Stitch is a sewing machine designed specifically with the beginner user in mind. It is simple to use and intuitive in its approach.

As an entrant to the International Housewares Competition, the objective of this project was to take an existing appliance and simplify unnecessary aspects while enhancing its basic function. Through intensive primary and secondary research, I isolated the pain-points of existing sewing machines and addressed them in my final design.

Ultimately, the goal of Stitch is to facilitate and encourage more people to experience the joy of sewing.
accessories

Take away from research:

• sewing machines have lots of accessories
• buttons and switches are far away from the functions they adjust
• a lot of material is needed to transfer motion from motor to moving part on opposite side of machine

mechanical research

user observation

Take away from user observation:

• all users have some difficulty threading machine
• bobbin is often obscured or under machine
• many users hold down thread w/ finger when winding bobbin
inspiration

sketches
top motor controls needle and bobbin winder

bottom motor controls feed dogs and bobbin looper

comes with custom fitted seam ripper, screw driver, pin container and bobbins in storage area

storage is built into work surface
a simple and clear path for threading

push down on the thread to start winding bobbin

using simple friction, tensioning thread is more intuitive

Dial in stitch width and length directly above needle. Stitch graphics on dial are to scale so there is no guessing what your stitch will look like.

silicone heel pad to keeps pedal from slowly scooting away

cords wrap around pedal and heel pad keeps them in place for storage
MagLamp is a lamp that functions in much the same way as Apple's MagSafe power adaptors. The lamp shade functions as a portable LED flashlight and the lamp stand functions as the charging station.

At first glance MagLamp is just an ordinary lamp. However, this lamp allows the user increased mobility at night. One can walk through a dark house without turning on every light along the way. Once at the destination, the lamp shade holds to any metal surface, thus, providing hands free illumination.

The overall goal of MagLamp is to create a simple and energy efficient way to light up one's life.
inspiration

woodworking/vacuum forming

sketches
MagLamp
joel swenson [2011]

- charge it
- take it
- turn it on
- light it up
LightBox is a bike lock designed to tackle a familiar problem for anyone who uses their bike at night: what to do with your bike lights when you reach your destination?

Though there are many products on the market that attempt to address this issue, none of them are able to solve it completely. Inevitably, lights are crammed into full pockets, left on the bike to be stolen and are not bright enough to be safe.

In the end, the goal of LightBox is to get more people on bikes by creating a hassle-free and safer cycling experience.
When riding a bike at night the best options are either to store bike lights in a pocket or a bag. However, the majority of bike lights do not fit comfortably into pockets, especially if they already contain keys, phones, change or other items. Bags are a great place to store lights when not on the bike, but carrying a bag, at times, is inconvenient. In both cases, the lights have a propensity to turn themselves on when bumped against another object. Thus, the batteries drain much more quickly and the rider is left without lights.

Almost all lights on the market are either small and dim or large and bright, which only makes sense. However, implicitly, this means they are either poor lights that fit well into a pant or bag pocket, or good lights that don’t. Unfortunately, this leaves people with two inadequate choices: danger or inconvenience.

The other option that exists for cyclists is to leave their lights on the bike. Sadly, this is an unacceptable option because of rampant bike theft that associates itself with biking communities. In many cities everything not bolted to the bike will be stolen from it.
Common types of energy systems for different size lights

<table>
<thead>
<tr>
<th>SIZE</th>
<th>TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small</td>
<td>watch batteries</td>
</tr>
<tr>
<td>Medium</td>
<td>standard AA or AAA batteries</td>
</tr>
<tr>
<td>Large</td>
<td>rechargeable lithium ion</td>
</tr>
<tr>
<td>Alternative</td>
<td>friction or electrodynamic generator</td>
</tr>
</tbody>
</table>

Prices of different size lights

- Small: $15
- Medium: $35
- Large: $60
- Large (alternative): $129
- Large (alternative): $450

Which lights do you have?

- Small light (40%)
- Medium light (60%)
anodized aluminium top reduces weight and prevents corrosion

storage compartment easily carries medium sized front and back light

standard U-lock bar can come from a lock you already own

silicone over mold wraps around center of top and bottom to prevent damage to bike
**Ground** is a pestle and mortar set that specifically addresses trends such as the slow food, organic food and sustainability movements. Using mostly reclaimed materials, **Ground** looks to extend the principles of sustainability beyond how we live, to what we live with. The tools we use.

The goal of this project was to connect the user more closely with the Earth. Not only do they feel the connection by using a sustainable product but it is also felt by grinding salt and pepper in a pestle and mortar. This slows the user down, allowing for a genuine consideration of the terrestrial elements they are putting in their food.
inspiration

model making/mold making/slip casting

materials

reclaimed balusters

reclaimed lumber

reclaimed wine corks

porcelain
Build-a-saur is a wooden dinosaur puzzle big enough for children to ride. With no ‘right way’ of assembling, it allows children to exercise their creativity and imagination. They can ride through the Jurassic forests of their imaginations on the back of a real dinosaur or a dinosaur of their own creation.
build-a-saur
joel swenson   [2011]

constraints

- CNC router

- no hardware

- two 4’ x 8’ sheets of plywood

- saves oil/energy

- uses less packaging

- flat pack

- saves on labor and shipping

inspiration
prototypes

cardboard  
laser cut  
CNC milled

full-scale/plywood

measurements

build-a-saur

joel swenson  [2011]