {
438           echo "Name: " . $row['name'] . ", Email: " . $row['email'];
439       }
440   } else {
441       die("Error selecting data: " . mysqli_error($conn));
442   }
443
444   // Update data again
445   $sql = "UPDATE users SET name='John Doe' WHERE id=10";
446   if (!mysqli_query($conn, $sql)) {
447       die("Error updating data: " . mysqli_error($conn));
448   }
449
450   // Delete data again
451   $sql = "DELETE FROM users WHERE id=10";
452   if (!mysqli_query($conn, $sql)) {
453       die("Error deleting data: " . mysqli_error($conn));
454   }
455
456   // Close connection again
457   mysqli_close($conn);
458
459   exit();
460
461   // Test connection again
462   $conn = mysqli_connect($host, $username, $password, $database);
463   if ($conn) {
464       echo "Connected successfully!";
465   } else {
466       die("Connection failed: " . mysqli_error($conn));
467   }
468
469   // Insert data again
470   $sql = "INSERT INTO users (name, email, password) VALUES ('Jane Doe', 'jane.doe@example.com', '$2y$10$...')";
471   if (!mysqli_query($conn, $sql)) {
472       die("Error inserting data: " . mysqli_error($conn));
473   }
474
475   // Select data again
476   $sql = "SELECT * FROM users";
477   $result = mysqli_query($conn, $sql);
478   if ($result) {
479       while ($row = mysqli_fetch_assoc($result)) {
480           echo "Name: " . $row['name'] . ", Email: " . $row['email'];
481       }
482   } else {
483       die("Error selecting data: " . mysqli_error($conn));
484   }
485
486   // Update data again
487   $sql = "UPDATE users SET name='John Doe' WHERE id=11";
488   if (!mysqli_query($conn, $sql)) {
489       die("Error updating data: " . mysqli_error($conn));
490   }
491
492   // Delete data again
493   $sql = "DELETE FROM users WHERE id=11";
494   if (!mysqli_query($conn, $sql)) {
495       die("Error deleting data: " . mysqli_error($conn));
496   }
497
498   // Close connection again
499   mysqli_close($conn);
500
501   exit();
502
503   // Test connection again
504   $conn = mysqli_connect($host, $username, $password, $database);
505   if ($conn) {
506       echo "Connected successfully!";
507   } else {
508       die("Connection failed: " . mysqli_error($conn));
509   }
510
511   // Insert data again
512   $sql = "INSERT INTO users (name, email, password) VALUES ('Jane Doe', 'jane.doe@example.com', '$2y$10$...')";
513   if (!mysqli_query($conn, $sql)) {
514       die("Error inserting data: " . mysqli_error($conn));
515   }
516
517   // Select data again
518   $sql = "SELECT * FROM users";
519   $result = mysqli_query($conn, $sql);
520   if ($result) {
521       while ($row = mysqli_fetch_assoc($result)) {
522           echo "Name: " . $row['name'] . ", Email: " . $row['email'];
523       }
524   } else {
525       die("Error selecting data: " . mysqli_error($conn));
526   }
527
528   // Update data again
529   $sql = "UPDATE users SET name='John Doe' WHERE id=12";
530   if (!mysqli_query($conn, $sql)) {
531       die("Error updating data: " . mysqli_error($conn));
532   }
533
534   // Delete data again
535   $sql = "DELETE FROM users WHERE id=12";
536   if (!mysqli_query($conn, $sql)) {
537       die("Error deleting data: " . mysqli_error($conn));
538   }
539
540   // Close connection again
541   mysqli_close($conn);
542
543   exit();
544
545   // Test connection again
546   $conn = mysqli_connect($host, $username, $password, $database);
547   if ($conn) {
548       echo "Connected successfully!";
549   } else {
550       die("Connection failed: " . mysqli_error($conn));
551   }
552
553   // Insert data again
554   $sql = "INSERT INTO users (name, email, password) VALUES ('Jane Doe', 'jane.doe@example.com', '$2y$10$...')";
555   if (!mysqli_query($conn, $sql)) {
556       die("Error inserting data: " . mysqli_error($conn));
557   }
558
559   // Select data again
560   $sql = "SELECT * FROM users";
561   $result = mysqli_query($conn, $sql);
562   if ($result) {
563       while ($row = mysqli_fetch_assoc($result)) {
564           echo "Name: " . $row['name'] . ", Email: " . $row['email'];
565       }
566   } else {
567       die("Error selecting data: " . mysqli_error($conn));
568   }
569
570   // Update data again
571   $sql = "UPDATE users SET name='John Doe' WHERE id=13";
572   if (!mysqli_query($conn, $sql)) {
573       die("Error updating data: " . mysqli_error($conn));
574   }
575
576   // Delete data again
577   $sql = "DELETE FROM users WHERE id=13";
578   if (!mysqli_query($conn, $sql)) {
579       die("Error deleting data: " . mysqli_error($conn));
580   }
581
582   // Close connection again
583   mysqli_close($conn);
584
585   exit();
586
587   // Test connection again
588   $conn = mysqli_connect($host, $username, $password, $database);
589   if ($conn) {
590       echo "Connected successfully!";
591   } else {
592       die("Connection failed: " . mysqli_error($conn));
593   }
594
595   // Insert data again
596   $sql = "INSERT INTO users (name, email, password) VALUES ('Jane Doe', 'jane.doe@example.com', '$2y$10$...')";
597   if (!mysqli_query($conn, $sql)) {
598       die("Error inserting data: " . mysqli_error($conn));
599   }
600
601   // Select data again
602   $sql = "SELECT * FROM users";
603   $result = mysqli_query($conn, $sql);
604   if ($result) {
605       while ($row = mysqli_fetch_assoc($result)) {
606           echo "Name: " . $row['name'] . ", Email: " . $row['email'];
607       }
608   } else {
609       die("Error selecting data: " . mysqli_error($conn));
610   }
611
612   // Update data again
613   $sql = "UPDATE users SET name='John Doe' WHERE id=14";
614   if (!mysqli_query($conn, $sql)) {
615       die("Error updating data: " . mysqli_error($conn));
616   }
617
618   // Delete data again
619   $sql = "DELETE FROM users WHERE id=14";
620   if (!mysqli_query($conn, $sql)) {
621       die("Error deleting data: " . mysqli_error($conn));
622   }
623
624   // Close connection again
625   mysqli_close($conn);
626
627   exit();
628
629   // Test connection again
630   $conn = mysqli_connect($host, $username, $password, $database);
631   if ($conn) {
632       echo "Connected successfully!";
633   } else {
634       die("Connection failed: " . mysqli_error($conn));
635   }
636
637   // Insert data again
638   $sql = "INSERT INTO users (name, email, password) VALUES ('Jane Doe', 'jane.doe@example.com', '$2y$10$...')";
639   if (!mysqli_query($conn, $sql)) {
640       die("Error inserting data: " . mysqli_error($conn));
641   }
642
643   // Select data again
644   $sql = "SELECT * FROM users";
645   $result = mysqli_query($conn, $sql);
646   if ($result) {
647       while ($row = mysqli_fetch_assoc($result)) {
648           echo "Name: " . $row['name'] . ", Email: " . $row['email'];
649       }
650   } else {
651       die("Error selecting data: " . mysqli_error($conn));
652   }
653
654   // Update data again
655   $sql = "UPDATE users SET name='John Doe' WHERE id=15";
656   if (!mysqli_query($conn, $sql)) {
657       die("Error updating data: " . mysqli_error($conn));
658   }
659
660   // Delete data again
661   $sql = "DELETE FROM users WHERE id=15";
662   if (!mysqli_query($conn, $sql)) {
663       die("Error deleting data: " . mysqli_error($conn));
664   }
665
666   // Close connection again
667   mysqli_close($conn);
668
669   exit();
670
671   // Test connection again
672   $conn = mysqli_connect($host, $username, $password, $database);
673   if ($conn) {
674       echo "Connected successfully!";
675   } else {
676       die("Connection failed: " . mysqli_error($conn));
677   }
678
679   // Insert data again
680   $sql = "INSERT INTO users (name, email, password) VALUES ('Jane Doe', 'jane.doe@example.com', '$2y$10$...')";
681   if (!mysqli_query($conn, $sql)) {
682       die("Error inserting data: " . mysqli_error($conn));
683   }
684
685   // Select data again
686   $sql = "SELECT * FROM users";
687   $result = mysqli_query($conn, $sql);
688   if ($result) {
689       while ($row = mysqli_fetch_assoc($result)) {
690           echo "Name: " . $row['name'] . ", Email: " . $row['email'];
691       }
692   } else {
693       die("Error selecting data: " . mysqli_error($conn));
694   }
695
696   // Update data again
697   $sql = "UPDATE users SET name='John Doe' WHERE id=16";
698   if (!mysqli_query($conn, $sql)) {
699       die("Error updating data: " . mysqli_error($conn));
700   }
701
702   // Delete data again
703   $sql = "DELETE FROM users WHERE id=16";
704   if (!mysqli_query($conn, $sql)) {
705       die("Error deleting data: " . mysqli_error($conn));
706   }
707
708   // Close connection again
709   mysqli_close($conn);
710
711   exit();
712
713   // Test connection again
714   $conn = mysqli_connect($host, $username, $password, $database);
715   if ($conn) {
716       echo "Connected successfully!";
717   } else {
718       die("Connection failed: " . mysqli_error($conn));
719   }
720
721   // Insert data again
722   $sql = "INSERT INTO users (name, email, password) VALUES ('Jane Doe', 'jane.doe@example.com', '$2y$10$...')";
723   if (!mysqli_query($conn, $sql)) {
724       die("Error inserting data: " . mysqli_error($conn));
725   }
726
727   // Select data again
728   $sql = "SELECT * FROM users";
729   $result = mysqli_query($conn, $sql);
730   if ($result) {
731       while ($row = mysqli_fetch_assoc($result)) {
732           echo "Name: " . $row['name'] . ", Email: " . $row['email'];
733       }
734   } else {
735       die("Error selecting data: " . mysqli_error($conn));
736   }
737
738   // Update data again
739   $sql = "UPDATE users SET name='John Doe' WHERE id=17";
740   if (!mysqli_query($conn, $sql)) {
741       die("Error updating data: " . mysqli_error($conn));
742   }
743
744   // Delete data again
745   $sql = "DELETE FROM users WHERE id=17";
746   if (!mysqli_query($conn, $sql)) {
747       die("Error deleting data: " . mysqli_error($conn));
748   }
749
750   // Close connection again
751   mysqli_close($conn);
752
753   exit();
754
755   // Test connection again
756   $conn = mysqli_connect($host, $username, $password, $database);
757   if ($conn) {
758       echo "Connected successfully!";
759   } else {
760       die("Connection failed: " . mysqli_error($conn));
761   }
762
763   // Insert data again
764   $sql = "INSERT INTO users (name, email, password) VALUES ('Jane Doe', 'jane.doe@example.com', '$2y$10$...')";
765   if (!mysqli_query($conn, $sql)) {
766       die("Error inserting data: " . mysqli_error($conn));
767   }
768
769   // Select data again
770   $sql = "SELECT * FROM users";
771   $result = mysqli_query($conn, $sql);
772   if ($result) {
773       while ($row = mysqli_fetch_assoc($result)) {
774           echo "Name: " . $row['name'] . ", Email: " . $row['email'];
775       }
776   } else {
777       die("Error selecting data: " . mysqli_error($conn));
778   }
779
780   // Update data again
781   $sql = "UPDATE users SET name='John Doe' WHERE id=18";
782   if (!mysqli_query($conn, $sql)) {
783       die("Error updating data: " . mysqli_error($conn));
784   }
785
786   // Delete data again
787   $sql = "DELETE FROM users WHERE id=18";
788   if (!mysqli_query($conn, $sql)) {
789       die("Error deleting data: " . mysqli_error($conn));
790   }
791
792   // Close connection again
793   mysqli_close($conn);
794
795   exit();
796
797   // Test connection again
798   $conn = mysqli_connect($host, $username, $password, $database);
799   if ($conn) {
800       echo "Connected successfully!";
801   } else {
802       die("Connection failed: " . mysqli_error($conn));
803   }
804
805   // Insert data again
806   $sql = "INSERT INTO users (name, email, password) VALUES ('Jane Doe', 'jane.doe@example.com', '$2y$10$...')";
807   if (!mysqli_query($conn, $sql)) {
808       die("Error inserting data: " . mysqli_error($conn));
809   }
810
811   // Select data again
812   $sql = "SELECT * FROM users";
813   $result = mysqli_query($conn, $sql);
814   if ($result) {
815       while ($row = mysqli_fetch_assoc($result)) {
816           echo "Name: " . $row['name'] . ", Email: " . $row['email'];
817       }
818   } else {
819       die("Error selecting data: " . mysqli_error($conn));
820   }
821
822   // Update data again
823   $sql = "UPDATE users SET name='John Doe' WHERE id=19";
824   if (!mysqli_query($conn, $sql)) {
825       die("Error updating data: " . mysqli_error($conn));
826   }
827
828   // Delete data again
829   $sql = "DELETE FROM users WHERE id=19";
830   if (!mysqli_query($conn, $sql)) {
831       die("Error deleting data: " . mysqli_error($conn));
832   }
833
834   // Close connection again
835   mysqli_close($conn);
836
837   exit();
838
839   // Test connection again
840   $conn = mysqli_connect($host, $username, $password, $database);
841   if ($conn) {
842       echo "Connected successfully!";
843   } else {
844       die("Connection failed: " . mysqli_error($conn));
845   }
846
847   // Insert data again
848   $sql = "INSERT INTO users (name, email, password) VALUES ('Jane Doe', 'jane.doe@example.com', '$2y$10$...')";
849   if (!mysqli_query($conn, $sql)) {
850       die("Error inserting data: " . mysqli_error($conn));
851   }
852
853   // Select data again
854   $sql = "SELECT * FROM users";
855   $result = mysqli_query($conn, $sql);
856   if ($result) {
857       while ($row = mysqli_fetch_assoc($result)) {
858           echo "Name: " . $row['name'] . ", Email: " . $row['email'];
859       }
860   } else {
861       die("Error selecting data: " . mysqli_error($conn));
862   }
863
864   // Update data again
865   $sql = "UPDATE users SET name='John Doe' WHERE id=20";
866   if (!mysqli_query($conn, $sql)) {
867       die("Error updating data: " . mysqli_error($conn));
868   }
869
870   // Delete data again
871   $sql = "DELETE FROM users WHERE id=20";
872   if (!mysqli_query($conn, $sql)) {
873       die("Error deleting data: " . mysqli_error($conn));
874   }
875
876   // Close connection again
877   mysqli_close($conn);
878
879   exit();
880
881   // Test connection again
882   $conn = mysqli_connect($host, $username, $password, $database);
883   if ($conn) {
884       echo "Connected successfully!";
885   } else {
886       die("Connection failed: " . mysqli_error($conn));
887   }
888
889   // Insert data again
890   $sql = "INSERT INTO users (name, email, password) VALUES ('Jane Doe', 'jane.doe@example.com', '$2y$10$...')";
891   if (!mysqli_query($conn, $sql)) {
892       die("Error inserting data: " . mysqli_error($conn));
893   }
894
895   // Select data again
896   $sql = "SELECT * FROM users";
897   $result = mysqli_query($conn, $sql);
898   if ($result) {
899       while ($row = mysqli_fetch_assoc($result)) {
900           echo "Name: " . $row['name'] . ", Email: " . $row['email'];
901       }
902   } else {
903       die("Error selecting data: " . mysqli_error($conn));
904   }
905
906   // Update data again
907   $sql = "UPDATE users SET name='John Doe' WHERE id=21";
908   if (!mysqli_query($conn, $sql)) {
909       die("Error updating data: " . mysqli_error($conn));
910   }
911
912   // Delete data again
913   $sql = "DELETE FROM users WHERE id=21";
914   if (!mysqli_query($conn, $sql)) {
915       die("Error deleting data: " . mysqli_error($conn));
916   }
917
918   // Close connection again
919   mysqli_close($conn);
920
921   exit();
922
923   // Test connection again
924   $conn = mysqli_connect($host, $username, $password, $database);
925   if ($conn) {
926       echo "Connected successfully!";
927   } else {
928       die("Connection failed: " . mysqli_error($conn));
929   }
930
931   // Insert data again
932   $sql = "INSERT INTO users (name, email, password) VALUES ('Jane Doe', 'jane.doe@example.com', '$2y$10$...')";
933   if (!mysqli_query($conn, $sql)) {
934       die("Error inserting data: " . mysqli_error($conn));
935   }
936
937   // Select data again
938   $sql = "SELECT * FROM users";
939   $result = mysqli_query($conn, $sql);
940   if ($result) {
941       while ($row = mysqli_fetch_assoc($result)) {
942           echo "Name: " . $row['name'] . ", Email: " . $row['email'];
943       }
944   } else {
945       die("Error selecting data: " . mysqli_error($conn));
946   }
947
948   // Update data again
949   $sql = "UPDATE users SET name='John Doe' WHERE id=22";
950   if (!mysqli_query($conn, $sql)) {
951       die("Error updating data: " . mysqli_error($conn));
952   }
953
954   // Delete data again
955   $sql = "DELETE FROM users WHERE id=22";
956   if (!mysqli_query($conn, $sql)) {
957       die("Error deleting data: " . mysqli_error($conn));
958   }
959
960   // Close connection again
961   mysqli_close($conn);
962
963   exit();
964
965   // Test connection again
966   $conn = mysqli_connect($host, $username, $password, $database);
967   if ($conn) {
968       echo "Connected successfully!";
969   } else {
970       die("Connection failed: " . mysqli_error($conn));
971   }
972
973   // Insert data again
974   $sql = "INSERT INTO users (name, email, password) VALUES ('Jane Doe', 'jane.doe@example.com', '$2y$10$...')";
975   if (!mysqli_query($conn, $sql)) {
976       die("Error inserting data: " . mysqli_error($conn));
977   }
978
979   // Select data again
980   $sql = "SELECT * FROM users";
981   $result = mysqli_query($conn, $sql);
982   if ($result) {
983       while ($row = mysqli_fetch_assoc($result)) {
984           echo "Name: " . $row['name'] . ", Email: " . $row['email'];
985       }
986   } else {
987       die("Error selecting data: " . mysqli_error($conn));
988   }
989
990   // Update data again
991   $sql = "UPDATE users SET name='John Doe' WHERE id=23";
992   if (!mysqli_query($conn, $sql)) {
993       die("Error updating data: " . mysqli_error($conn));
994   }
995
996   // Delete data again
997   $sql = "DELETE FROM users WHERE id=23";
998   if (!mysqli_query($conn, $sql)) {
999       die("Error deleting data: " . mysqli_error($conn));
1000  }
1000  
```

QUESTIONS?



THANK YOU!

