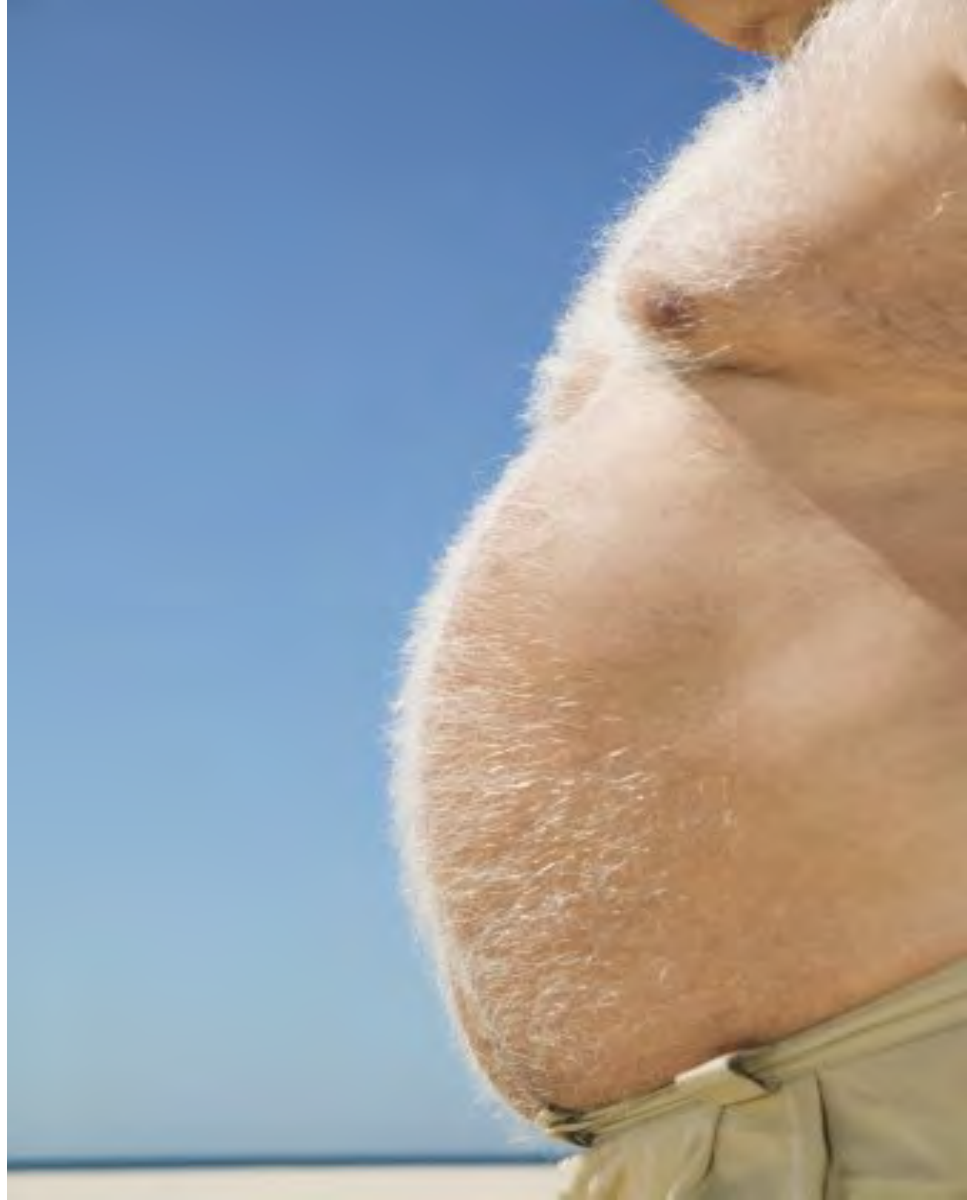


PRECOR
Preva



the journey

The traditional response to fitness is answering the call, to “get in shape”. Many expend tremendous effort to achieve this goal. But once there, they discover they do not have the motivation, wisdom or tools to hold their ground. So inevitably, they fall back.



A photograph of two elderly men standing on a beach, smiling and looking towards the ocean. The man in the foreground has a white mustache and is shirtless. The background shows the ocean and a clear sky.

Preva Ethos

Preva is not about creating the most clinically superior workout, or bringing the most sophisticated technology to market based on cutting edge exercise physiology

It's about creating the most approachable, compelling fitness experience

It's about democratizing fitness knowledge, bringing positive exercise experiences to people who aren't fitness experts so that they can make fitness part of their lives

User Research Fitness Themes



'when I was younger'



'fitting it in'



'the routine is never routine'



'aspirational elders'



'me-time'



'exercise equals moving'

The Passion Group



The passion group seeks to **live a balanced life filled with friends and the pursuit of their passions.**

They want to **live better longer**, to look and feel young for their age..

They are committed to making an effort to maintain their health and fitness and are **ready to make long-term investments in their life**

They solutions that are **simple and effective, yet right for them.**

“Precor makes it simple for me to look and feel younger.....”

User Research

Test Group Archetypes

GET FIT



STAY FIT



portland

chicago

outside target market



chicago



portland

16 in-home interviews with target consumers in two locations—Portland and Chicago (8 per location). Interview duration: 1.5 hours, plus homework exercise.

5 semi-structured interviews with dealers and sales representatives within key channels. Interview duration: 0.5 hours.

Product Landscape Marketplace

plan

GET FIT

online systems often algorithmically calculated, personal trainers occasionally used for beginners



EXPERIENCE
Which of the following best describes your experience with strength training?

- I have never lifted before
- I have not trained in years
- I have trained periodically over the last few years
- I have been training on a regular basis for less than six months
- I have been training on a regular basis for more than six months



STAY FIT

many assumptions about metrics and terminology, goals often measured in racing or numeric terms

Event	Distance	Gender	Age Group	Category
10K Run	10.0 Km	M	18-24	10K Run
5K Run	5.0 Km	M	18-24	5K Run
10K Run	10.0 Km	F	18-24	10K Run
5K Run	5.0 Km	F	18-24	5K Run
10K Run	10.0 Km	M	25-34	10K Run
5K Run	5.0 Km	M	25-34	5K Run
10K Run	10.0 Km	F	25-34	10K Run
5K Run	5.0 Km	F	25-34	5K Run
10K Run	10.0 Km	M	35-44	10K Run
5K Run	5.0 Km	M	35-44	5K Run
10K Run	10.0 Km	F	35-44	10K Run
5K Run	5.0 Km	F	35-44	5K Run
10K Run	10.0 Km	M	45-54	10K Run
5K Run	5.0 Km	M	45-54	5K Run
10K Run	10.0 Km	F	45-54	10K Run
5K Run	5.0 Km	F	45-54	5K Run
10K Run	10.0 Km	M	55-64	10K Run
5K Run	5.0 Km	M	55-64	5K Run
10K Run	10.0 Km	F	55-64	10K Run
5K Run	5.0 Km	F	55-64	5K Run

exercise

GET FIT

focus on ease, convenience, fitting into your life, "bells & whistles," lower price differentiation, supportive communities



STAY FIT

emphasis on tech specs, entertainment (distraction), premium messaging, outdoor activities provide real-world goal, competitive communities



monitor

GET FIT

devices tend to be fixed function, lower cost, real-time measurement



STAY FIT

larger device ecosystem, assumption of frequent data-monitoring for meaningful information, variety of metrics, trend-analysis



UX Brainstorming



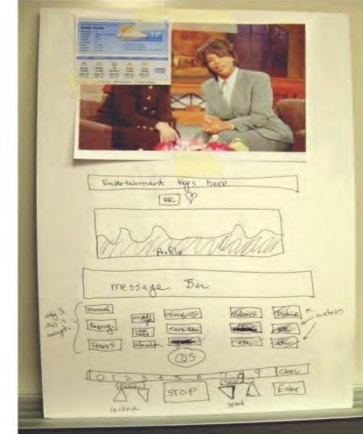
UX Brainstorming

User Research: Personalized Layouts



JIM - "the layout"

- location of content based urgency vs. frequency considerations
- experience should have personal aspects
- high end - tactile - sensitive controls
- focused on layout....layout based on use
- low urgency – low frequency :
 - 5 day fitness tracker
 - community tracker
 - access to my profile
- low urgency – high frequency :
 - media streams w/ preview window of what's next
 - my stats
- high urgency – high frequency: metrics
 - metrics aren't displayed as numbers....incline could be a scale, etc
 - metrics are customizable in user profile



CINDY – "number keys"

- multiple screen to toggle content
 - three program keys
- show information on message "board"
 - viewable user stats
- smart feedback could be displayed

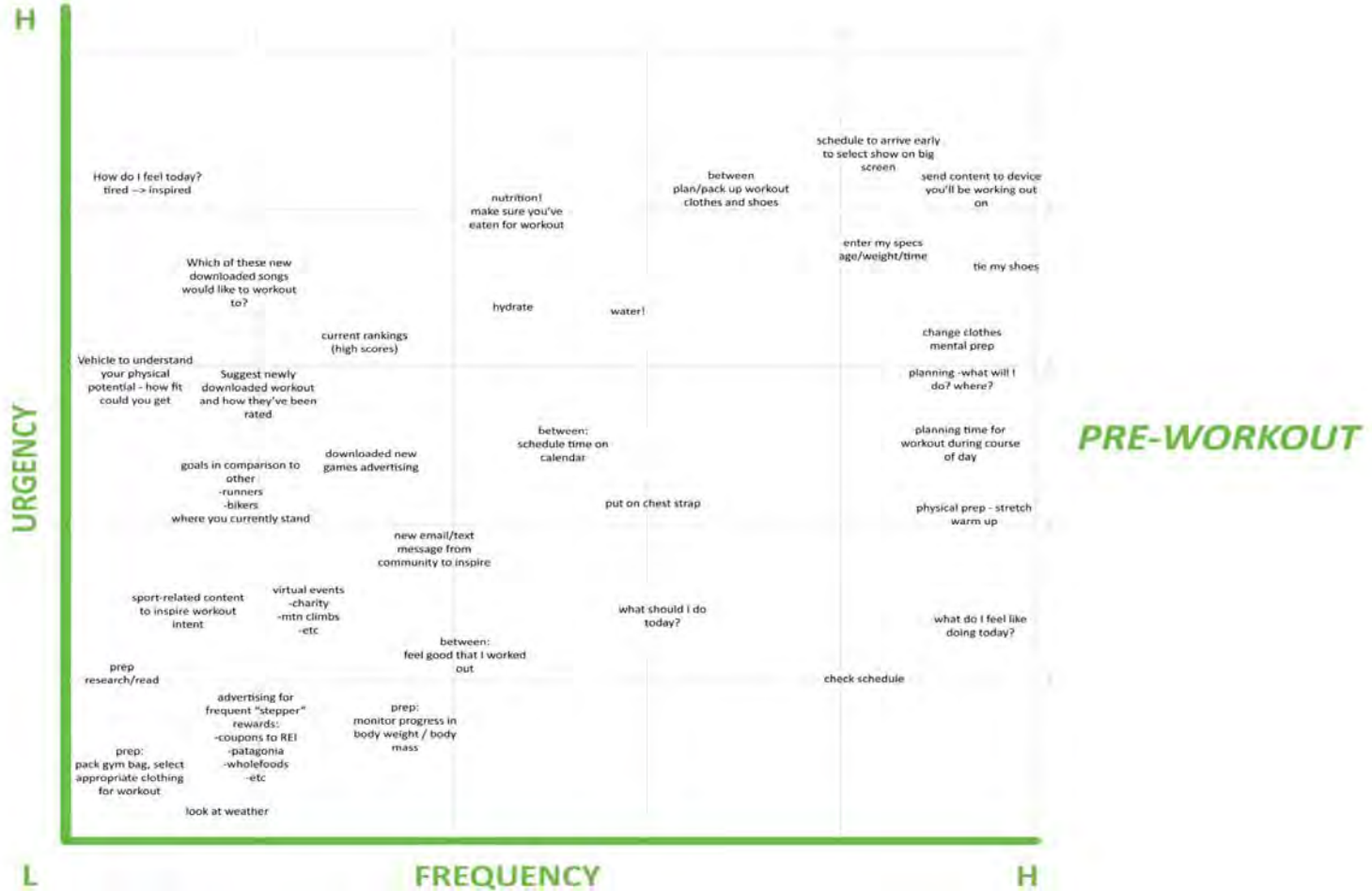
DAVE – "challenge my mind"

- don't distract me with TV....I get bored
 - challenge me with mind games
- preferred visual metrics ...analog versus digital
 - simple intuitive controls: GripShifts
 - wants machine to 'know' his body
- desired wireless access to personal content
- preferred experience that relates to outdoors



UX Brainstorming

User Research: Tasks



UX Brainstorming Themes

PERSONALIZATION

<ul style="list-style-type: none"> * your experience * comments progress with change * 'on-the-fly' suggestions 	<ul style="list-style-type: none"> * personal impact of workout * we know how you're feeling * explain next level
INSPIRE	EDUCATE
ENTERTAIN	INVOLVE
<ul style="list-style-type: none"> * media content * media match to usage (beat matching) * selectable Metrics 	<ul style="list-style-type: none"> * tells you what to do * changes as your level changes * holistic

COACHING

<ul style="list-style-type: none"> * encouraging comments * relative comparison * longterm progress * stats/tracking * set expectations 	<ul style="list-style-type: none"> * HR - spd up/down - why? * why Vo2max? * nutrition/diet * appropriate routine
INSPIRE	EDUCATE
ENTERTAIN	INVOLVE
<ul style="list-style-type: none"> * distance mapped to reality * ghost runner 	<ul style="list-style-type: none"> * planning * feedback * coach as partner * community

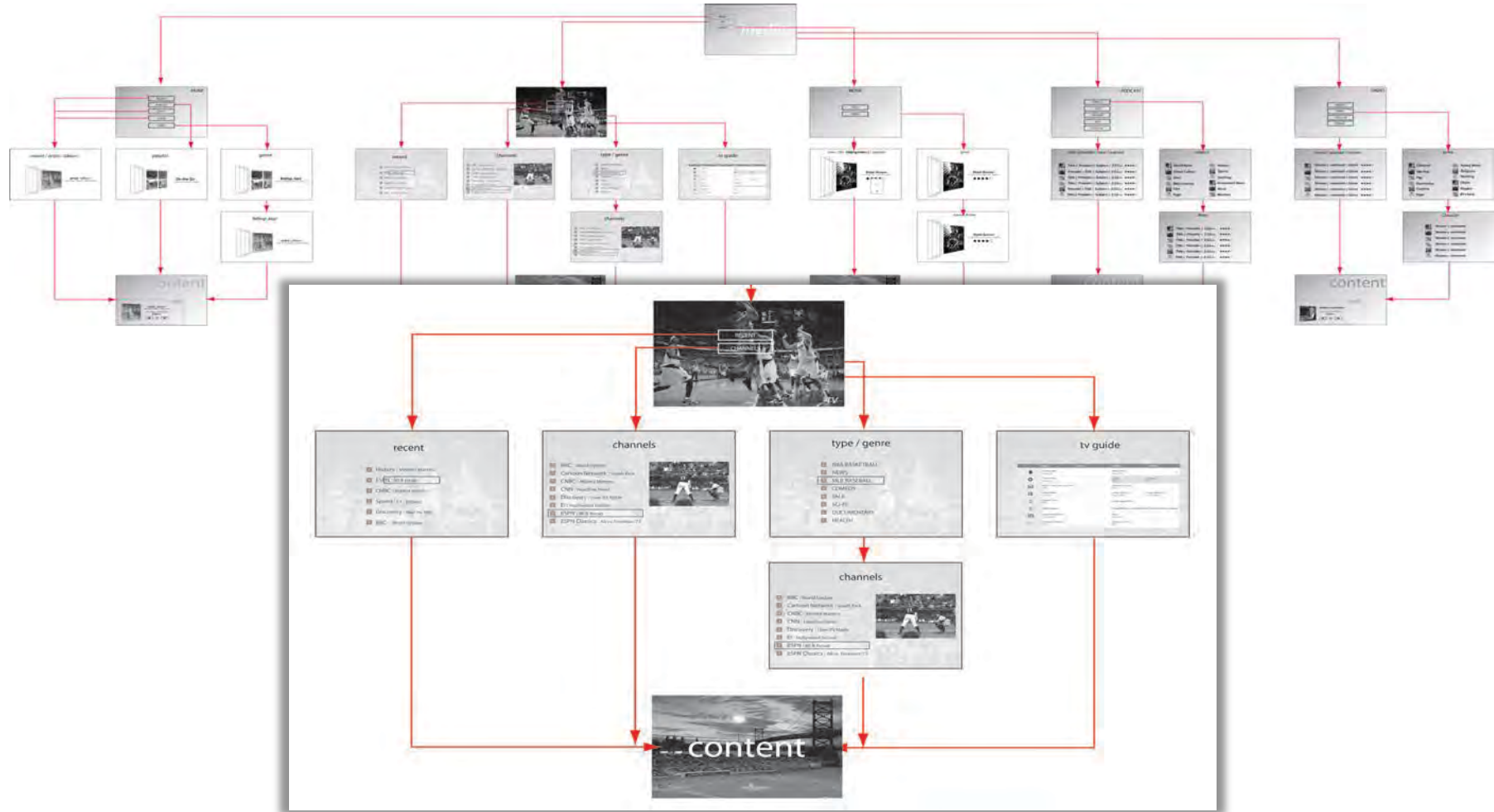
COMMUNITY

<ul style="list-style-type: none"> * contribute to larger cause (breast cancer) * virtual relay (shared accountability) -timed event -team vs team 	<ul style="list-style-type: none"> * communities to join (local, regional, national, international) * product community (same ZIP code)
INSPIRE	EDUCATE
ENTERTAIN	INVOLVE
<ul style="list-style-type: none"> * live communication * live chat * live PT/class * live video (web cam) * live cumulative tracking (build on a Seattle to Spokane run) 	<ul style="list-style-type: none"> * events in area * equipment swapping * virtual class (Microsoft liveMeeting) * share terrain maps

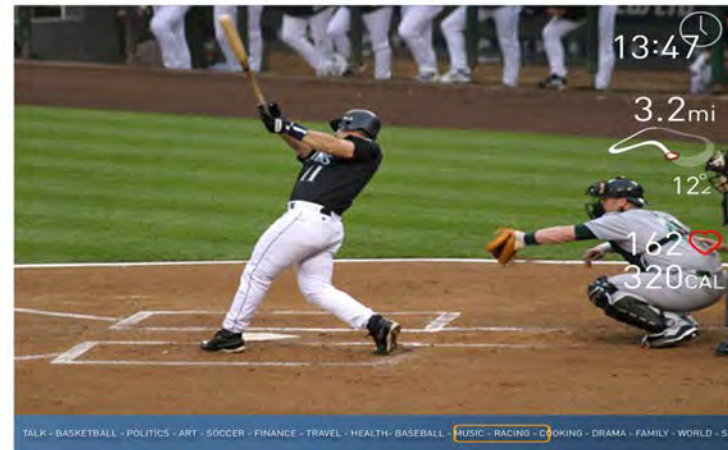
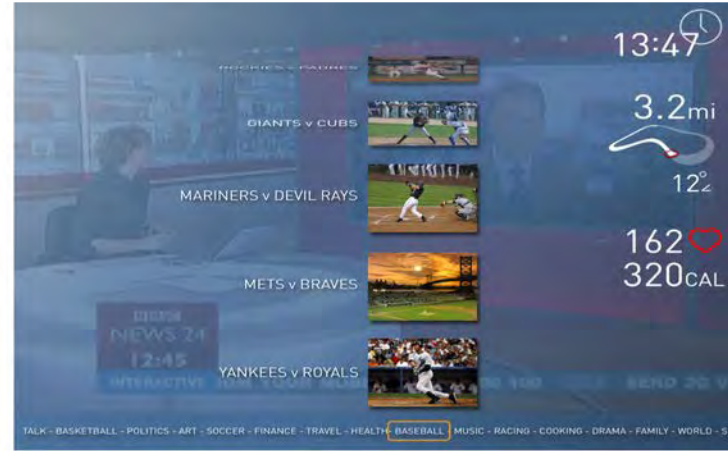
TRACKING

<ul style="list-style-type: none"> * use other metrics -light or sound -anything other than a graph * fitness level relative to age group *life tracker, fitness over long periods (years,months) *performance % by user group *odometer (customizable) 	<ul style="list-style-type: none"> * personal comparative, many variables * one report - HR - Stride - Vo2 * qualitative tracking
INSPIRE	EDUCATE
ENTERTAIN	INVOLVE
<ul style="list-style-type: none"> * comparative tracking -against my old times -group of reference points * 25 yr old Dave vs 40 yr old Dave * P2P - real world workout fuels virtual competitors 	<ul style="list-style-type: none"> * tracking fills a checklist of muscle groups activated * plot and maintain a workout course * hotel record times... * virtual teams...tracking contributes to something greater

UX Brainstorming Media Interaction Wireflows



UX Brainstorming Media Interaction Layouts



Experience Outline



Experience Outline Features

UNLOCKS NEW WORKOUTS FOR MY FITNESS LEVEL

Each time Sara completes a block of workouts, she knows she's ready to take on new ones at the next level.



CONTRIBUTE TO COMMON PASSIONS

ATLAS connects Sara to events that make her feel good while offering a chance to challenge her



ADJUSTS TO HOW I'M FEELING

Arriving home late after a long day, Sara is able to choose a workout option



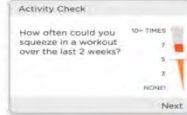
ASSESSES AND RESPONDS TO REAL LIFE DISRUPTIONS

Instead of just letting Alex figure out how to deal with the impact of real life disruptions, on her own, ATLAS finds ways to help her respond easily and effectively. Every workout on the Precor is captured. In addition to the benefits of drawing on this workout history to help inform a more balanced and personalized experience, it makes it easier to simply and effortlessly overcome these disruptions and update her overall workout plan accordingly. ATLAS's workout planning application helped Sara create a sequence of workouts designed to help achieve a specific goal. These sequenced workout plans are called routes. The system can then project her fitness trend to help her understand if she can meet her goal.

ATLAS knows when she's been away.

It's simple for her to overcome disruptions by filling in the past.

The system thoughtfully adjusts her route based on her overall plan.



INSPIRED BY OTHERS' SUCCESS

Clicking through the ATLAS online community raises Sara's spirits.



GIVES CREDIT FOR EVERYTHING

It's summer and Sara has been exercising outside a lot until one rainy afternoon when she returns to the machine.



Sara is able to make the most of even a small block of free time to fit in a workout.



Precor's equipment continuously monitors Sara in unique ways, revealing new insight into her level of fitness.

Because it uses personal Precor data captured during every workout, Precor's proprietary Fitness Index gives Sara a new way to see progress that she can believe in.



ENTERTAINMENT



AT EVERY STEP

Experience Outline

Journey Map Scenarios

Discovery

The user is able to safely and efficiently explore new equipment functionality.

ONE :: Introduction & Awareness: USB Scenario



Experienced user encounters new equipment for the first time

Media screen on new equipment is used to showcase new capability

Fitness club Provides promotional USB key for the user to engage with the system

Equipment collects info from the workout session and begins to populate a user profile

User profile stage 1, At any time, while the user is on the machine all information entered and sensed can be used to seed a new user profile

Profile Includes:
Date, time, duration, Equipment specification, Fitness facility identification, Current workout profile, Age (if entered), Weight (if entered)

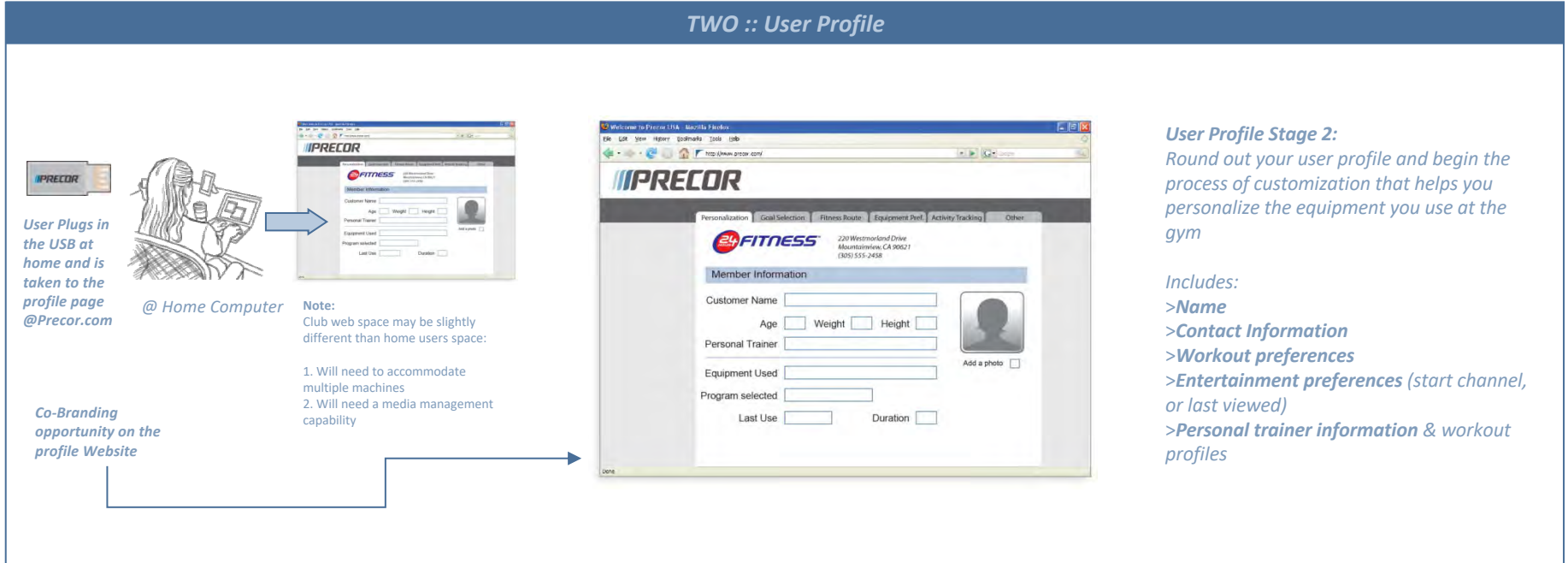
Experience Outline

Journey Map Scenarios

Efficiency

The user discovers the benefit of having a profile to automate low value and repetitious activities

TWO :: User Profile



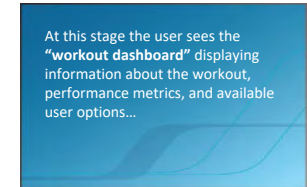
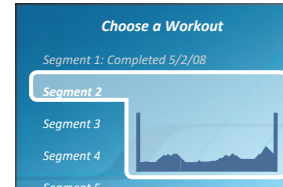
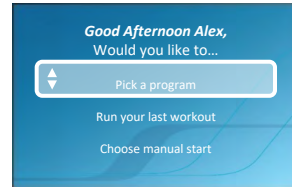
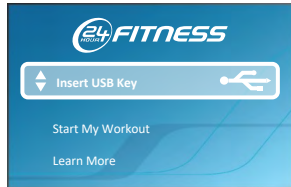
Experience Outline

Journey Map

Curation

The user discovers that the FEU can be updated with his or her specific information, beyond simply “remembering” detail settings

THREE :: First Use With Profile



Note:
PVS starts on the channel preference as set in the users profile

Note: information captured

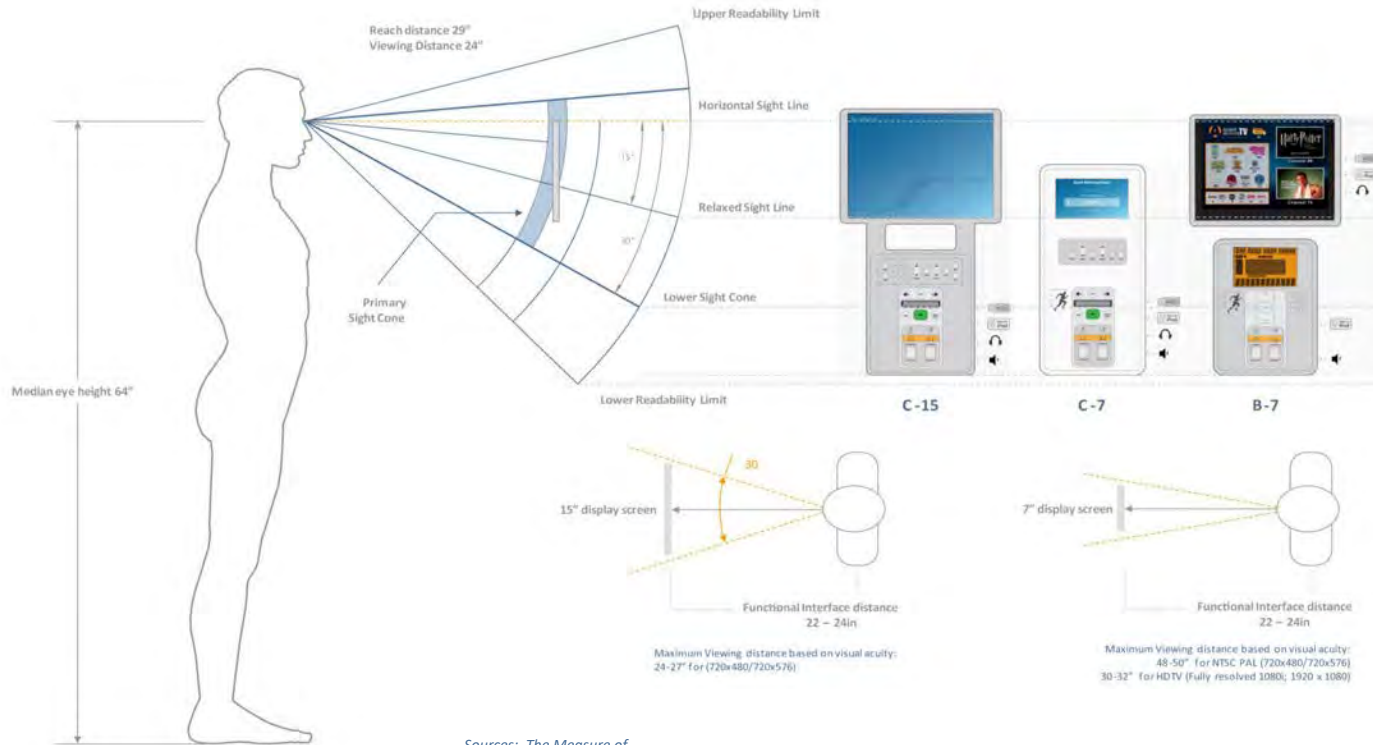
- ↳ Units
- ↳ Speed range 0-12mph
- ↳ Walking speed
- ↳ Jogging Speed
- ↳ Running speed
- ↳ Incline range
- ↳ Resistance range

Human Factors / Ergonomics



Human Factors / Ergonomics

Optimal Viewing Recommendations



Position product interaction zones in an "Interface arc" orientation
 Lower PVS Screen to middle of acceptable display zone to accommodate 'slouch' posture
 Navigation controls and machine controls should be located on different planes



User Interface

User Interface Input Architecture

FINE MOTOR CONTROL

KEYBOARD & BUTTONS	4-WAY or DPAD	THUMBSTICK	TRACKBALL	TOUCHPAD or SCREEN	DIAL	SPACE CONTROLLER	STICK
							
<p>DESCRIPTION</p> <p>Membranes, hard buttons, laser-cut colorless keys, even OLED-based keyboards. At least, to avoid the descriptiveness of buttons. Low-tech execution for simple button interaction. Slips down versions offer great reliability in high-use mobile situations (e.g., as well as tactile and minor aesthetic feedback). Focus required to create membrane switch effects user a perception of quality. Membranes prevent dirt ingress (solid and covered), hard buttons are most recognizable as "button" form.</p> <p>DEGREES OF MOTION</p> <p>Buttons are the classic "one-off" mechanism, performing one action per press. The OLED activation allows color change appearance, that being a better reference for function keys.</p> <p>TECHNOLOGY INSIDE</p> <p>Two-layer membrane contact with integrated snap domes, mechanical bridges, off-the-shelf or custom built spring-loaded keycaps. OLED screen back-mounted to transparent key top.</p> <p>RELATIVE COST</p> <p>Mid-to-low and getting lower as general acceptance of the screen widens. More \$ can be spent on the user side (i.e., creating an improved tactile surface for the fingers).</p>	<p>DESCRIPTION</p> <p>Rapidly becoming the consistent icon for navigation in embedded products. At least, to a joystick intended for use with one finger. The push movement can be large (or full degree) action. Also called a "compass pad" (due to its circular shape) when an entire menu of options can be apprehended. Can also be used to enter text. Four directions plus a central "enter" direction need precise engineering, to avoid accidental direction presses. Also works well in padform where "right" selects the active option, "up" and "down" "cancel," and "left" goes back the previous menu.</p> <p>DEGREES OF MOTION</p> <p>Typically works in four or five directional keys. In some instances (Sony PS2 controller) 256 directional pressure can be detected, to provide an aided or "step-up" selection.</p> <p>TECHNOLOGY INSIDE</p> <p>Simple four-way rocker switch with central push, mounted directly to PCB. Complex piezoresistive direction on exact directional button.</p> <p>RELATIVE COST</p> <p>Low</p>	<p>DESCRIPTION</p> <p>The thumbstick takes the basic 4-way interaction of the D-pad but expands to truly 360 degrees action. Thumbsticks are really just joysticks, simply driven to be used with a selected direction. Also called a "compass pad" (due to its circular shape) when an entire menu of options can be apprehended. Can also be used to enter text. Four directions plus a central "enter" direction need precise engineering, to avoid accidental direction presses. Also works well in padform where "right" selects the active option, "up" and "down" "cancel," and "left" goes back the previous menu.</p> <p>DEGREES OF MOTION</p> <p>Works in two dimensions for 360 degrees, with extreme sensitivity between the major four directions. Can be equipped with a central "push" to create a selector, but can be hard to locate pushing motion from directional action.</p> <p>TECHNOLOGY INSIDE</p> <p>Analog joystick, continuous states, i.e., returns an angle measure of the movement in any direction in the plane or the space (usually utilizing potentiometers), digital joystick, gives only 256 discrete steps for four different directions, and mechanically possible combinations (such as six-axis, seven-axis, etc.).</p> <p>RELATIVE COST</p> <p>Low</p>	<p>DESCRIPTION</p> <p>This refers to several technologies which allow the mouseball being tracked with the ball's surface. By combining the X-Y grid with a varying frequency, Trackballs are really just joysticks, simply driven to be used with a selected direction. Also called a "compass pad" (due to its circular shape) when an entire menu of options can be apprehended. Can also be used to enter text. Four directions plus a central "enter" direction need precise engineering, to avoid accidental direction presses. Also works well in padform where "right" selects the active option, "up" and "down" "cancel," and "left" goes back the previous menu.</p> <p>DEGREES OF MOTION</p> <p>Works in two dimensions for 360 degrees, with extreme sensitivity between the major four directions. Acceleration can be achieved by rapidly rotating the ball in one direction, using the ball's mass as a flywheel.</p> <p>TECHNOLOGY INSIDE</p> <p>Similar to a mouse, with X-Y and diagonal color encoders that send a signal to an embedded PCB.</p> <p>RELATIVE COST</p> <p>Low</p>	<p>DESCRIPTION</p> <p>This refers to several technologies which allow the mouseball being tracked with the ball's surface. By combining the X-Y grid with a varying frequency, Trackballs are really just joysticks, simply driven to be used with a selected direction. Also called a "compass pad" (due to its circular shape) when an entire menu of options can be apprehended. Can also be used to enter text. Four directions plus a central "enter" direction need precise engineering, to avoid accidental direction presses. Also works well in padform where "right" selects the active option, "up" and "down" "cancel," and "left" goes back the previous menu.</p> <p>DEGREES OF MOTION</p> <p>Works in two dimensions for 360 degrees, with extreme sensitivity between the major four directions. Acceleration can be achieved by rapidly rotating the ball in one direction, using the ball's mass as a flywheel.</p> <p>TECHNOLOGY INSIDE</p> <p>Resistive, Surface Acoustic Wave, Capacitive, Infrared, Strain Gauge, Optical Imaging, Dispersion Signal Technology, Acoustic Pulse Recognition, Frustrated Total Internal Reflection (FTIR).</p> <p>RELATIVE COST</p> <p>Mid-High, but with the growing acceptance in many mobile products with an integral touchscreen interface the marginal cost of touchscreen technology is steadily decreasing into the products that incorporate it and to achieve a commercial level of performance with any technology, touchscreen hardware and software has sufficiently matured and is well-perfected over more than three decades to the point where its reliability is predictable.</p>	<p>DESCRIPTION</p> <p>Also known as "rotator" in the Atari 2600 era. Controls one dimension of movement along a predetermined axis or angle. Alternations, used in high fidelity audio equipment are dispersed and weighted for a quality feel. Also in this category, thumbsticks, rollers, and other peripherals that allow for "scrolling" through menus. Can have detents which create a "precision" support feel. Can also allow the central input device to act as a mouse. Can have detents which create a "precision" support feel. Can also allow the central input device to act as a mouse. Can have detents which create a "precision" support feel. Can also allow the central input device to act as a mouse. Can have detents which create a "precision" support feel.</p> <p>DEGREES OF MOTION</p> <p>Liberty, the degrees around a circle. Can be infinite (stepped) or step at the ends, 358 degrees.</p> <p>TECHNOLOGY INSIDE</p> <p>Mechanical of optical potentiometer. Adjusts the level of analog signals. The CD controls at top costs \$100 and provides a simulated tactile surface for many CDs.</p> <p>RELATIVE COST</p> <p>Mid-High.</p>	<p>DESCRIPTION</p> <p>Space Controller from 3DConnection resembles a trackball, but works like an advanced 3-axis joystick (X, Y, Z axis, roll). Similar to advanced joystick used in joystick or flight simulation to control yaw, pitch, roll, and in the opposite hand, leaving the mouse hand to go and select tasks with 2D zooms, pans, and rotate in CAD space. Has a warning cone, but an inflation model. With experience, becomes quite powerful. By apparent external placement can be.</p> <p>DEGREES OF MOTION</p> <p>Able to navigate three-dimensional space better than most pointing devices.</p> <p>TECHNOLOGY INSIDE</p> <p>Strain Gauges in addition to optical joystick-like functions.</p> <p>RELATIVE COST</p> <p>Mid-High.</p>	<p>DESCRIPTION</p> <p>Selects a gear in a car: discrete positions (1-7 transmissions can have) and manual modes (like 8). Specialized touch-panels to replace the 8th gear. Also in this category, thumbsticks, rollers, and other peripherals that allow for "scrolling" through menus. Can have detents which create a "precision" support feel. Can also allow the central input device to act as a mouse. Can have detents which create a "precision" support feel. Can also allow the central input device to act as a mouse. Can have detents which create a "precision" support feel.</p> <p>DEGREES OF MOTION</p> <p>Up to eight.</p> <p>TECHNOLOGY INSIDE</p> <p>Mechanical linkage or optical.</p> <p>RELATIVE COST</p> <p>Low, but you have to buy</p>

GESTURAL



DESCRIPTION

After a small learning curve and getting over the fact that it doesn't work exactly like a mouse in space, gestural pointing devices and gaming peripherals become intuitively easy and powerful. The major design influence is grip, within the left or right hand, with a largely symmetric arrangement of keys. The bottoms of the "mice" also have opportunity for designed grip details and other buttons. The mouse-pointers shown above are intended for use on a tabletop or in freespace; obviously software must

DEGREES OF MOTION

Works as a conventional mouse on the table; translates up-down-left-right movements into X-Y coordinates in the air.

TECHNOLOGY INSIDE

Solid-state gyro in addition to typical optical mouse. The gyro and accelerometers detect the mouse's position in space.

RELATIVE COST

Mid, being used on more consumer electronics devices with the popularity of the Wii.

GROSS MOTOR CONTROL

WII REMOTE	PHYSICAL
	
<p>DESCRIPTION</p> <p>A distinguishing feature of the Wii remote is its wireless controller. The Wii Remote, which can be used as a handheld pointing device and work input, offers a new way of interacting. Our product performance that give the system additional information. The machine becomes the most mobile, joystick, and general purpose input device. Technology from other input devices is incorporated into Precise's products.</p> <p>DEGREES OF MOTION</p> <p>Limited only by the constraints in the machine built to harness the human motor.</p> <p>TECHNOLOGY INSIDE</p> <p>Load cells, accelerometers, optical or magnetic sensors, strain gauges (providing 3D position sensors, multi-state game, IR, switches, or a combination of the above).</p> <p>RELATIVE COST</p> <p>Many of the technologies are inexpensive. Single Our added \$9 in the cost of AMT, which was incorporated in the new PCB. Engineers is placed on the physical part itself, with the cost coming from the specific execution.</p>	<p>DESCRIPTION</p> <p>Our bodies become an input device - muscles that can direct our weight, load cells that sense resistance forces or work input, strain gauges, switches, and other information. The machine becomes the most mobile, joystick, and general purpose input device. Technology from other input devices is incorporated into Precise's products.</p> <p>DEGREES OF MOTION</p> <p>Limited only by the constraints in the machine built to harness the human motor.</p> <p>TECHNOLOGY INSIDE</p> <p>Load cells, accelerometers, optical or magnetic sensors, strain gauges (providing 3D position sensors, multi-state game, IR, switches, or a combination of the above).</p> <p>RELATIVE COST</p> <p>Many of the technologies are inexpensive. Single Our added \$9 in the cost of AMT, which was incorporated in the new PCB. Engineers is placed on the physical part itself, with the cost coming from the specific execution.</p>

User Interface Input Concepts

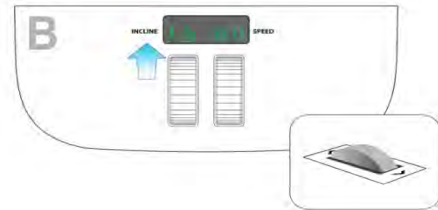
Description: Rotary Wheel (y-z direction), 360 degree free-spinning. Wheels have felt and when spun have inertial behavior that continues the spin. Detents or "clicks" occur audibly and/or tactily, corresponding to 0.1 units. The clicks should feel "heavy" or "rubbery" instead of light and watchlike. A single readout window above the wheels provides numerical feedback.

Unique Affordances: Can be actuated with thumb, finger, or palm, depending on size...

- + 1. **Intuitive** - Use corresponds to the way user is moving - forward/backward
- + 2. **Adaptive** - User can control fast or slow rate of spin.
- 3.

- 1. **Imprecise?** - Inadvertent actuation may result due to proximity or light feel.
- 2. **Tooling Challenges?** - No easy solution for single setting machines (ie bike, AMT)
- 3. **Involved?** - May require several turns to reach min-max settings
- 4. **Unfamiliar** - very different from current controls
- 5. **Fragile?** - may be hard to seat against water intrusion
- 6.

Must-Haves for success (aesthetic or functional): Knurling or other grip surface on user-facing and lateral sides of wheel. Visual connection between wheel and readout. Detents must be finely spaced to give a feeling of precision, yet wide enough to allow the user to control the wheel with a gestural motion.



Description: Rotary Knobs (x-y direction), 360 degree free-spinning. Wheels have felt or weight, and when spun have inertial behavior that continues the spin. Detents or "clicks" occur audibly and/or tactily, corresponding to 0.1 units. The clicks should not feel too light or watch-like; for instance, heavier than the CNC machine knob. A readout within the knob provides numerical feedback.

Unique Affordances: Readout within perimeter window of wheel.

- + 1. **Adaptive** - User can control fast or slow rate of spin.
- + 2. **Conventional** - Most users understand how clockwise = higher
- + 3. **Connected** - Readouts tightly linked to knobs and interaction.
- 4.

- 1. **Unfamiliar** - V
- 2. **Fragile?** - Pro
- 3. **Occluded?** - H
- 4. **Tooling Chalk**
- 5.

Must-Haves for success: engagement with dials, is from display face. Visual that communicates "go"



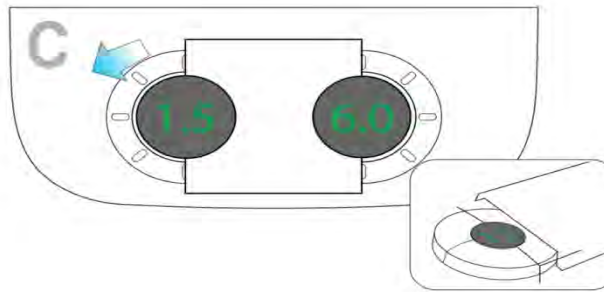
Description: Tall rotary knobs (x-y direction), 360 degree free-spinning. Detents or "clicks" occur audibly and/or tactily, corresponding to 0.1 units. A readout within the knob provides numerical feedback. The palm or finger may be used comfortably due to the increased Z-direction height.

Unique Affordances: If wheel is tapped rather than rotated, it can toggle modes between walk - jog - run. Platform area between knobs is good real estate for related keys

- + 1. **Adaptive** - User can control fast or slow rate of spin.
- + 2. **Protected** - Partially hidden knobs reduce inadvertent actuation potential.
- + 3. **Connected** - Readouts tightly linked visually to the knobs.
- 4.

- 1. **Tooling Challenge\$** - Change in design for single-setting machines like AMT.
- 2. **Dissonant?** - Is it strange to have L half on first knob exposed, and R half on the other?
- 3. **Unfamiliar** - very different from current controls
- 4.

Must-Haves for success (aesthetic or functional): Knobs need to communicate visually that they are knobs and can spin. Knurling or rubbery tactile finish on knobs so slippery fingers can grip. Substantial platform for bracing.



Description: Paddle-levers, commonly seen in aviation or maritime products as a throttle or attenuation control, providing a visual indication based on position. Levers are attached to an on-axis center pivot. Levers provide feedback by increasing resistance as user attempts to make a more drastic selection. Interaction between levers and program data allows users to make quick jumps in work effort (see storyboard for details).

Unique Affordances: Provides user a visual/tactile suggestion of current status. Allows user to turn on/off the lever settings instantly, similar to an audio production board.

- + 1. **Visceral** - Similar axis input to Dpad: fore-faster, back-slower, up/down incline
- + 2. **Communicative** - tells you machine state based on position.
- 3.

achines (ie bike, AMT) viles. using setting you want.

amped control



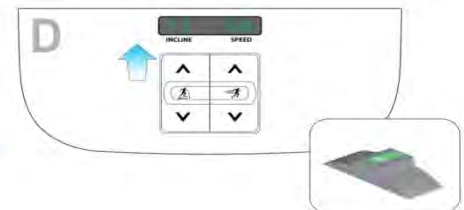
Description: Plied/Modulation Wheels, commonly seen on synthesizer keyboards for manually controlling aspects of sound quality. Two or more degrees of response are provided, by increasing 0.1 units for a small angular change and 1.0 units for a large angular change (TBD). Paddles "spring" back to center when released. Paddles are made of elastomer which accentuates feeling of being able to "push". Detents or "clicks" might communicate angle of rotation.

Unique Affordances: User can hang-on to paddle with fingers while in actuation.

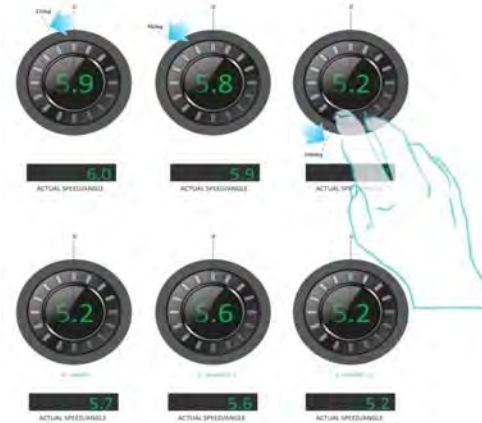
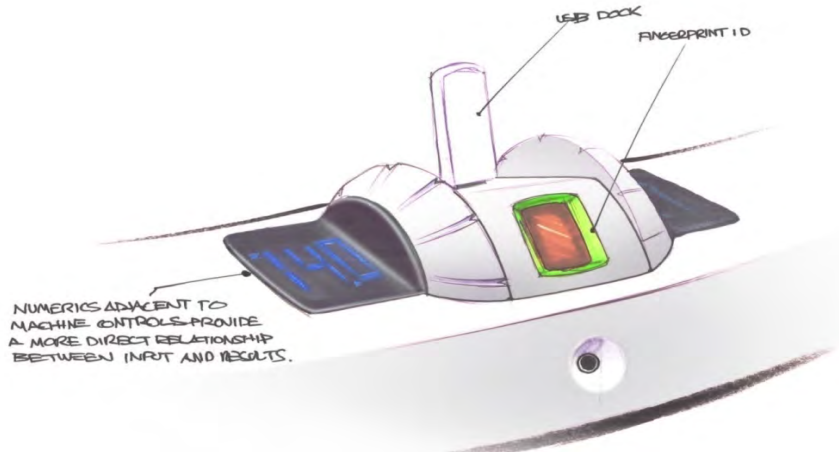
- + 1. **Recognizable** - Somewhat similar in form factor to current Tap Control.
- + 2. **Tooling-friendly** - Not difficult to imagine a single-setting machine execution.
- + 3. **Surface-level** - Relatively shallow depth needed for hardware.
- 4.

- 1. **Opaque?** - Unique and different interaction potentially undiscoverable.
- 2. **Challenging** - Different kind of hardware/software challenges from anything currently.
- 3. **Imprecise?** - Potential for inadvertent actuation based on proximity.
- 4.

Must-Haves for success (aesthetic or functional): Angular rotation needs to be accompanied by resistance or detents. Behaviour similar to car window controls.



User Interface Prototypes



In this representation, each detent (visual and tactile) represents 22 degrees of rotation, or 0.1 units of change on the displays. In cases where actual machine motion cannot keep up with this display, the numbers will remain on the display for X seconds before switching to the actual measurement.

Production Refinement Revised User Interface



ORIGINAL DESIGN

ATLAS : hardware interaction
machine control profile
CONCEPT C 1.2



REVISED DESIGN



On a scale of 1-5, how easy or difficult was the machine control to use?

very difficult > 1 ————— 2 ————— 3 ————— 4 ———— 5 < very easy

AVERAGE 4.8

On a scale of 1-5, how satisfied or dissatisfied are you with the machine control experience?

very dissatisfied > 1 ————— 2 ————— 3 ————— 4 ———— 5 < very satisfied

AVERAGE 4.6

Use of the machine controls revealed some users tend to utilize a thumb versus fingertips for increasing or decreasing speed/incline

THUMB: + increasing
60%



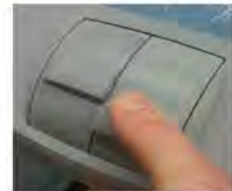
- decreasing
20%



FINGERTIPS: + increasing
50%



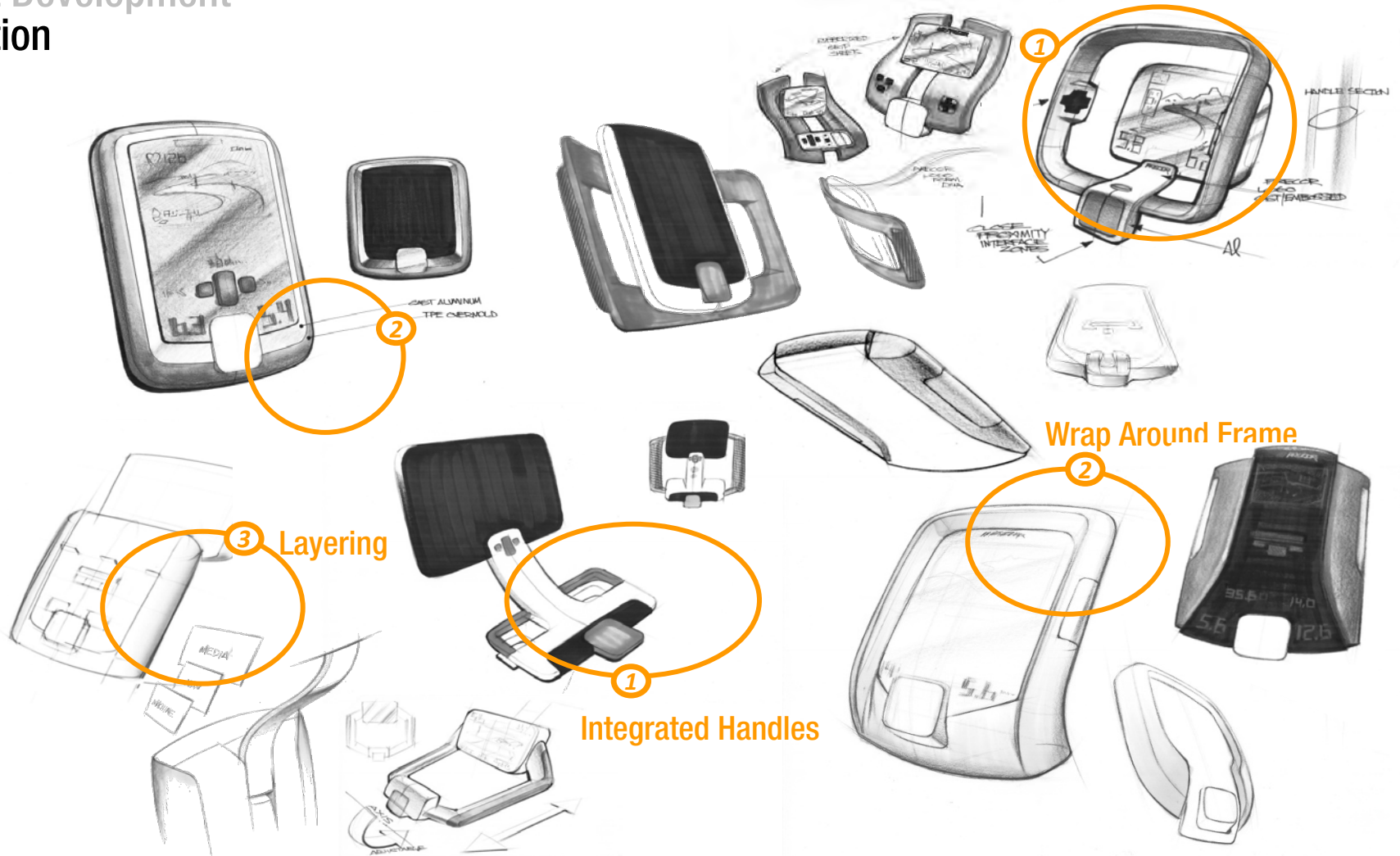
- decreasing
100%



ID Concept Development



Concept Development Exploration



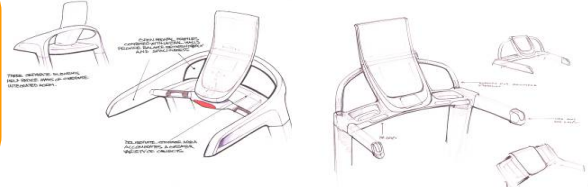
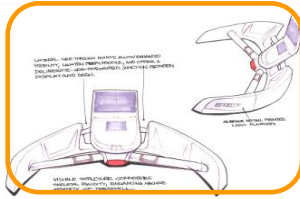
Concept Development Theme Proposal



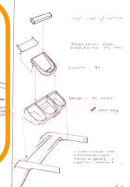
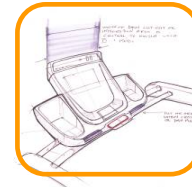
FRAME concept

Concept Development Feature Ideation

Open Yoke

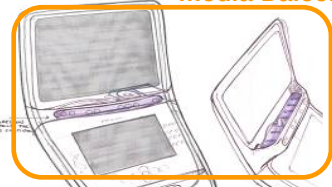


Buckets

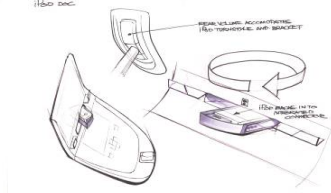


Product Integration

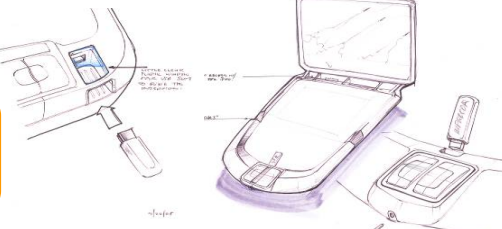
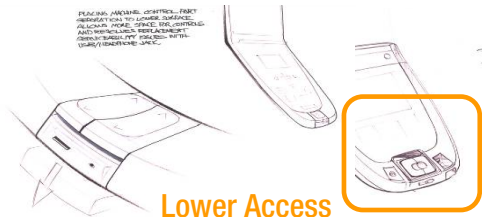
Media Balcony



Back-Pack

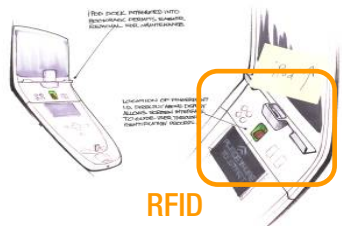
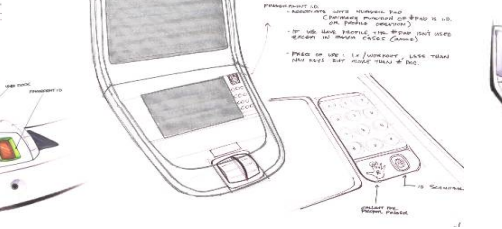
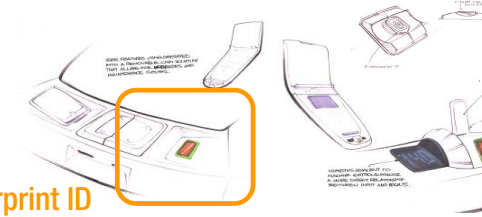


iPod Dock



Upper Access

USB & Headphone



Fingerprint ID

RFID

User ID

Concept Development Hardware Inventory

SENSING & MEASUREMENT

Integrated sensing and measurement technology provides unique data for proprietary LWOL progress metrics and workouts. The following are the core.

- 1 Weight
- 2 Heart Rate
- 3 Body Composition
- 4 Motion, Speed, Balance
- 5 Time & Date

CONNECTIVITY

NETWORK

This is primary path that connects equipment to content and communication. The base connection is a wireless network connection to precor.com supporting real-time updates, synchronization and streaming media.

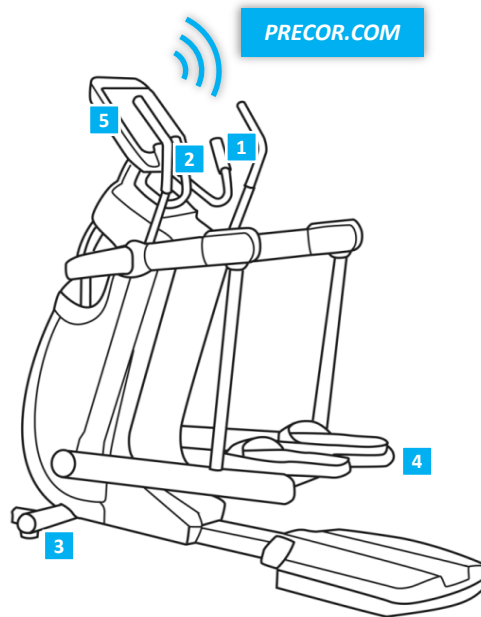
*customers are assumed to have a broadband connection

ENHANCED MEDIA/TV

To support tighter integration with other content sources, direct or integrated solutions such as standard video inputs or custom DMA's can be developed.

ENHANCED COMMUNICATION

Synchronous communication such as games, and voice chatting.



INTERFACE

Simple and intuitive, multi-functional and multi-media, standalone and connected; the LWOL interface must handle it all.

DISPLAY

Full color display that can seamlessly shift from workout UI, to online navigation, to hi resolution video and everything in-between. A larger display can be offered for those desiring a more immersive video experience.

CONTROLS

Dedicated buttons and touch controls will be optimized for intuitive and ergonomic interaction without adversely impacting workout motion. Existing control button layout will be simplified by moving dedicated functions to software.

SENSING

All sensing should be transparent to the customer. At the present time, sensing for basic heart rate and body composition will be integrated with hand grips. If necessary, continuous heart rate will be captured using a standard chest strap.

HEADSET

Make it easier to talk to others while working out, whether to make a Skype enable call or chat with a LWOL buddy while working out.

AUDIO I/O

Bluetooth enabled headphones allow users to be offered workout guidance away from the machine. A standard stereo headphone jack is available as backup. External speakers will be included to support basic interaction needs only.

AUDIO OVERLAY

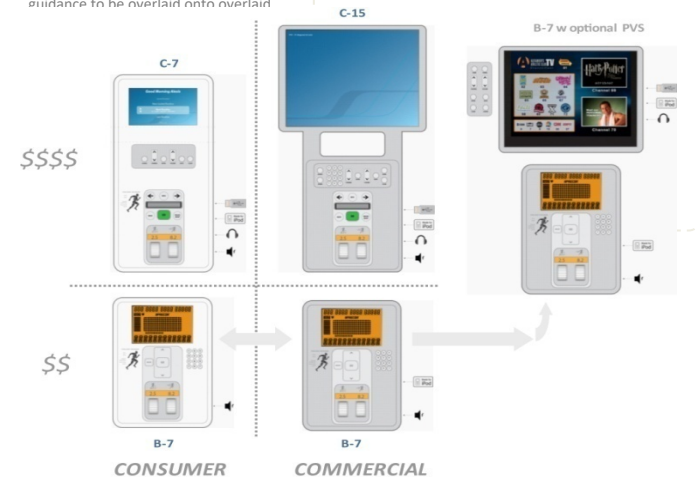
Supports connecting MP3 players and headphones to enable workout guidance to be overlaid onto overlaid

ENHANCEMENTS



STRENGTH and/or STRETCHING TOOLKIT

Offer a simple set of strength and/or stretch training items that can be used in conjunction with audio guidance during workouts to extend the user's home gym experience beyond only cardio.



Production Refinement



Production Refinement CAD Development



"Media Balcony" iPod Solution
Cable based solution provides more flexibility and compatibility with emerging form factors.

Metrics display window
Single window design delivers greater flexibility using the same component on all SKU's



Updated Machine Controls
Enable both fine and gross adjustment of FEU functionality



Production Refinement Prototype Models



Production Refinement

Initial Concept Tiers



AT-1500



AT-75

Production Refinement

First Article Inspection : AT-1500



Tom C.

Kim

Steve

AT

Product Launch



Product Launch Production Tiers



P80



P30








P10

Product Launch

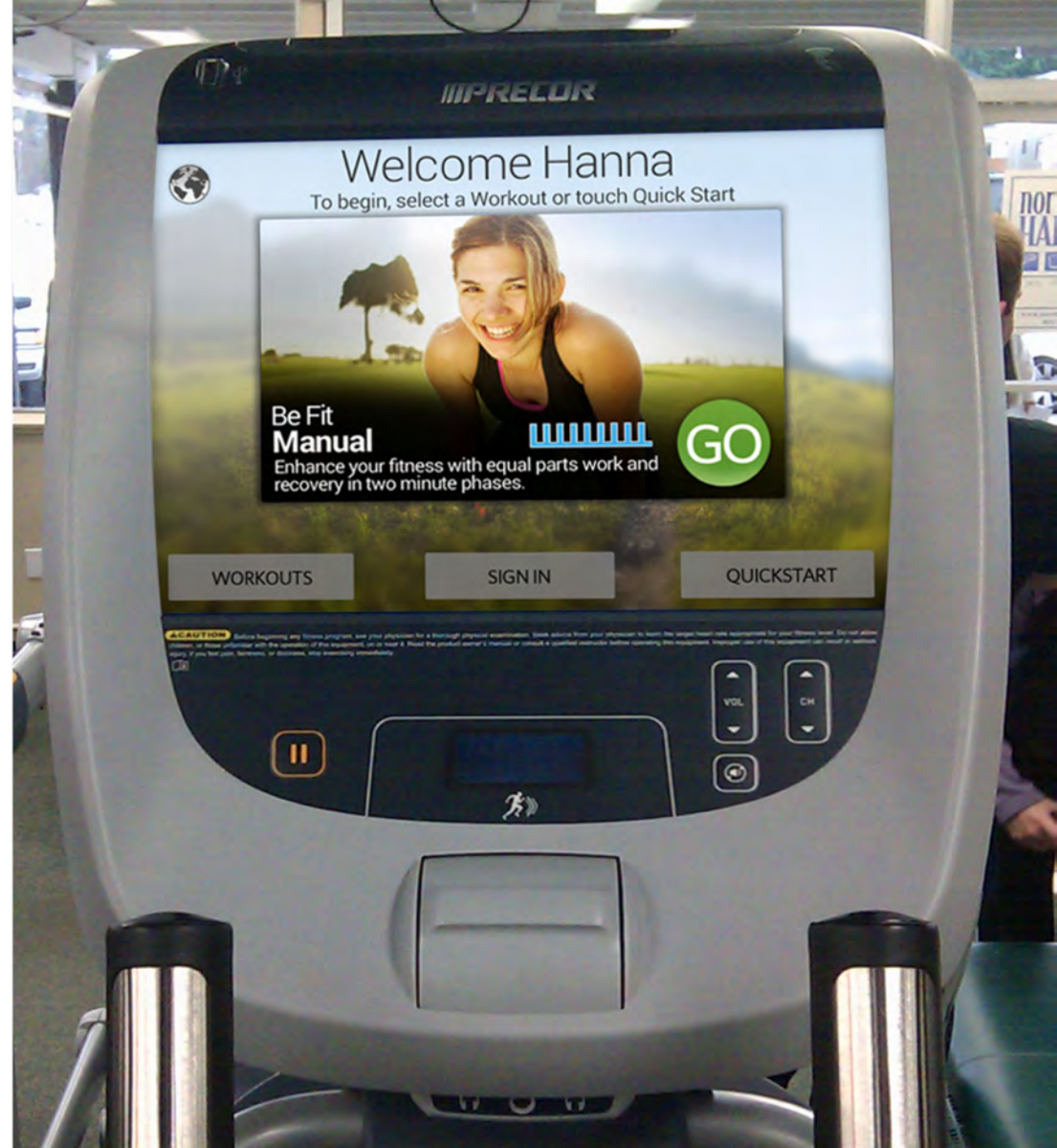
P30 / P10 : Optional Features



EXPERIENCE SERIES™ Cardio Line		 P30	 P10
Entertainment Cap 800/900 MHz			
Personal Viewing System (PVS)			
Personal Entertainment Player (PEP)			

P30 + optional PVS

Product Launch Integration: P80 EFX



Product Launch
Integration: P80 Treadmill



Product Launch
Integration: P30 - P80 AMT





PRECOR
Preva