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WRISTWATCHES

SPINK

CEILING FANS

DUAL-CHAMBER VARIABLE RATE TIRE

ORIGAMAT

MANTA RAY BICYCLE SADDLE

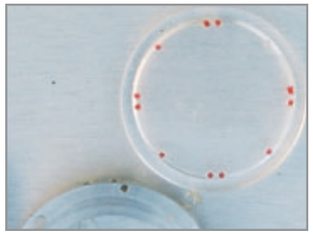
PLANTERS

WEB CONTROL

STRETCH MAT

VERSAMAX

WRISTWATCHES

Idealization to Realization

Development of wristwatches began for me as an exploration of what was possible for improving and innovating aesthetics, reliability, and comfort in watches. I discovered a variety of design problems previously unaddressed by the conventional industry.

WATCH 1 (W1): 1997

First completed watch.

All custom componentry; 38mm diameter. Symmetrical top and bottom, service-free single gasket sealing case to glass, service-free winding stem seals, top-loaded movement, integrated C-clamp case assembly, first generation compressive straps with hand-stitched assembly, innovative bonded markers, machined hands.

From the onset of this project, I examined what factors yielded a pleasing aesthetic and tactile experience. This included the technology and construction of automobiles, airplanes, high-end electronics, jewelry, and watches.

Further exploration revealed the extent to which the Swiss watch industry was insulated from demands of vigorous R & D for both mechanical and aesthetic innovation that, for example, the auto industry is obligated to. The high-end Swiss watch industry was in an optimal position, regurgitating the same product for decades and maintaining consumer perception through marketing. Consider Rolex: it's commonly perceived to be the best in high-end timepieces. It's not.

This motivated me to pursue what was possible for watch design. My consequent goal was to explore and develop the highest quality watch in the US, reflecting the integrity of a modern-day Ferrari, not a '57 Chevy.

GUSTAVO 1 (G1): 1997

Second completed watch.

32mm diameter; custom sapphire crystal. Similar design concepts to W1. This was an exploration into developing those concepts into a design that would utilize simpler geometry. The G1 also uses service-free high-compression gaskets and four C-clamps.

I worked with Coors ceramics to develop a different version of this watch in high-tech ceramics.

All watch components are entirely of my concept and design (exception: the clasps and the Swiss mechanical movements). It was a tremendous amount of trial and error over the years in the development of each separate component.

Through watches, I developed a tremendous capacity for a multitude of disciplines. The length of time necessary to explore and develop the variety of concepts, from aesthetics to engineering, established my effective techniques for committed and successful problem solving as well as a capacity to deal with extreme detail.

These projects have provided me a very unique education. The experience and discipline I developed from innovating all new parts across a large variety of materials requiring extreme tolerancing enables me to work at a sophisticated level with both engineers and designers from many industries.

The last of these watches was completed in 1999. Many successful developments stemmed from this work.

Several technologies were adapted to high-end watch companies, including seal solutions for Breitling and Tag Heuer.

Though I maintain an interest in watches, my direction is very different now in the years since completing these pieces.

My interest, style, and knowledge has continually evolved.

THE FIRST WATCHES

Watch 1. Gustavo 1. AMT 1.

These three models represent my first efforts. They contain over sixty custom-fabricated parts. It required several years to generate these pieces. The approach to both aesthetics and engineering proved to be very challenging due to working in difficult materials and tolerances.

AMERICAN-MADE TIMEPIECE 1 (AMT 1): 1998

Third watch completed; 38mm diameter.

This watch was based on the concepts developed from earlier watches, in combination with a Swiss mechanical perpetual calendar movement.

The complexities of additional volume with four subdials and correlating correctors required difficult adaptations.

The AMT 1 introduced the viability and advantages of the many concepts that I had explored to the high-end watch industry.

I was subcontracted to adapt technologies for existing watch manufacturers, two of the most notable being Breitling and Tag Heuer.

All manufacturing with the exception of the movement and clasp was developed in the United States.

Since the parts were all innovated, or new, there was no established manufacture or method, so the actual production methods themselves posed tremendous difficulties.

To produce these parts, I worked with many vendors who were specialists in their field, and of the many vendors and efforts required for prototyping, there were few with the expertise and capability to manufacture these very special parts.

It required having to engage the expertise of multiple contacts before effective solutions were established to develop each of the individual pieces.

Ultimately, these projects are about problem-finding and problem-solving. I developed many solutions to previously unapproached opportunities to resolve both form and function.

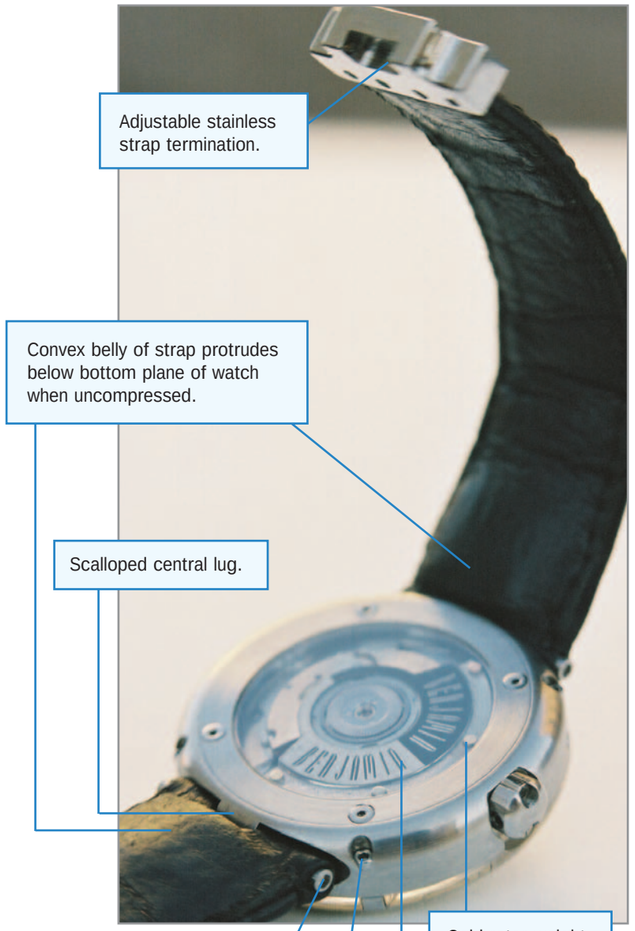
The breadth of the project was tremendous. I wore all the necessary hats to develop, source, manufacture, and assemble beyond the scope detailed here.

WATCH 1. GUSTAVO 1. AMERICAN-MADE TIMEPIECE 1.

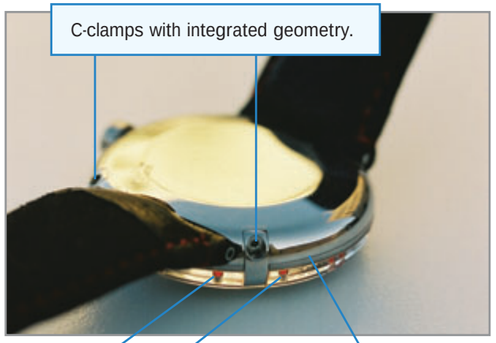
AMT 1 empty case.

AMT 1 CASE ASSEMBLY DETAILS (L-R)
Corrector button, screw-in compression ring, end view of scalloped lug and strap hardware.

AMT 1 Iso view.



TOP: GUSTAVO 1, BOTTOM: WATCH 1
First successful iterations of final concept with living bracelets.



WATCH 1 view of case back.

UNIQUE DIAL MATERIALS
(from left, clockwise)

1 Japanese shakado
2 green gold & silver polkadot
3 copper & silver
4 Damascus steel
5 copper & silver
6 316 L stainless steel

Laser-engraved, anodized aluminum business card

Electroformed pushers / seals

Two types of stainless steel strap terminations

Buckle emblem

Gustavo case clamp

Ultrasonic drilling experiments

Fused silica grinding experiment

Gustavo sapphire crystal prototype: ground, polished, and drilled

Optical adhesive experiments on AMT 1 fused-silica crystal; diamond-like carbon-coated

Zirconium case prototype from Coors ceramics *(taken from a series of prototypes)*

Nitinol wire for "living" parts

Murano glass drawn for experimental watch hands

Back view of AMT 1

Fused silica A-sphere: ground, stepped, notched, polished, and drilled. Compatible refractory optical adhesives for embedded green gold markers.

miniature hardware

C-clamp

Date ring: decorative synthetic enamel experiment

Fibrillated Teflon case seal prototype *(developed in conjunction with Gore)*

Sapphire case back

AMT 1 stainless case with TiNi-coated winding stem, spring-energized Teflon seal.

DIAL ASSEMBLY
1 Dial
2 Hour & minute hands
3 Four types of subdials
4 Subdial hands

Laser-engraved, anodized aluminum business card

glass compression ring

Strap body of molded polyurethane foam

Co-molded, skinned foam body

Completed strap with termination attachment hardware and emblem. Finished in saltwater crocodile skin.

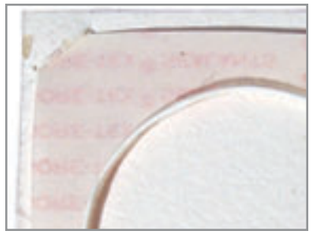
(L-R) Mechanical movement with weighted and decorated rotor; laser-engraved, adhesive back with anodized aluminum applique.

AMT: American-Made Timepiece

Fibrillated PTFE (Teflon), a Gore product

SEALING INNOVATIONS



In a high-end watch, the value is in the movement. Think of your watch as a safe. How reliable is the seal protecting the valuable contents?

The protection of valuable internal components justifies greater seal integrity than that provided by 5 cent O-rings.

This project explored opportunities to improve upon the industry standard, which uses a rubber gasket or O-ring across all ranges of watches.

PROBLEM:

Rubber O-rings, while relatively reliable, degrade and allow for leakage.

Seal failure occurs from age, thermal cycling, missed service intervals, friction, or contamination (body oils, salt, chlorine, solvents).

SOLUTION:

A service-free, non-degrading sealing mechanism for both static and dynamic radial and axial requirements to seal against both gas and liquid contamination.

First Service-Free Watch Seals

A two-component seal utilized for both axial and radial locations protects the winding stem and pushers. A micro spring-loaded energizer is encapsulated inside a non-aging gland, exerting force to both the inside and the outside diameters of the seal, rendering the timepiece water-resistant up to 30 meters, with extreme reliability under a variety of conditions.

The spring-energized sealilng gland was developed in different embodiments specific to these components:

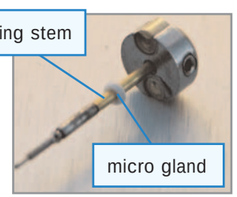
Pusher Button: Activates various functions, typically chronograph functions.

Calendar Corrector Buttons: Used to set features on mechanical complications.

Winding Stem: Adjusts date and time and is used for winding mechanicals.

CORRECTOR PIN

Spring-loaded pusher pins are used with encapsulated gland seals.



WINDING STEM ASSEMBLY

The winding stem is made from diamond-drawn stainless coated with TiNi. It utilizes the spring-energized gland. This is a service-free sealing mechanism.

Solid Metal Pusher Seals

The pusher seal is a small, electroformed bellows.

It is open-ended on one side and closed on the other end of the cylinder, which is soldered on the open end of the cylinder to the inside of the case, thereby preventing any leakage ever, assuming that the seam is properly welded.


(L-R) ELECTROFORMED WINDING SEAL, PUSHER SEAL.

Non-Aging Gasket Seals

The case's unique internal waterproofing seals, made of material produced by Gore, are non-degrading and service-free.

It takes a special case construction to optimize the properties of the sealing material, namely, higher compressive forces.

FIBRILLATED PTFE in sheet form.

CUSTOM GASKET made from die-cutting.

High-Compression Case Assembly

STAINLESS STEEL C-CLAMPS for W1 (left) and G1 (right).

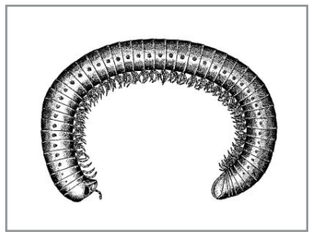
Standard screw-down and screw-on backs are not viable to use in a more optimal sealing system requiring higher compression rates and superior sealing.

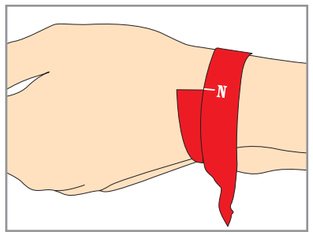
I developed a method for higher compression of the case assembly. With the case assembly under compression, I was able to install a C-clamp type part in multiple positions to capture the load.

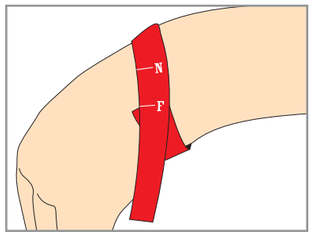
This style of part negates the limitations and difficulties of miniature screws and threads while placing the case assembly under sufficient pressure to enable the sealing properties of fibrillated PTFE.

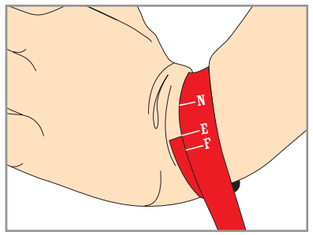
This mechanism for closing cases was applied successfully to a variety of different styles and geometries.

STRAP & BRACELET INNOVATIONS









Watches live in a dynamic environment. The circumference of a wrist changes shape and size based on arm and wrist position, water retention, weight fluctuation, and ambient temperature.

PROBLEM:

The wrist changes in circumference a minimum of 15mm from flexion to extension.

There are large variations not only in wrist circumference, but also in the shape of its surface.

Straps and bracelets with a static fit do not allow for expansion or contraction to accomodate this change in size.

Due to the weight of the watch head and its typical static fit, the head tends to hang to the outside of the wrist. This is especially the case with heavier watches, such as mechanicals done in precious materials.

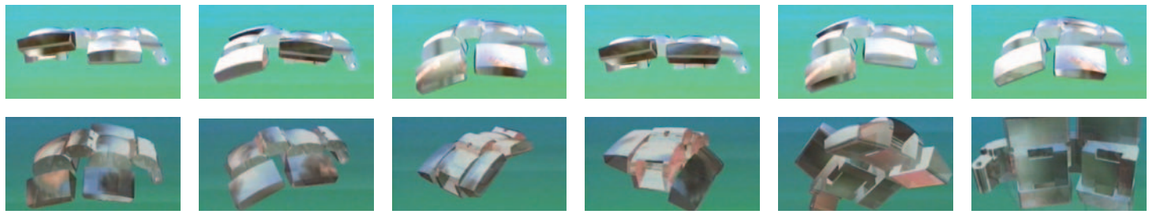
SOLUTION:

The weight of the watch is distributed evenly around its circumference with the wrist in all potential positions and conditions.

THE LIVING BRACELET

The living bracelet that has a multitude of features accounting for a wide range of shapes and sizes of wrist and a mechanism that accounts for the correct tension necessary for various circumferences and weights of the watch. The living bracelet distributes the load comfortably and evenly under an extreme variety of situations. The mechanism is simple, tunable, and service-free.

The development of the living bracelet provides insight on other ways to derive the benefits of this design in less expensive, less complicated executions. Additional bracelet designs combine the technology of the living bracelet with the ability to contain electronics within a hollowed body.



LINK COMPONENTS in motion.

WATCH 1 (W1) with living bracelet.

(L-R) Third generation molded polyurethane foam core, skinned foam blank, fifth generation strap assembly.

STRAPS

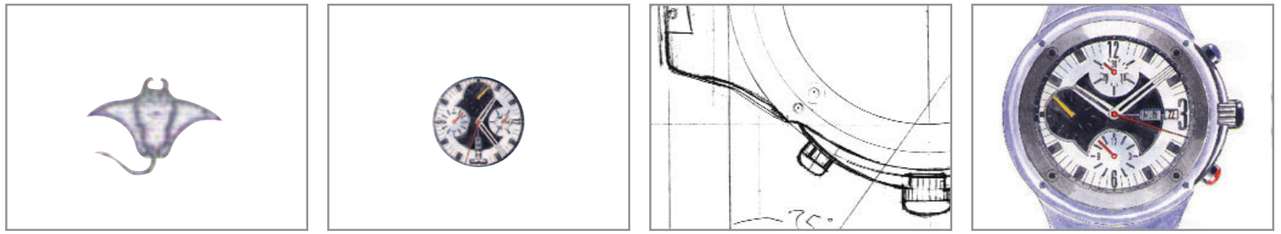
Performance-oriented straps are crafted with a combination of materials, geometries, and assembly methods.

Strap interiors feature a synthetic liner that is soft, washable, and excellent for wicking moisture.

A convexed polyurethane foam core strap interior compresses and forms to the moving wrist, providing more even and continuous contact and eliminating free movement of the watch head.

This design solves for the discomfort that watches create when they ‘hang’ on the wrist, especially with heavier models.

GRANDE & PETITE MANTA RAY WATCHES



This is a series of watches designed around standard manufacturing methods and mechanical movements.

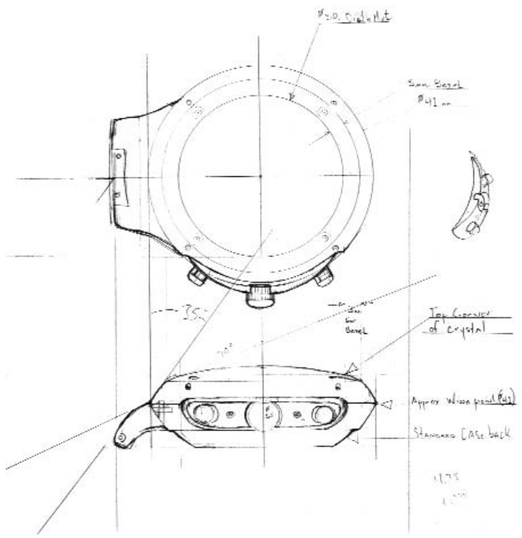
PROBLEM:

Making parts for the first watches was extremely difficult, and I wanted to generate a portfolio reflecting my ability to work with more conventional watch design.

I designed a more production-friendly concept, the Manta, along the lines of familiar timepieces.

The Manta is a diver's style watch whose name is inspired by the dial, which resembles a manta ray silhouette.

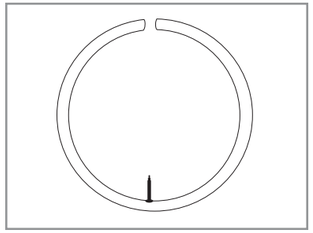
These drawings are not loose concepts. All external and internal geometry was designed to perform on a wrist and utilize available mechanical movements. This watch was developed sufficiently for production.

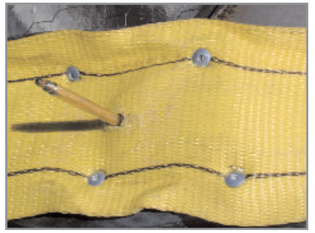


PETITE MANTA RAY, 1999: 36mm with petite seconds subdial. Designed for ETA 2894 automatic movement.

GRANDE CHRONOGRAPH MANTA RAY, 1999: 40mm with active petite seconds subdial. Designed for Valjoux 7750 automatic movement.

DUAL-CHAMBER VARIABLE RATE TIRE TECHNOLOGY





There is a continuous advance in bicycle technology to improve performance.

From my experiences, I considered the tire to be one of the most unevolved, low-tech, overlooked, yet most promising of components. Improved interface between the bike and riding surface would provide the largest gain in performance.

PROBLEM:

There are drastic compromises made in tire design due to the design requirements to optimize both axial and radial loads.

SOLUTION:

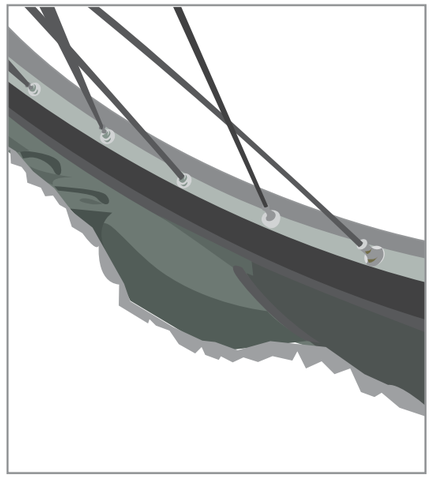
A dual-chamber tire structure comprised of an outer chamber, an inner chamber, and an annular separator. The first and second chamber are separated by the annular separator or semi-rigid membrane.

This allows for the outer chamber or tread section to operate at a different pressure from the sidewall (inner) chamber.

This enables a large variety of adjustments to optimize the performance of the tread section and sidewalls, individually.

MOUNTAIN BIKING

In aggressive mountain biking, optimization requires that there is a balance of low enough tire pressure to minimize excessive rebound and sufficient firmness to allow the tread section to maintain tread shape and connection to the rim, all under load.



SIDEWALL DEFORMATION during cornering.

Drawbacks of Low Tire Pressure

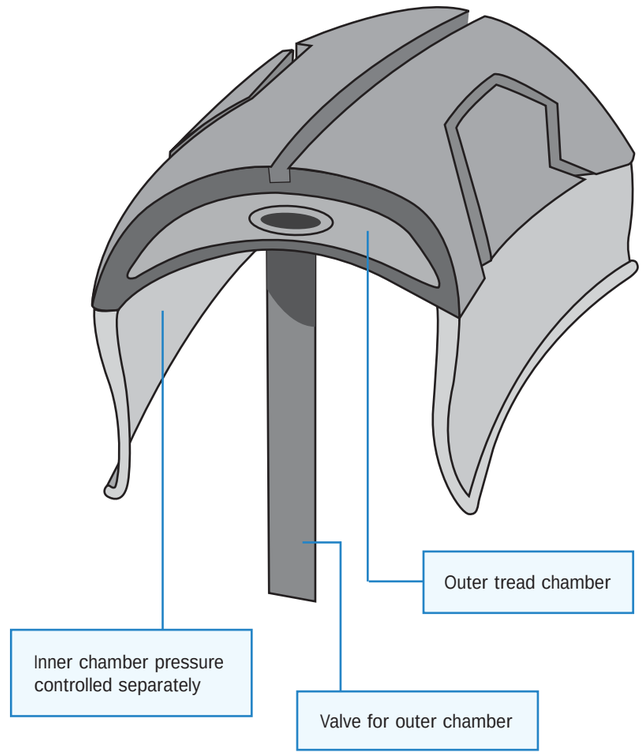
- Sidewall strength and support are reduced, allowing impacts to drive the tire towards the rim, creating pinch flats, severe rim damage, and tire loss.
- Intended tread cross-section deforms and becomes concave.
- Rolling resistance increases drastically.
- Sidewalls are severely deformed and subject to deflection under axial loads.

Proven Advantages of the Dual-Chamber Tire

For aggressive mountain biking, the outer chamber is inflated to a lower pressure and the inner chamber to a higher pressure.

Higher pressure in the inner chamber negates the need for heavier sidewall casing and rim construction by utilizing the air pressure for strength. It greatly reduces rolling resistance and prevents direct impact to the rim.

The support offered by the inner chamber enables a more predictable and structural location for tread elements, while restricting sideload deflection while cornering. This optimization also limits excessive rebound from an overinflated tire, operating as a progressive-rate shock absorber.



DUAL-CHAMBER VARIABLE RATE TIRE TECHNOLOGY

FREESTYLE BMX AND WHEELCHAIRS

A Faster, More Predictable Tire

Both freestyle BMX bikes and wheelchairs operate on smoother, harder, more predictable surfaces than mountain bikes. This configuration would use a low pressure inner chamber and a high pressure outer chamber.

A high pressure tread section or outer chamber gives the tire a minimal contact patch, allowing for lower rolling resistance.

Inflating the inner chamber at a lower pressure provides a method of suspension in both scenarios, helping to absorb impacts and surface irregularities.

The combination of the two chambers in absorbing impact provides a progressive rate of shock absorption, decreasing fatigue to the rider.

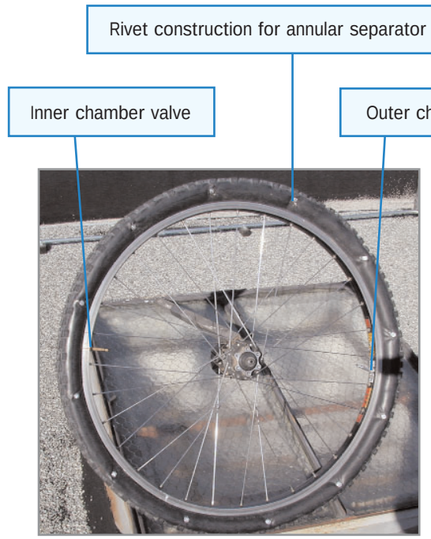
FIFTH GENERATION PROTOTYPE

Tubeless Operation

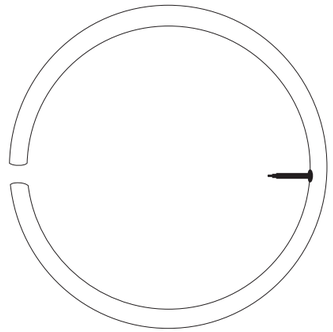
This design is suited to a tubeless inner chamber, further reducing rotational weight.

Easy Adaptation to Current Tire Technology

The only required adaptations are an additional through-hole for the extra valve leading to the second chamber and the installation of an interrupted tube (see right).



SIXTH GENERATION PROTOTYPE



INTERRUPTED STYLE TUBE
used for prototypes.

More Predictable and Structural Location for Tread Elements

Conventional tire designs are optimized according to conditions wherein a tire is sufficiently loaded or pressurized to maintain its radial tread section. Given that typical mountain bikes have a recommended range of inflation from 35-65 PSI, the shape of the tire becomes too varied to accomplish the intended performance of the design.

The blend of knobs and negative space between the knobs are intended to work together to move and clear dirt away, thereby allowing debris to pass through the channels. This enables the knobs to penetrate into the surface.

If the channels don't clear, they fill and fail to allow the knobs to penetrate. In this scenario, the optimal tread is sacrificed under real conditions. The optimal radius collapses under load, becoming concave. This causes the knobs to collapse inward, closing the negative space.

Even if the tread chamber is run with zero pressure while the inner chamber is optimized, the membrane is a physical boundary which restricts the possibility of collapse. Also, the tread chamber interface to the separating membrane maintains a very high load, preventing elastic drift.

Reduced Rim Weight

A conventional rim is designed wtih enough strength to account for direct impacts allowed by conventional tires. With sufficient pressure maintained by one of the chambers, a hard impact will not allow for compression to the rim. Consequently, rim weight is able to be reduced by using the dual-chamber tire.

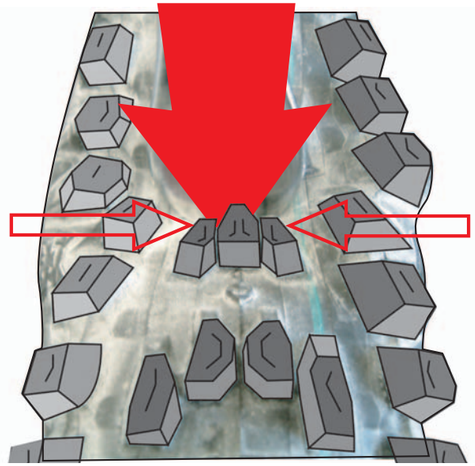
Flat Resistance

The majority of flats are caused from "snakebites", a situation in which an impact drives the tire to the rim, pinching the inner tube. This results in a small tear or hole through the inner tube. When the inner tube rebounds, a "snakebite" (two holes) is left.

With the dual-chamber tire, snakebites become virtually impossible due to one chamber being of sufficient pressure to resist compression.

In the case of a puncture to the outer chamber, the inner chamber remains inflated and suitable for use.

CONCAVE DEFORMATION of tread contact patch.
Causes collapse of tread knobs.

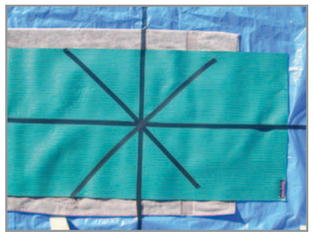


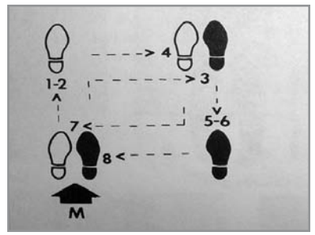
Possibilities for Innovative Casing and Tread Materials

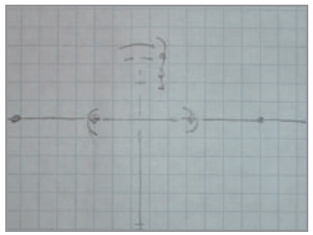
The adjustable dual-chamber tire opens opportunities for the knob material to be made from more rigid material or from a combination of materials from traditional soft rubber to metal or hard plastics.

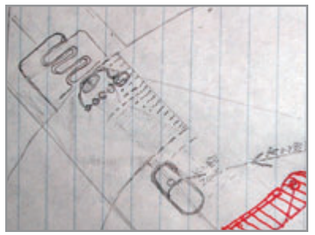
Casing materials could improve in strength, cut resistance, and weight reduction with the possibility of using polydoped, woven synthetics.

STRETCH MATS









I have expert skill sets in understanding movement and how to manipulate stretching exercises to derive specific training effects.

This project was an exploration on how to use my understanding to provide a simple, effective tool that can be used to generate a sophisticated and objective stretching method.

PROBLEM:

The fitness industry evaluates success by a ratio of profit to square footage.

Stretch mats are essential to a club but can consume large amounts of real estate and are not harnessed for revenue opportunities.

Furthermore, effective stretching is more elusive and technically difficult than other gym-based activities, even for personal trainers.

SOLUTION:

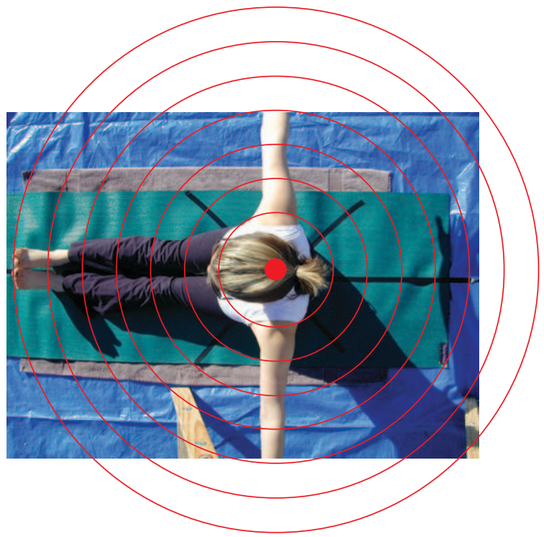
Maximize existing floor space, including the walls if available, with a graphic used for stretching.

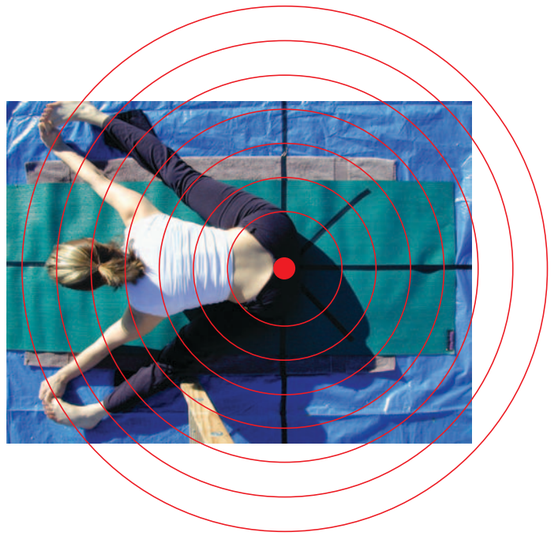
The graphic would provide direction for placement of multiple body parts and give emphasis to the techniques necessary for successful training effect.

It would create opportunities for trainers to engage members, and for every employee to promote sales through stretching.

The application of the graphic to the mat is inexpensive. The package could be sold to clubs as a revenue-generating system, much like group exercise classes such as Spinning are.

It could also be marketed for home use.



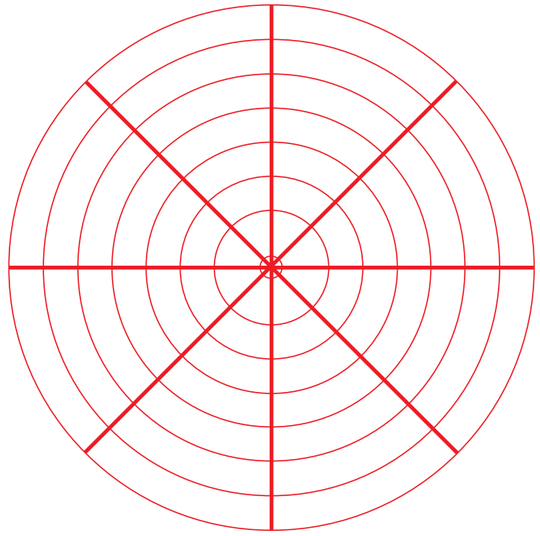


TWO IDEAS:

Instructional patterns for body positioning and placement for an assortment of stretches to be arranged as a circuit, similar to foot patterns used in ballroom dance instruction.

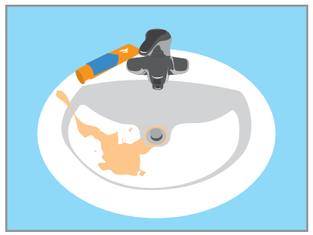
A divided circular target in which rotating around the center places the user in a new zone for each different exercise.

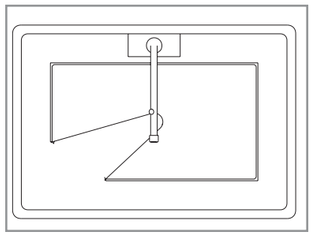
The circular pattern appeared to be the more ideal graphic because within the same area, it could be used for multiple moves. This would prevent problems that could arise from each stretch requiring an individual station and graphic.

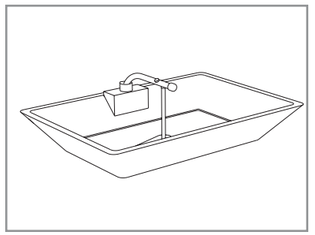


CIRCULAR TARGET with eight zones.

SPINK







Dentist offices use a rinse bowl especially for expelling paste. These bowls use a stream of water to direct spent paste to the drain while keeping it from adhering to the surface of the basin. The spink (spit + sink) is a simple adaption to create a more versatile bathroom sink.

PROBLEM:

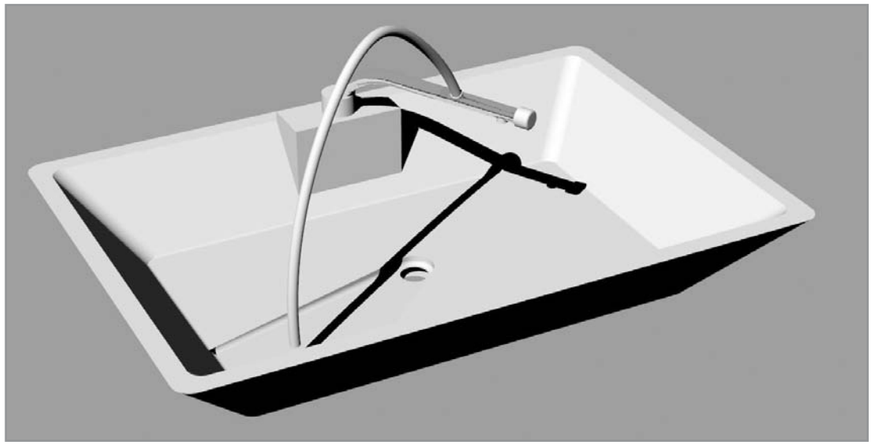
- A common condition for bathroom sinks is toothpaste residue in the basin.
- Drinking from a sink faucet is difficult and unsanitary.

SOLUTION:

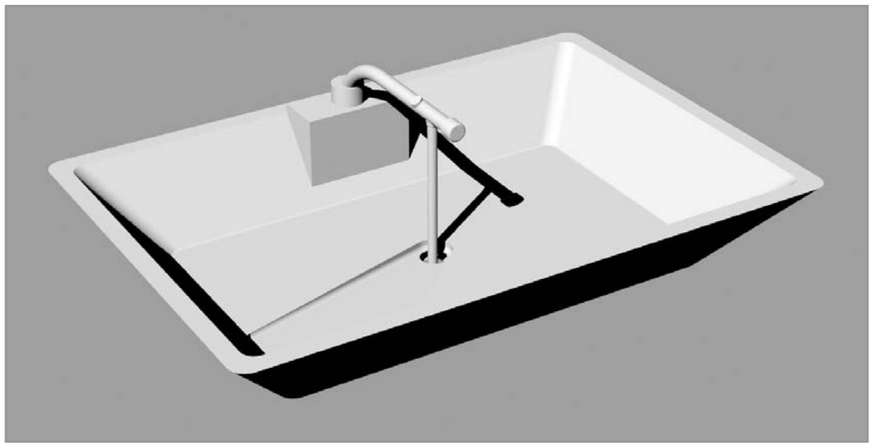
The spink's design features a depressed section in the basin, acting as a built-in "rinse bowl" or "spillway" channeling water flow towards the drain.

The faucet rotates like a kitchen faucet and it contains an additional water outlet and a diverter valve.

With the faucet rotated away from center and the diverter valve switched on, the flow is now directed through the second outlet in the faucet, allowing the water to arc upwards similar to a drinking fountain. This is a preferred position for drinking and rinsing. The water flow from this position fills the far end of the spillway, creating a condition similar to that of a dentist rinse bowl to carry spent paste to the drain.



FOR TEETH:
Faucet rotates into position. The diverter valve at the end of the faucet opens and redirects water flow through the fountain orefice. Water fills the spillway and is channeled towards the drain.



FOR HANDS:
The Spink functions as a normal sink without any alterations to standard configurations.

BRANDBUILDING STRATEGIES FOR THE FITNESS INDUSTRY

VERSAMAX

Culture Management

Versamax represents the culmination of my experience in the fitness industry.

I've had the opportunity to work for two of the most dynamic and revolutionary companies in fitness, first with Equinox, and second and primarily with Crunch Fitness.

These two companies have been pivotal in changing the conventional operations-driven club model to a dynamic revenue-driven club.

The Operations-Driven Club
derives its revenue mostly from membership sales and renewals.

The Revenue-Driven Club
also derives revenue from membership sales and renewals, but focuses on the addition of yield per unit (member) by generating opportunities with the existing membership.

The leading opportunity is personal training, which in turn supports other profit centers in the form of shakes, supplements, gear, tanning, and other amenities.

Identifying Pitfalls

By recognizing common obstacles to fitness, you can begin to develop effective strategies for the club's and the member's success.

Common Traits of this Population:

- Limited time
- Limited skill sets
- A goal of being shrink-wrapped and toned
- Previous experiences of false starts at other clubs (usually not lasting more than two months)
- A program consisting of 20-30 minutes of cardio with a weight training theme of 3 sets of 10.

There are additional features, but fundamentally the cycle and its contents are identifiable and tend to result in fitness goal failure.

Synergistic Design

I approached this as a design project, problem solving for human, technical, and financial factors.

I directed the image creation of a branded personal training program I named Versamax, including all print and visual materials and layout in many instances from concept to completion.

Versamax was designed to introduce a specific emotional experience and generate new questions to enable dialogue between staff and members.

By harnessing the enthusiasm and confidence required in the pursuit of fitness, a culture and atmosphere emerged for implementation of the revenue-driven model.

Versamax (derived from versatile and maximum) contains the energy and strategic concepts specific to what 95% of participants in fitness clubs have in common.

It provides a solution specific to this population by capturing the excitement that members experience at the start of their fitness endeavor.

Versamax is focused on reliably summoning this excitement and directing it. The enthusiasm is combined with a variety of training strategies designed to use their limited time to generate training experiences that can't be duplicated without a trainer and are specific to being shrinkwrapped and toned.

WOW
WOMENS ONLY WORKOUT

JANE: The spokeswoman for WOW.

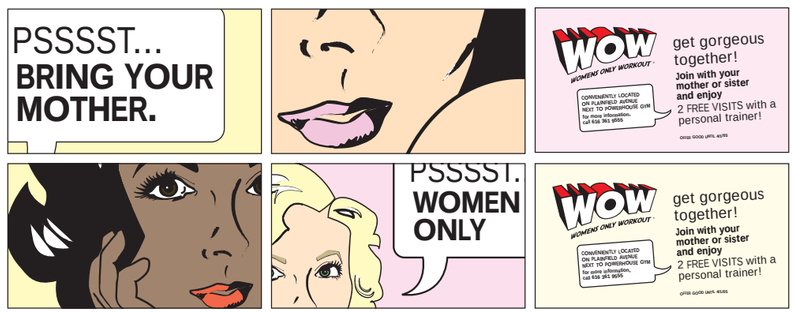
WOW: Womens Only Workout

WOW was a womens-only club affiliated with the four co-ed fitness clubs I directed. I directed the branding of WOW, from concept to completion, including all print and visual materials. WOW is an example of adapting the principles of Versamax to a different audience.

I observed that there seemed to be a certain lack of vigor, confidence, and variety in WOW's competition, womens-only "gyms" such as Curves.

I recognized the opportunity to instill the excitement and function of Versamax in a womens-only club by adding the playful indulgence, sex appeal, and sassiness of an environment like Victoria's Secret to its image.

Imagine Victoria's Secret as a health club for women only, and you'll understand the concept of WOW.



EXAMPLES OF WOW IMAGE Advertising, promotion, and business cards.

VERSAMAX

Versamax was designed to problem-solve in health clubs with a specific population by implementing a proven concept that would enable everyone from employee to customer to enthusiastically adopt their role.

Tiering each employee's responsibility and developing their experiences made for a synergy that followed the adage, 'the whole is greater than the sum of its parts'.

These are illustrations of some of the materials developed for Versamax strategies. They are supporting materials designed with function in mind and imbued with a coherent style.

PROBLEM:

A group of five health clubs had been unable to implement a successful personal training program over a seven-year span. Their approach was to hire certified trainers and then expect them to build a clientele.

Ultimately, these clubs lacked direction and uniformity. Implementation of a successful program inside their business model was not possible. They lacked experience in a revenue-driven atmosphere and the tools to implement change.

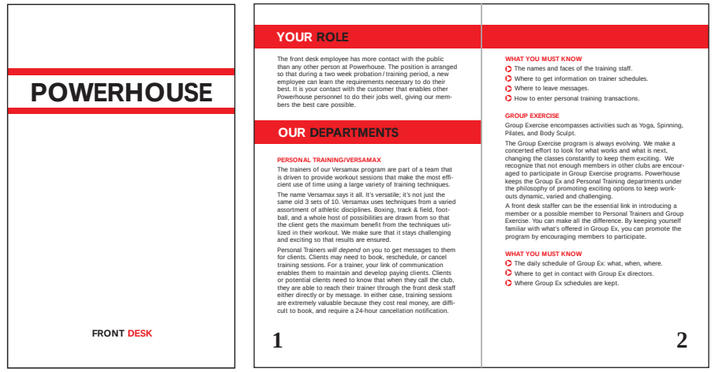
A prominent variable in this project that I couldn't account for from my previous experiences in New York and San Francisco was in adapting this style of fitness culture to a midwest culture that had no experience of anything like it.

I faced apprehension and resistance on every level.

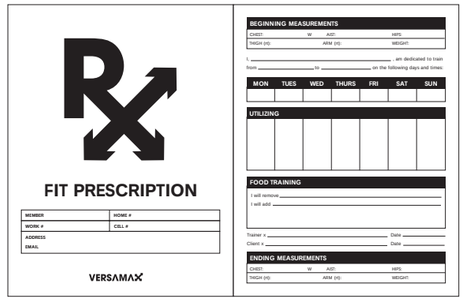
SOLUTION:

Through my work and in matters of interest to me, I have managed to participate and learn holistically. The optimum solution to a problem interests me similarly, whether it's a better watch seal or cultural synergy in a business.

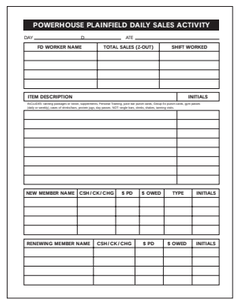
Success occurred in the clubs upon introduction of a concept that provided solutions to missed opportunities, but most importantly upon harnessing and unifying people's enthusiasm, confidence, and time.



FRONT DESK MANUAL Manuals were created for each department. They were written in a tone that inspires confidence and energy.



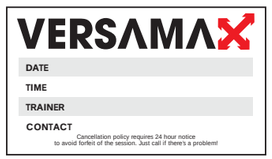
FIT PRESCRIPTION A simple and effective tool that allows a personal trainer or salesperson to generate a conversation that gives a positive introduction to Versamax strategies.



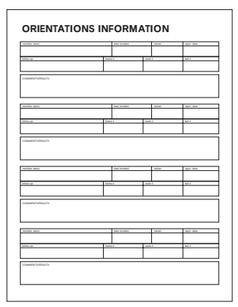
DAILY SALES ACTIVITY
Record for front desk transactions.

TRAINER UNIFORMS Female baby-t and male tee.

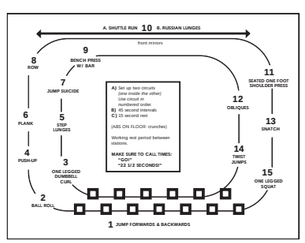
PROMOTION for a.m. program.



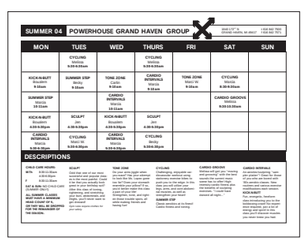
APPOINTMENT CARD
for personal training.



ORIENTATION RECORD
A tool for developing personal training opportunities.



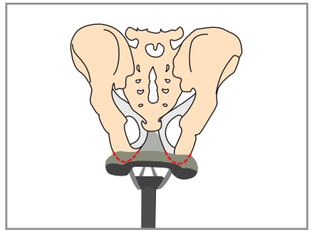
FIT FAST CIRCUIT TRAINING GUIDE
Used to teach skills to trainers and as promotional material.

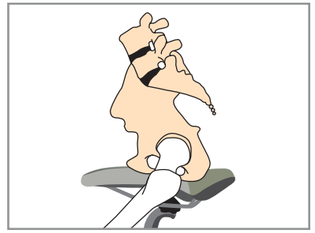


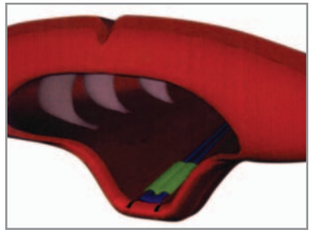
GROUP EXERCISE SCHEDULE
Standardized with descriptions.

PROMOTIONAL MATERIAL
for a program intended to increase traffic during difficult summer months.

MANTA RAY BIKE SADDLE







The most common approach to problem-solving solves for the symptoms, not the core cause.

Attempting to relieve symptoms may provide marginal success, but typically there are consequences. If the core cause is not addressed, solving for symptoms simply results in another set of problems.

The Manta demonstrates my ability to develop hierarchy of issues such as cause and effect, input and output when problem solving.

As far as important bike components go, the saddle ranks high on the list. It provides the center of your balance on the bike and is a major contact point.

PROBLEM:

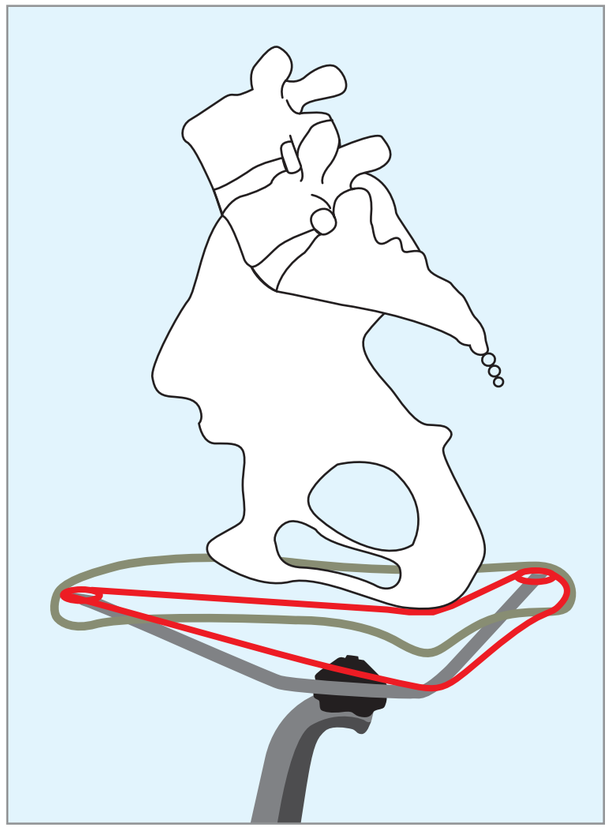
Bicycle seats are a topic of debate as a possible cause of pineal numbness, resulting in reduced circulation and damage in those sensitive areas.

As a response, saddle companies have designed saddles using holes, slots, gullies, and various padding materials to solve for this problem while continuing to use 7mm rails affixed to the seat in two places, front and back.

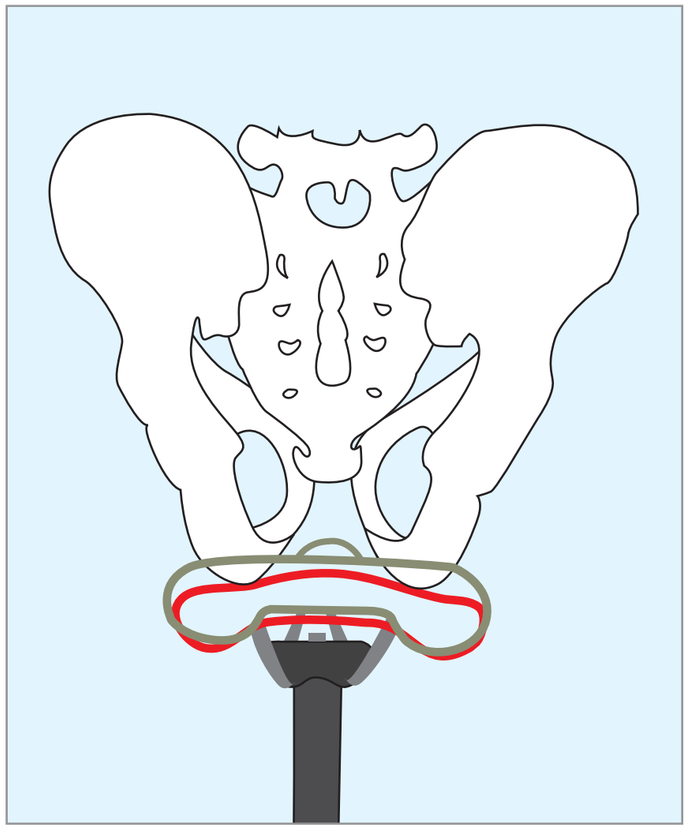
The structural inadequacy of 7mm rail design allow for two detrimental scenarios:

The effect of hammocking across the length of the saddle, and laterally, a lack of direct support under the sitbones.

The cumulative effect of this conventional design misaligns the intended sweet spot under an active load.



SIDE VIEW OF HAMMOCKING
The pair of rails affixed at the front and back of the saddle create a hammocking effect across the length. This also causes unnecessary spring.



END VIEW OF SAG
Sitbones load the saddle at a location with no direct support, which allows for sag. This causes uncontrolled motion and deformation of the sweet spot.

MANTA RAY BIKE SADDLE

SOLUTION:

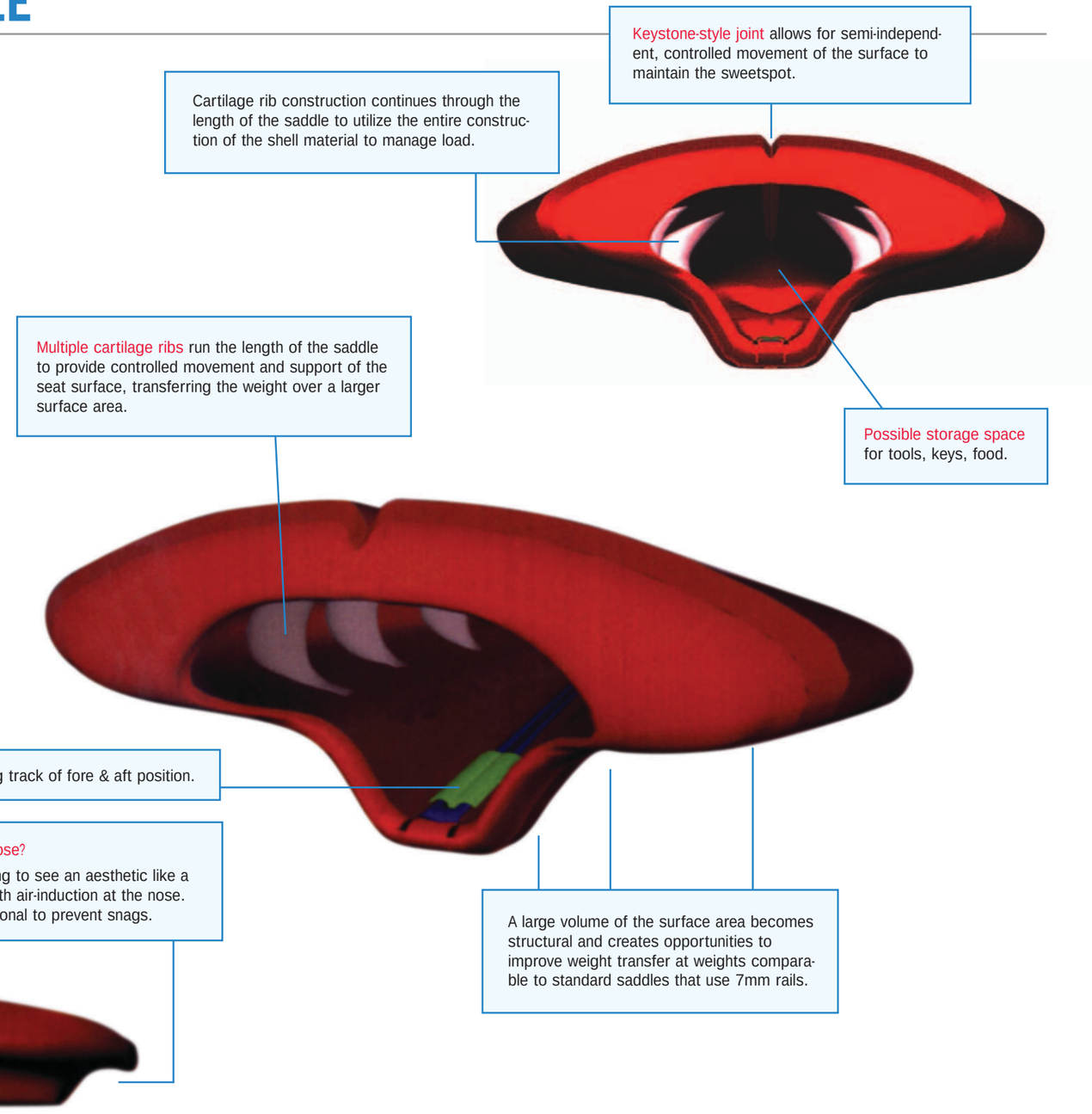
Ideal saddle fit places the sit bones in position to support weight.

Optimizing the position of your pelvis extends support up through your core. Sitting involves little muscular effort when your bones are optimally positioned.

If the bones are not stable, muscular tension is substituted to create balance and the muscles will be engaged inappropriately to stabilize the skeletal structure.

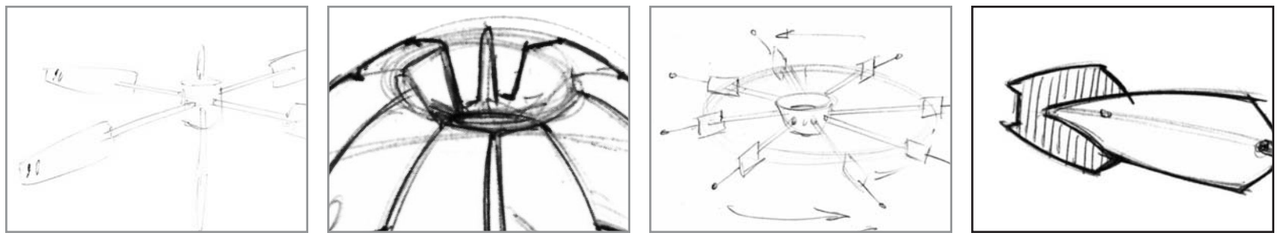
The Manta utilizes a cartilage and semi-monocoque construction concept to optimize the sitbone sweet spot and its movement within conventional volumes of typical saddles to better support and transfer load from the sit bones to the seat post.

The design allows for use of a standard seat post. The structure allows for calculated and predictable distribution of weight transfer, using the available volume and surface area.



NOTE: Not representative of actual geometry or style, but to understand the volume and where the application of a semi-monocoque construction could be advantageous.

CEILING FANS

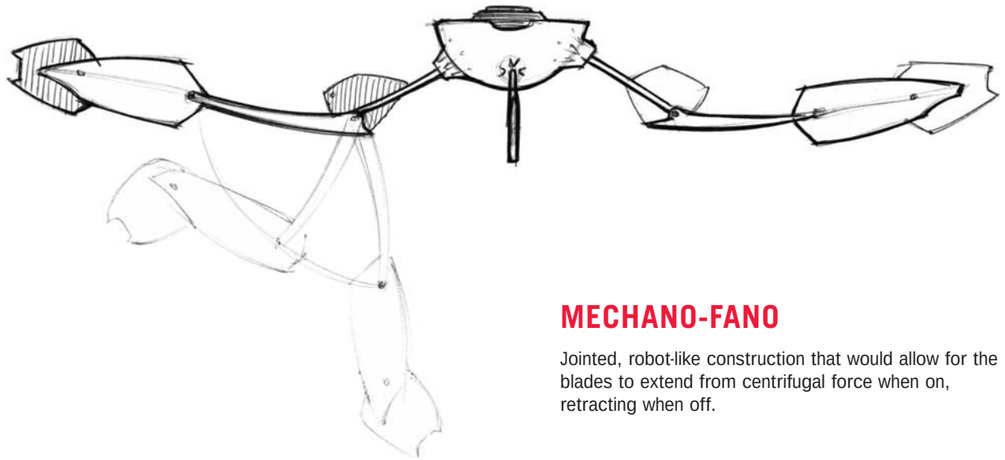


There's constant development of interior design components such as lighting, kitchenware, home appliances, etc. However, fans have remained disproportionately conventional.

I combined styles and mechanisms for air circulation, air filtration, and lighting.

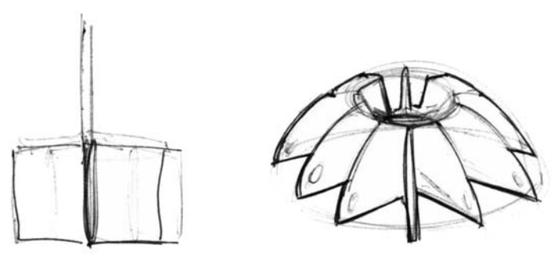
PROBLEM:

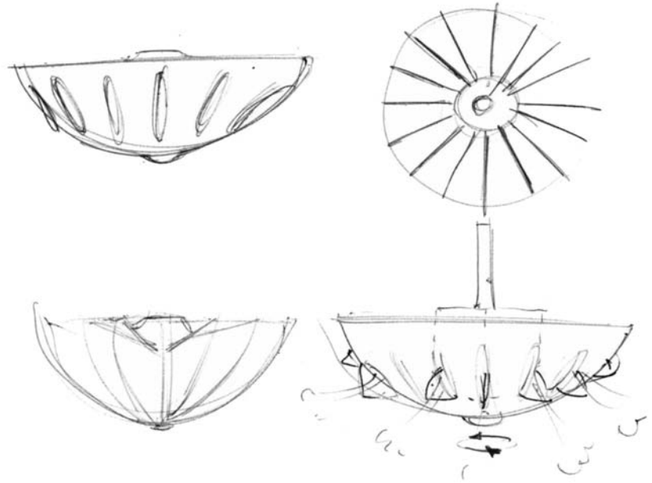
Ceiling fans were boring me.



MECHANO-FANO

Jointed, robot-like construction that would allow for the blades to extend from centrifugal force when on, retracting when off.





ENCLOSED TURBINE

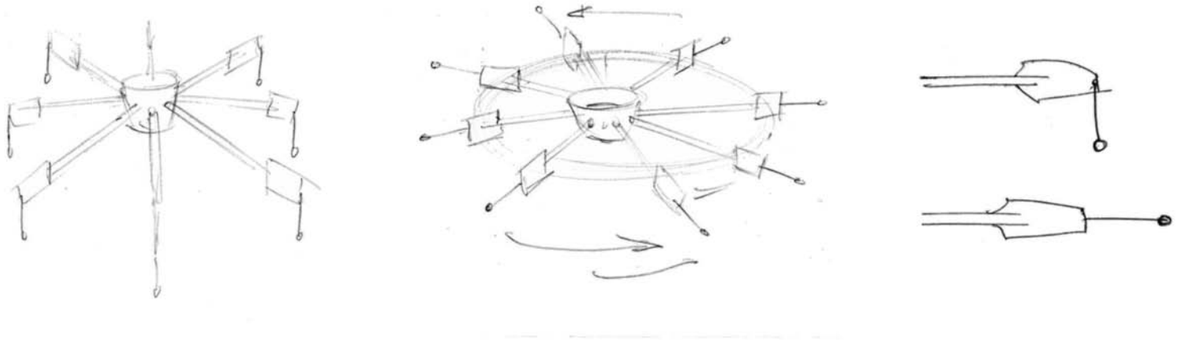
Smooth, enclosed geometry similar to a jet turbine.

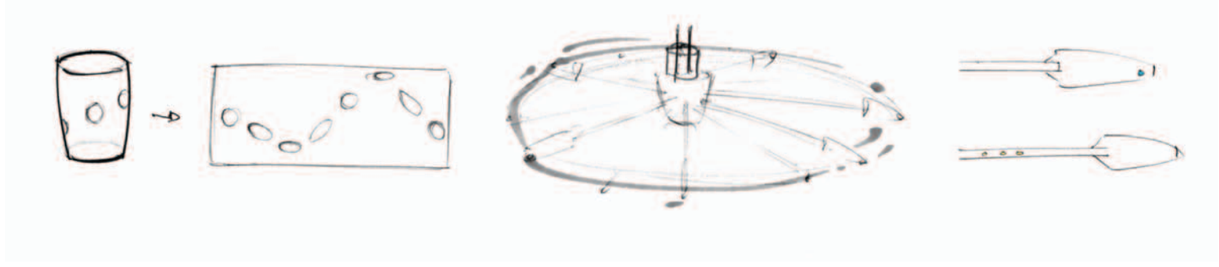
CEILING FANS

DINGLEBALL CHANDELIER

The paddles could have something tied to the tip of them. The balls could even be lights themselves, looking like planets in motion or stars hanging.

Decorative dingleballs hang when the fan is not in use, and generate an aesthetic reminiscent of chandeliers. It's a sparse design that looks into using paddles to move the air.



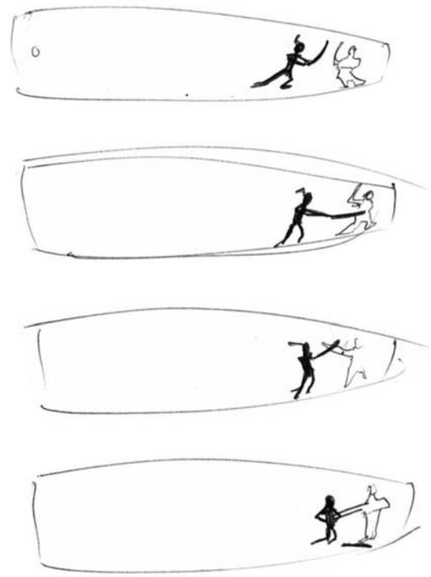


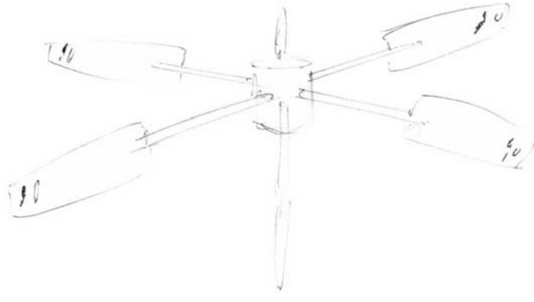
LIGHT SHOW

Additional character could be added from an LED light source on the blades to create a playful light show when blades are in motion.

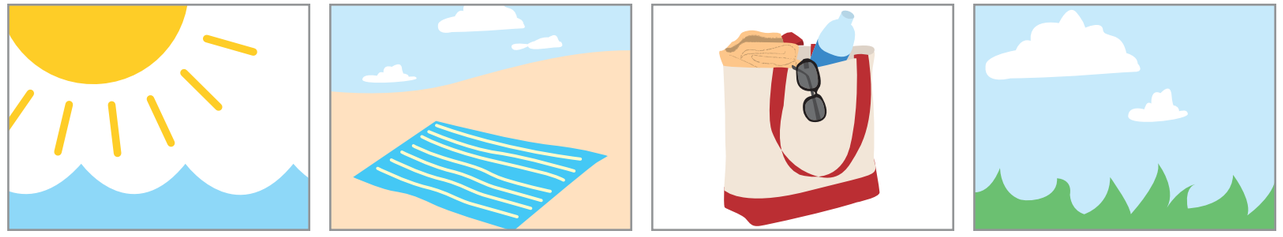
FIGHTING FAN

Inspired by the possibility of generating the effects of flip books with fan blades. The characters are viewed in motion when the fan is on.





ORIGAMAT



The origamat (origami + mat) is a project that explores the possibility of utilizing the beach blanket's volume for a dual purpose.

Determining constraints on real-world usability and manufacturability, I combined the parameters of a common tote bag with the nominal dimensions for a beach blanket.

From there, I was interested in the possibility of a system of folds to convert the blanket to a bag.

The origamat is an example of my ability to work conceptually in 3D. I conceived the folding pattern entirely between my ears and successfully folded it on the first effort.

PROBLEM:

Outings to the beach or park require a bag full of accessories in addition to a blanket.

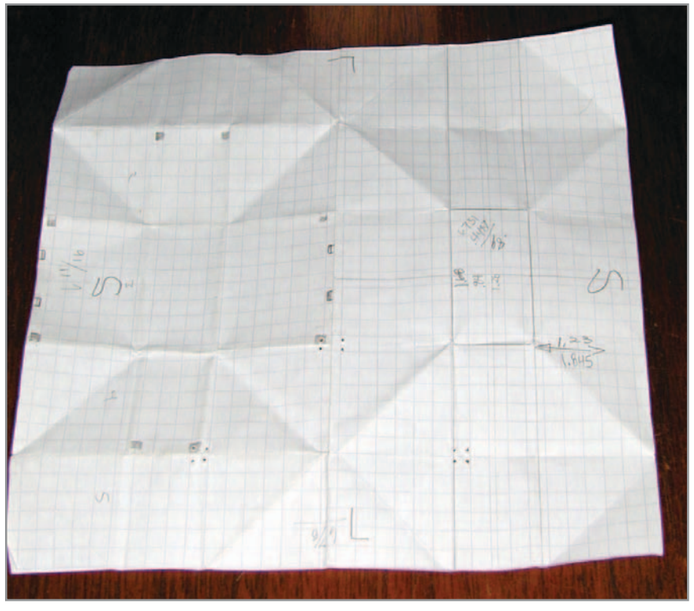
- In sandy conditions, a fabric blanket tends to get loaded with sand.
- In grassy conditions, moisture can absorb through the blanket, creating a wet spot.
- In the event of wind, blankets tend to get blown around and fly up.

SOLUTION:

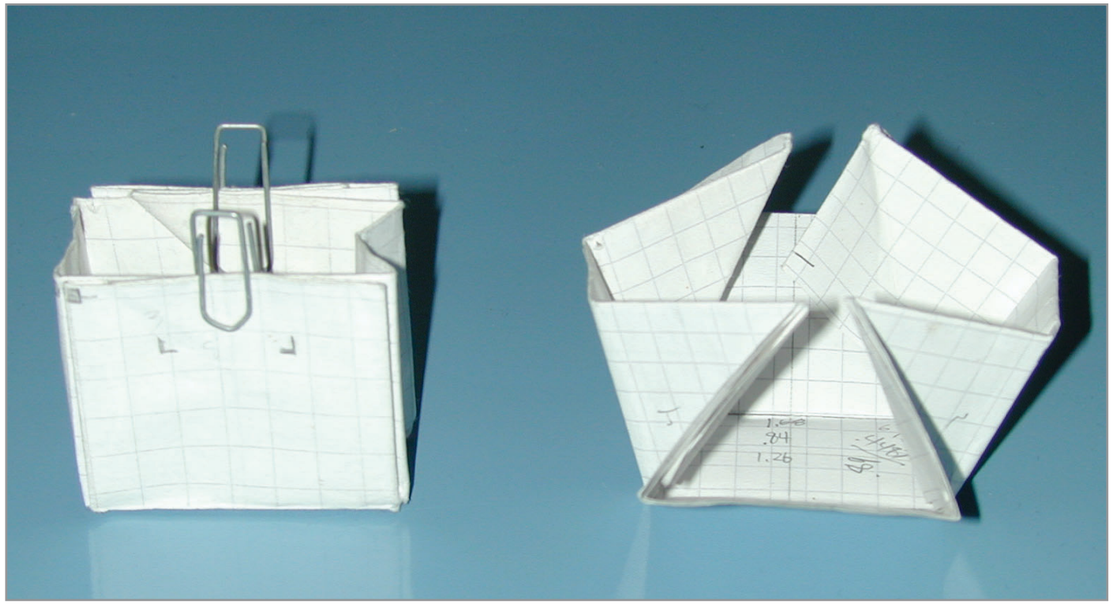
A foldable laminate of two materials provides a moisture-resistant bottom and a soft topside with low pile height suitable for skin contact.

Folding is made simple and intuitive by 'scoring' or otherwise incorporating necessary folds into the mat. When folded properly, the mat converts to a full-size tote bag.

Structural binding of the corners in the folded position doubles as a mechanism to stake the blanket to the ground. Unfolded, the blanket is an ideal size of 7' x 6.5'.

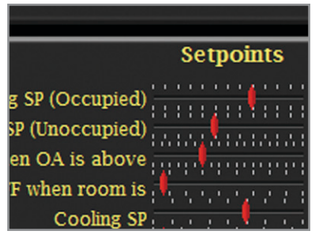


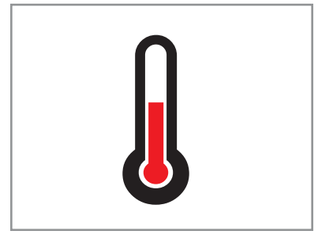
PAPER SCALE MODEL of the blanket.



BLANKET CONVERTED INTO A TOTE BAG with fancy European paperclip handles.

WEB-BASED HVAC CONTROL PANEL REDESIGN





Rapid Engineering, an industrial HVAC manufacturing company, was investigating an opportunity to develop a strategy for cultivating an available niche in their industry.

I was hired to explore the utility and experience of a prominent tool of theirs, which is an web-based control panel.

PROBLEM:

Rapid Engineering's original ideas of what they needed were to revise the web control to make it visually appealing and contemporary.

Essentially, their initial concept was of a redecoration project at the expense of exploring the user's relationship to the content and organization of the web control.

Through deconstructing the web control, it was possible to provide a more user-specific experience that communicated a dynamic, capable, and professional company.

SOLUTION:

Gathering information to define common features of the user specific to their environment, discovering details such as middle age, farsightedness, a minimum 15" display, and limited skills and comfort with technology.

Exploring industries that deal with similar needs.

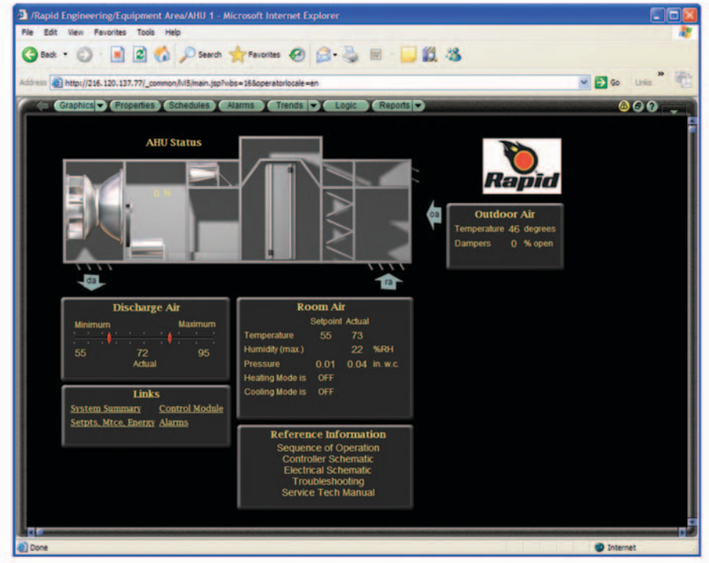
Distilling iconic language and organization suited to clarifying and streamlining the web control, and in turn, developing an image to differentiate Rapid Engineering.

Original

This is the main control page, known as AHU (air handler unit).

My introduction to this page was that it was not intuitive and was comprised of elements that I was not familiar with.

In recognition of a possible user with limited technical experience and comfort combined with poor eyesight would make this an ineffective tool for the intended task.



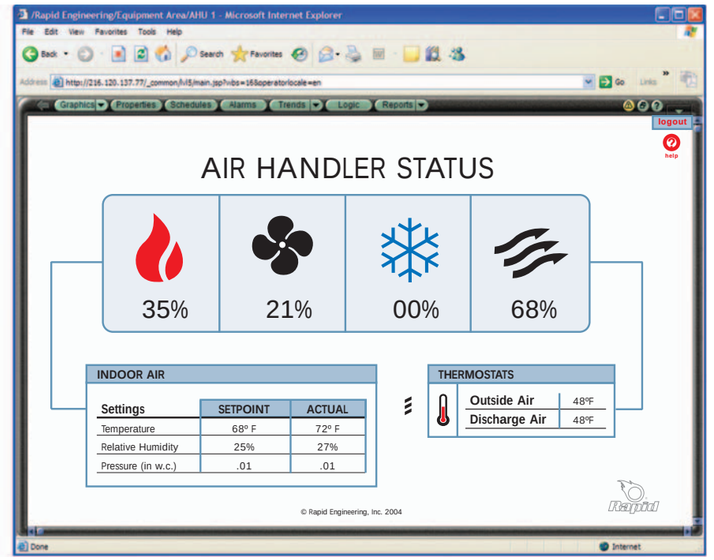
Revised

The contents of this page provide all of the features available on the original page.

I approached it without guidance from Rapid in an effort to position myself similarly to an inexperienced user.

Through a process of repeated examination, I was able to distill the necessary functions and their hierarchy.

It was then that I was able to recognize the parallels of other industries and the organization of iconic language that would provide intuitiveness and confidence for the user.



WEB-BASED HVAC CONTROL PANEL REDESIGN

LEFT: Original

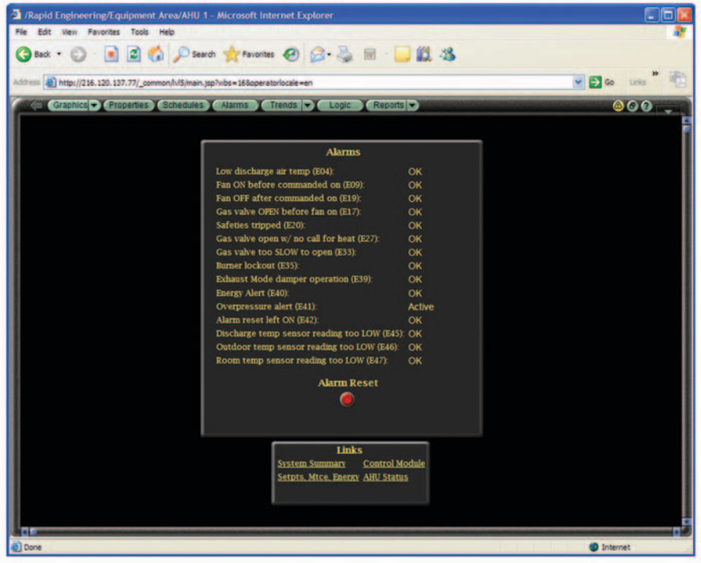
I deciphered the original alarms page by going through several revisions to identify similar groups.

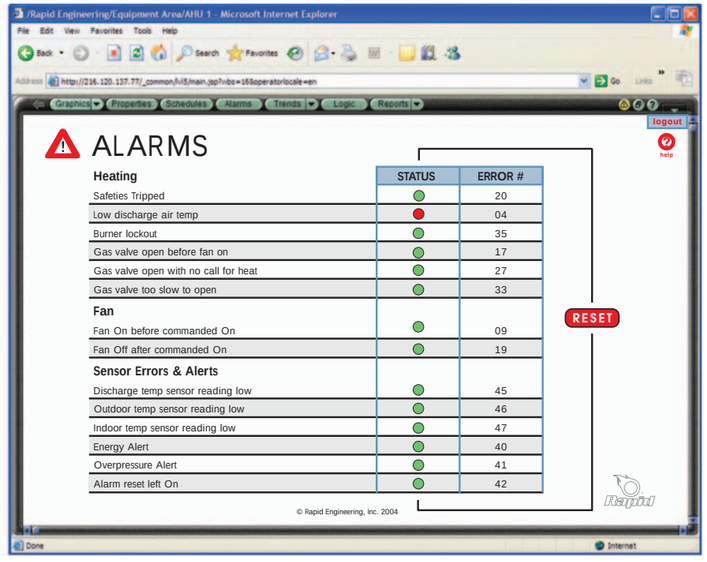
I determined how the alarm reset was intended to be used and clarified in redesign that there was one reset for all alarms.

RIGHT: Revised

Specificity of the conditions of an alarm required development of help buttons. These buttons let the user request assistance pertinent to their exact web control problems.

I clarified what the error numbers were for each alarm, placing them within easy reach of the user.





LEFT: Original

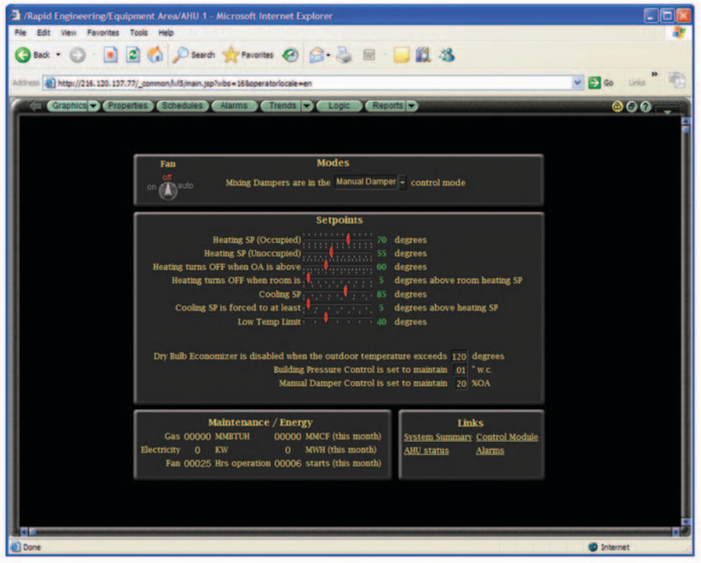
The graphic used to describe increments creates confusion and is difficult to read from left to right.

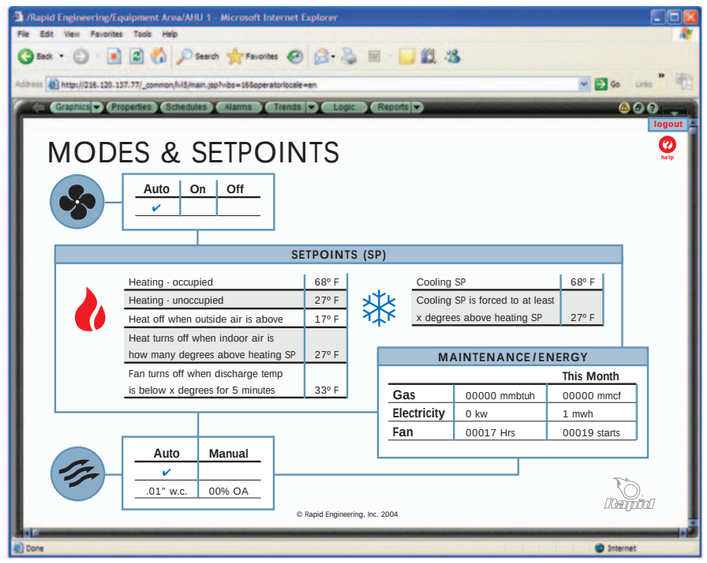
There is lack of hierarchy and grouping for the most utilized features.

RIGHT: Revised

A hierarchical flow communicates the available selection of subcategories.

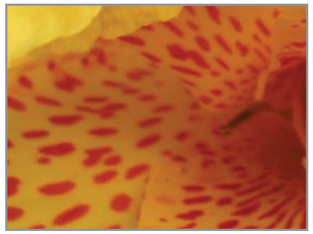
A slight liberty in design incorporates an engineering style of drawing.





SPACE-AGE GARDENING



As environmental values continue to change based on threats to the environment, so too will change society's appreciation of nature, translating into opportunities for integrating decorative hydroponic systems into the home environment.

These are imaginative explorations on how to combine available technologies for use with maintaining plant life at home in the style of other modern conveniences.

PROBLEM:

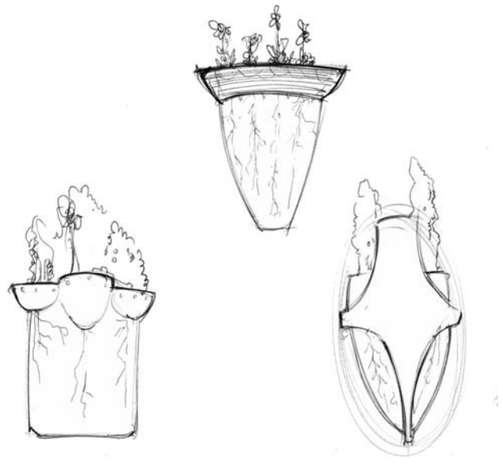
Hydroponic technology is relatively simple and readily available for adaptation to home use.

However, the parts are designed purely for utility and lack good aesthetics and convenience.

SOLUTION:

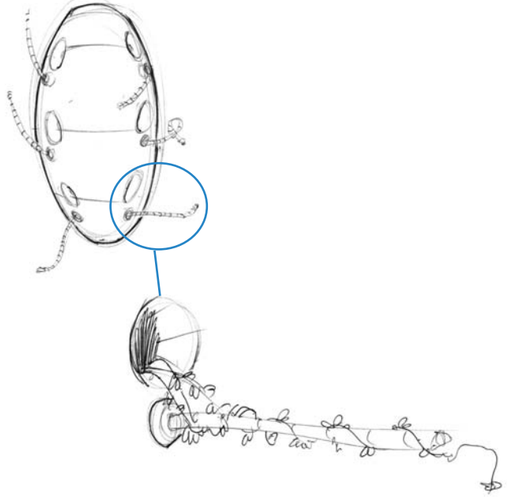
Functional hydroponic home planters that create a new style of decoration.
The aesthetic is futurist.

The technology lends itself to easier and more successful caretaking. It can be automated for feeding and generating maintenance reminders.



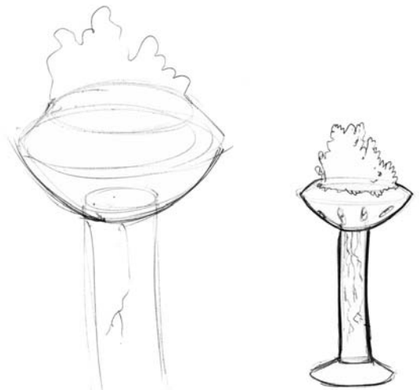
THREE WALL SCONCE PLANTERS

Clear bases let you watch the roots grow.



BUG BELLY

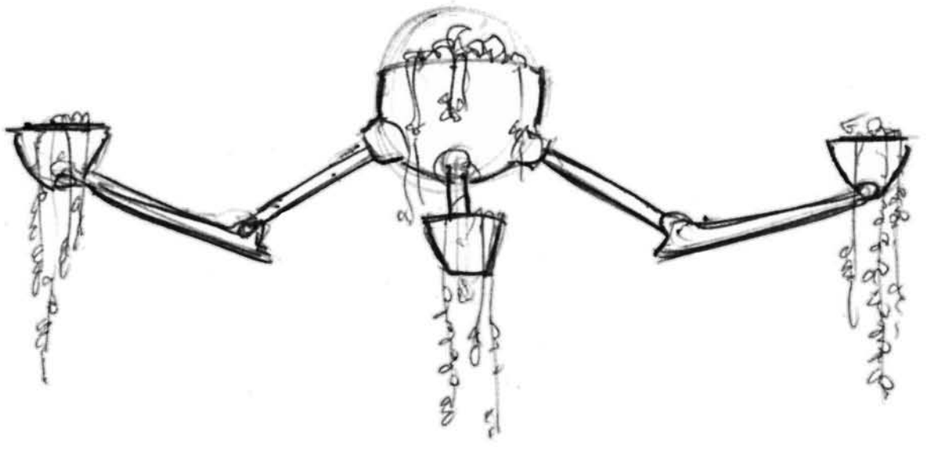
Uses six legs made of bendable wire so you can pose your plants.

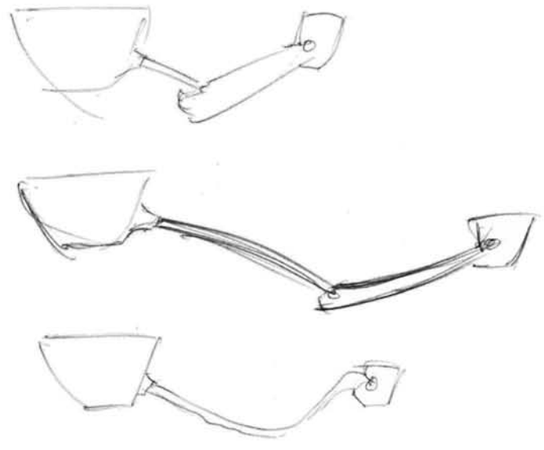


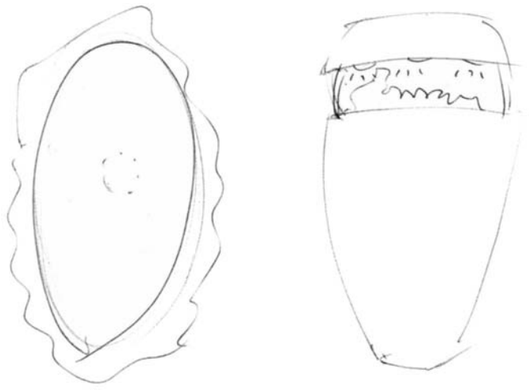
HYDROPOLIS

A floorstanding, floating plant city.

SPACE-AGE GARDENING



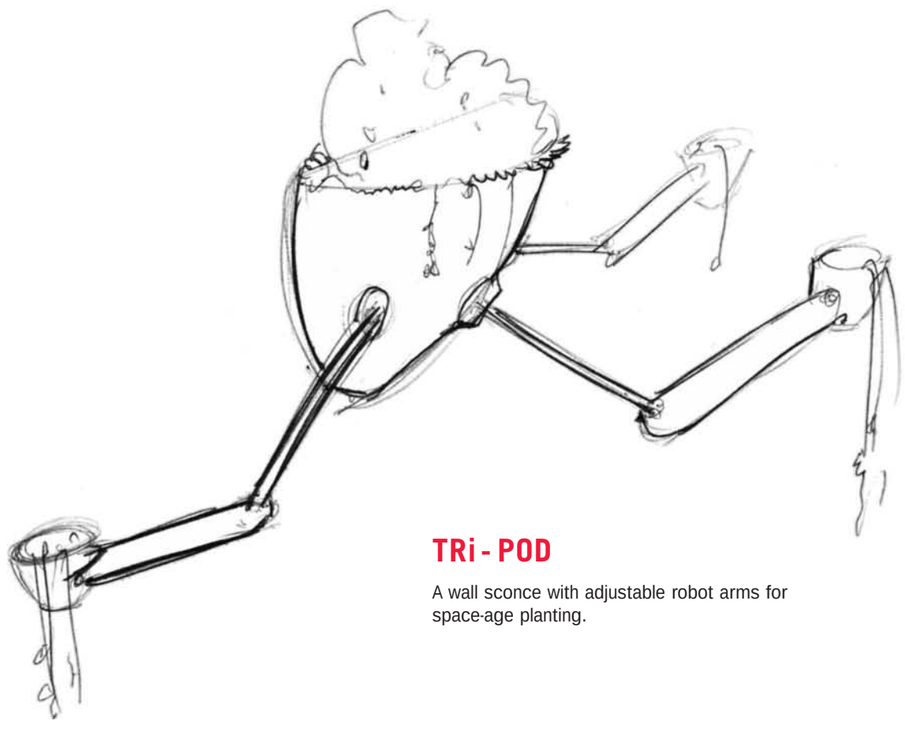




SLICE'O'LIFE

Translucent plastic shell with internal lighting would be good for both plant and user.

It would be interesting to see plants struggle to escape through the opening (slice) for their life.



TRi - POD

A wall sconce with adjustable robot arms for space-age planting.

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