eric drescher hepburn portfolio

eportfolio

optimal resolution 1920x1080
project
close meeting table

function
conference table for weekly IT staff meetings and training sessions

material
plywood

size
15' x 6' x 28"

geometry
eliptical

technologies
AutoCAD, Vectric, Shopbot PRS CNC
project
computer lab service desk

function
service desk for student service provision, including back-end storage and processing space, friendly approachable customer service area, and sit-down software help areas

material
plywood, solid core doors, homasote, Bondo, steel L strut

size
15’x30’x40”

geometry
arcs, planes

technologies
AutoCAD, Vectric, Shopbot PRS CNC
**project**
- laptop & walk-up computer bars

**function**
- student laptop use areas in underutilized hallway spaces and walk-up printing services station

**material**
- plywood, industrial shelving brackets

**size**
- 2’x14’x18”

**geometry**
- rectilinear

**technologies**
- table saw, router, vacuum table, glue, narrow crown staple gun
project
light table

function
standing frame for existing light box with plate glass over acrylic for improved durability

material
plywood, light box, acrylic, plate glass

size
3’x43”x28”

geometry
rectilinear

technologies
AutoCAD, Vectric, Shopbot PRS CNC, narrow crown staple gun
project
IT office renovations

function
functional, vibrant, collaborative, and energetic workspace for IT staff

material
Ikea Expedit shelving units, Ikea Galant desk series, Ikea Varde cabinets, Herman Miller Caper chairs, reclaimed acrylic, reclaimed particleboard, plywood, interface carpet tiles, paint

size
1050 s.f.

budget
$6000

comments
custom designed and fabricated acrylic insets and plywood + particleboard drawers combine with Expedit shelves to make a partition scheme that balances privacy and interactivity, promulgates light throughout the space, and provides plentiful storage
project
3D printed nameplates

function
desk nameplates

material
ZPrint powder and binder, PLA plastic

technologies
AutoCAD, ZPrinter 450, Makerbot Replicator II
project
CNC Acrylic Logos

function
door, signage, testing

material
reclaimed white opaque acrylic, paint

technologies
AutoCAD, Vectric, Shopbot PRS CNC router

process
embedded images created by backpainting CNC routed grooves in the acrylic, depth used to control color saturation
project
CNC foam logos

function
signage, testing

material
high density insulating foam, high density polystyrene foam

technologies
AutoCAD, Vectric, Shopbot PRS CNC router

process
sequenced 2D CNC commands layered to produce 3D output
**project**
CNC faces

**function**
exploration of 3D scanner to CNC router workflow

**material**
high density insulating foam, papercrete

**technologies**
AutoCAD, Vectric, Shopbot PRS CNC router
**project**
Christmas tree

**function**
reusable, flat-pack Christmas tree with integrated lighting and fabricated 'branches' for hanging ornaments

**material**
baltic birch plywood, reclaimed white opaque acrylic

**technologies**
AutoCAD, Vectric, Shopbot PRS CNC router, Universal Laser Systems X-660 laser cutter
**project**
cantilever CD shelf

**function**
bookcase-style steel CD shelf

**material**
steel, wood

**technologies**
metal saw, wire feed welder, grinder, jig saw

**comments**
steel provided strong thin cantilevers and produced the effect that the rows of discs were floating unsupported, upper shelf provides reference surface and space for object display.
Project:
Wall sconce

Function:
Welding and plasma torch tool exploration

Material:
Steel pipe

Technologies:
Plasma cutter, wire feed welder, grinder

Comments:
Removed and reattached selective shapes from pipe to create composition, various surface treatments applied to create segmentation and textures - reminiscent of insect morphology
project
corner shelf modifications

function
improve lighting and increase visibility of objects displayed in existing corner shelf

material
steel, halogen lighting, existing wooden corner shelf

technologies
metal saw, wire feed welder, grinder

comments
custom edge and center set structural windows to maintain integrity while improving visibility and aesthetics
**project**
breezeway furniture - bench & table

**function**
outdoor eating and gathering space, bench with integrated shoe storage

**material**
bench - reclaimed galvanized metal hot water heater stands, 2x6 cedar boards
table - baltic birch plywood, commercial black iron table base

**technologies**
jig saw, AutoCAD, Vectric, Shopbot PRS CNC router

**comments**
original configuration (left), optimized split configuration (right)
project
wooden walkway

function
floating and elevated wooden walkway

material
lumber, reclaimed lumber, steel friction piers, wire mesh, stain

technologies
chop saw, drill

comments
inspired by the elevated walkways so prevalent in my memories of state park trails in Florida where I grew up, this elevated walkway deepens the sense that the house floats in nature, without taking over and with minimal impact to the oak grove sensibility of the landscape.
Project: Cantilever Porch Extensions

Function:
Use structural cantilevers to extend a section of deck that bisects the vertical distance to the ground and alleviates the code restrictions that would require handrails that would diminish the sense of connection to the outdoor spaces.

Material:
Lumber, steel L strut

Technologies:
Chop saw, drill
project
floating wooden courtyard fence

function
provide a privacy fence that reflects the floating height of the house and provides secure enclosure for children and visiting pets

material
lumber, galvanized metal pipe, mechanical handrail connectors, reclaimed cedar siding from construction

technologies
router, chop saw, drill

comments
wood fence is inset into the metal frame with custom milled wood framing. frame is referenced to the side of the house with handrail connectors and rests on top of the ground, gates are frame within frame
project
rooftop garden planters

function
86 s.f. of sustainable food gardening

material
galvanized metal stock tanks, lava rock and PVC drainage, drip irrigation piping
**Project**
mailbox & key storage

**Function**
user friendly entry sequence for inhabitants: front mail slot, security system transceiver, key storage

**Material**
cedar

**Comments**
front mail slot (left)
mailbox closed (center)
mailbox open (right)
project
buffet in two materials

function
buffet for storing glassware and service

material
harvested post oak, reclaimed 19th century copper chicken incubators, steel tops and base

technologies
planer, joiner, table saw, jig saw

comments
(right) stacked copper chicken incubators, (left) custom made to match incubator dimensions, steel frame, made from post oak wood harvested from the home site during construction and custom milled into boards
project
end tables and matching sconces

function
custom narrow end table to fit room and sofa dimensions, matching sconces for indirect lighting and surround speakers

material
white oak, acrylic, aluminum flex conduit

technologies
planer, joiner, table saw, jig saw
**project**
engagement ring and wedding band set

**function**
custom wedding set produced with a direct lost-wax process on 3D printed casting molds

**material**
platinum, emerald cut white sapphire

**technologies**
AutoCAD, Invision Si2 3D printer, digital camera

**comments**
setting produced by measurement and digital photography of existing stone, small band designed to nest inside the bridge of the engagement ring, hole pattern in bands produced by subtracting 3D five pointed star with elliptical cross section, major axis of ellipse in larger band is transverse while it is aligned with the smaller band
Project
Lantern in two technologies

Function
Create matched pair of table lanterns using two different fabrication technologies (CNC & laser cutter) and the same conceptual design.

Material
Baltic birch plywood, mylar

Technologies
AutoCAD, EdgeCAM, CNC, Universal Laser System X-660 laser cutter

Comments
CNC (top), Laser Cutter (bottom), conceptual design is Fibonacci sequence of rectangular windows set in a Japanese-inspired box lantern. CNC version subtracts material leaving a thin membrane that is opaque when light is off and transmits light when lamp is on, laser cut version uses nested interior frames to hold rectangles of mylar that create the windows.
project
nightstands

function
create matched pair of flat pack nightstands with jointed (glueless and fastenerless) construction

material
baltic birch plywood, cabinet hinges, custom welded steel legs

technologies
AutoCAD, EdgeCAM, CNC, thickness sander, wire feed welder

comments
except for the hinges and the screws that hold on the metal legs, the construction is completely held together by its own geometry, including CNC fabricated T-pins, the core construction logic is a 3-plate interlocking system that makes up each surface of the piece (except the door), the drawer handle is the interlock for the only front-visible panel, the internal shelves are the interlock for the side panels, all T-pins are hidden except for interior and rear views, a careful process of thickness sanding and pre-construction material finishing was used to create the necessary tolerances
**Project**
Office suite - end table / nightstand / file drawer

**Function**
Create matched pair end tables that function as nightstands when the sofa is converted and as file drawers.

**Material**
Baltic birch plywood, polypropylene casters

**Technologies**
AutoCAD, Vectric, Shopbot PRS CNC router

**Comments**
Each piece is cut from a single 5'x5' sheet of baltic birch, joinery is all polyurethane glue, file drawer is on casters and rolls free of containing table.
**project**
Office suite - built in bookcase

**function**
Create a built-in bookcase on southern wall of office/guest room

**material**
Baltic birch plywood

**technologies**
AutoCAD, Vectric, Shopbot PRS CNC router

**comments**
Upper section mounted inset to window frame, contiguous shelves on upper and lower window sills created using custom circular overlap joinery, lower section is freestanding
project
office suite - desk

function
create an ergonomic and efficient home computer workspace

material
baltic birch plywood, polyurethane glue

technologies
AutoCAD, Vectric, Shopbot PRS CNC router

comments
cut from a single sheet of 5’x5’ baltic birch plywood, the desk is the centerpiece of the suite and is the piece which defined the geometrical identity of the suite’s components, stability and rigidity were produced by pressure bending the vertical leg and rail pieces into place and using polyurethane glue, the front radius provides a keyboard and mouse friendly user surface without the need for a keyboard tray or other extraneous add-ons
project
donkeyfly backsplash

function
create an easy to clean
backsplash behind the cooking
and food preparation space

material
reclaimed opaque white acrylic, paint

technologies
AutoCAD, Illustrator, Vectric, Shopbot PRS CNC router

comments
cut from a single sheet of
10mm acrylic reclaimed
from an architecture exhibit,
dragonfly pattern back etched
into material, grooves filled
with paint
project
pendant lamps

function
series of 3 pendant lamps to be installed over kitchen island

material
baltic birch plywood, wire, ceramic bulb inserts

technologies
AutoCAD, Vectric, Shopbot PRS CNC router

comments
cut from a half sheet of half inch baltic birch plywood, stems are two pieces with sinusoidal registration and a channel for hiding the wiring, horizontal louvers are held by a two part interlocking comb