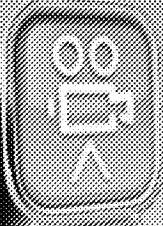


- The Uber-Spatial Web Browser
- The Clickable World Lightfield
- Medical/Healthcare App
- Sensoryware Games – Cross Platform

The World Is Our New Desktoptm





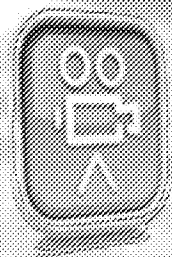
**The World Is Our New Silver
Screentm**



Imagine Together

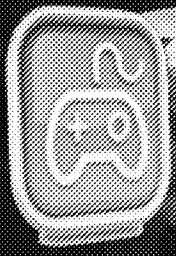


**Cinema Injected Into Everyday
Life**



See The Impossible

ILLUSTRATION SHOWING MOUNTAINS EXPLODING AND CRUMBLING REVEALING THE BEHEMOT.

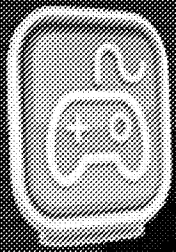


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EA GAMES™

MOREVEKIAN CITY CONCEPT

Explore New Worlds

0339
THE HOUR BLUE
EA GAMES™



Shared Cinematic Reality



Video Games Come Alive



Korean 101: Language and Culture

 **Susan Kim**
Adjunct Professor
Korean Center
Studies Dept.

Current: Seoul University

Previous: University of Iowa
Korea

Previous: USA, Korea, Japan
International Studies
Dept. Culture and
Communication
Studies Center



Connect!

이것들은 서울의 사원지구에 위치한
중추는 종 건물들입니다.
These are the Dooching Dragon buildings
in Seoul's business district

HIGH MARK

Lightfield Language Translation



Bedroom Dance Club DJ



Concerts In Your Home



Education Can Be Amazing



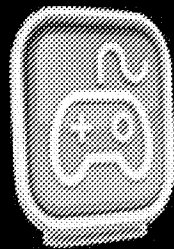
Virtual Album Experience



Virtual Album Experience



magic leap studios

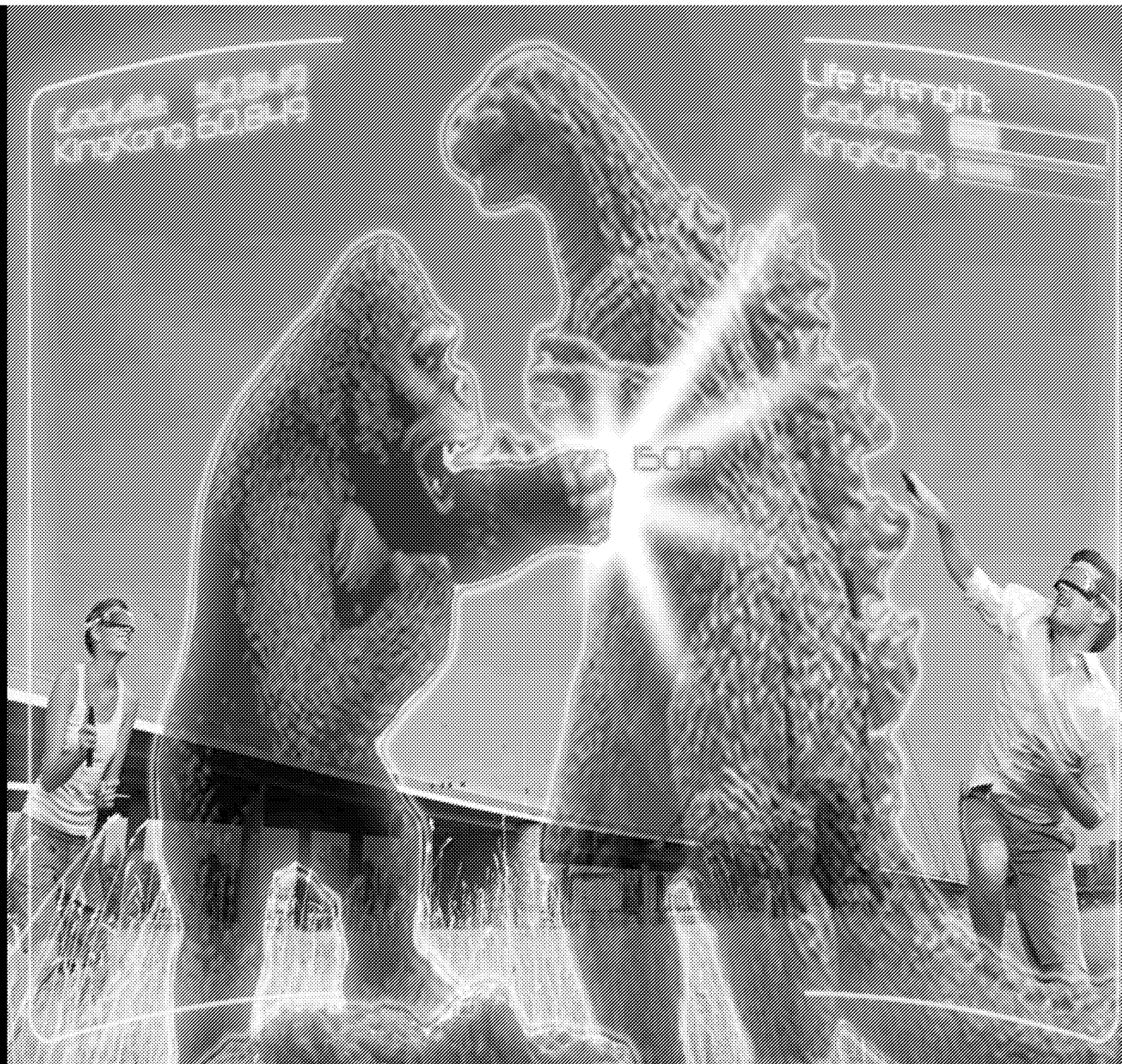
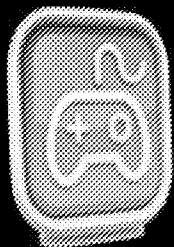




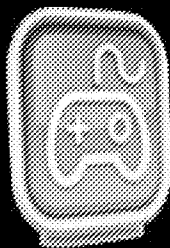
magic leap
studios



**MONSTER
BATTLE**



magic leap
studios



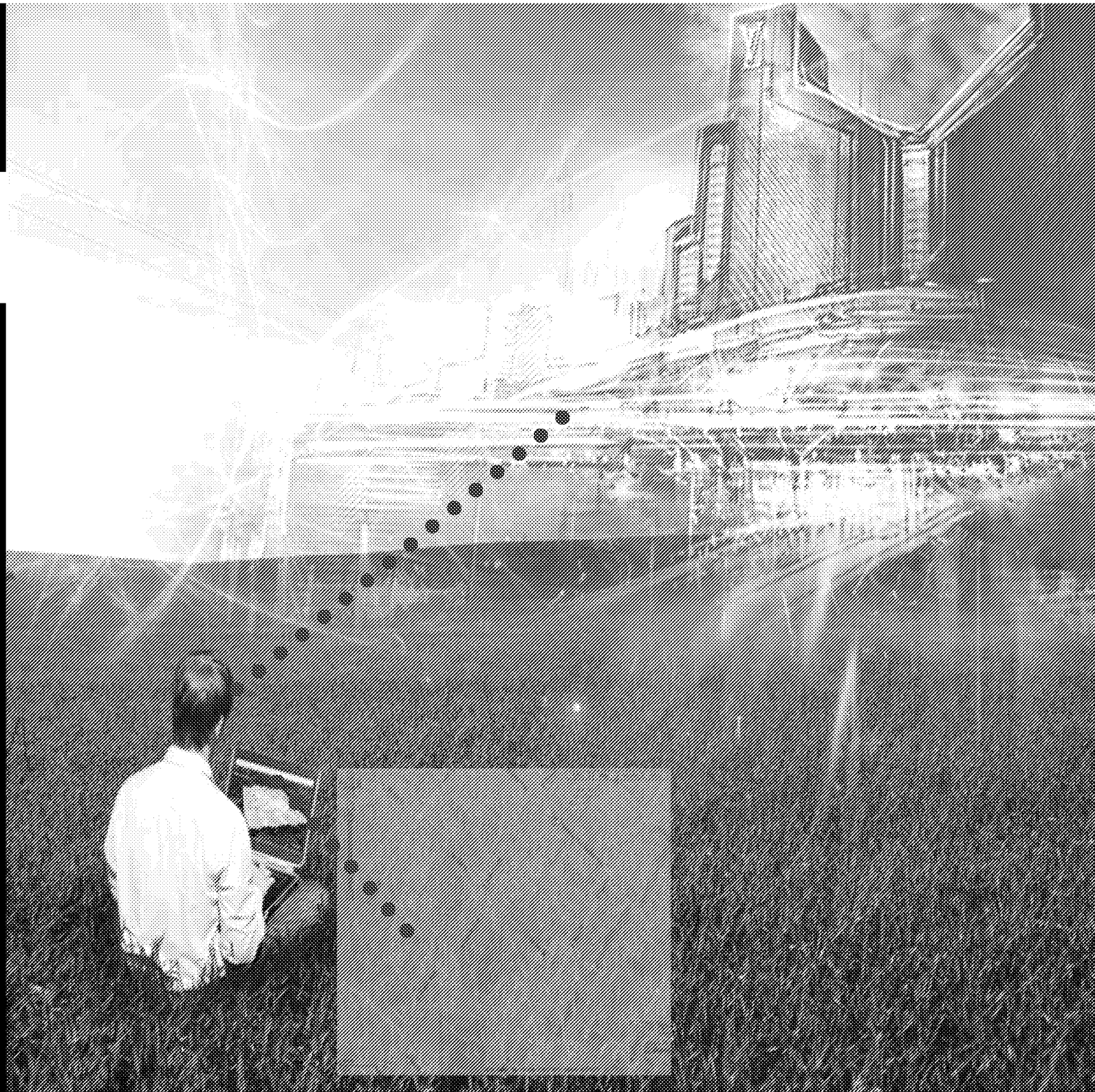
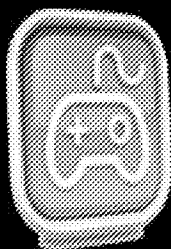
WIRE WORLD

A circular graphic element with a double-line border. Inside the circle is a wireframe structure of a rectangular prism, rendered in a perspective view. The structure is composed of thin white lines on a dark background, creating a 3D effect. The circle is positioned between the words 'WIRE' and 'WORLD' in the main title.

magic leap
studios

WIRE WORLD

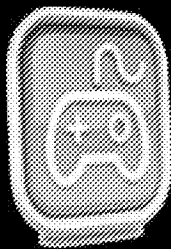
Build

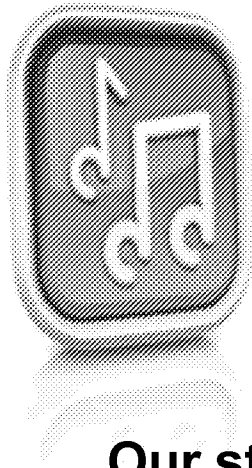


magic leap
studios

WIRE WORLD

Play





Magic Leap Sensory Weartm

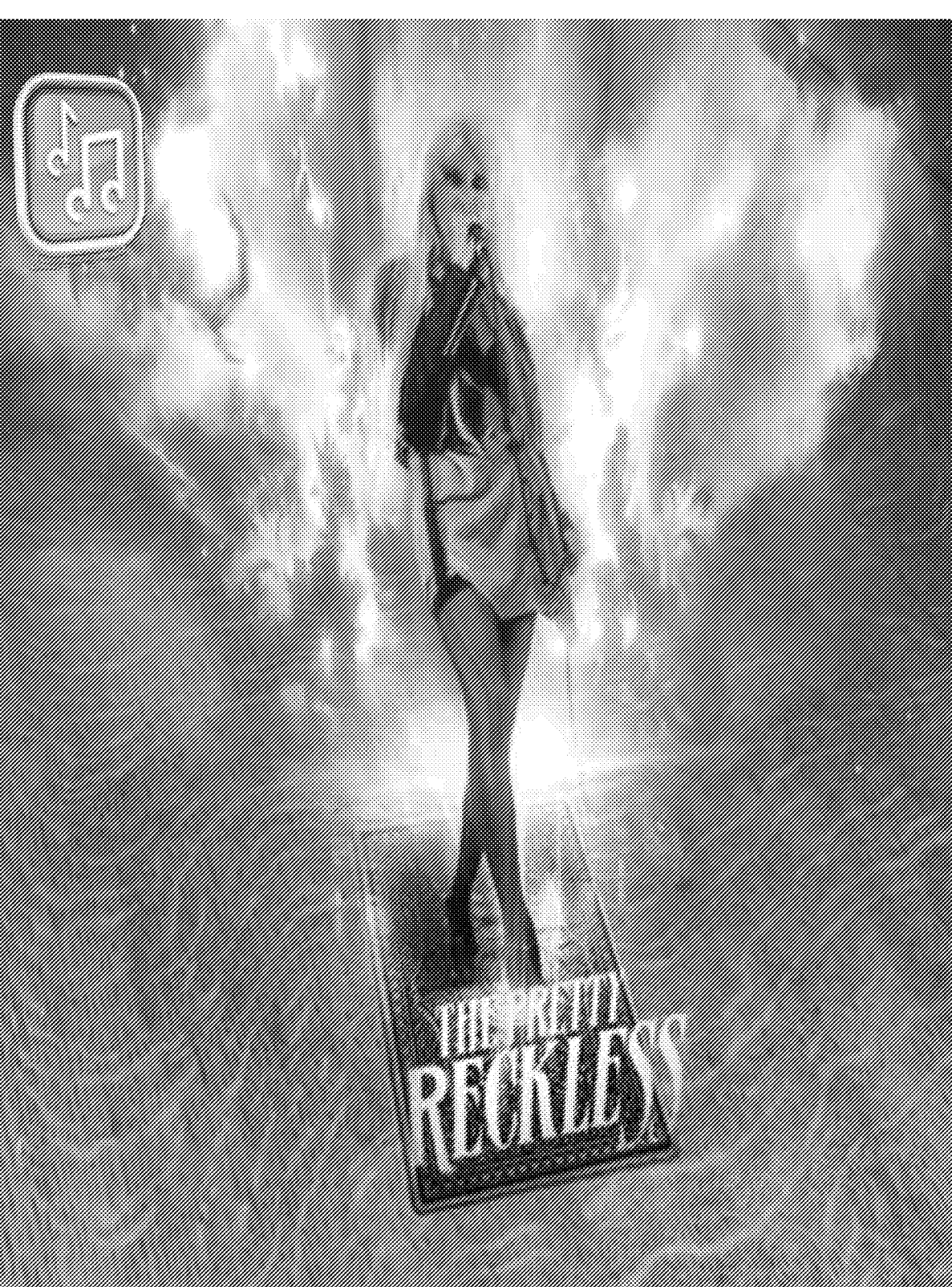
Music Venue Applications

Our studio will develop initial applications that will show off the capabilities of Magic Leap in the music space.

Digital Live Artisttm will “beam” an artists in full scale and digital presence into your home – enabling you and your friends to enjoy a personal concert at home from your favorite band.

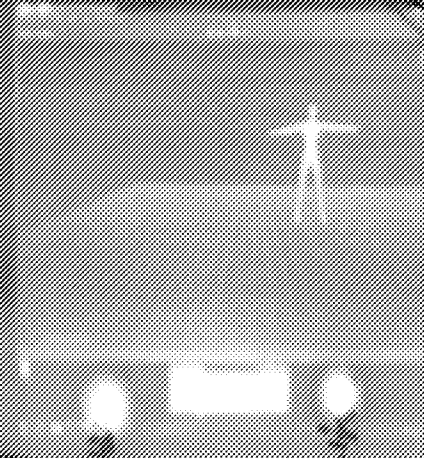
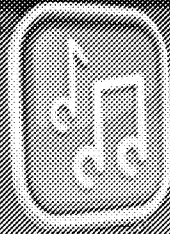
Digital Music Venuetm will “beam” you and your friends into a amazing digital space – it will look and feel as if you are at a live music concert.

Magic Leap will also partner with an array of artists, labels, publishers, and managers.



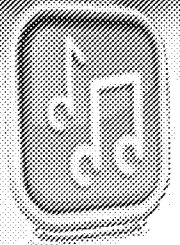
**Digital Live
Artisttm
Presence
In Your
Home**

CON



**Digital Live
Artisttm
Presence
In Your
Home
R&D In
Process**
(Taylor Momsen
@ LA
Performance
Capture
Session for
Magic Leap)

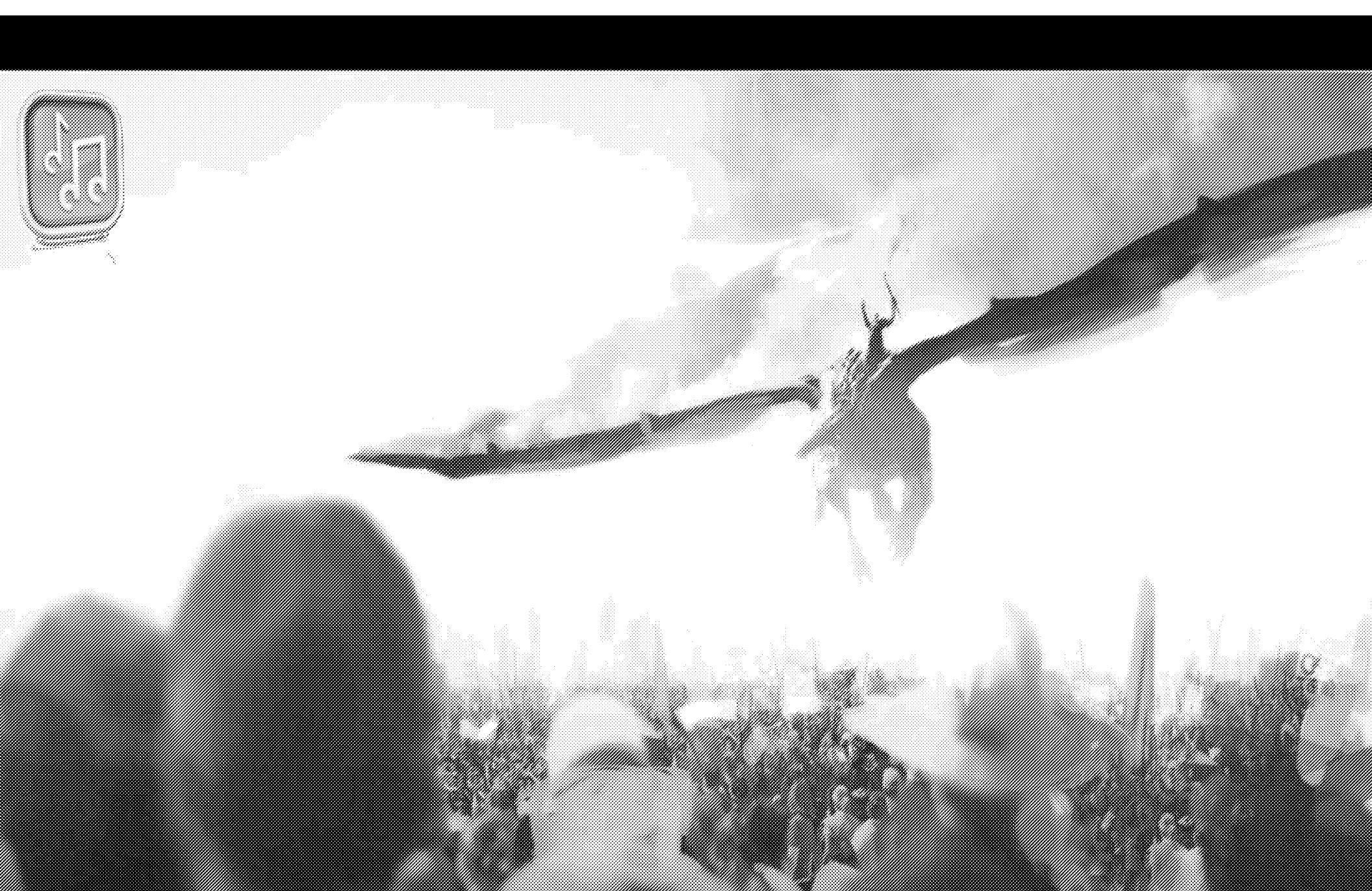
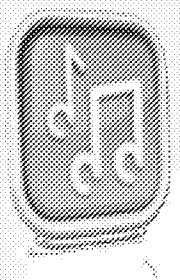




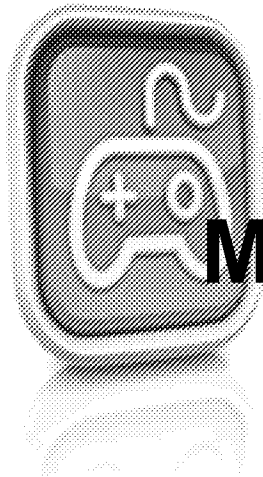
00:07:57



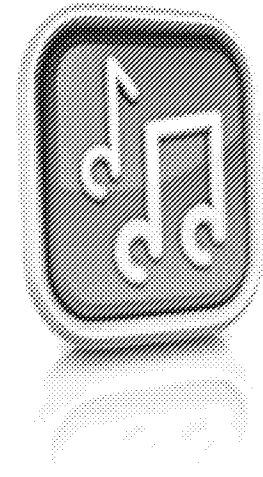
**Digital Live Concerttm – Be
There**



Digital Live Concerttm



Magic Leap Sensory Weartm System Beta Applications



The technology demonstrated in the Speakbot app (demo) paves the way for Monster Battle and Digital Live Artist.

The Development for Wire World & Digital Live Concert paves the way for a multitude of other applications and tools in the SDK.

Our Users: Persona Overview



AVERAGE GAMER



Average Andrew

MMOG



Evan the Escapist

EXTREME GAMER



Extreme Erik

COMIC-CON



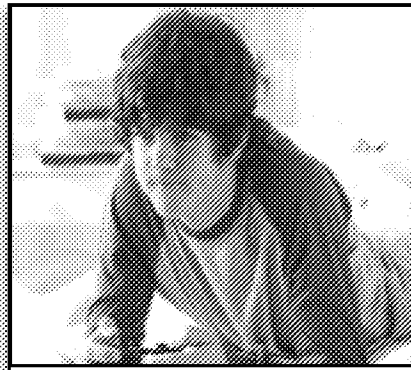
Creative Cara



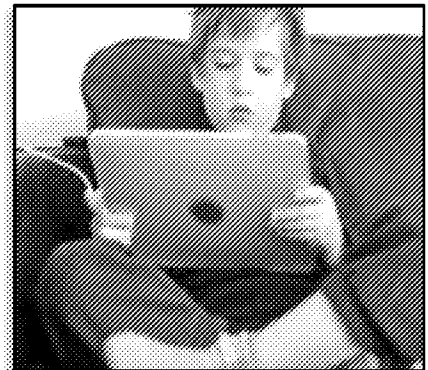
Social Sarah



Samantha & Greg



Taylor the
Teenager



Cole the Kid

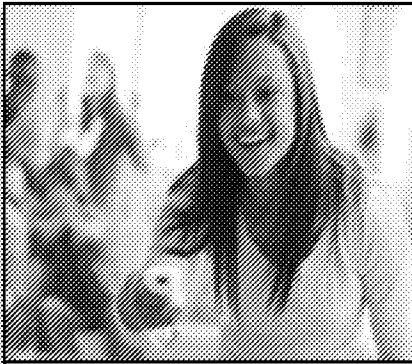
GIRL GAMER

COOL KIDS

UNDER 18

UNDER 6

TEENAGE GIRL



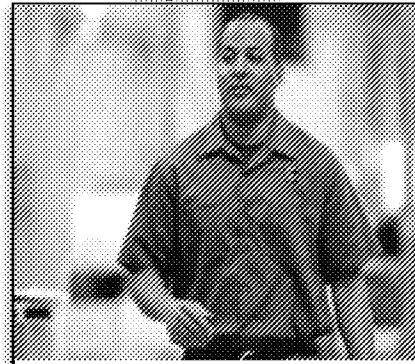
Tara the Teenager

OUTDOOR
ENTHUSIAST



Outdoor Owen

GAMIFIED
WORKER



Walter the Worker

ANTI-GAMER

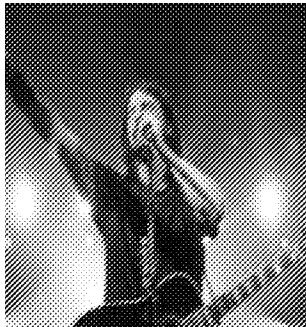


Allie the Anti-
Gamer

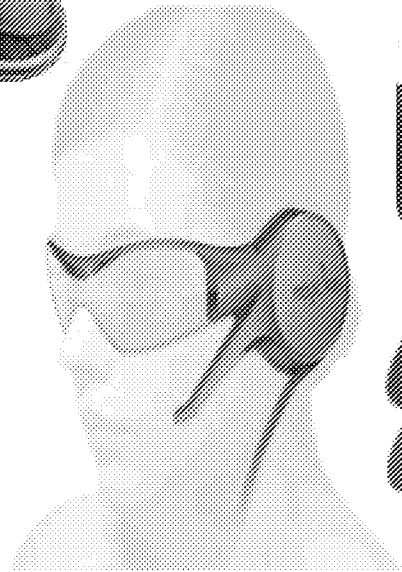


DJ Magic Mix

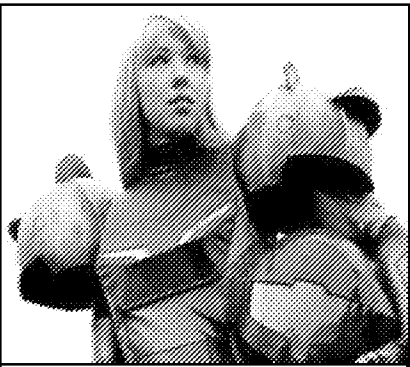
MUSIC CULTURE



amazon



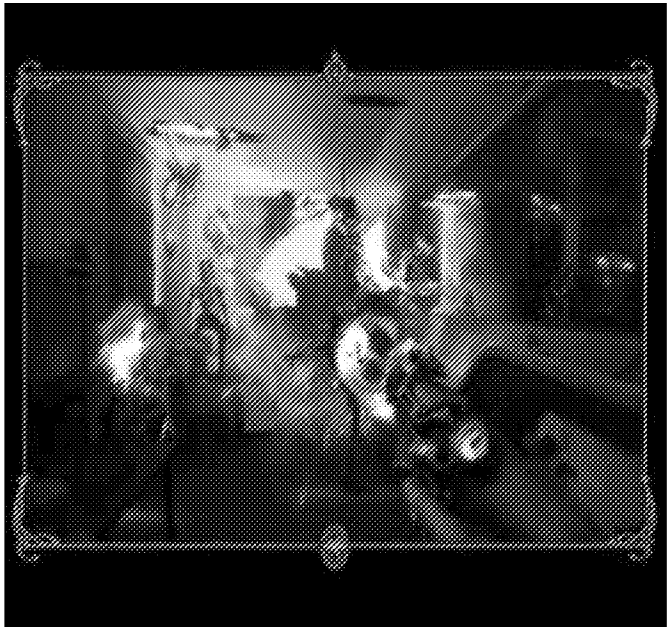
Informs design, tech, market,
content,
& future partners/collaborators

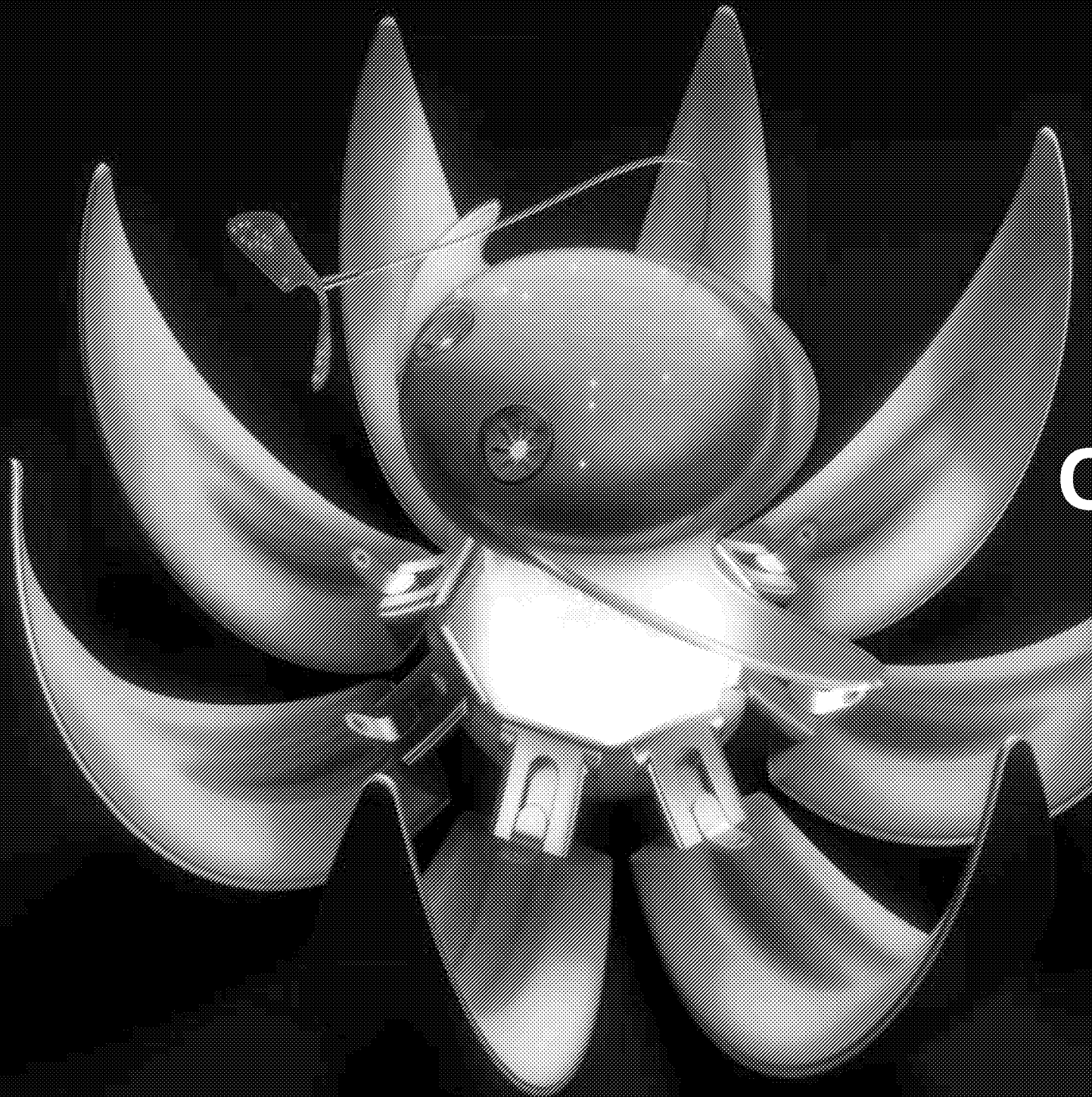


Creative Cara

Creative Cara

Factors	low	high
MAGIC LEAP VALUE	-----●-----	
QUALITY OF GRAPHICS	-----●-----	
N. OF AUGMENTATION	●-----	
OCCUSION	-----●-----	
TOTEMS & ACCESSORIES	-----●-----	
MACHINE VISION	●-----	
ML DEVELOPMENT	-----●-----	



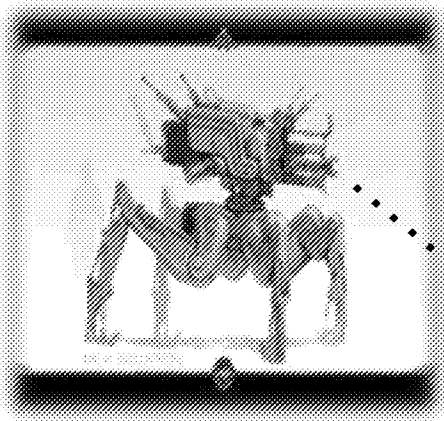


Product Overview & Design

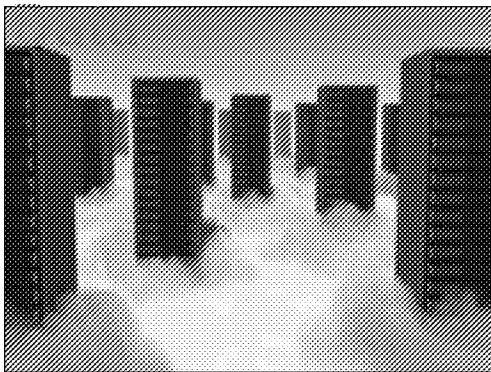


Sensoryware™ Ecosystem

Content



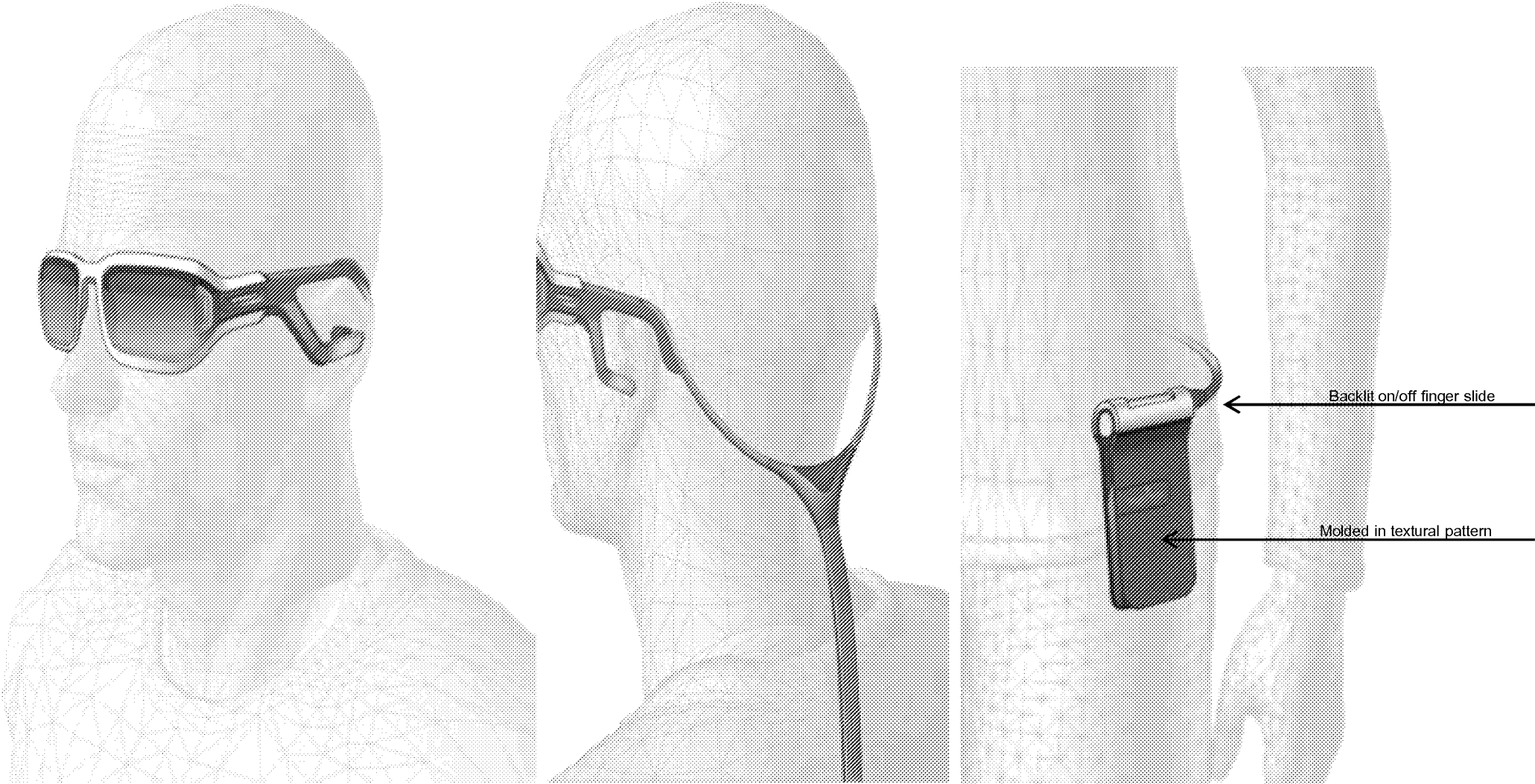
Cloud



Mobile/Grid
Magic Box



Sensory Wear™ System



Sensory Wear™ System



- **Novel technology which “paints” images on to the retina**
- **Reality Engine™ - Cinematic Reality™ Depth Technology provides for lifelike depth realism**
- **Blends the physical world and the digital world**
- **Registers and localizes the world**

CLOUD SERVERS

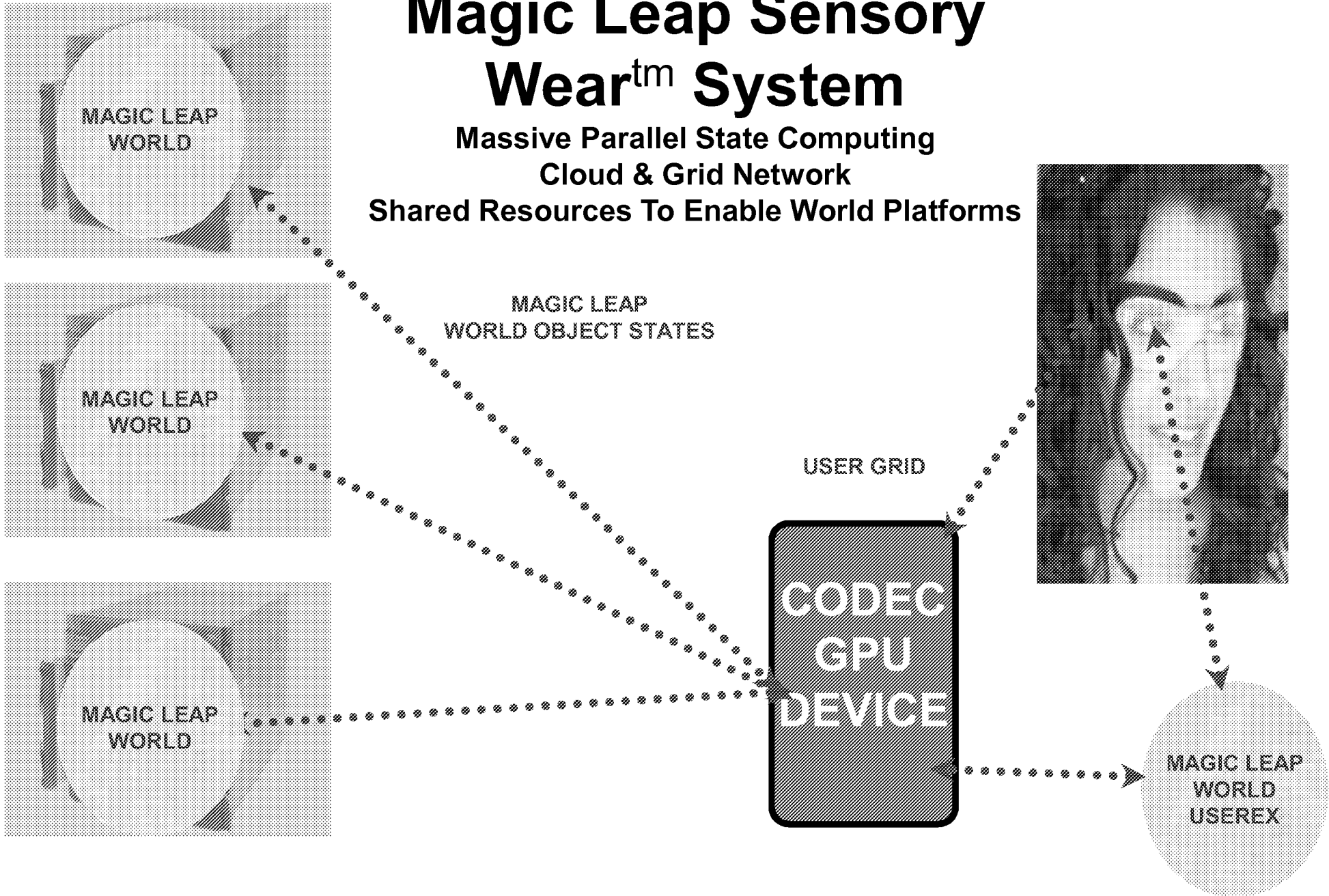
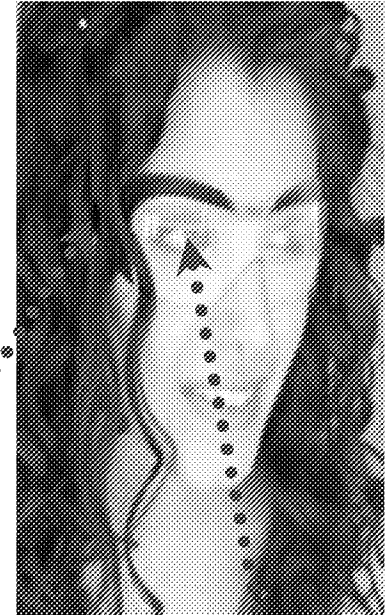
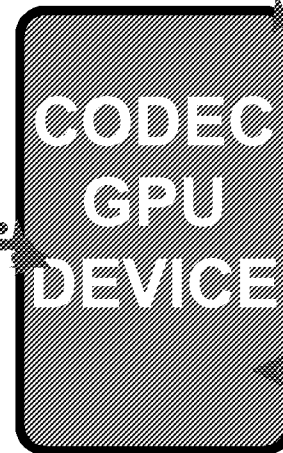
Magic Leap Sensory Weartm System

Massive Parallel State Computing
Cloud & Grid Network
Shared Resources To Enable World Platforms

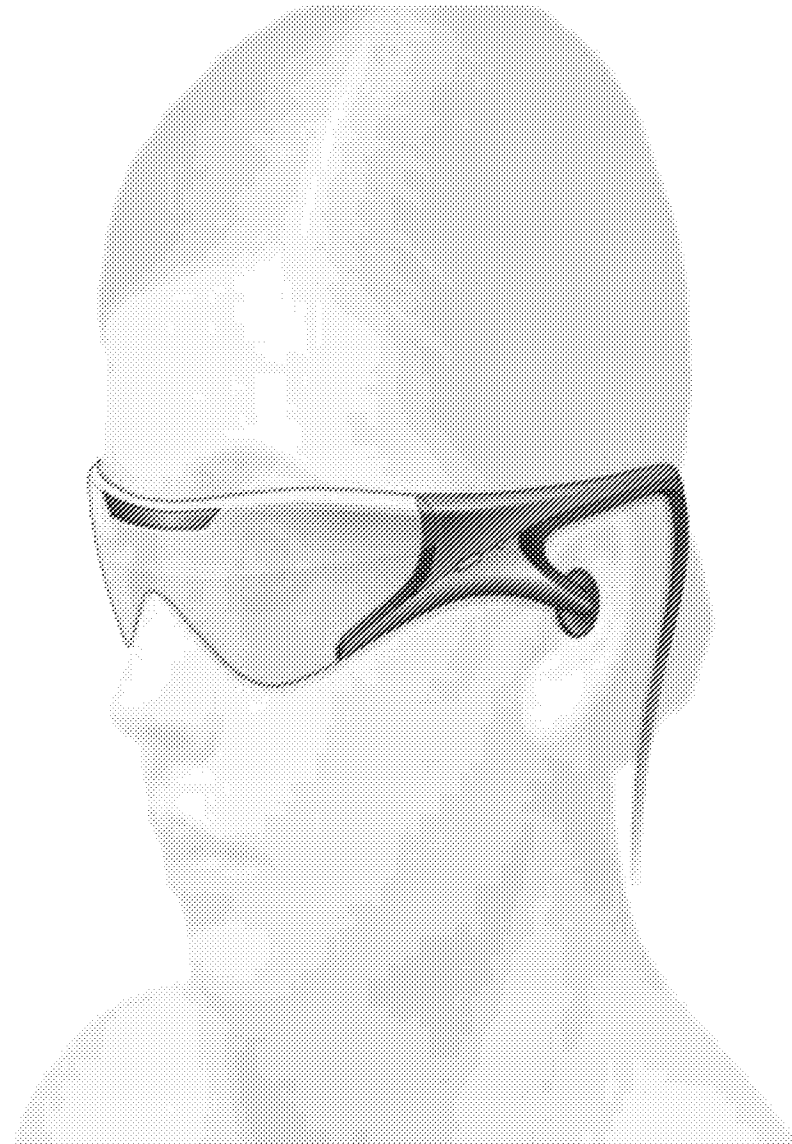


MAGIC LEAP
WORLD OBJECT STATES

USER GRID



Sensoryware™

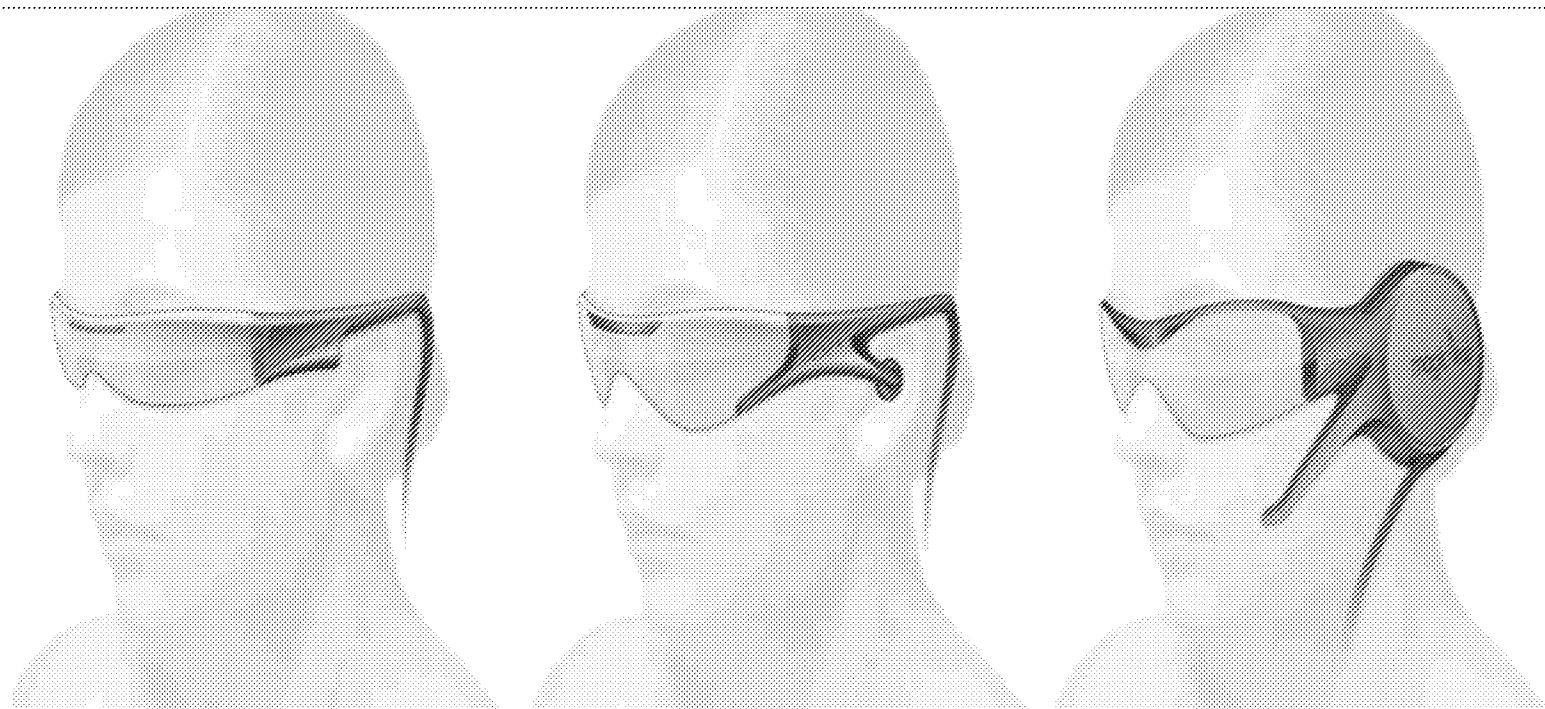


- **General Purpose Wearable Computing**
- **Initially Targeting \$65b+ Gaming Market**
- **Can Expand To \$100b+ Mobile Comm Market**
- **Enabled By Proprietary Scanning Fiber Projector & True3D Technology**

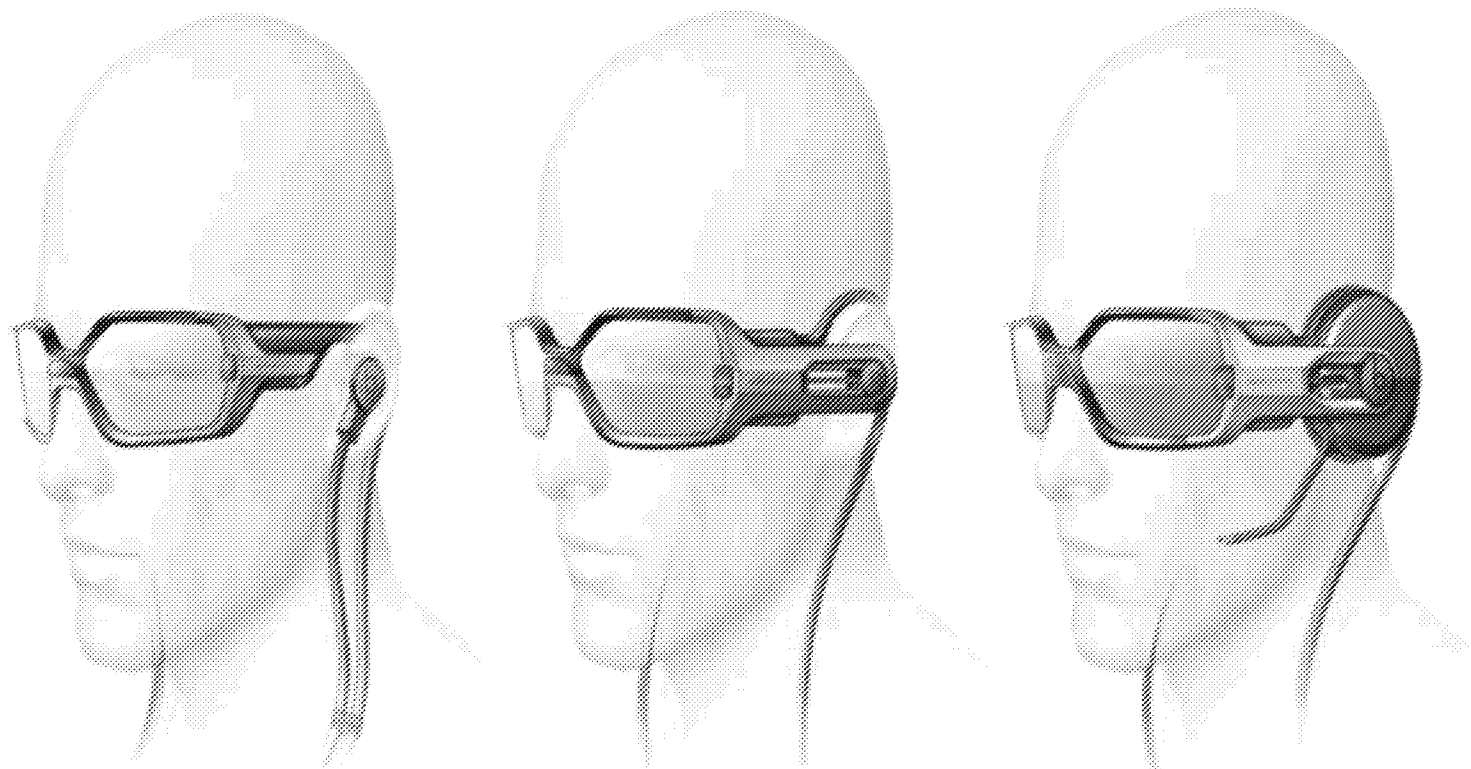
Sensorywaretm System: Current Design Families



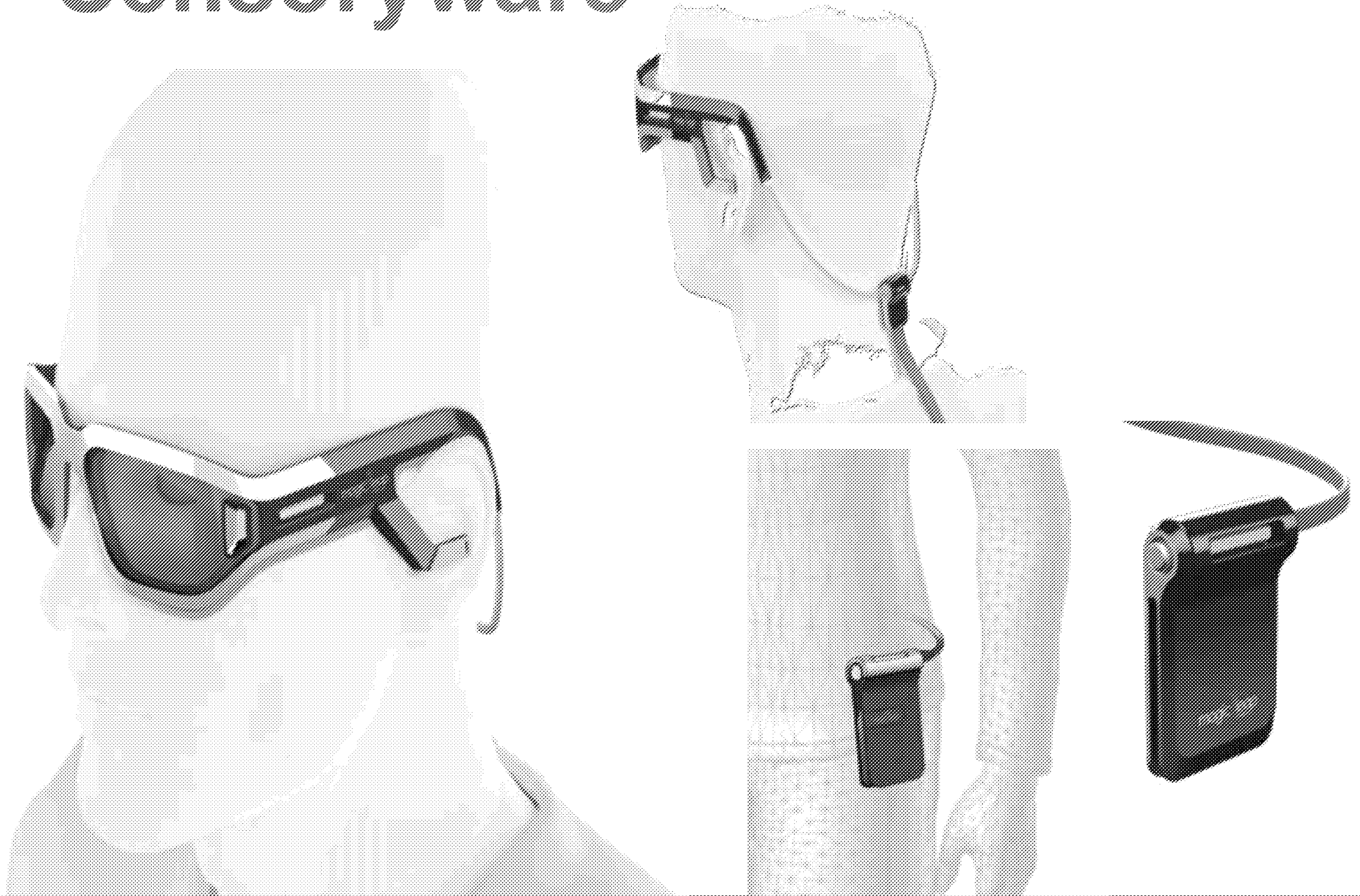
Clear Family



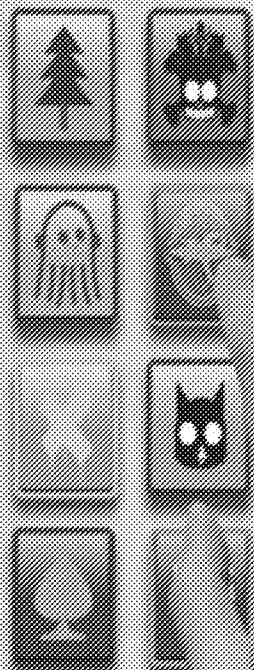
Beats Family



Sensoryware™



Games



Sensoryware UI™

February 12:39 pm

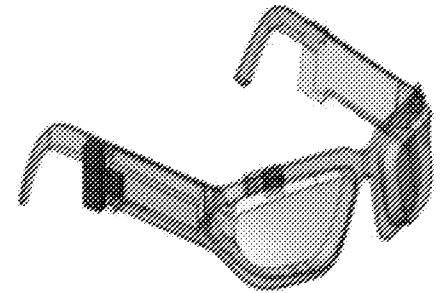
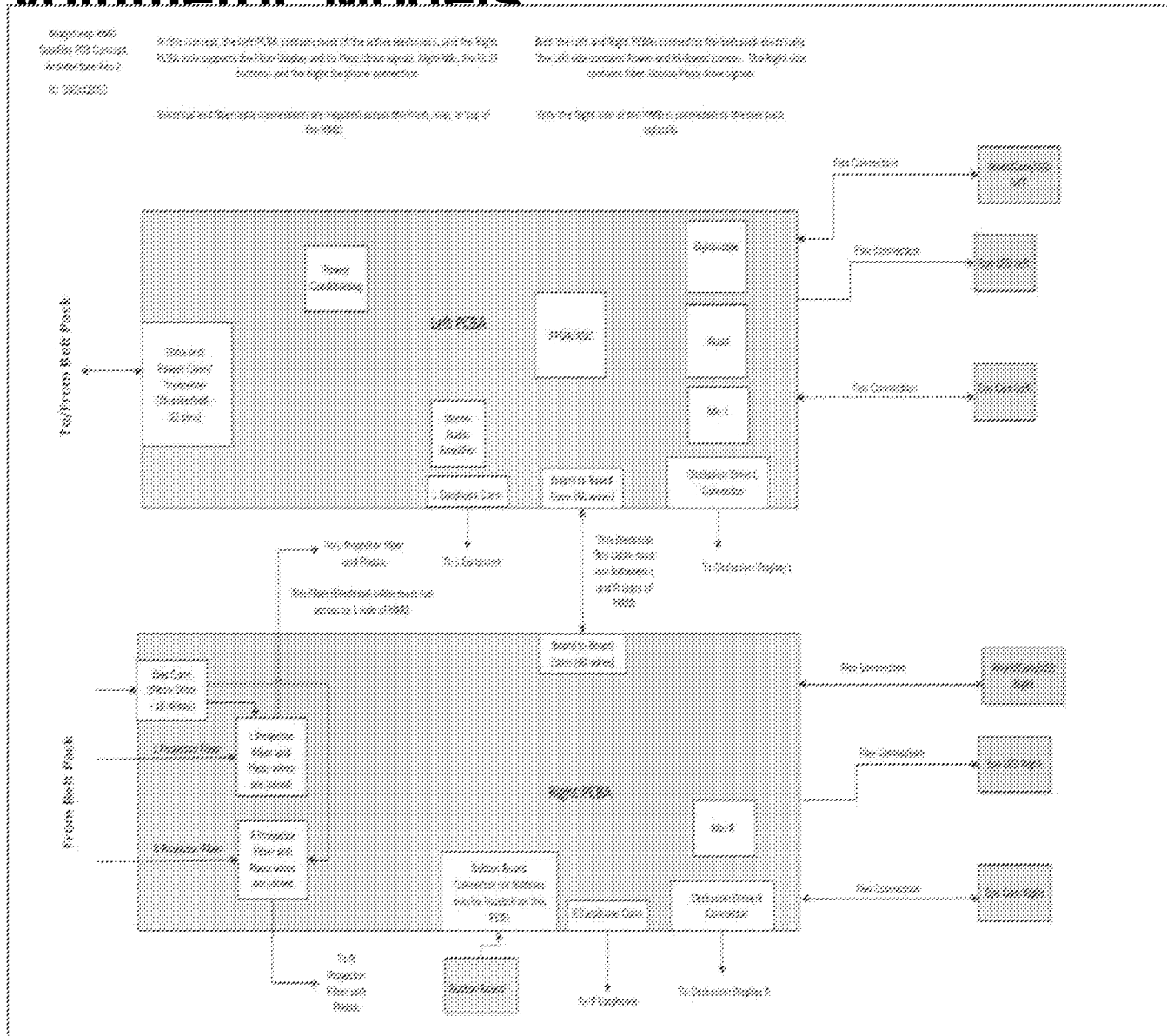
Sensoryware™

Research & Development Focus

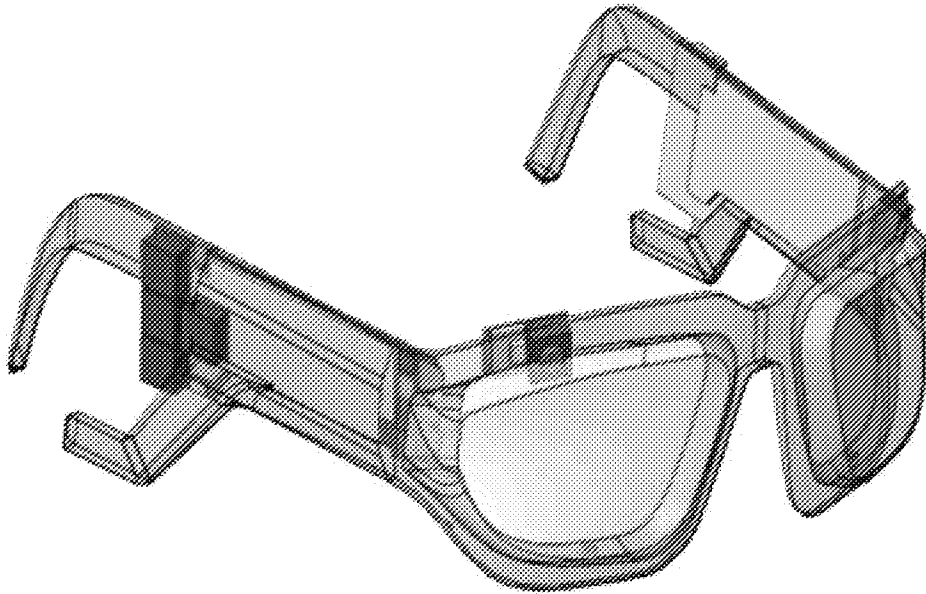
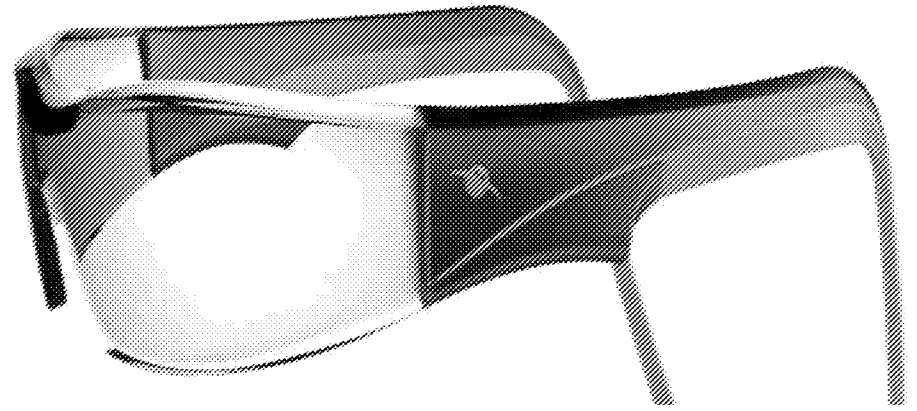


- **Engineering Program Management**
 - Agile process
 - Task/ownership assignment
 - Schedule
- **System & Software Teams**
 - Architecture
 - Alpha prototypes
 - Integrate with Dr. G Invaders Alpha
- **Optical Engineering**
 - Benchtop Testbed
 - Optic System Simulations
- **Industrial Design/Human Factors**
 - ID
 - Personas
 - Ergonomics

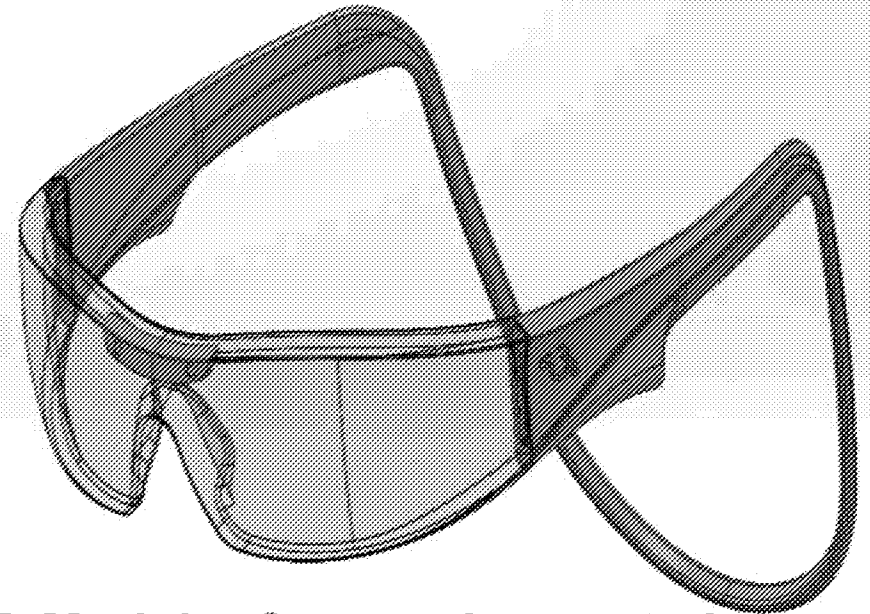
Preliminary Component Architecture – Volumetric Models



CAD Models



**Volumetric Model – OTS
Parts**



**ID Model – Custom Integrated
Components**

ROUND 3: Family

Design Attributes: Lite, Gamer, Extreme Gamer

Split

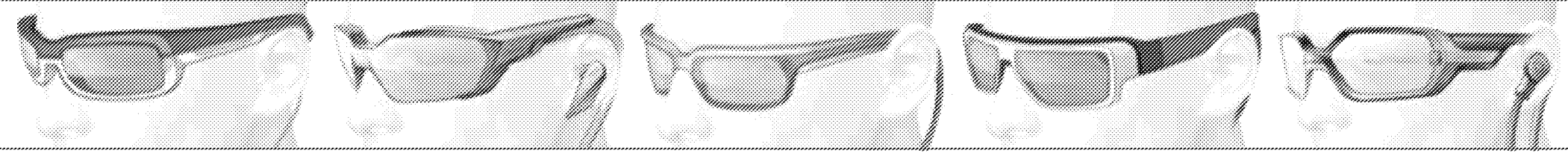
Exploration

Rel

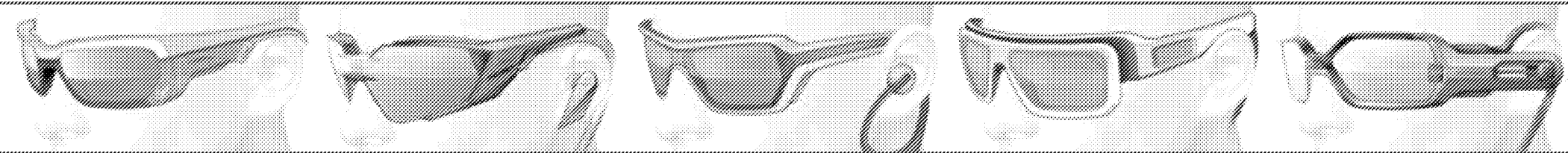
Band

Face

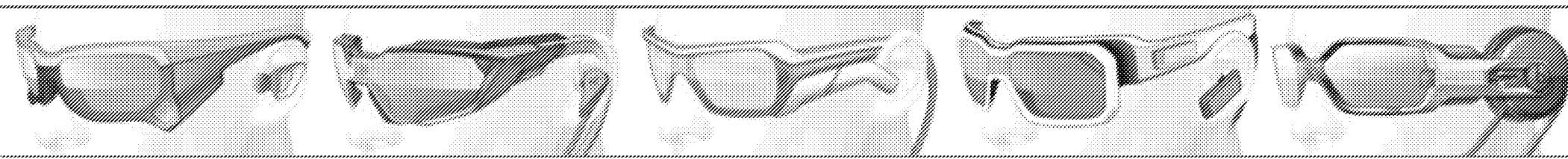
Beats



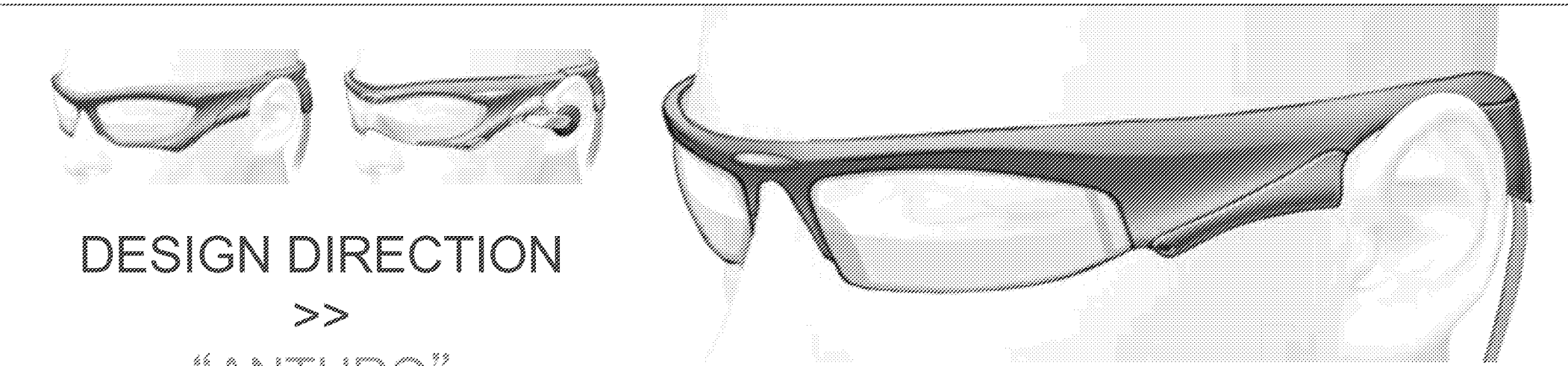
Lite



Gamer



Extreme Gamer



DESIGN DIRECTION

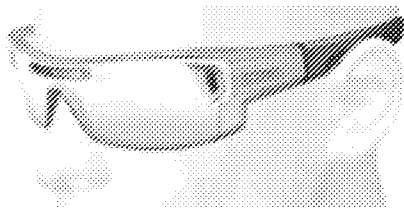
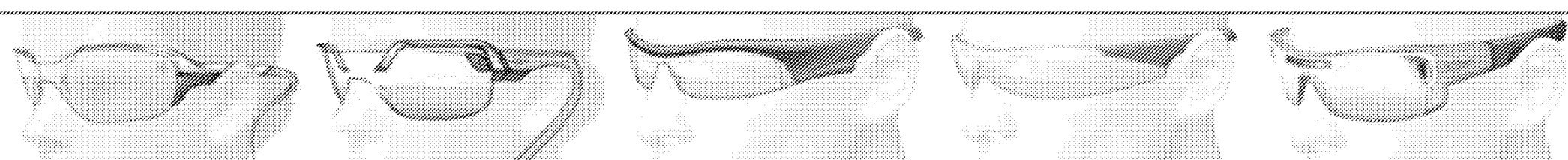
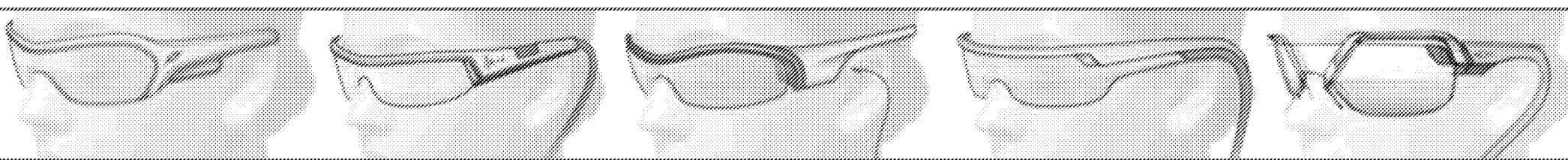
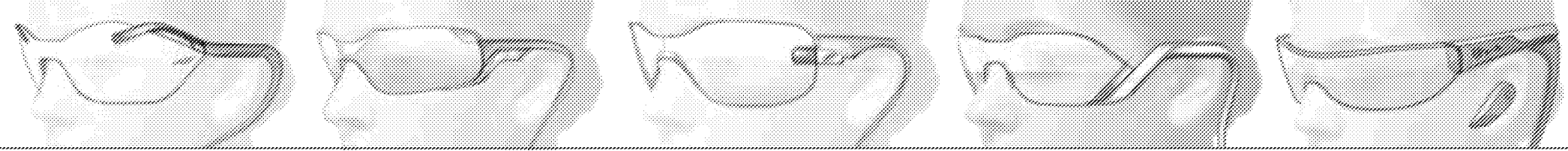
>>

“ANTHRO”

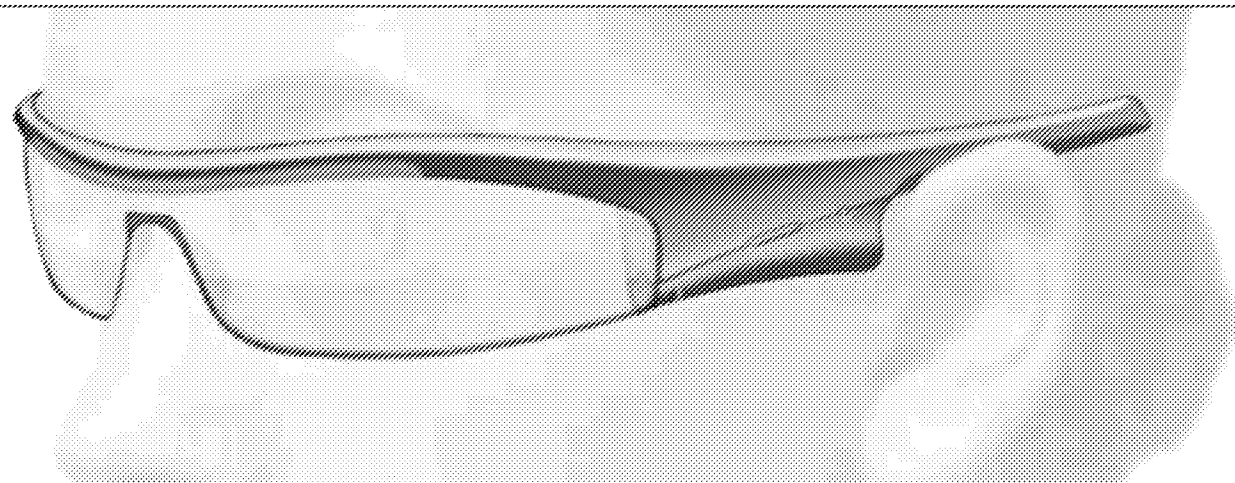
ROUND 3: Exploration

Design Attributes: Magic Glass, Organic, Minimal, Human Tech.

“Anthro”



+



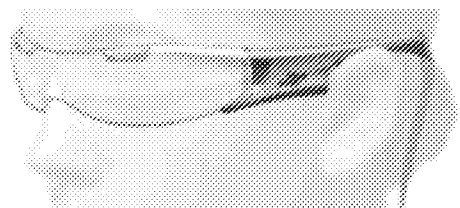
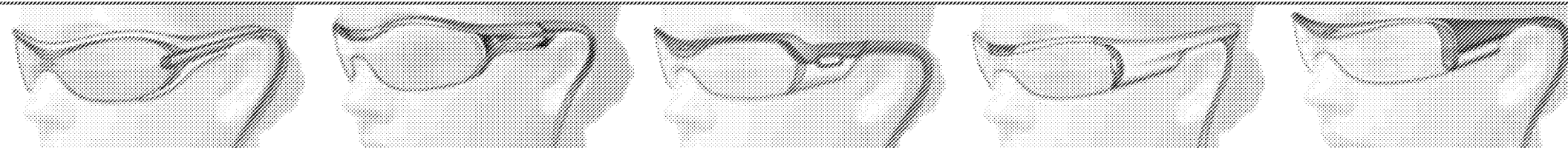
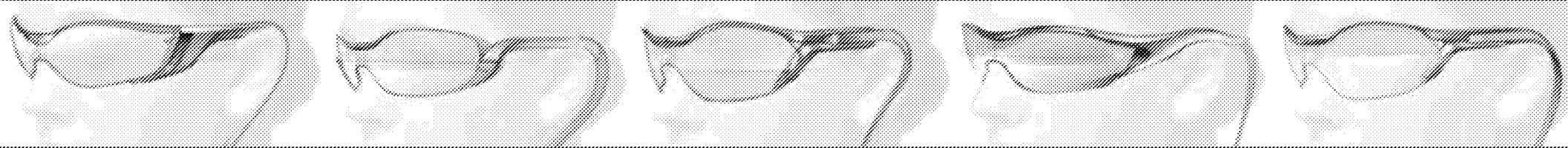
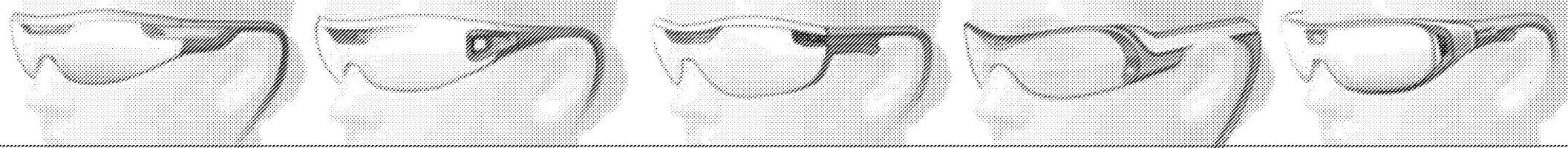
DESIGN DIRECTION

>>

“ANTHRO CLEAR”

ROUND 4: Exploration of "Anthro Clear"

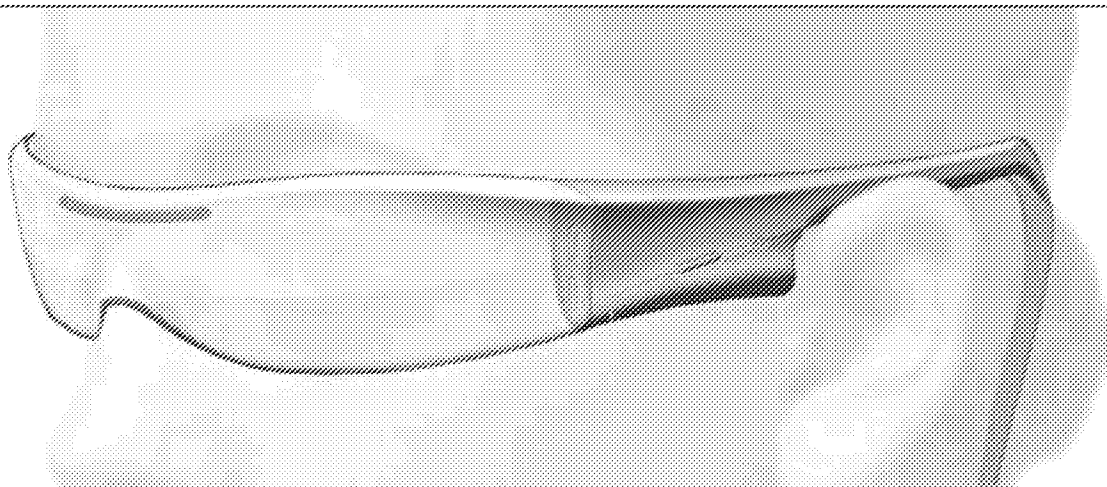
Design Attributes: Magic Glass, Organic, Minimal, Human Tech.



DESIGN DIRECTION

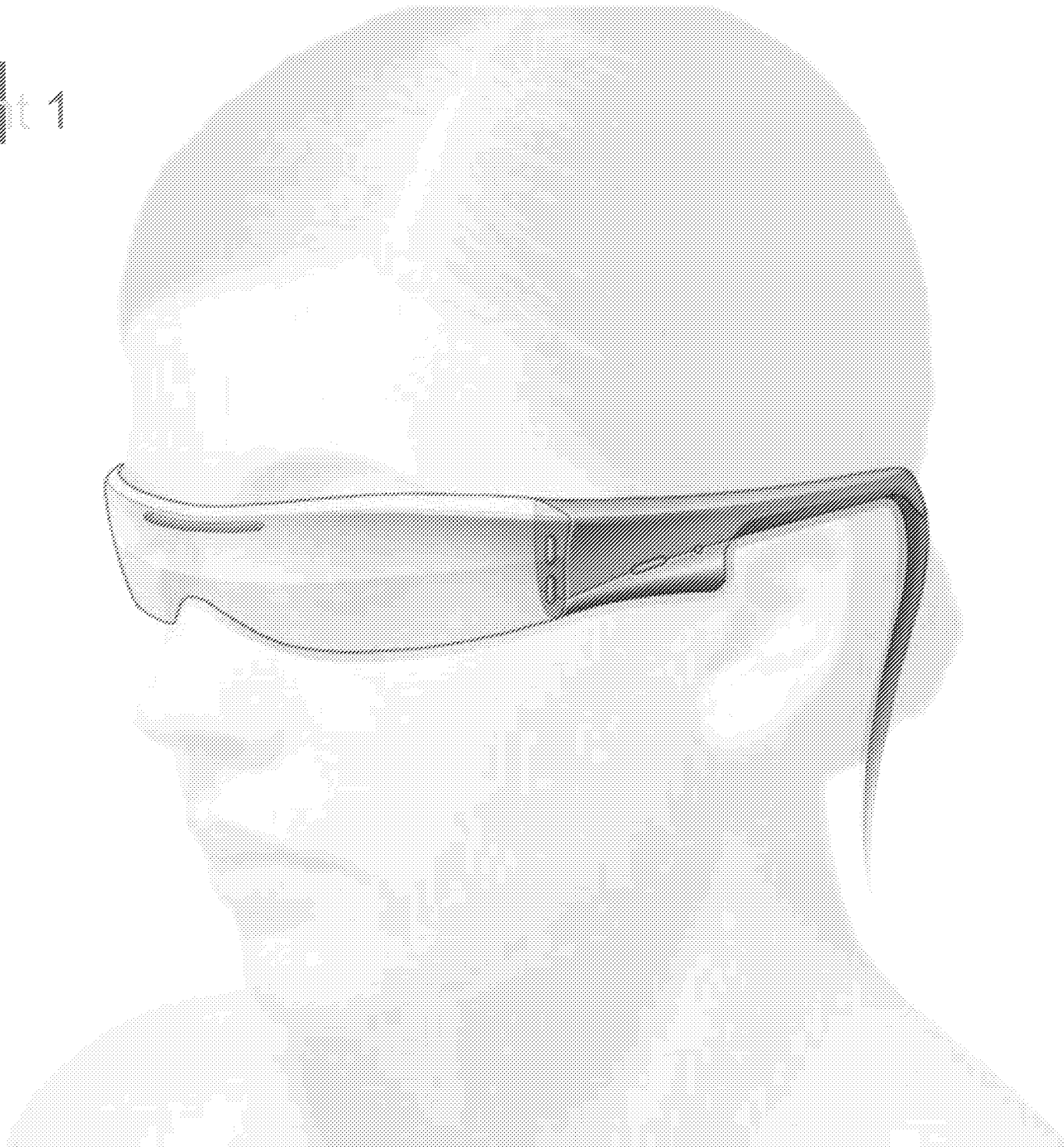
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"CLEAR"

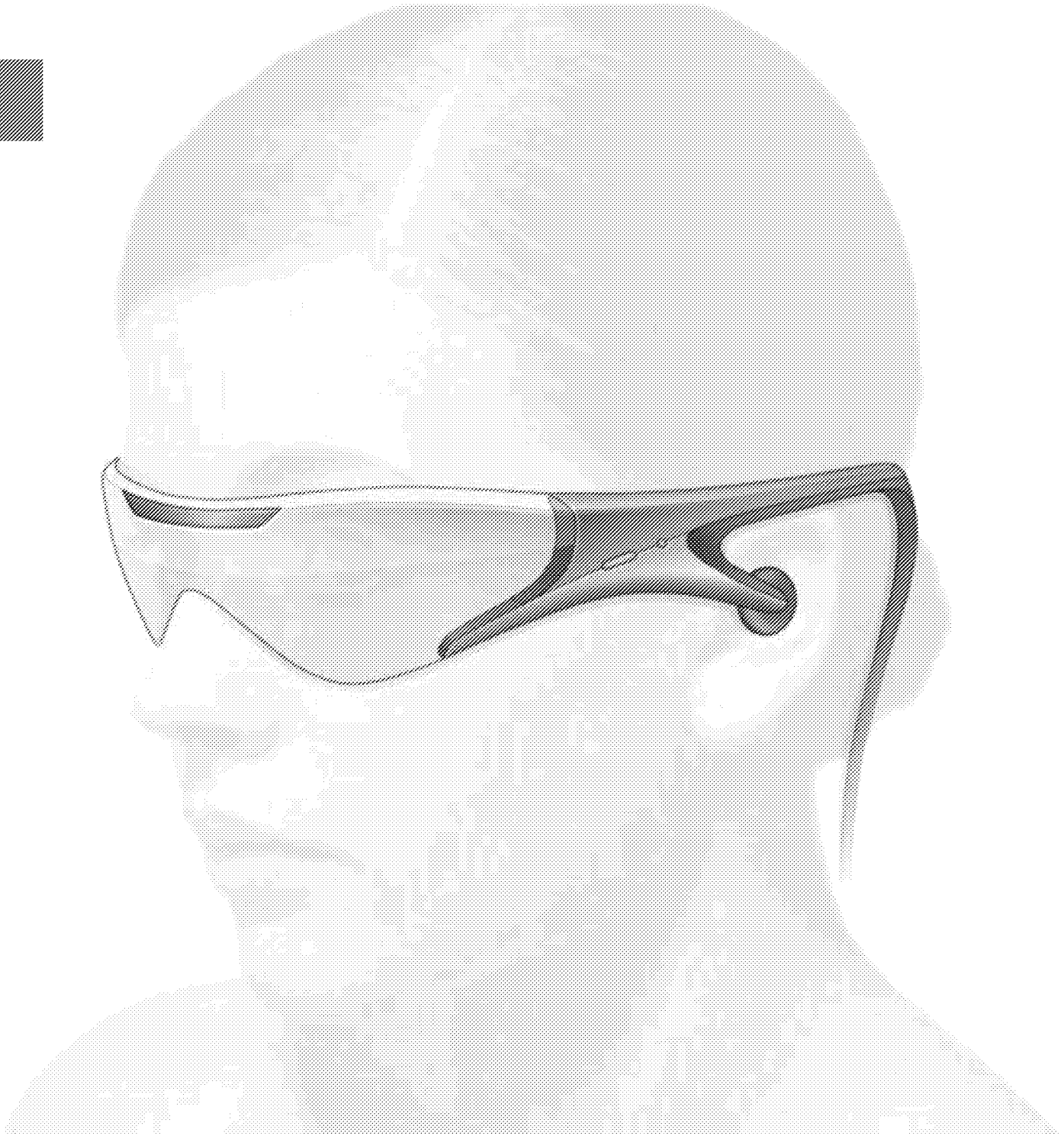


“Clear” Family 1

Clear-Light 1



Clear-
Gamer 1

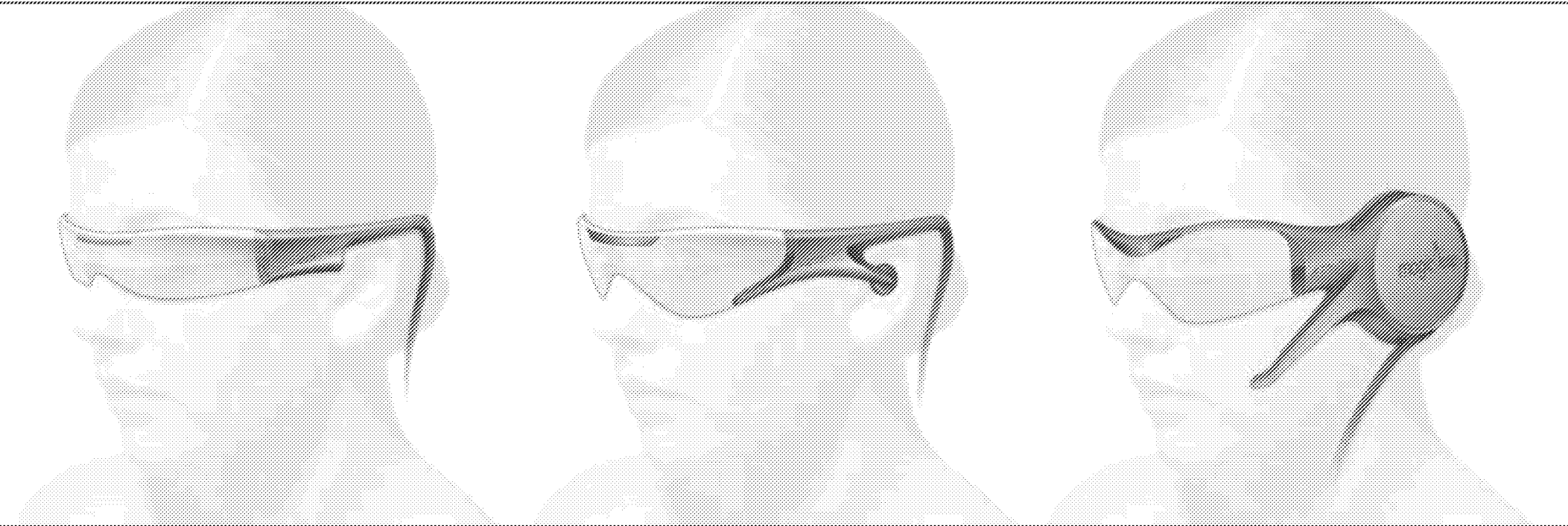


Clear-X-
Gamer 1



Clear Family

1

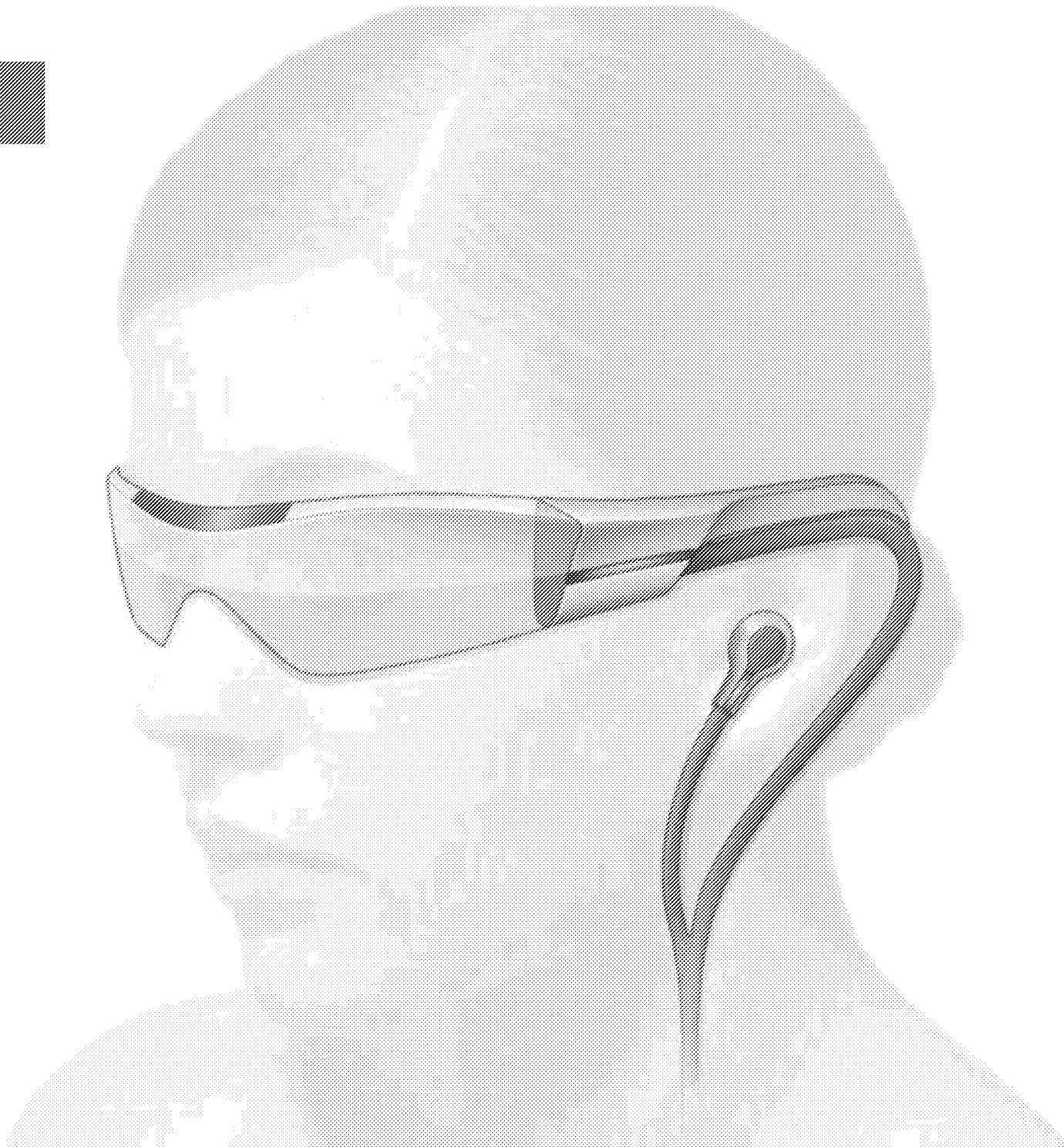


“Clear” Family 2

Clear-Light 2

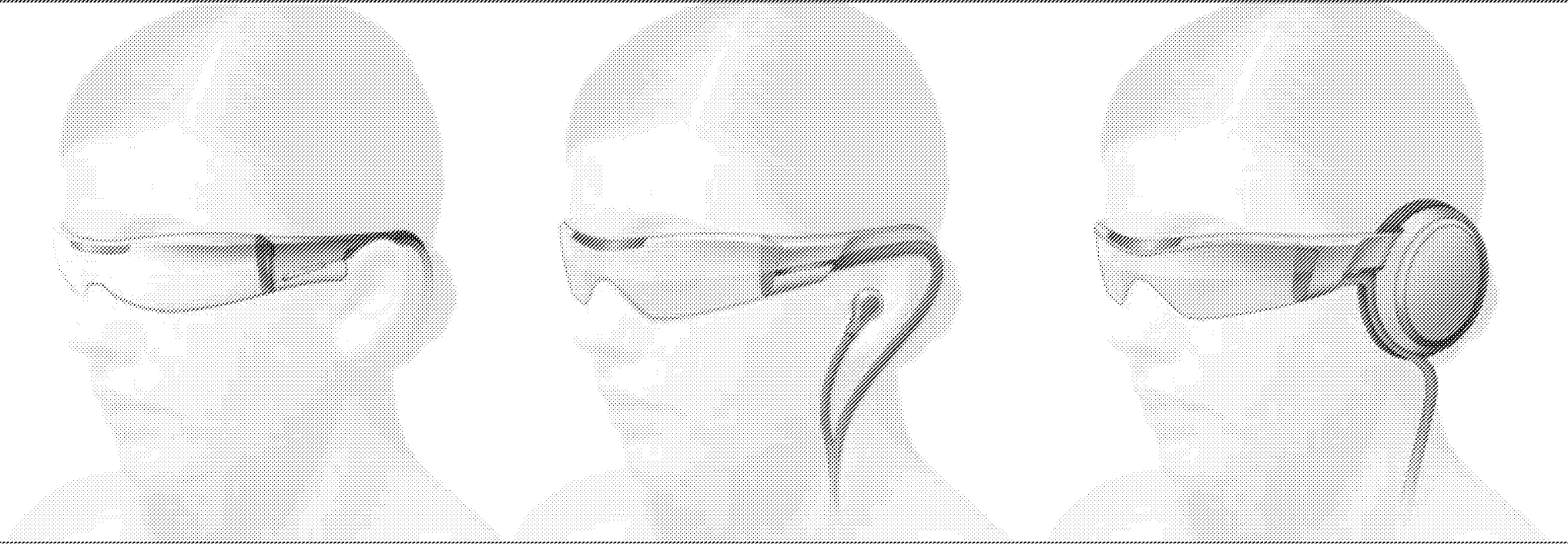


Clear-
Gamer 2



Clear-X-
Gamer 2



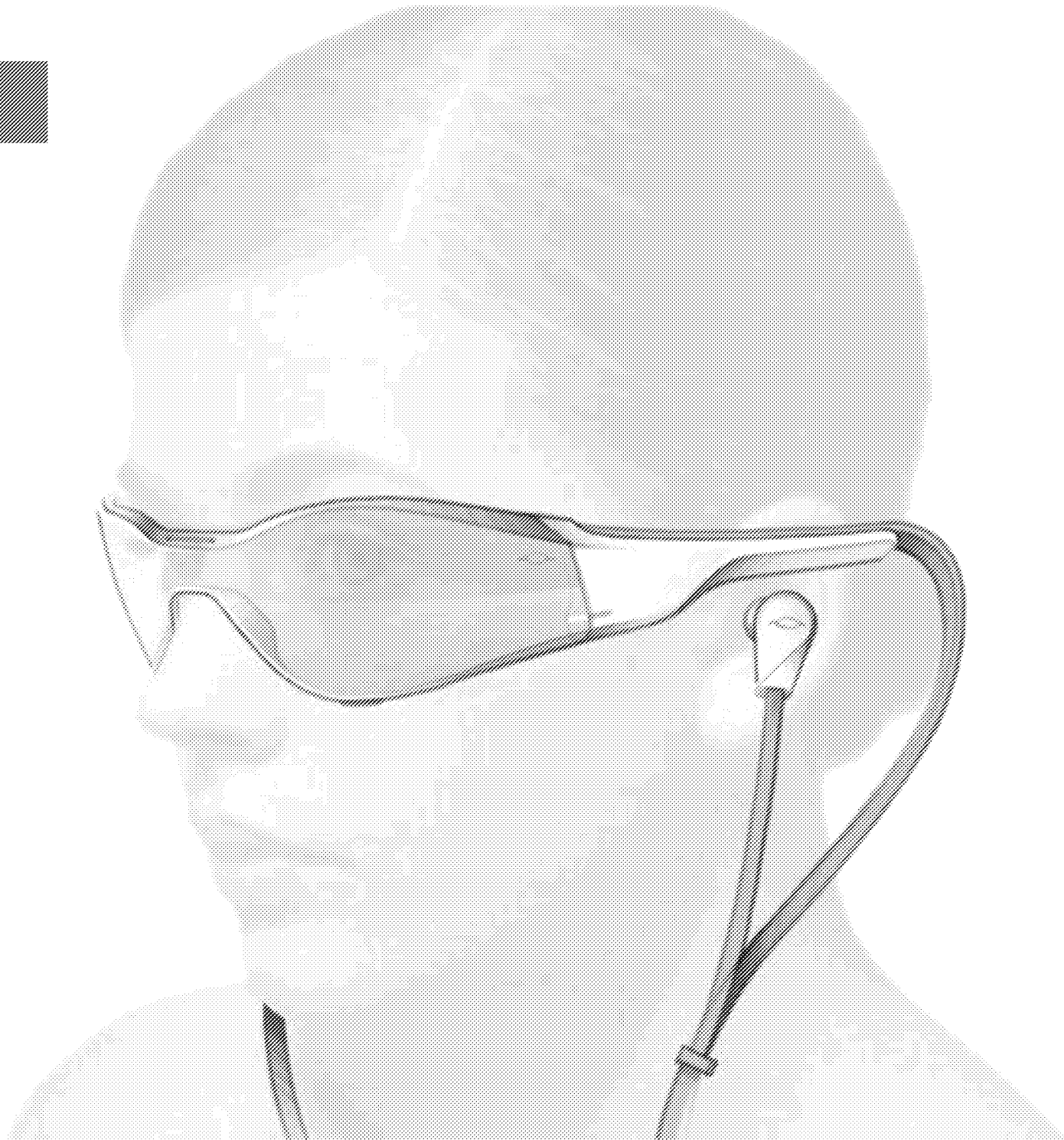


“Clear” Family 3

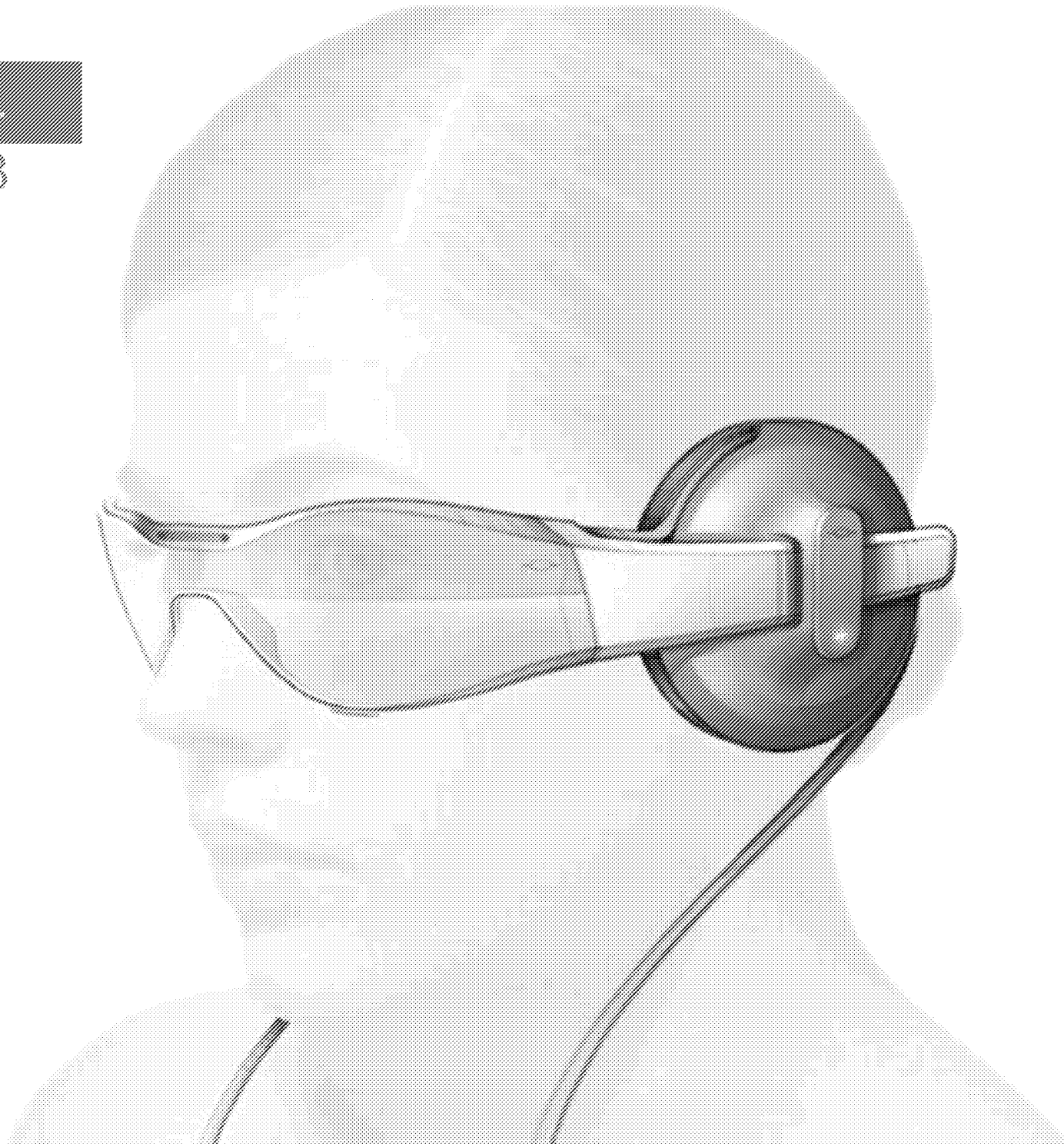
Clear-Light 3

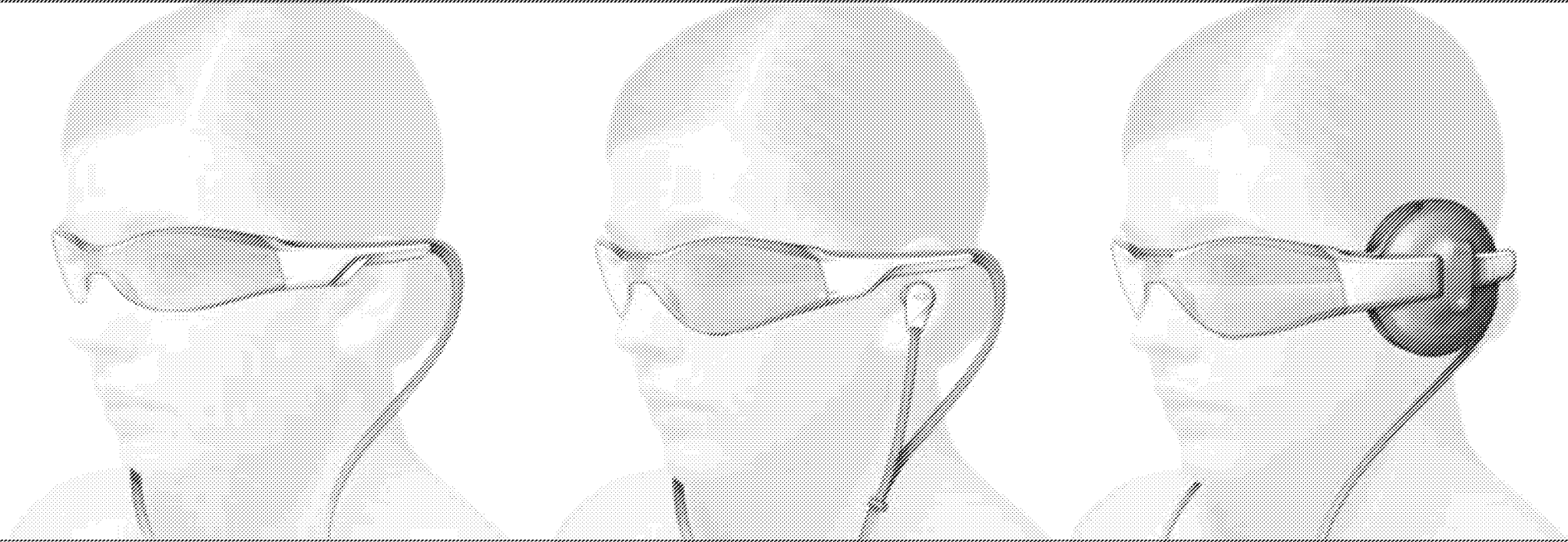


Clear-
Gamer 3



Clear-X-
Gamer 3



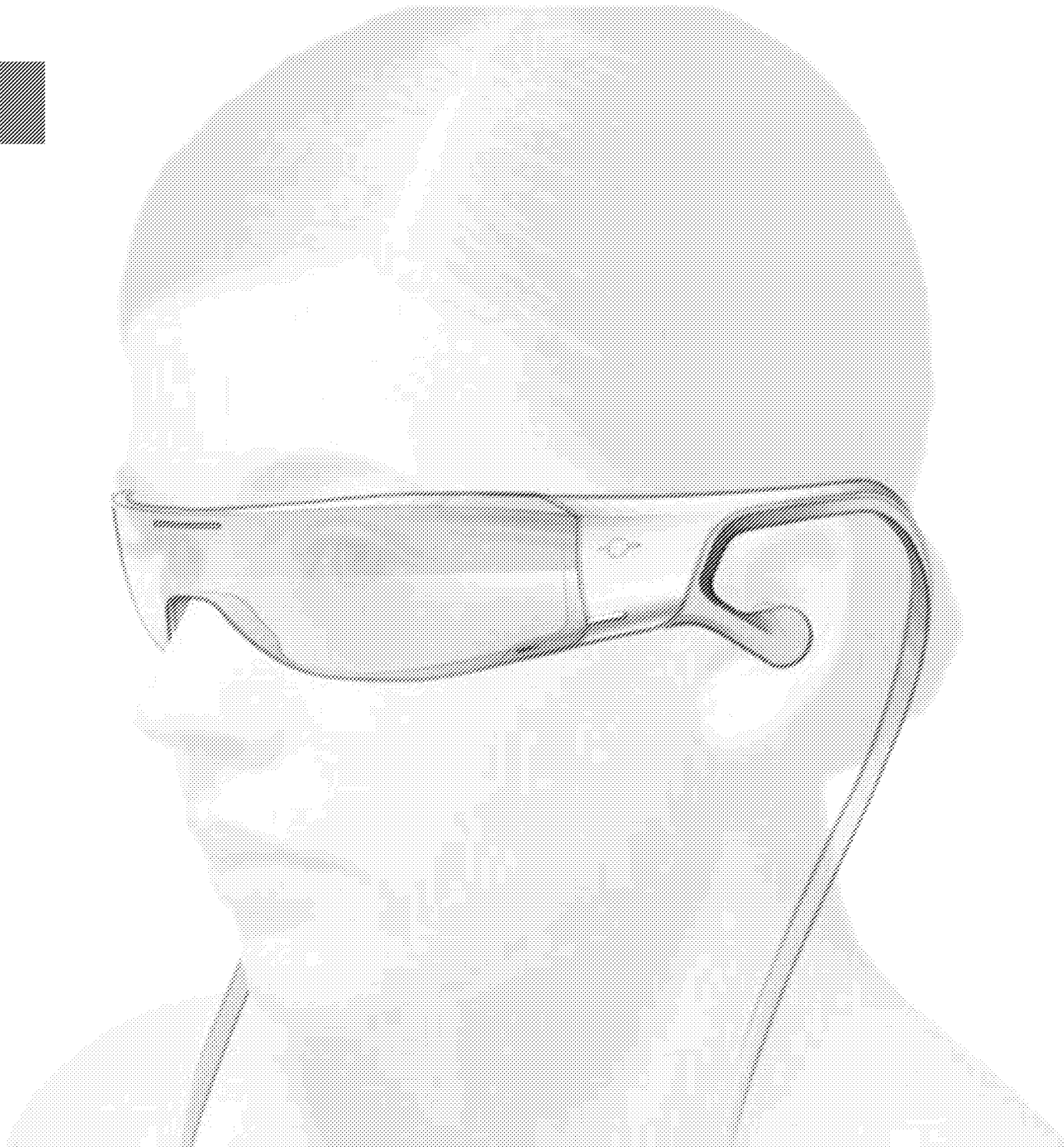


“Clear” Family 4

Clear-Light 4

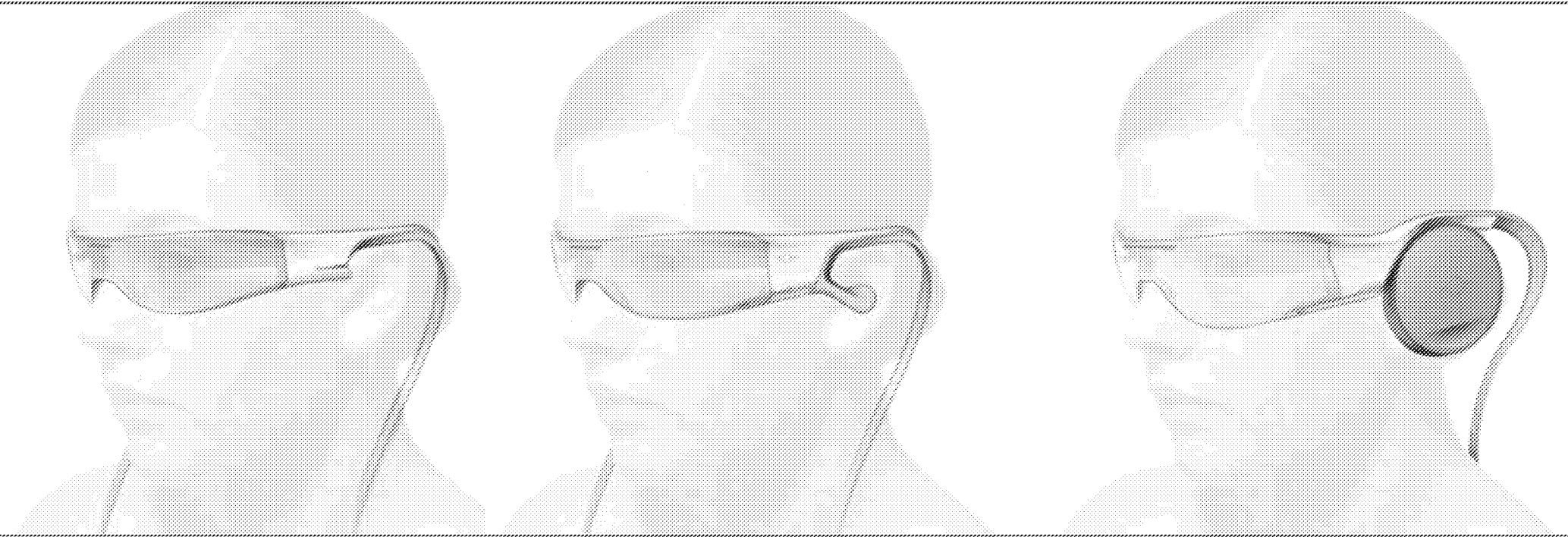


Clear-
Gamer 4



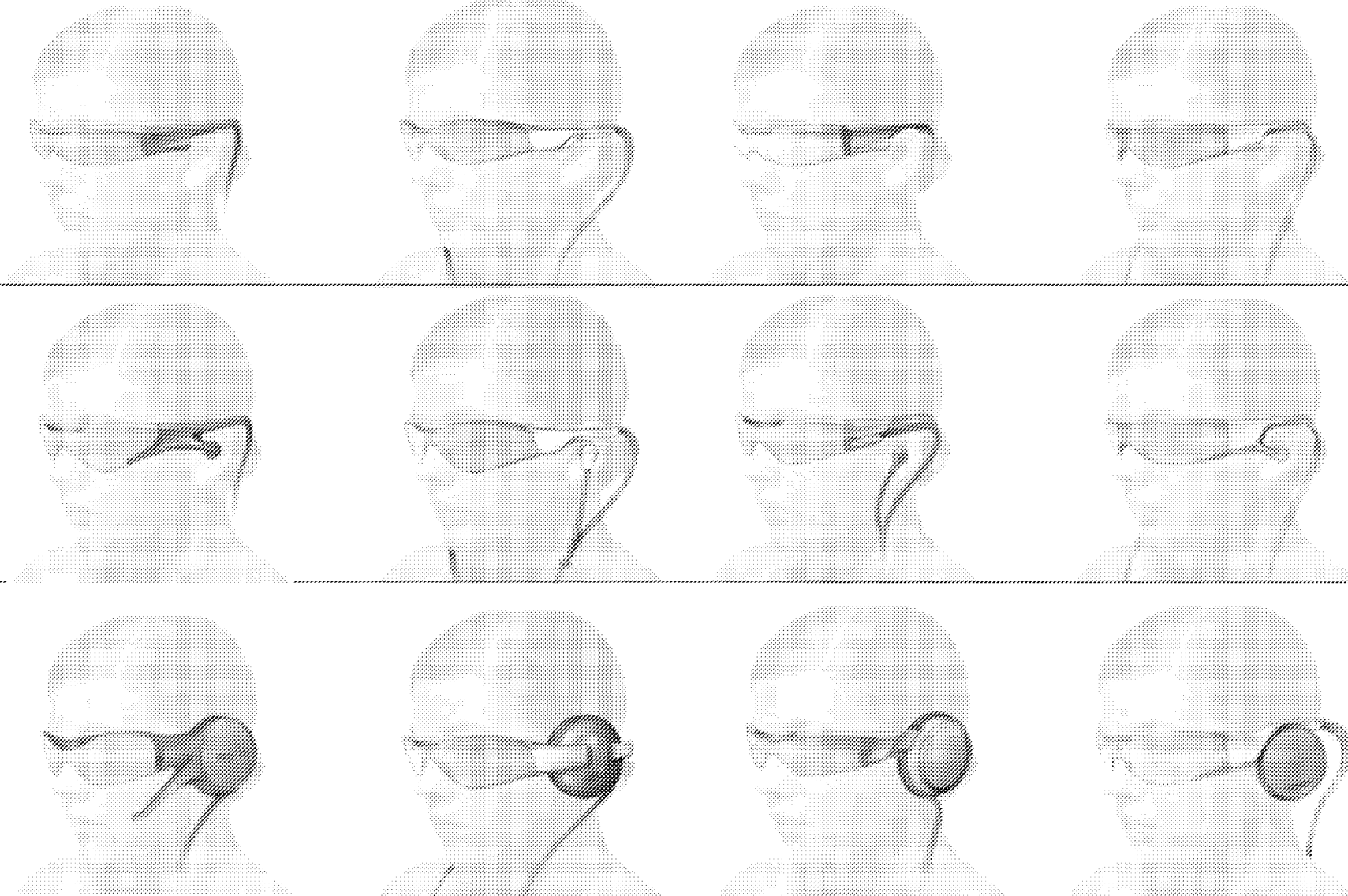
Clear-X-
Gamer 4





ROUND 4: Evolution of "Clear"

Design Attributes: Magic Glass, Organic, Minimal, Human Tech.



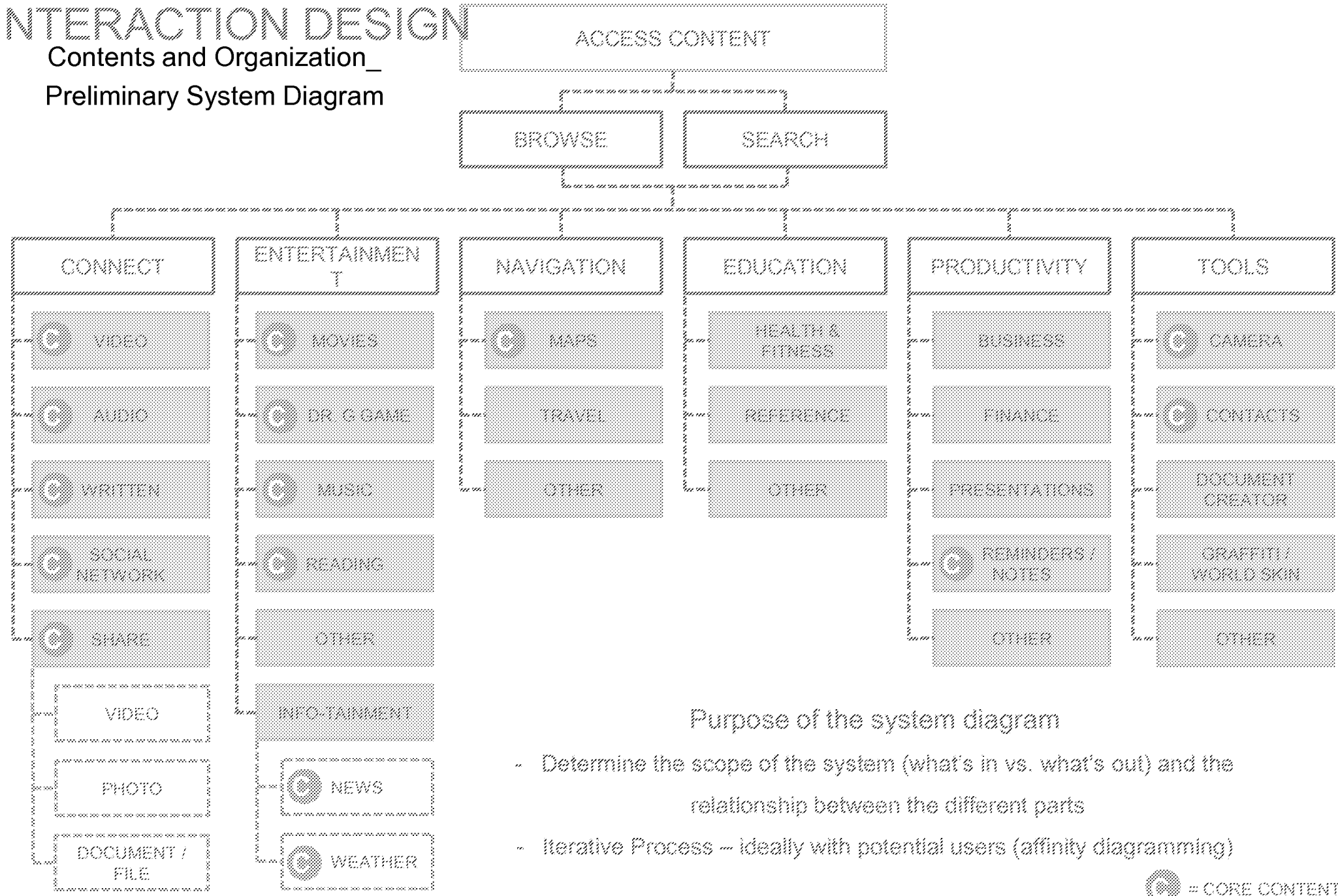


User Interface

INTERACTION DESIGN


Contents and Organization_

Preliminary System Diagram



Purpose of the system diagram

- Determine the scope of the system (what's in vs. what's out) and the relationship between the different parts
- Iterative Process - ideally with potential users (affinity diagramming)

 = CORE CONTENT

Areas of Focus

- Information Architecture / Content Organization
 - Navigation of Content
 - Primary navigation
 - Secondary navigation
 - Interaction / Input Styles
- Direct vs. Indirect / Physical vs. Virtual / Gestural vs. Traditional / Etc.
 - Direct vs. Proxy
 - Floating vs. Mapped
- Scenario Based Brainstorming
 - For Example → User wants to connect via video with a friend
 - Context: Standing/sitting/walking
 - Environment: Home/work/public space
 - Social: Open vs. discrete
 - Aesthetics / Visualization
 - UI Philosophy

UI Philosophy

A better reality.

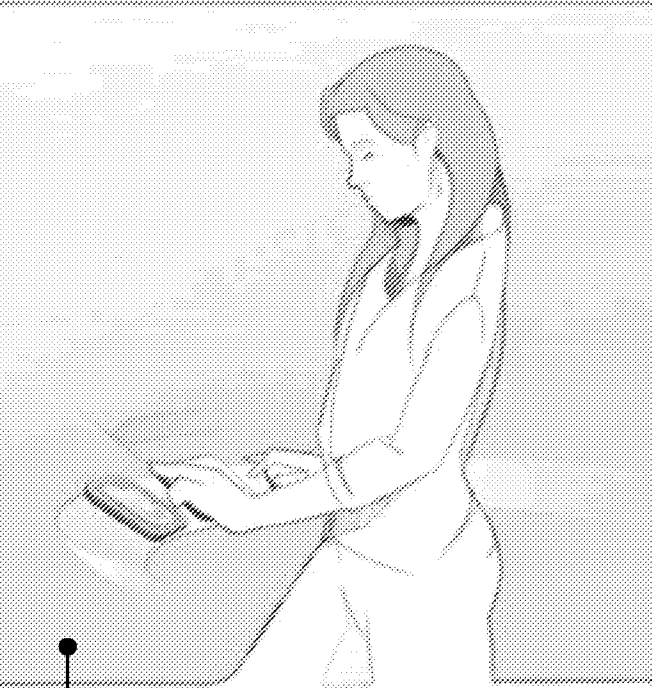
- Intelligent / Empathetic (context specific)
- Fun / Playful interaction (when appropriate)
 - Symbiotic (user aware)
- Adaptable (system learns, user learns, idea of scaffolding)

- Just because you can do it, doesn't mean you should.
 - The "wow factor" should not trump usability
 - Aim for a long "wow"

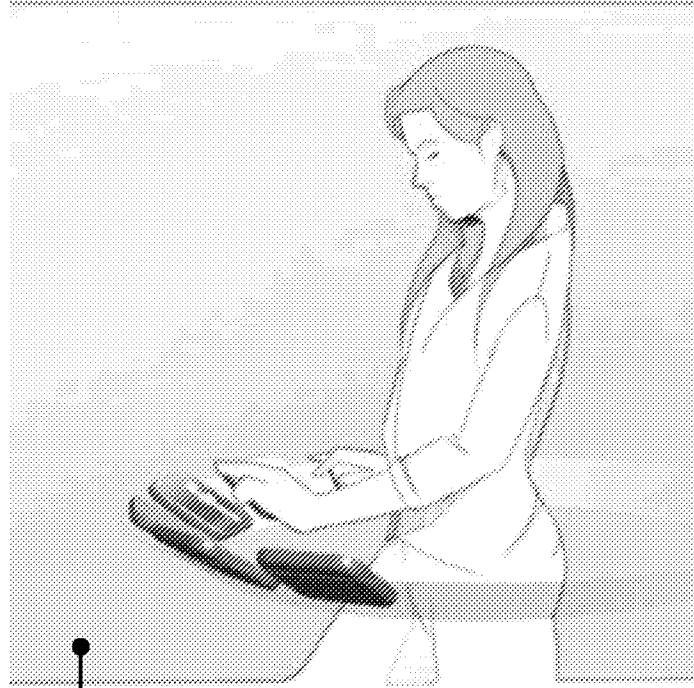


Initial Outputs – Primary Experience

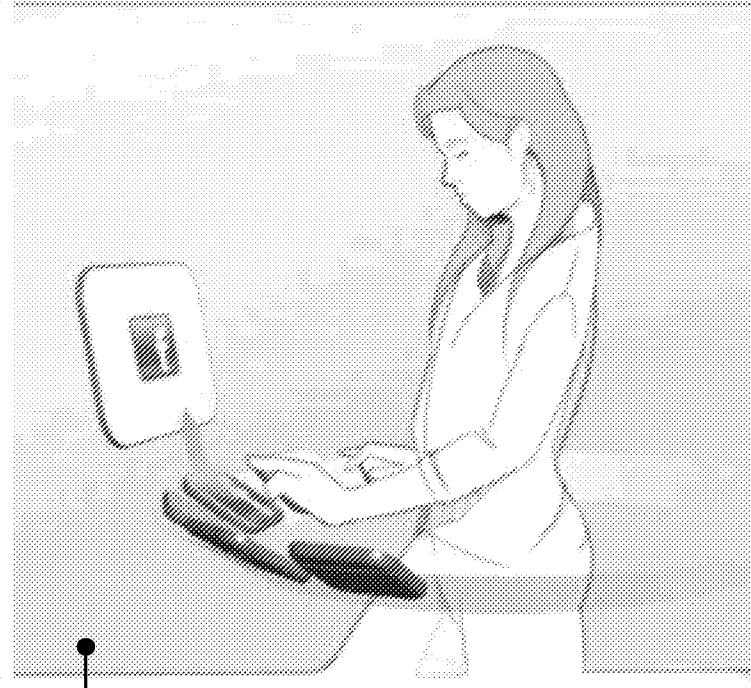
Hula-Hoop Interface



A 'swipe' hand gesture brings UI 'ring' into the users field of view.



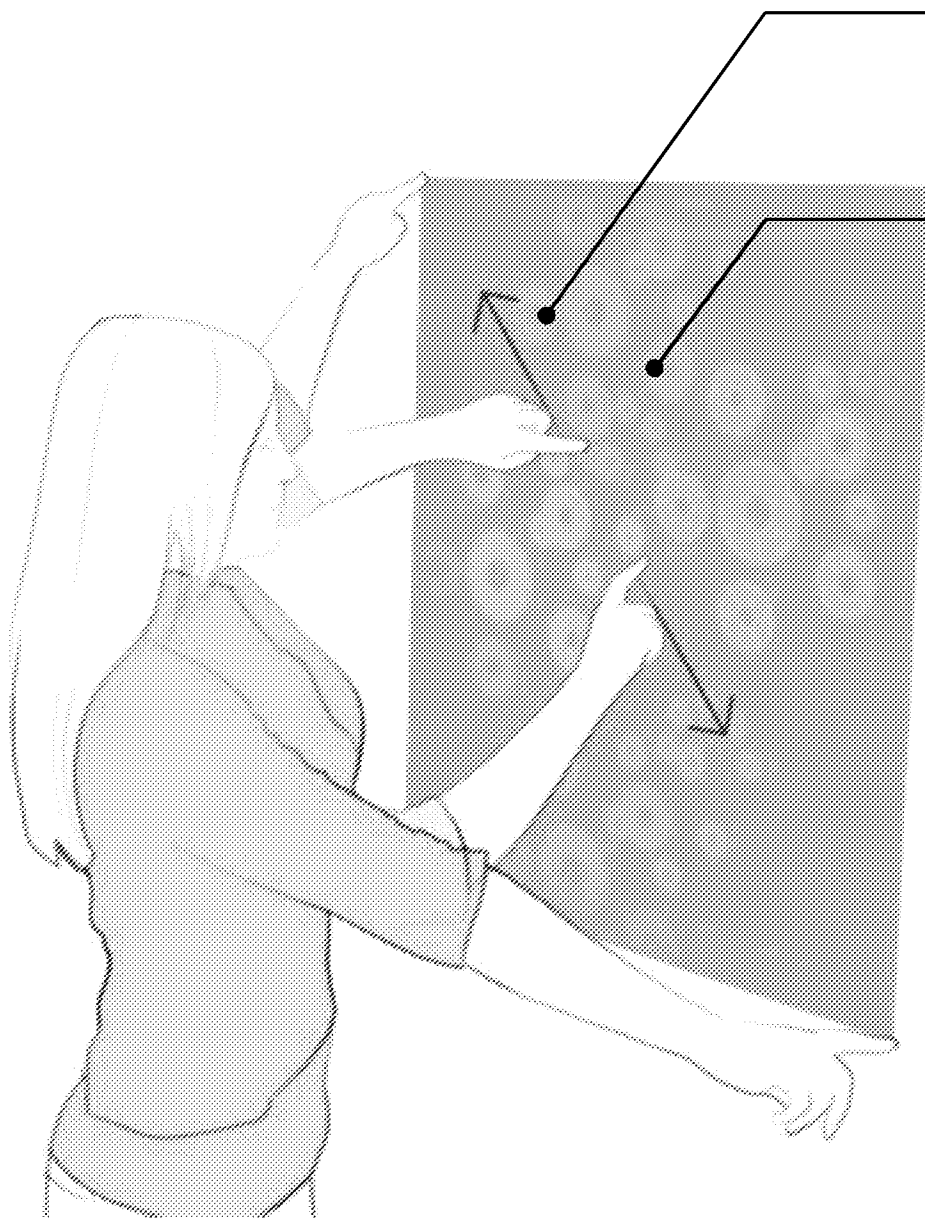
UI 'ring' presents user with application/menu options (scrollable)



User selects application/menu object to expand experience (experience varies depending on the application)

This could be the first step to opening up 'magic rooms'

Magic Portal Interface

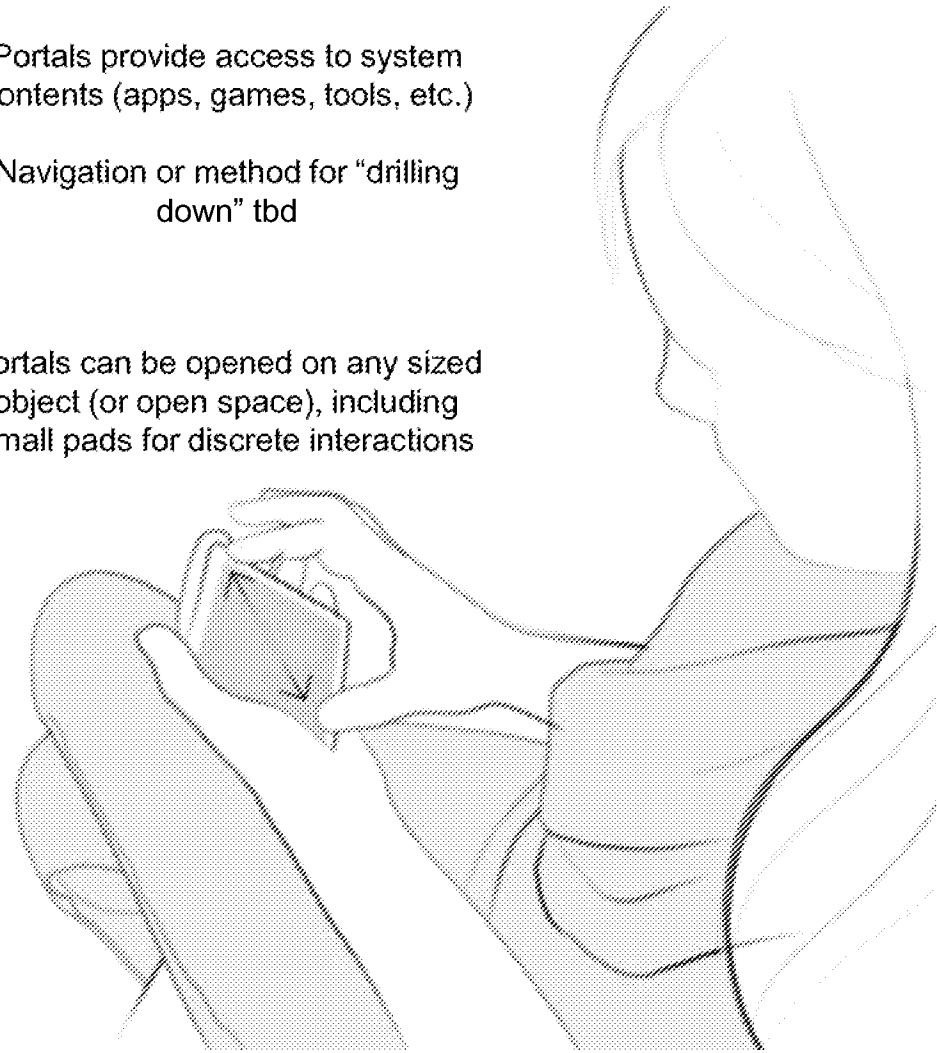


Gestural interaction used to initiate new 3D portal

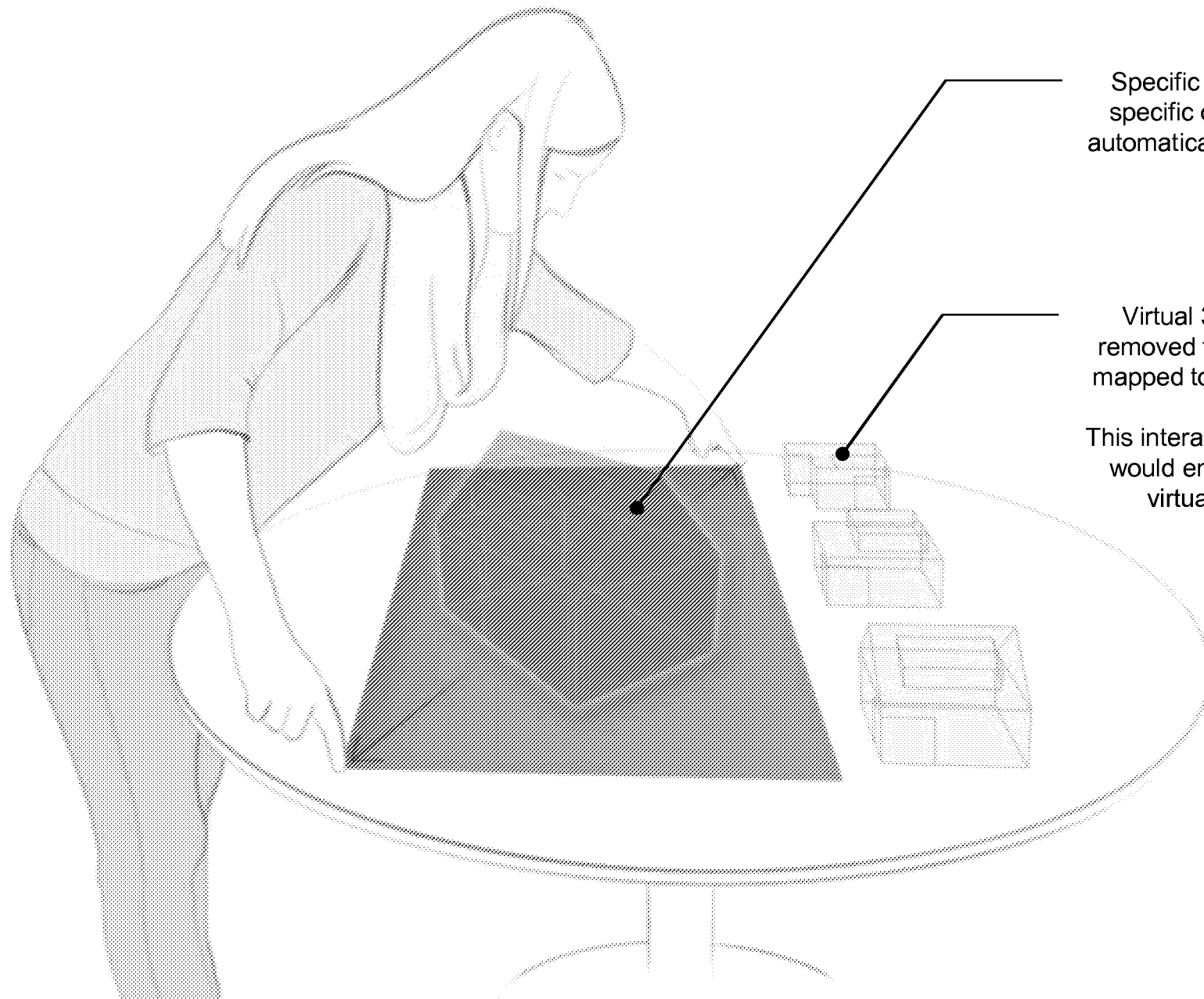
Portals provide access to system contents (apps, games, tools, etc.)

Navigation or method for "drilling down" tbd

Portals can be opened on any sized object (or open space), including small pads for discrete interactions



Magic Portal Interface



Specific tools can be assigned to specific objects so that they open automatically, eliminating the need to navigate the UI

Virtual 3D objects can be removed from the portals and mapped to objects in the room

This interaction design principle would enable users to build virtual 'magic rooms'

Expanding Hand Interface

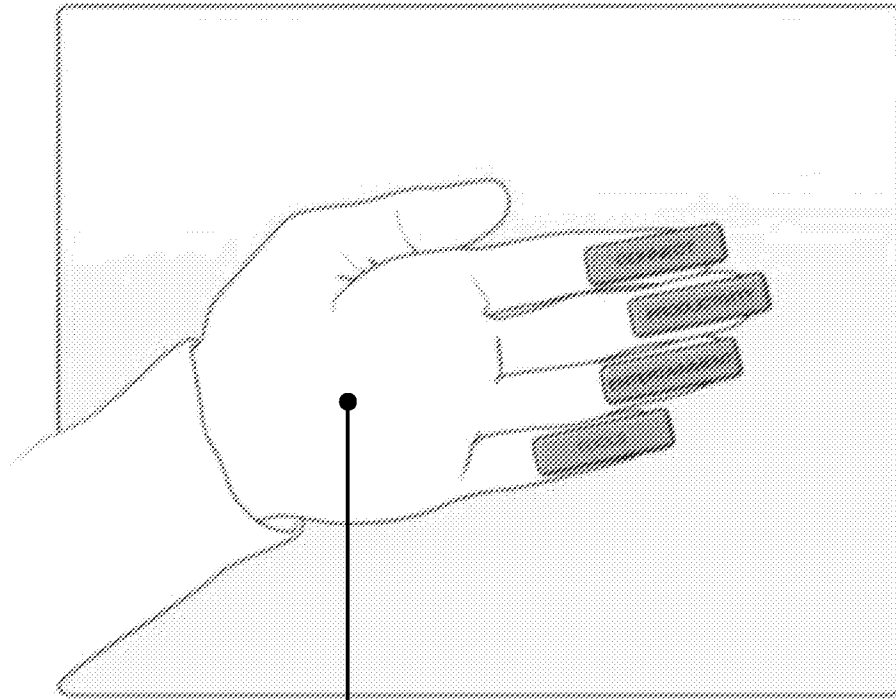
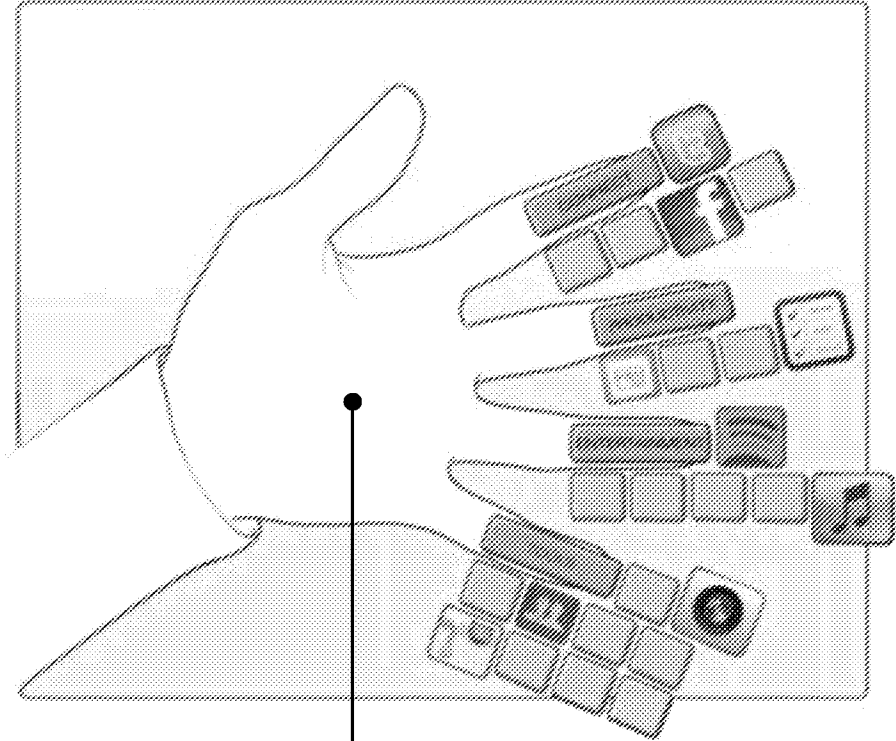
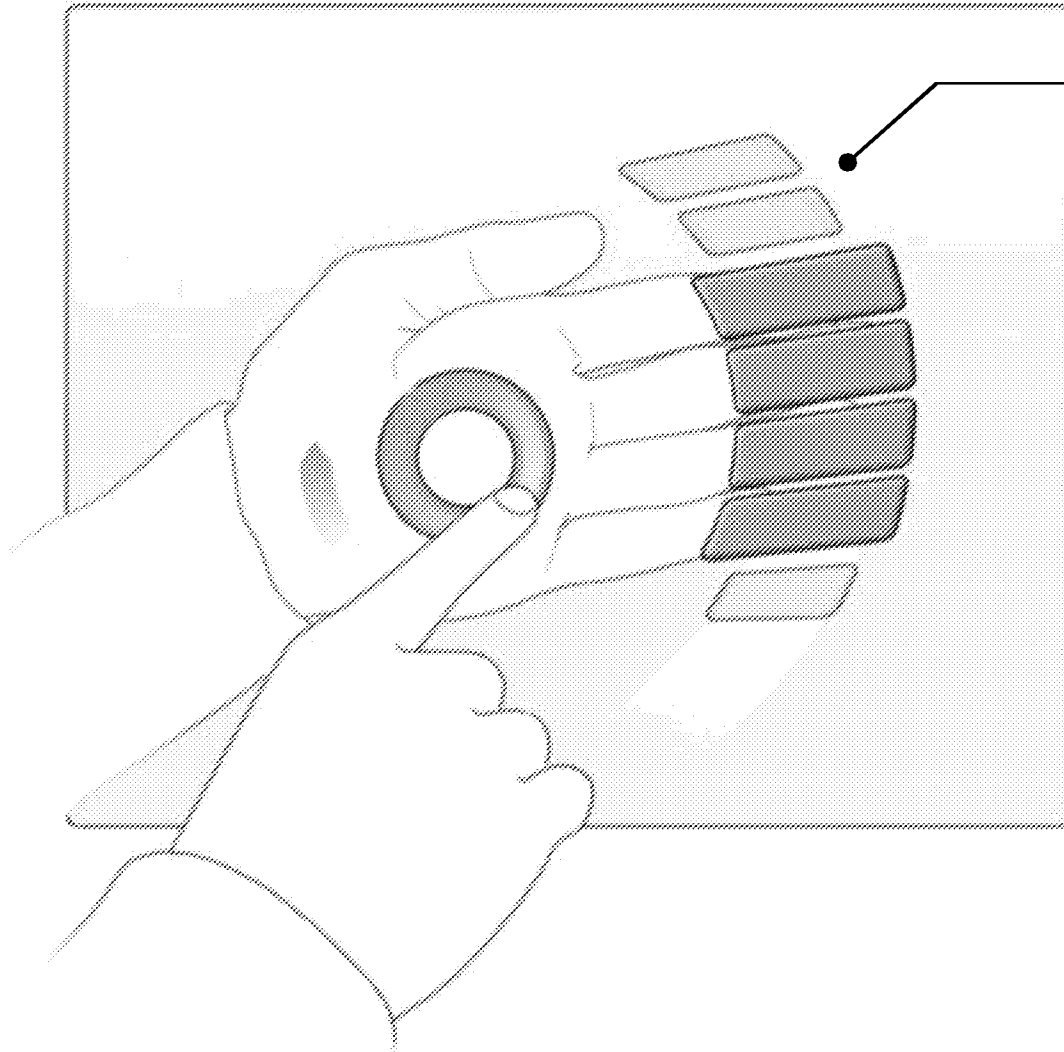


Image recognition in the system brings up the primary navigation menu when the user holds up his/her hand



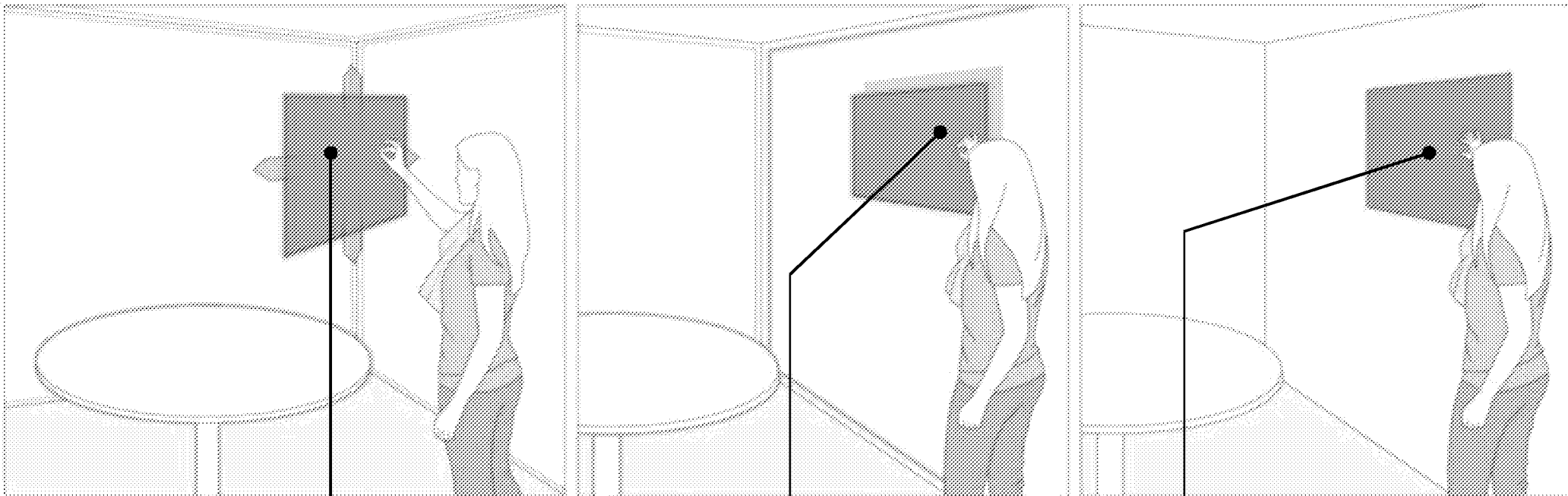
The user can select an item from the menu or spread fingers to expand menus

Expanding Hand Interface



Alternatively, users can rotate through menus using a circular gesture in the palm of his/her hand

Map to Environment Interface



User pinches virtual object to be mapped and holds gesture

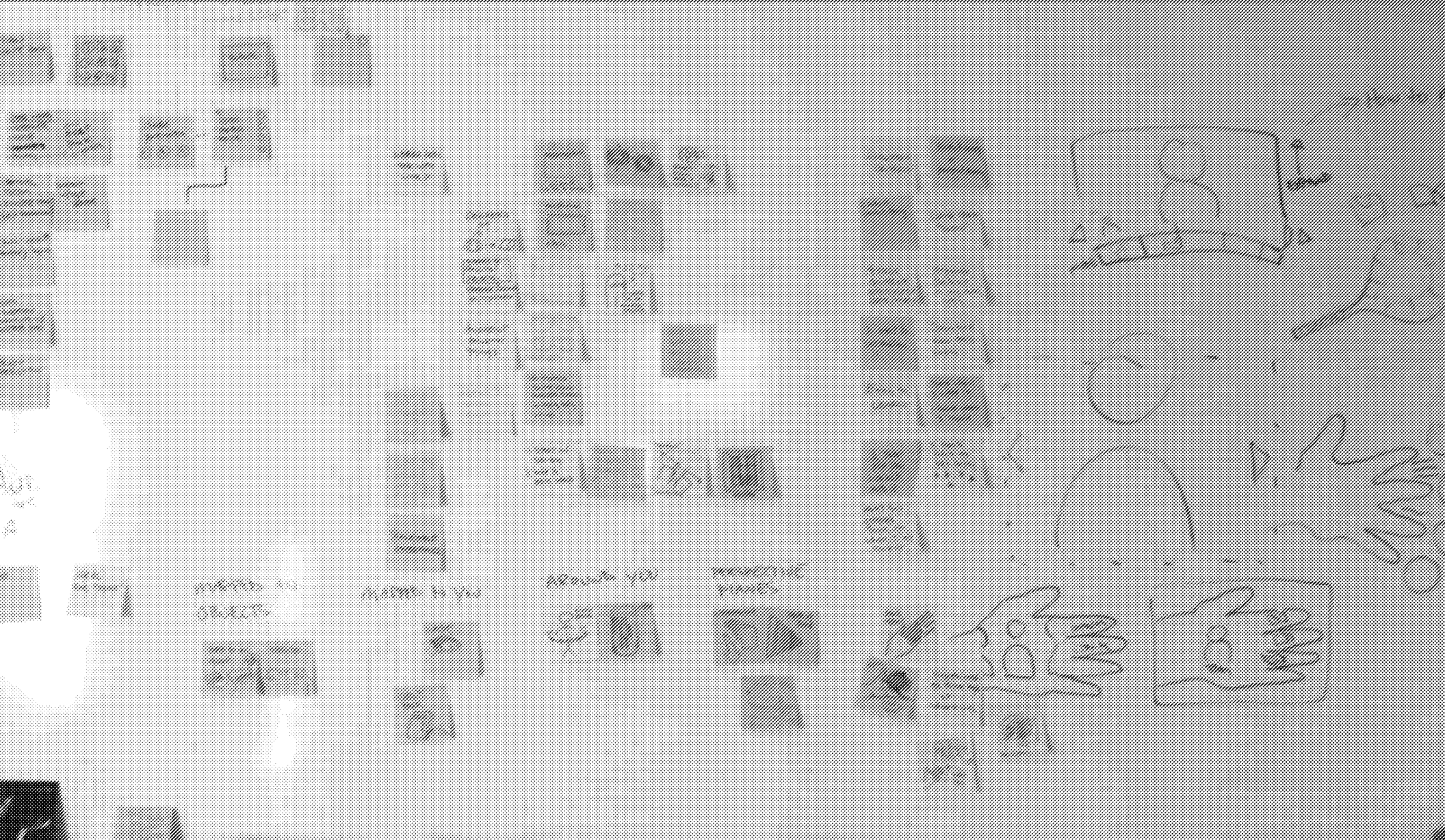
Objects that can be mapped to in the environment are illuminated

Holding the gesture, the user moves his/her arm towards the environmental object to be mapped to

Both objects are highlighted in the same color to confirm action

User opens hand to map the virtual object to the physical environment

Exploration of Primary Interaction

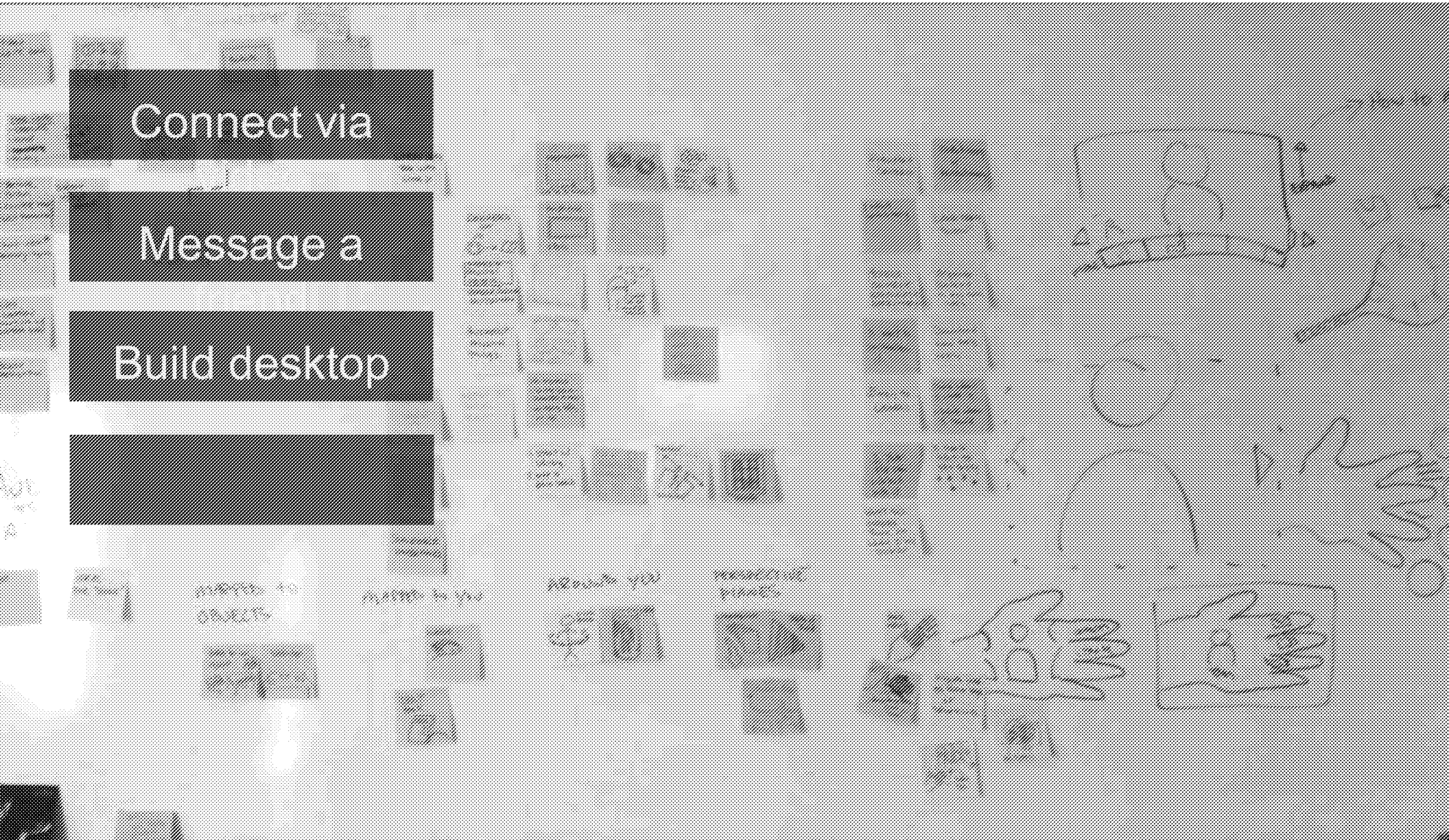


Scenario Based Brainstorming

Connect via

Message a

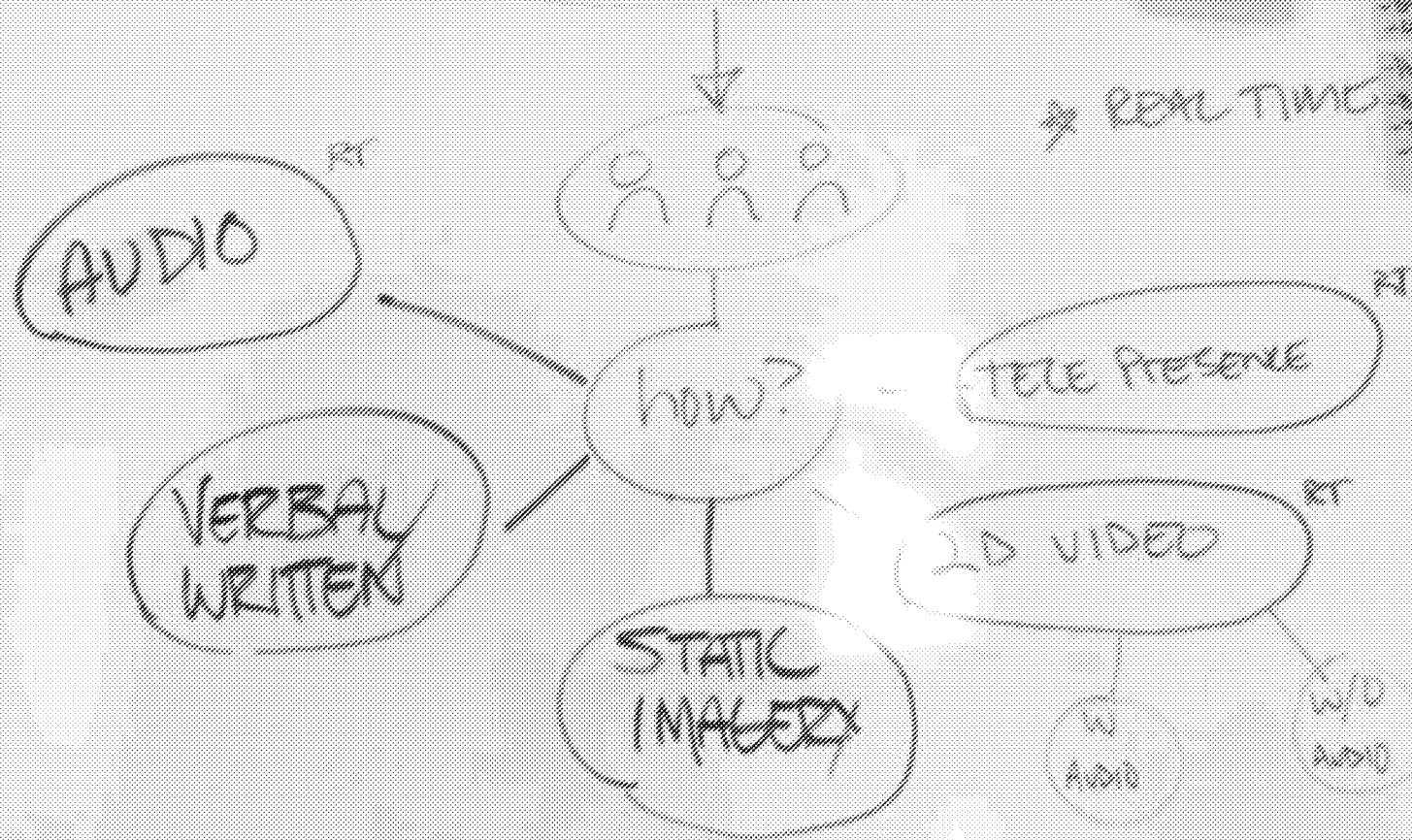
Build desktop



Content Organization → A New Platform

Opportunity to re-think

THE NEED TO COMMUNICATE



INFO



Existing UI concepts & ideas

IMMERSION / INSPIRATION

Common Interaction & Input Gestures

Object Movement	<ul style="list-style-type: none">• Swipe to the side (Slow)• Spread hands apart• Bring hands together• Small wrist movements (as opposed to large arm movements)
Start	<ul style="list-style-type: none">• Touch body in a specific place (arm, hand, etc.)• Wave
Menu Movement	<ul style="list-style-type: none">• Pull hand back• Swipe to the side (slow)• Push forward• Two finger hold and drag• Flip hand over• Close hand
Clearing or Escape	<ul style="list-style-type: none">• Flip hand over• Close hand• Swipe to the side (Fast)
Selection	<ul style="list-style-type: none">• Pinch- thumb to fore finger• Pause (hand, finger, etc)• Stab (Point)

Gesture guidelines:

- Intuitive
- Ergonomic for a wide variety of body sizes and abilities
 - Fluid
- Scalable / Discrete (when appropriate)
 - Culturally accepted

IMMERSION / INSPIRATION

The Aeon Project



- Expanding radial menu
- Icon based main menu
- 3d helix content management
 - Pop up 2d alerts
 - VIDEO:

<http://www.yankodesign.com/2011/08/02/going-beyond-augmented-reality/>

IMMERSION / INSPIRATION

Mediating Mediums – The digital 3d

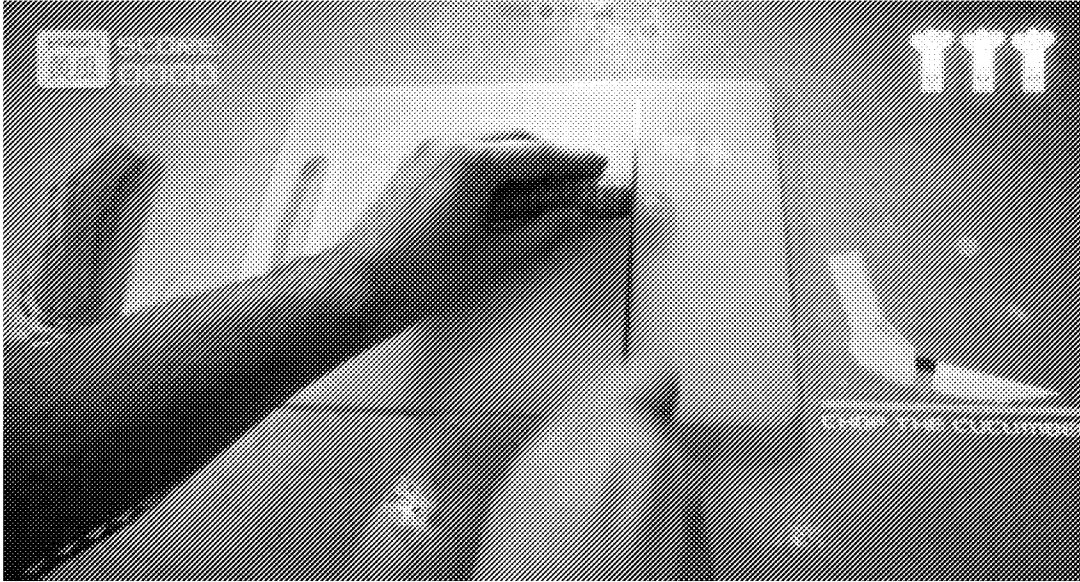
- 2d and 3d objects / displays
- Mapping to 2d surfaces (real and virtual)
 - Site recognition
- Visualizing / manipulating virtual objects
 - VIDEO:

<http://www.yankodesign.com/2011/09/14/virtual-architecture/>



IMMERSION / INSPIRATION

“Sight”



- Floating and mapped interfaces
 - Site recognition
- Pupil tracking as a means of navigation
 - Navigation of content
 - VIDEO:
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IMMERSION / INSPIRATION

Ringo Holographic Interface

- Hula-hoop like interface
- Navigation of content
- Data entry / Game play
 - VIDEO 1:

<http://www.youtube.com/watch?v=t0H1NNa6zX>

c



IMMERSION / INSPIRATION

3D Navigation with 2D platforms



- 3d storage / navigation space
- Visual grouping by subject and/or color
 - Organic navigation style

- VIDEO 1:
<http://www.youtube.com/watch?v=rOOYK8RO6u4>

- VIDEO 2:
<http://www.youtube.com/watch?v=MqUaxnhp7rQ>

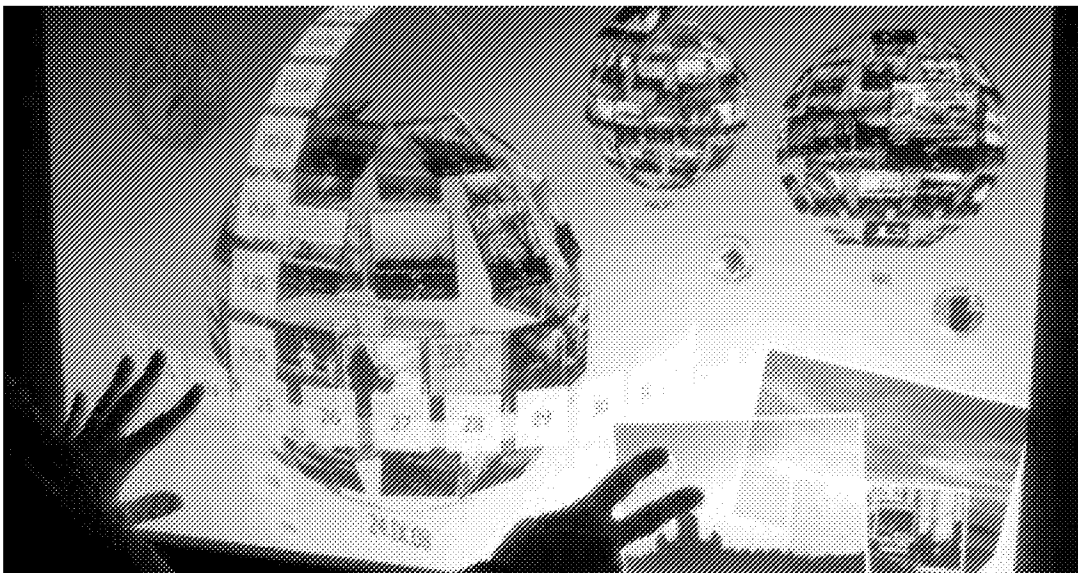
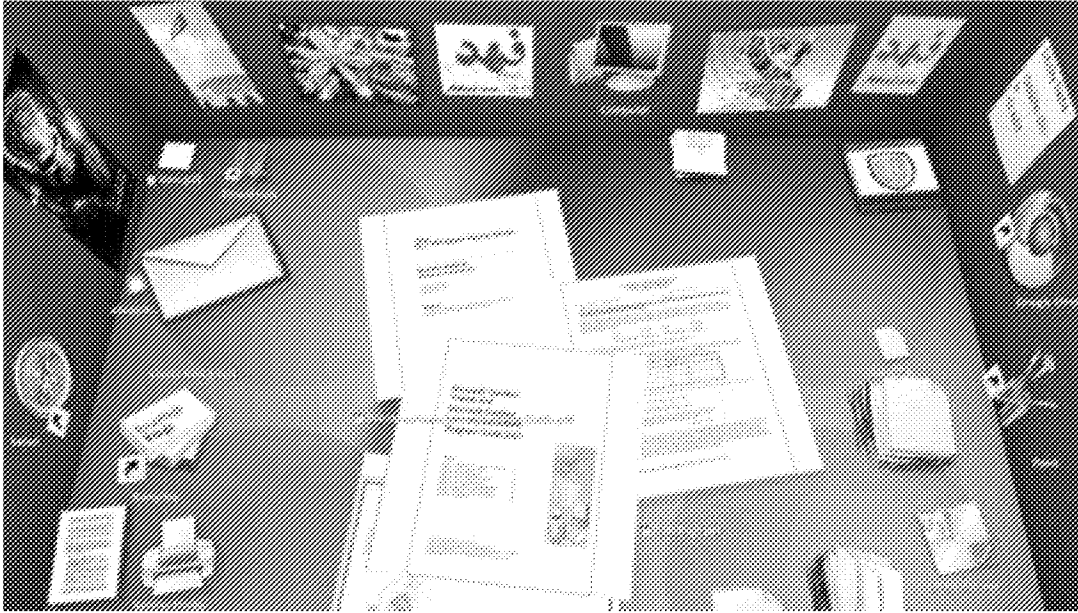


IMMERSION / INSPIRATION

3D Organization of 2D Content

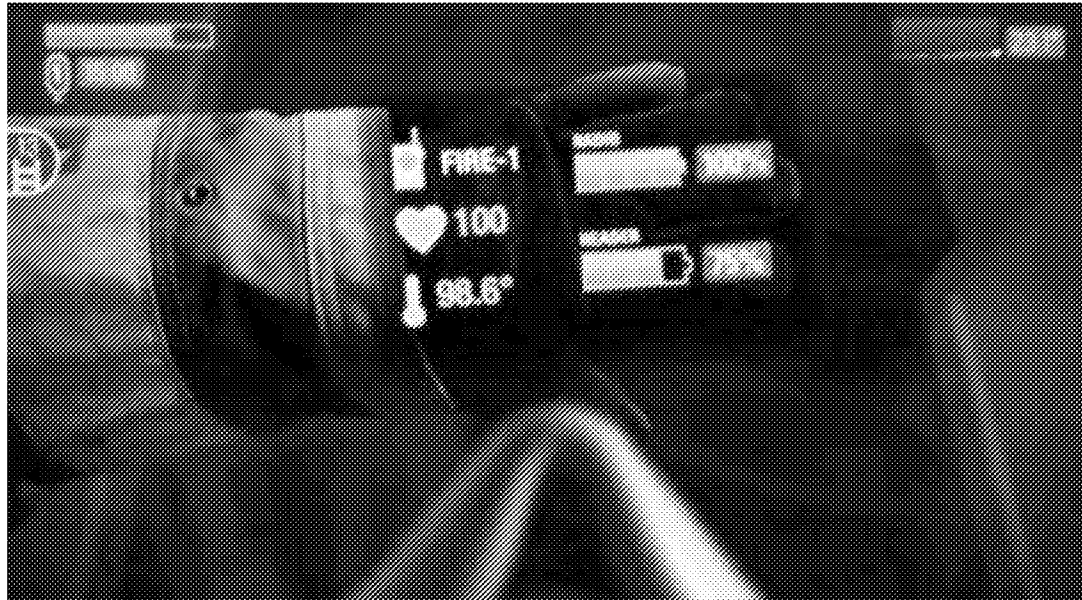
- Organization of 2d icons / content
- Flexibility (maybe too much?)
 - Personalization
 - VIDEO:

http://www.ted.com/talks/anand_agarawala_demos_his_bumptop_desktop.html



IMMERSION / INSPIRATION

The Future of Firefighting



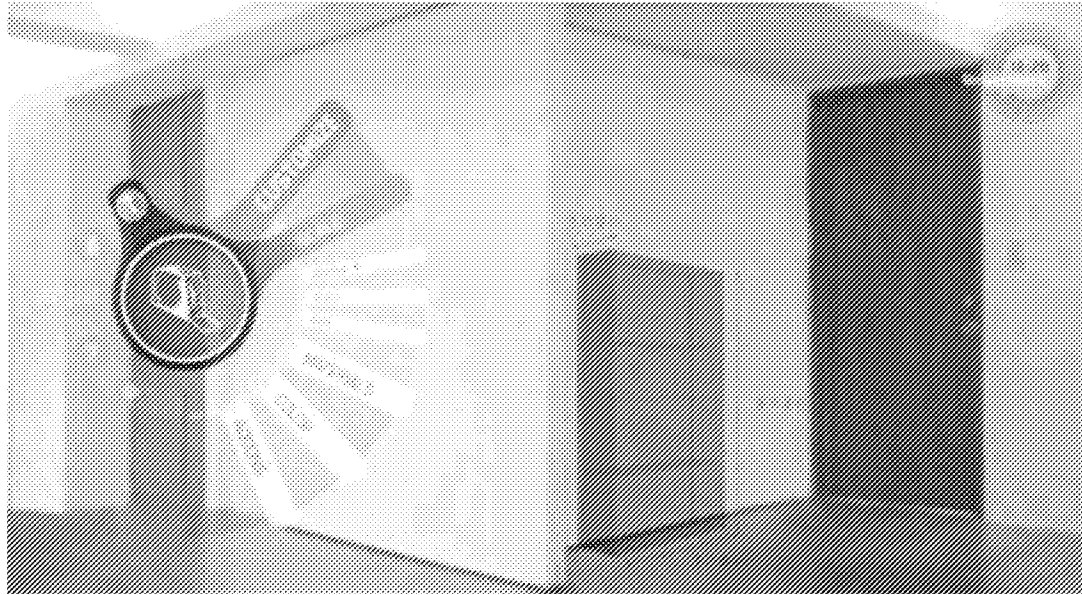
- Hand mapped interface
 - Layered Content
- Constant – always available, easy to access, corner of user's FOV
- On Demand – gestural interaction to initiate, menus to dig deeper
 - Alerts – pop-up style icons

• VIDEO:

http://www.youtube.com/watch?v=QBAnr2gQT_H0

IMMERSION / INSPIRATION

Other examples



- Radial menu
- Scalable 3d virtual objects
- 2d display of information
- Floating interface

• VIDEO:

<http://www.youtube.com/watch?v=MytC7rnnJM>
8





Interaction Design
"Rooms"

USER INTERACTION

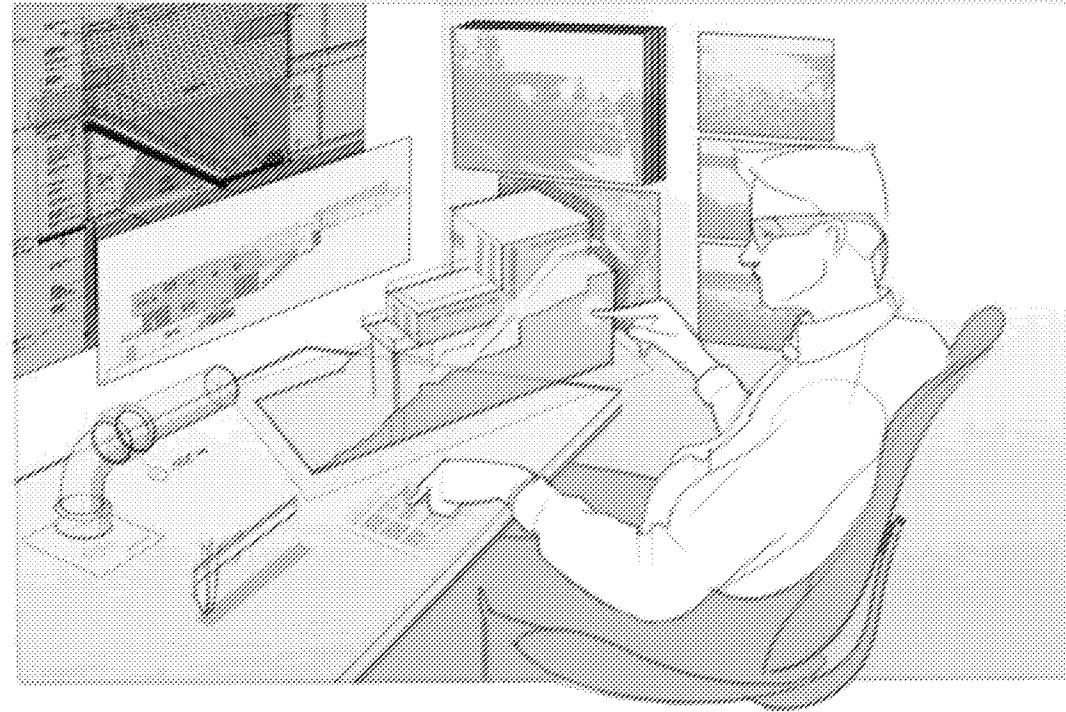
“Rooms” Scenario

Average Andrew:

- 34 years old
- Civil Engineer
- Sports enthusiast, fantasy football

Scenarios:

- Working at the office → message from co-worker comes in (alert)
- Select virtual “room” from living room; change from entertainment room to work room
- Open/access specific application from one room while in another room (i.e., open camera app from the entertainment room)



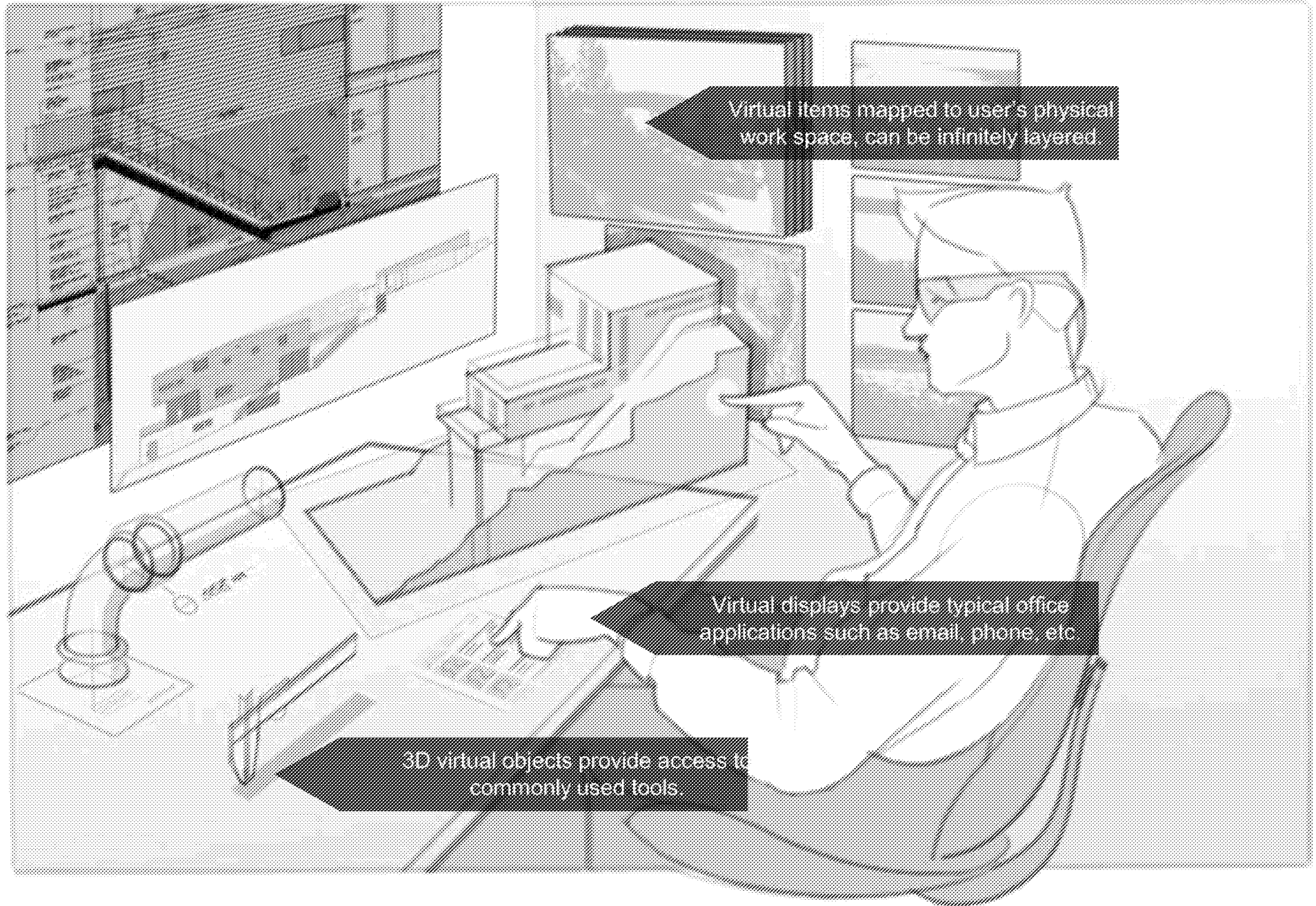
OFFICE ROOM

"Rooms"



OFFICE ROOM

"Rooms"



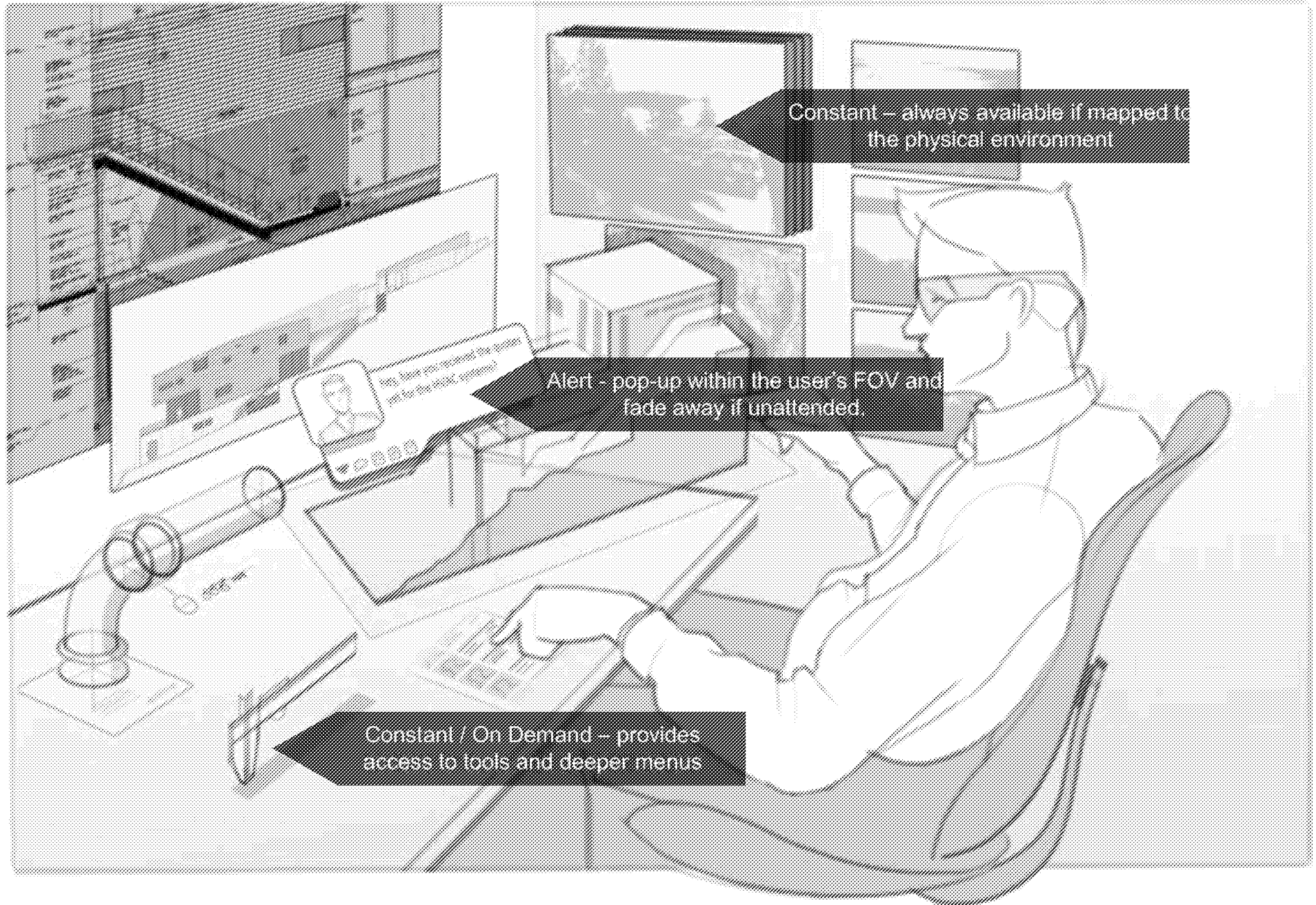
OFFICE ROOM

"Rooms"



OFFICE ROOM

"Rooms"



USER INTERACTION

Navigating Rooms

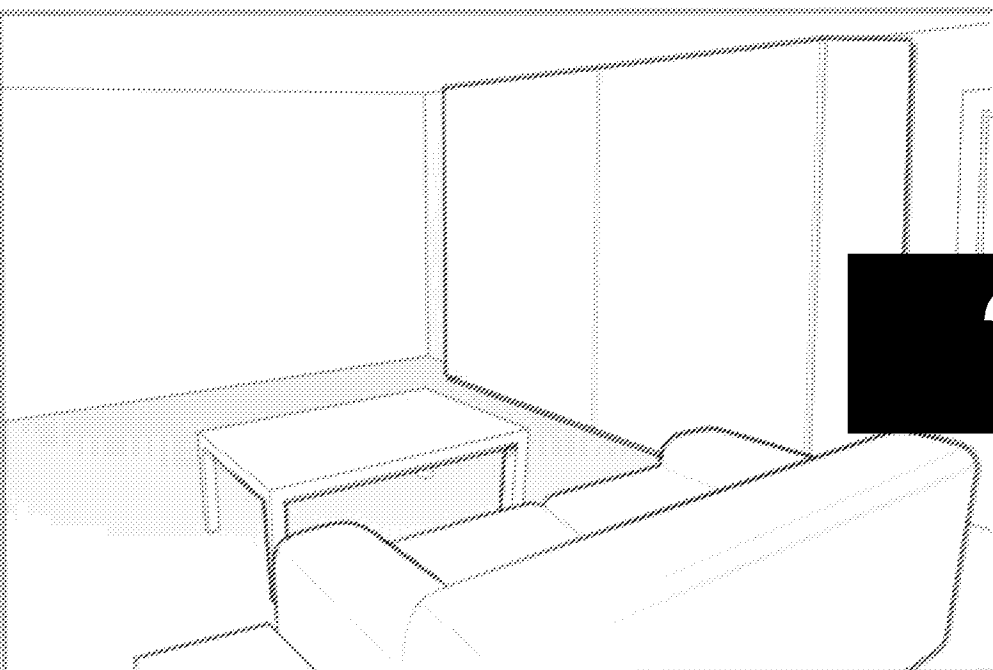
Two Scenarios:

- Select a room for use
- Navigate from Entertainment room to Work room

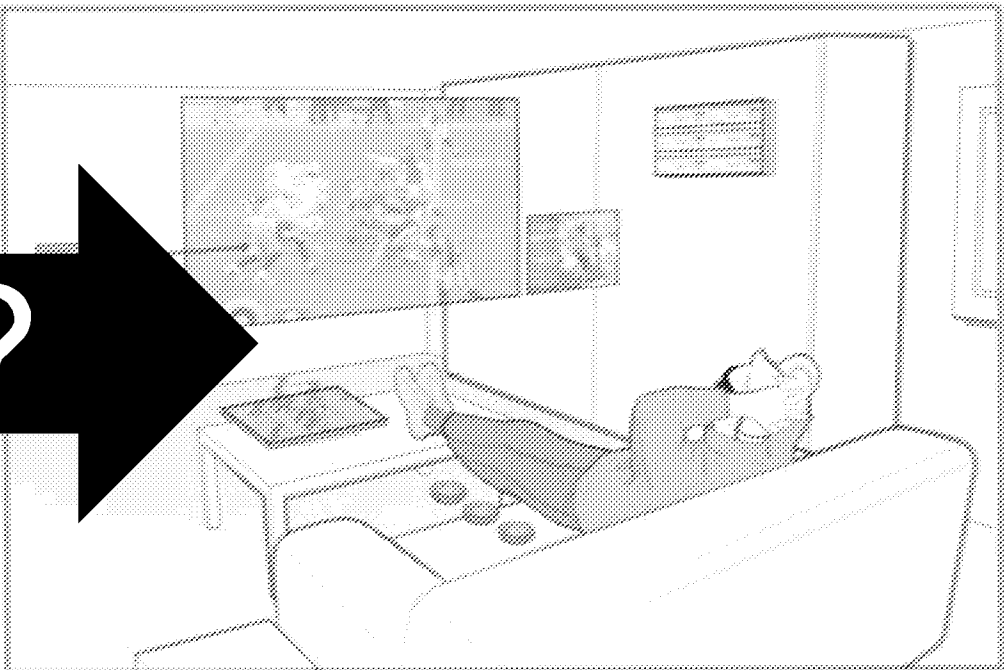
USER INTERACTION

Navigating Rooms

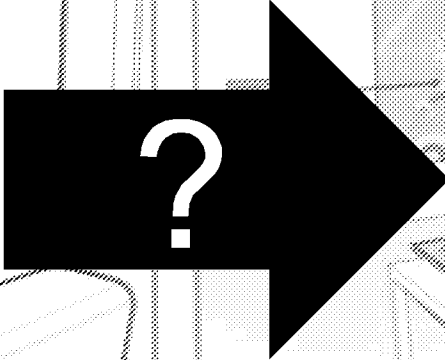
SELECT A ROOM FOR USE:



Physical Living Room



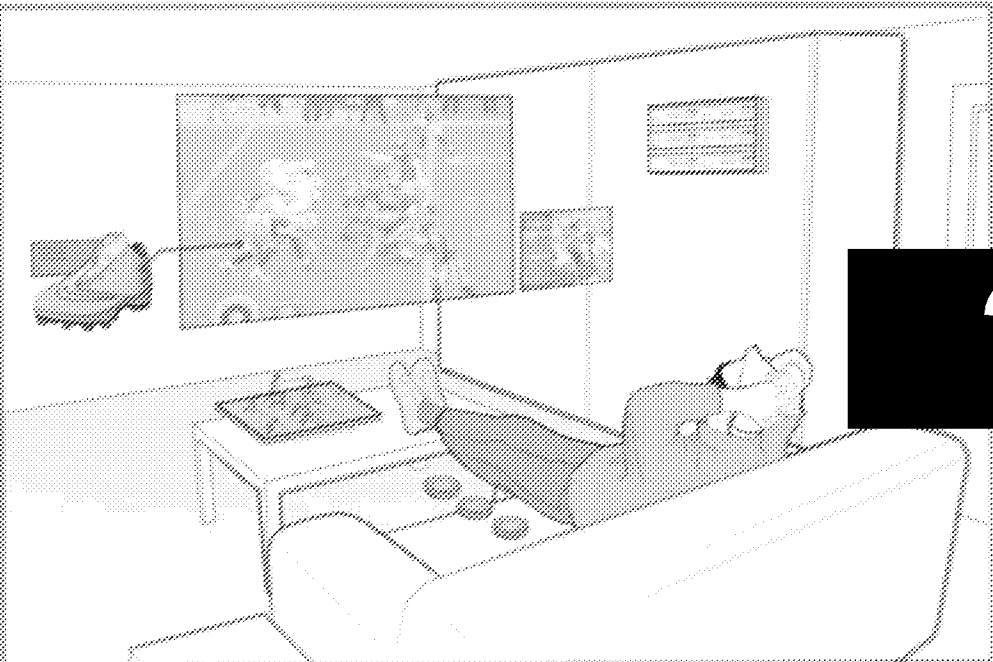
Virtual Entertainment Room



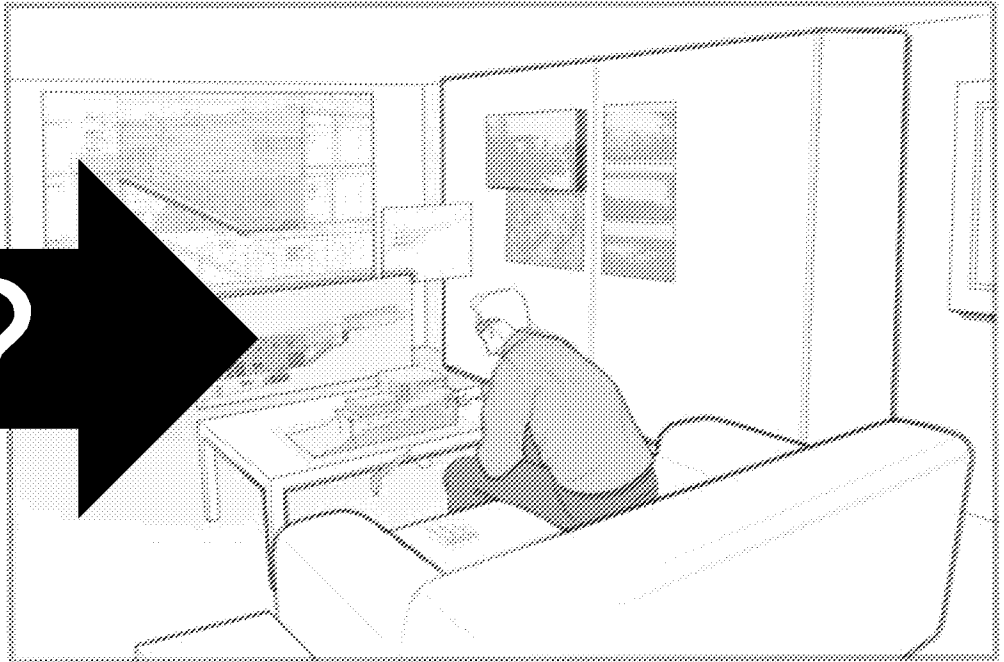
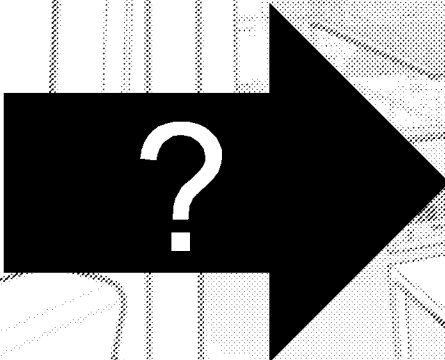
USER INTERACTION

Navigating Rooms

NAVIGATE BETWEEN ROOMS:



Entertainment Room



Work Room



"On Demand" Menu Concepts

USER INTERACTION

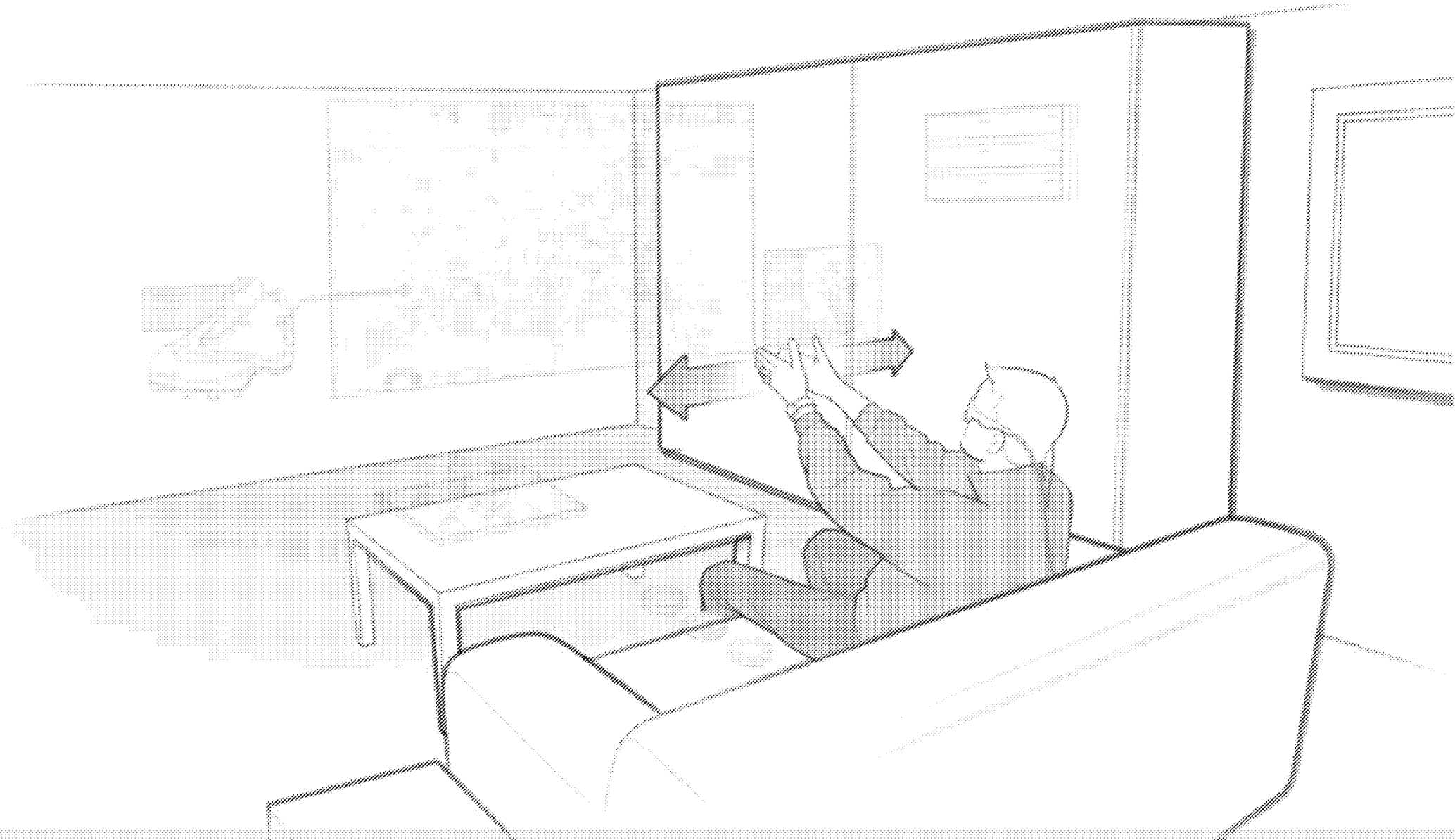
Selecting and/or Navigating Rooms

On Demand: User input to access menu system

- Gesture – i.e., hand motion up
- Button on Glasses or Pack
 - Voice command
 - Eye tracking

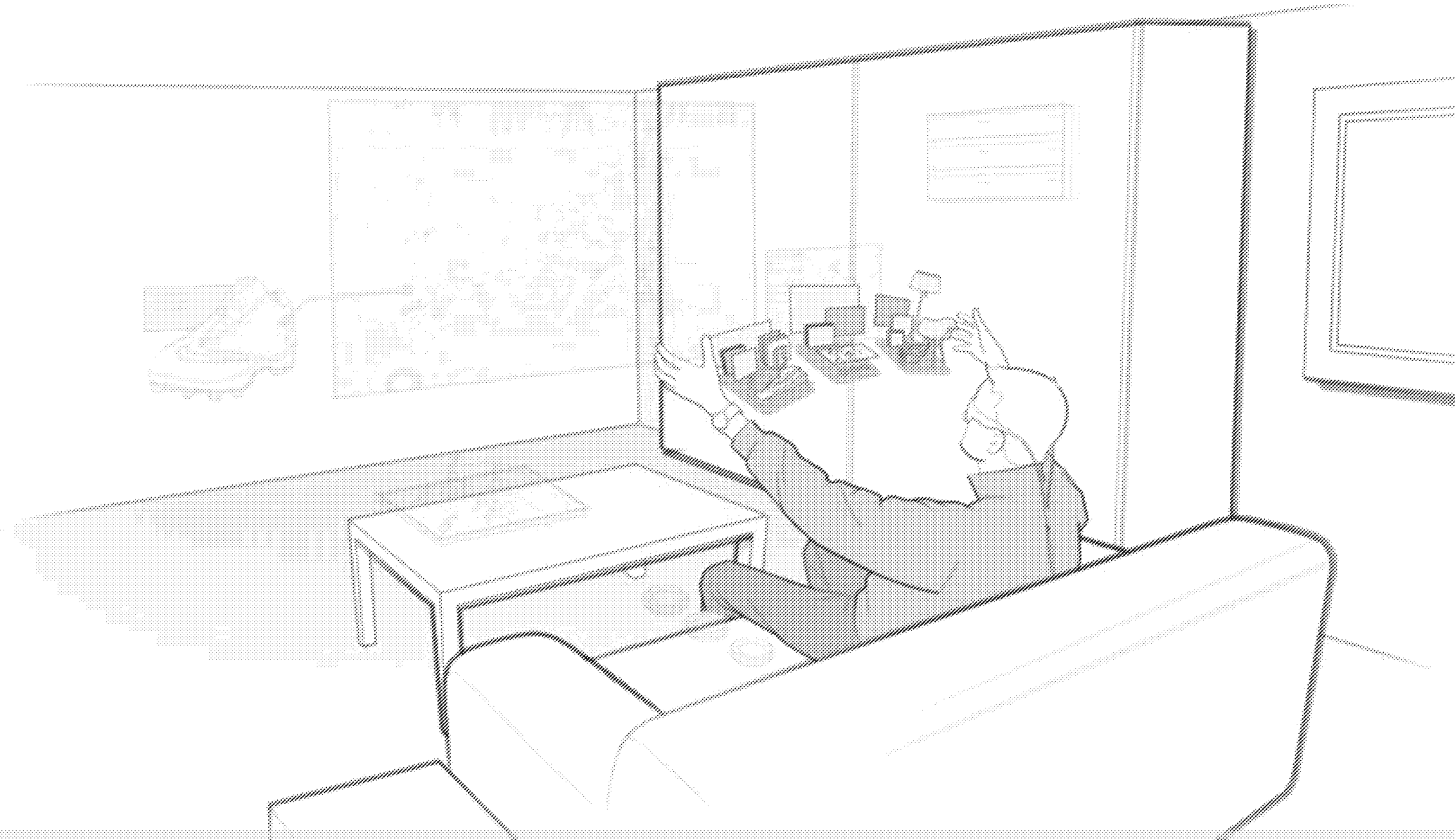
3D CLUSTERS

Gesture to open icon based clusters



3D CLUSTERS

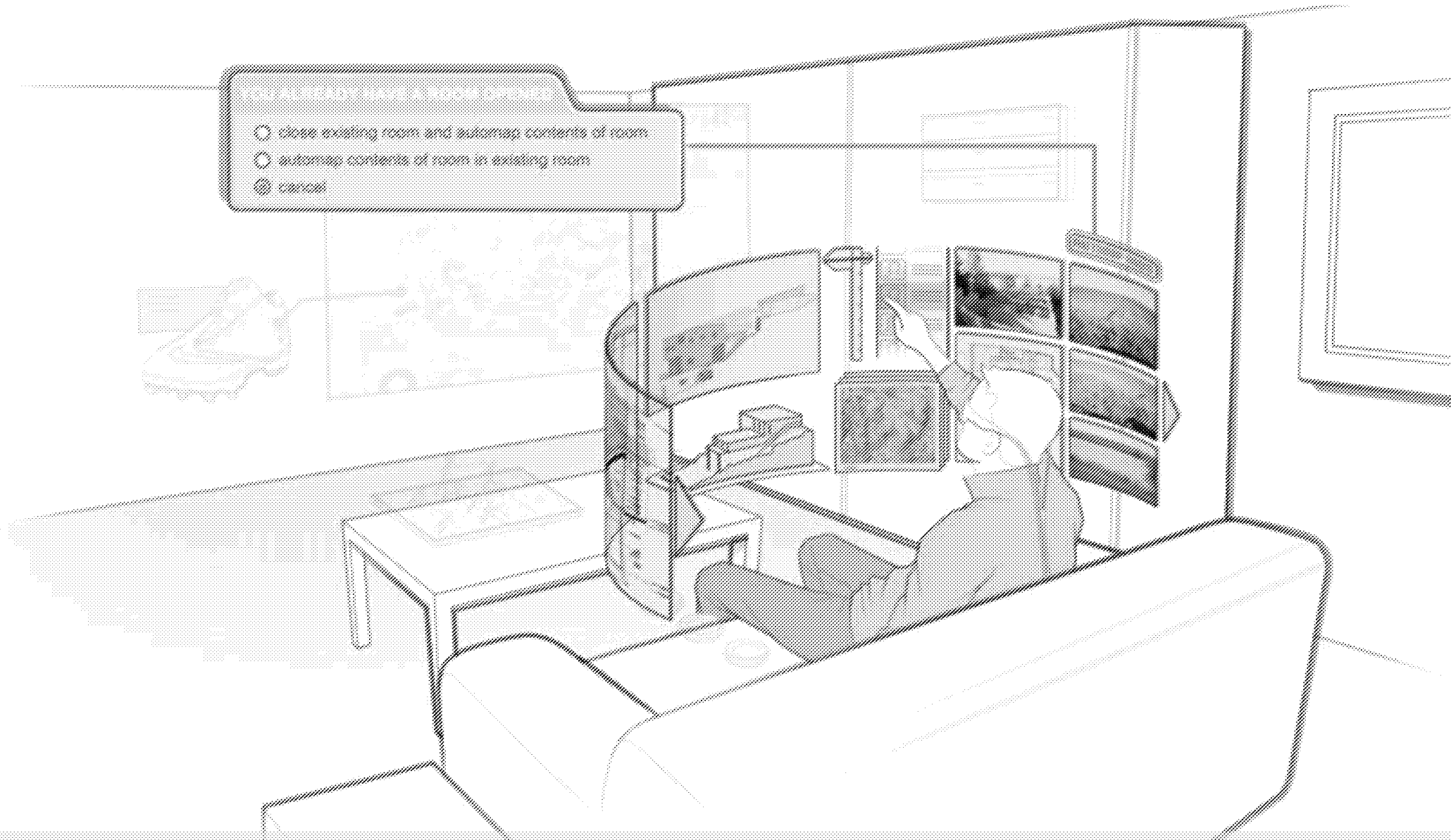
Gesture to open icon based clusters



Provides quick access to non-functional rooms; different gesture to pull up comprehensive menu

POD

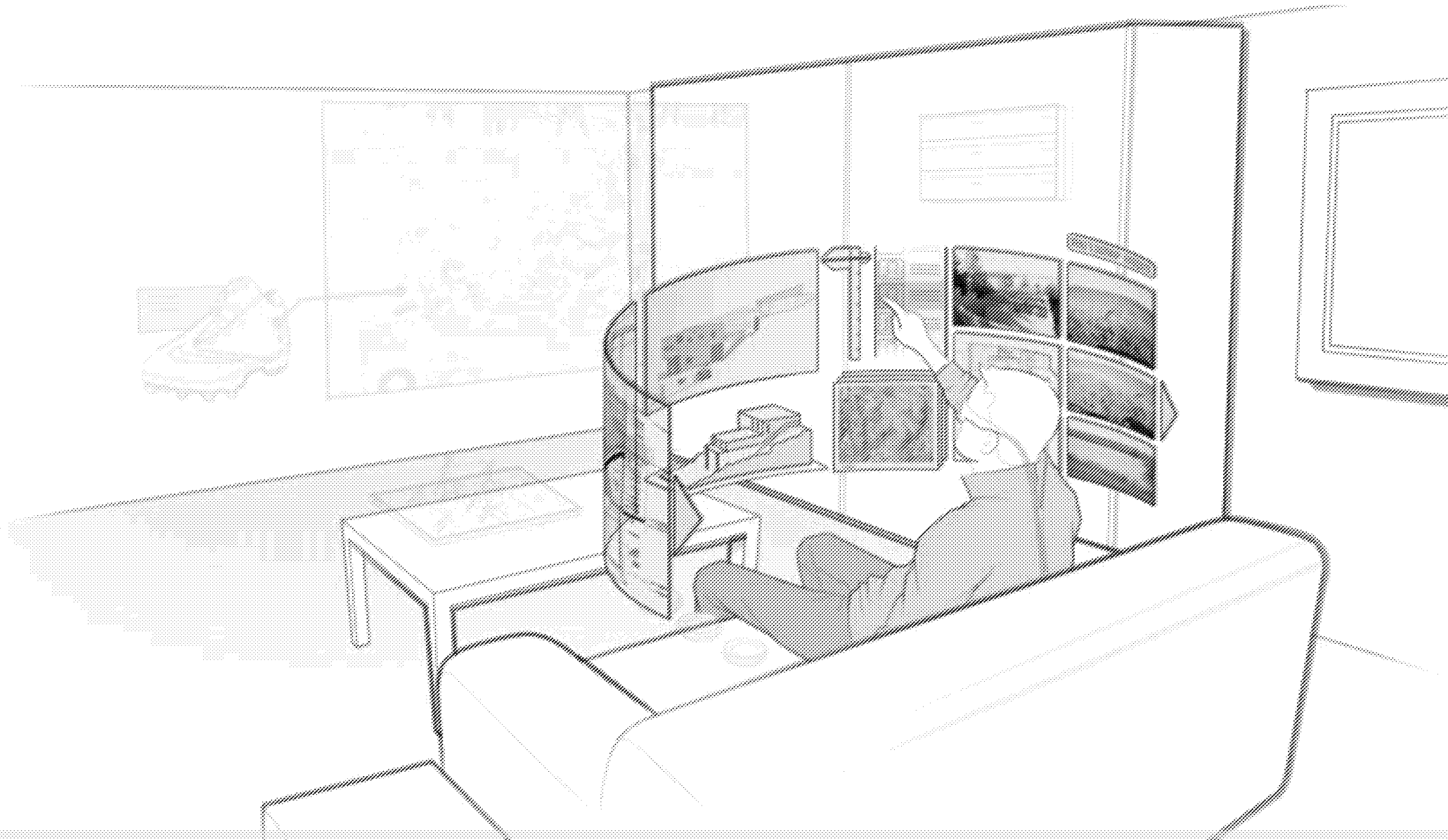
Functional group of room based applications



Provides access to functional tools and applications while in another room; mini work station

POD

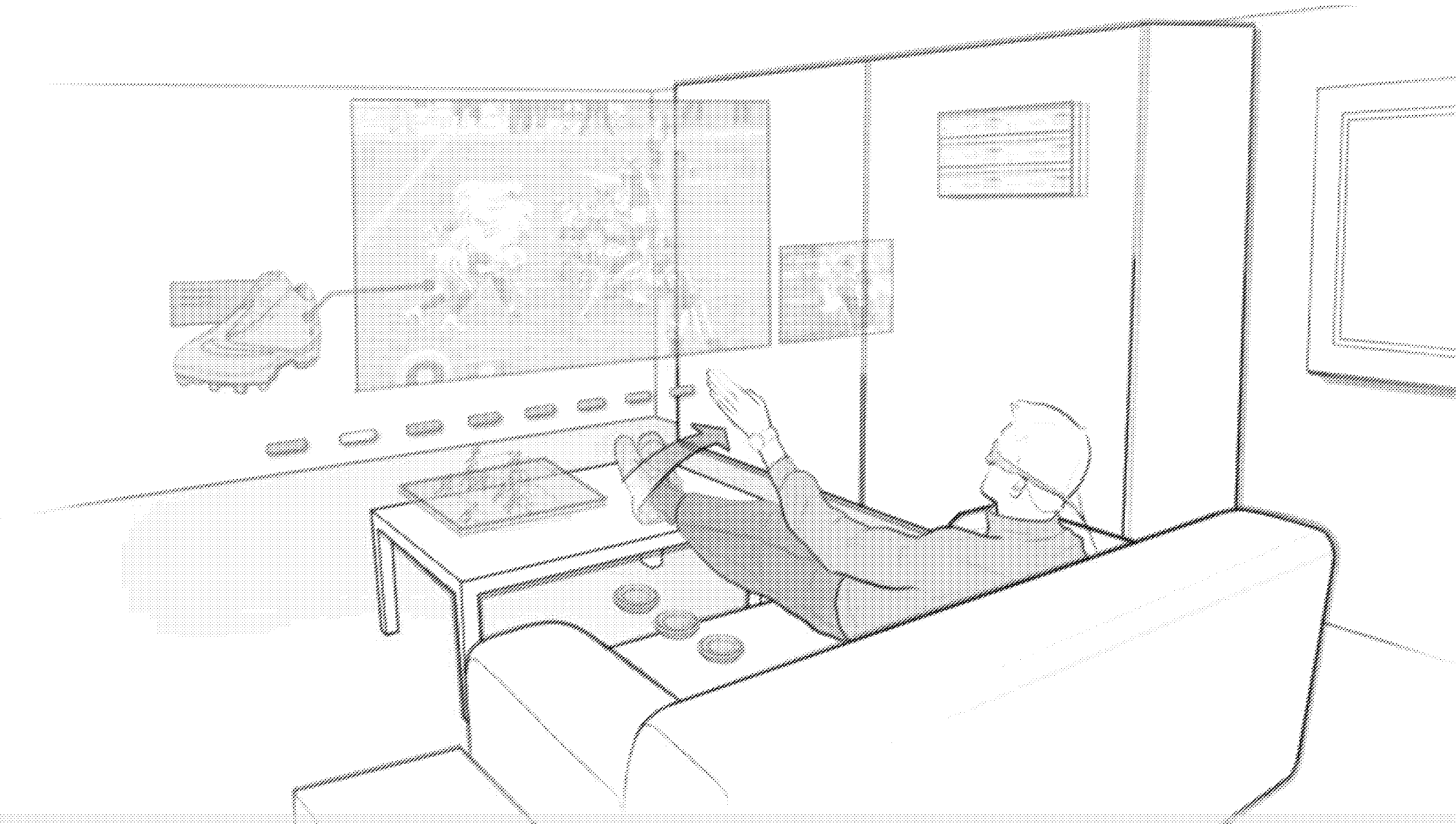
Functional group of room based applications



Swipe through context specific rooms

FULL ROOM PREVIEW

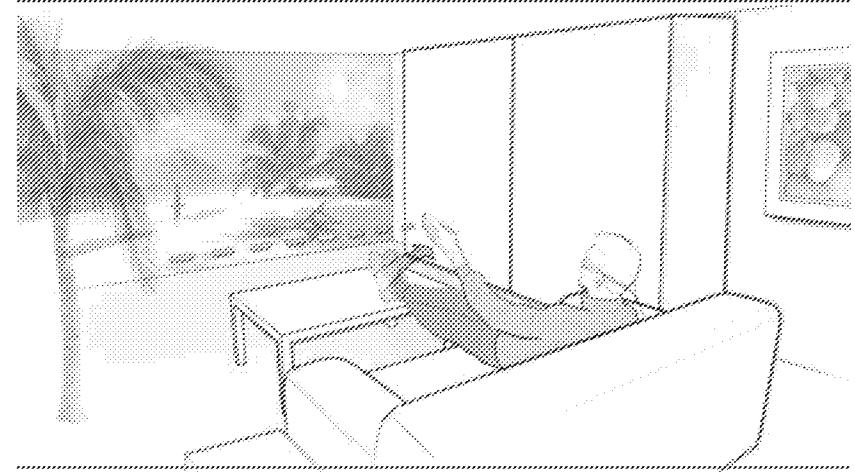
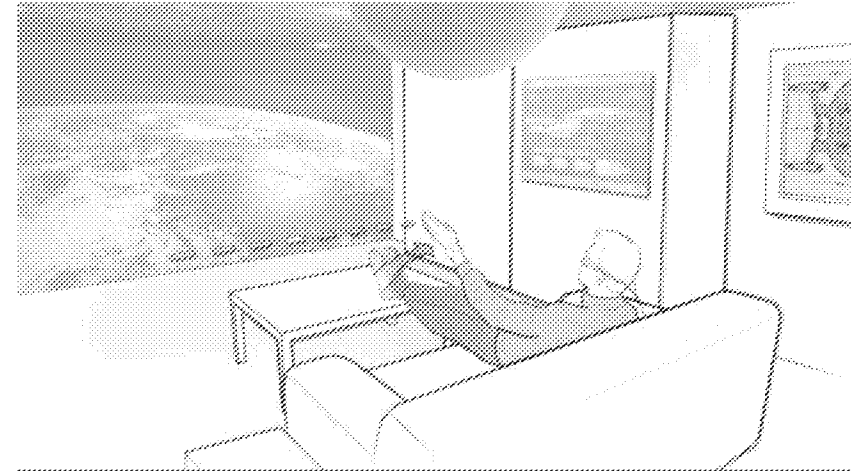
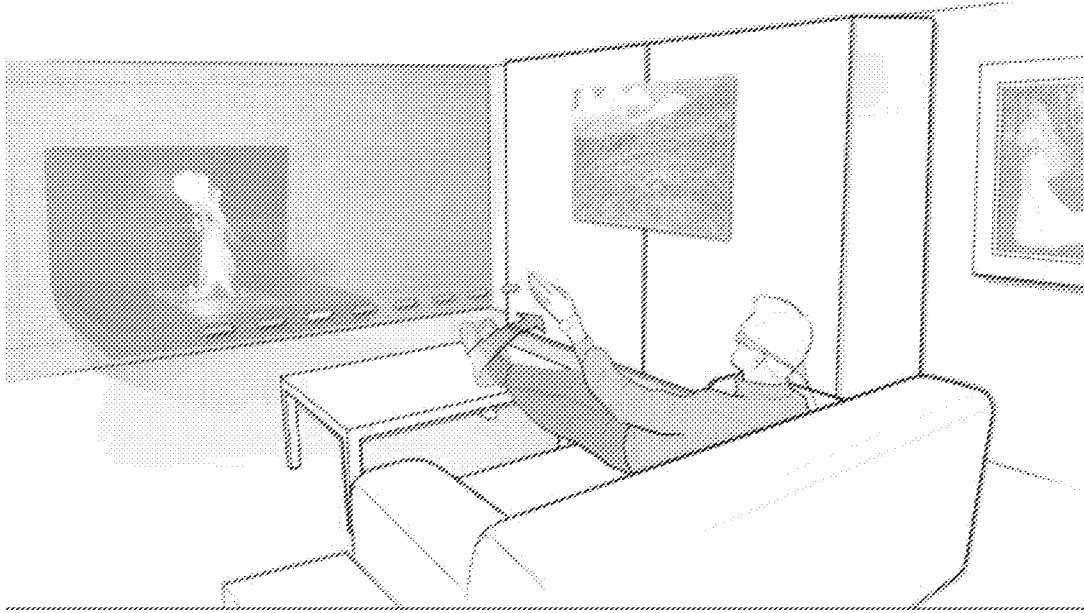
Swipe to navigate available rooms



Location specific rooms; rooms have previously been mapped to physical location

FULL ROOM PREVIEW

Swipe to navigate available rooms



Navigating aesthetic "skins" that have been mapped to the living room

HIEARCHAL MENU SYSTEM

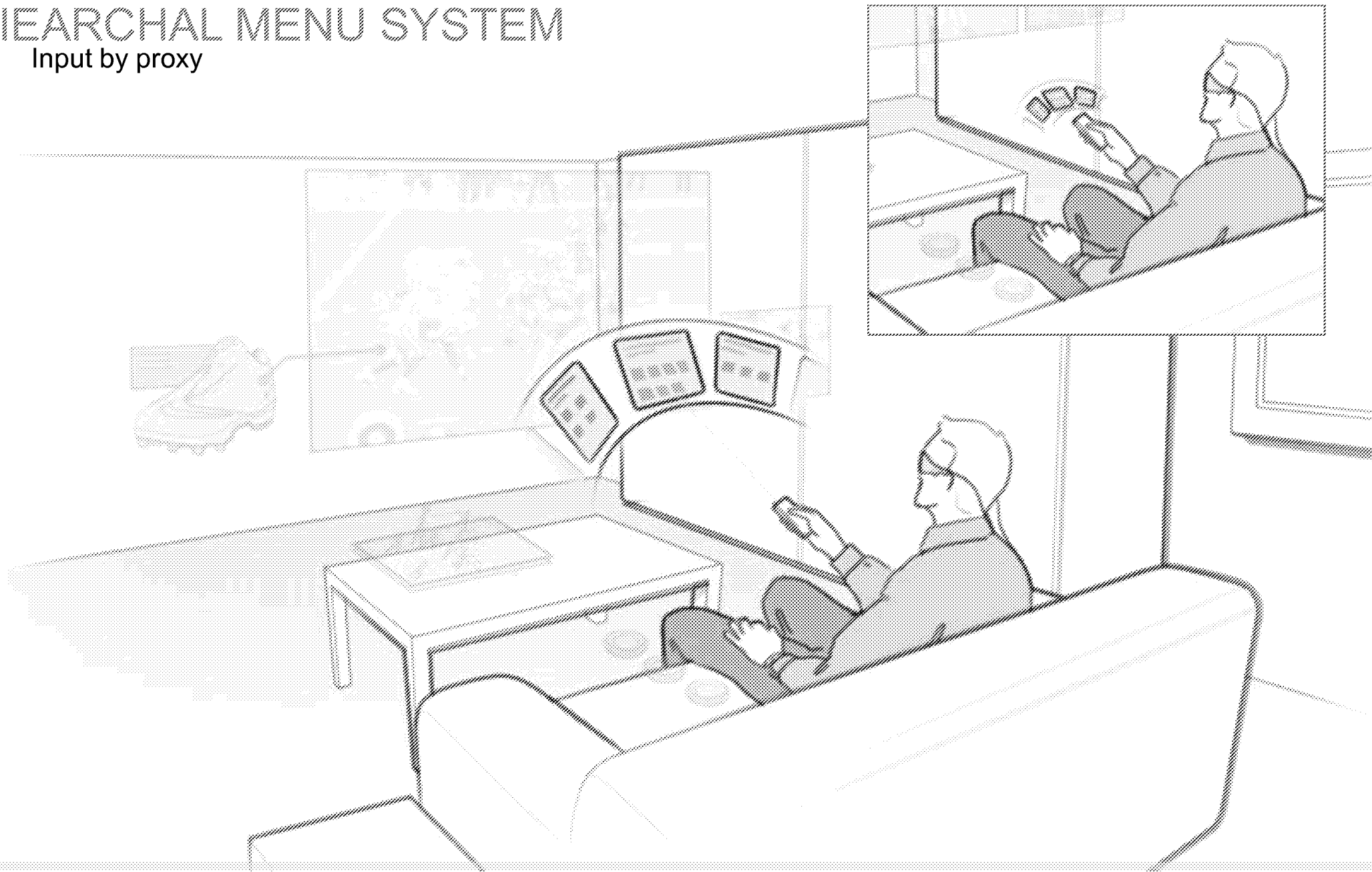
Virtual touch pads



Navigate primary menu to access user defined rooms; rooms are a feature of the primary navigation menu

HIEARCHAL MENU SYSTEM

Input by proxy

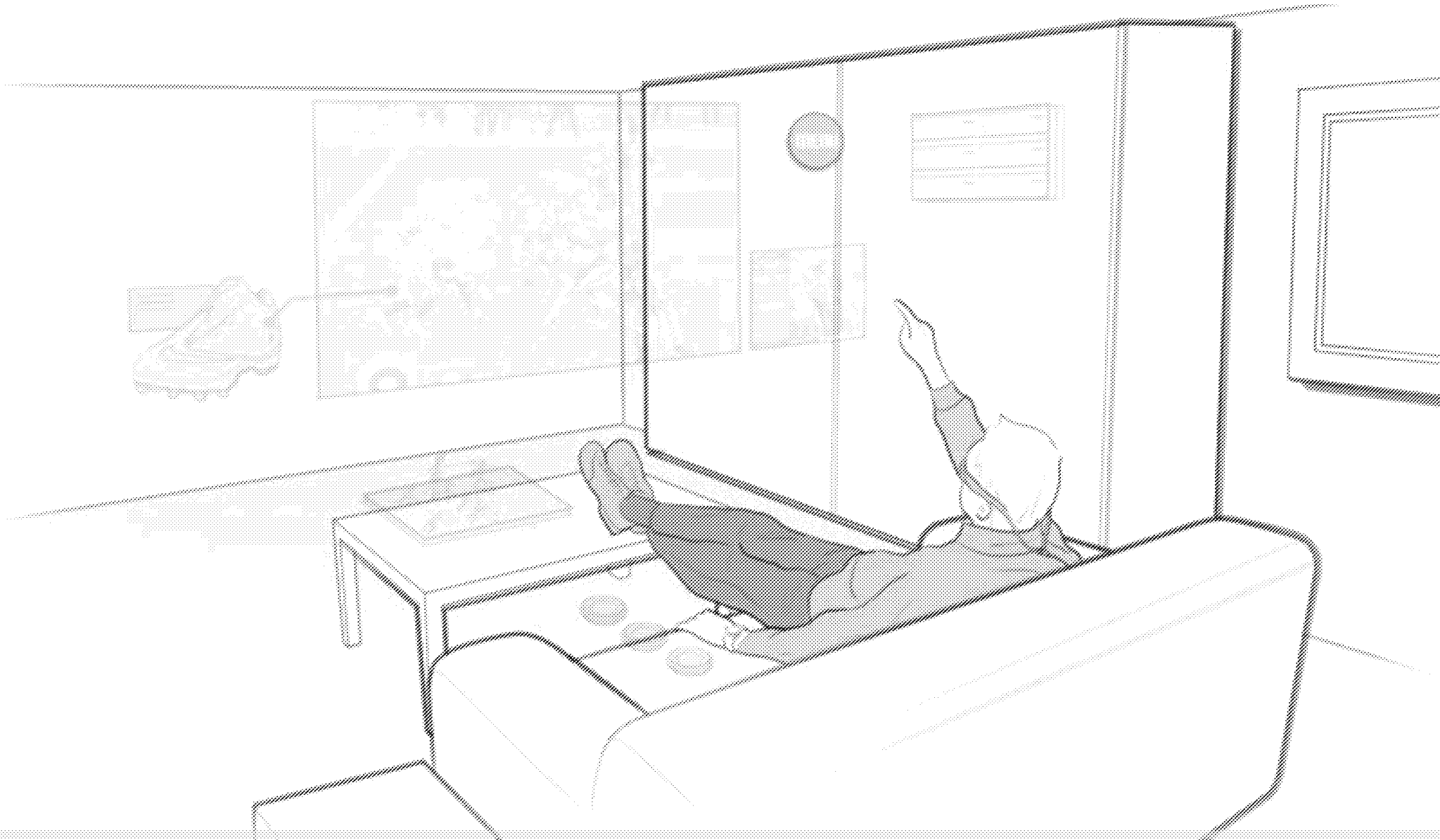




"Constant" Menu Concepts

CONSTANT RADIAL MENU

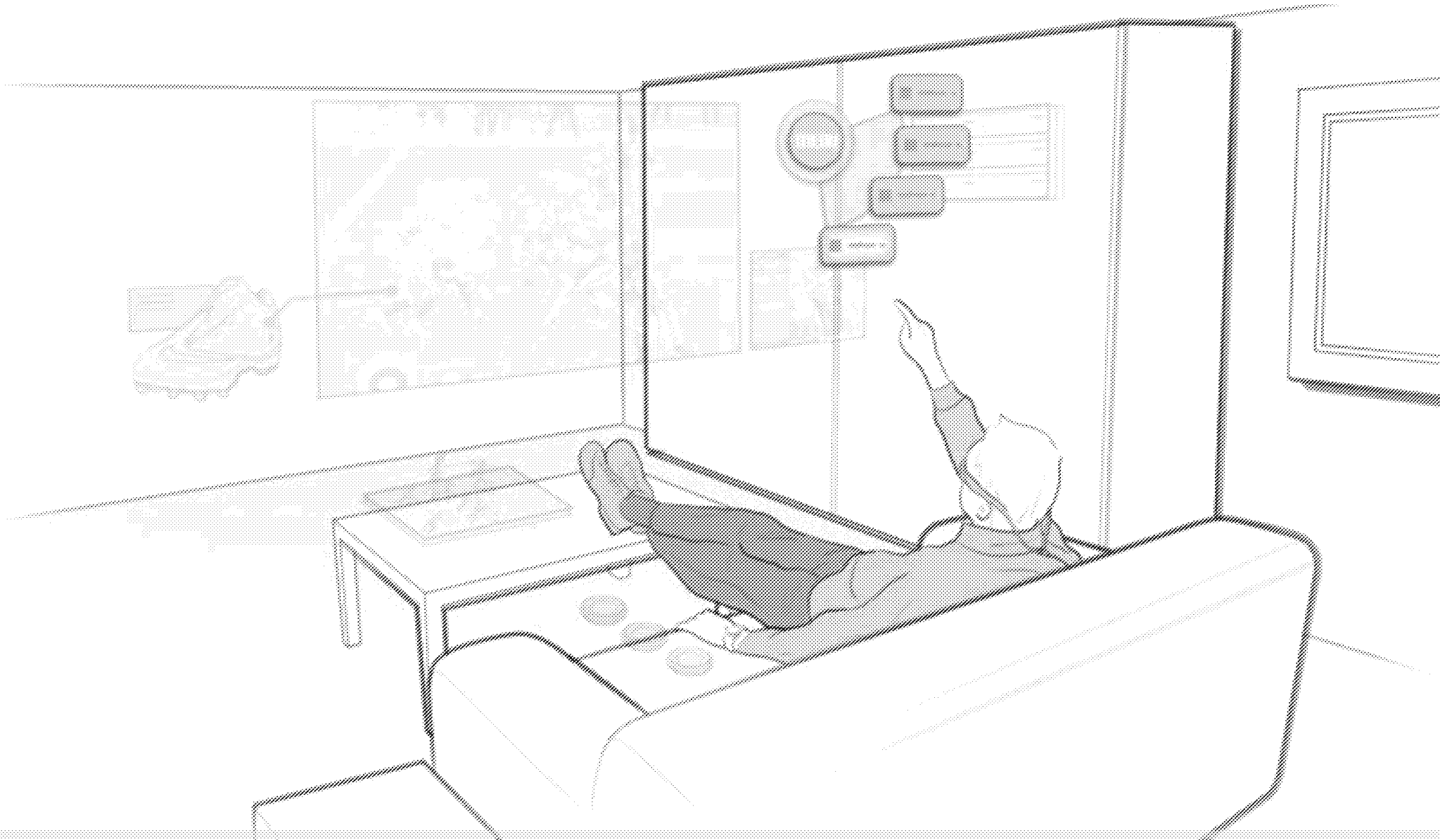
Peripheral vision



Expandable menu always available in the upper right hand corner of user's field of view

CONSTANT RADIAL MENU

Peripheral vision



Expands to reveal available rooms

PRE-MAPPED MENUS

Based on physical location mapping



Projection based proxy input

PRE-MAPPED MENUS

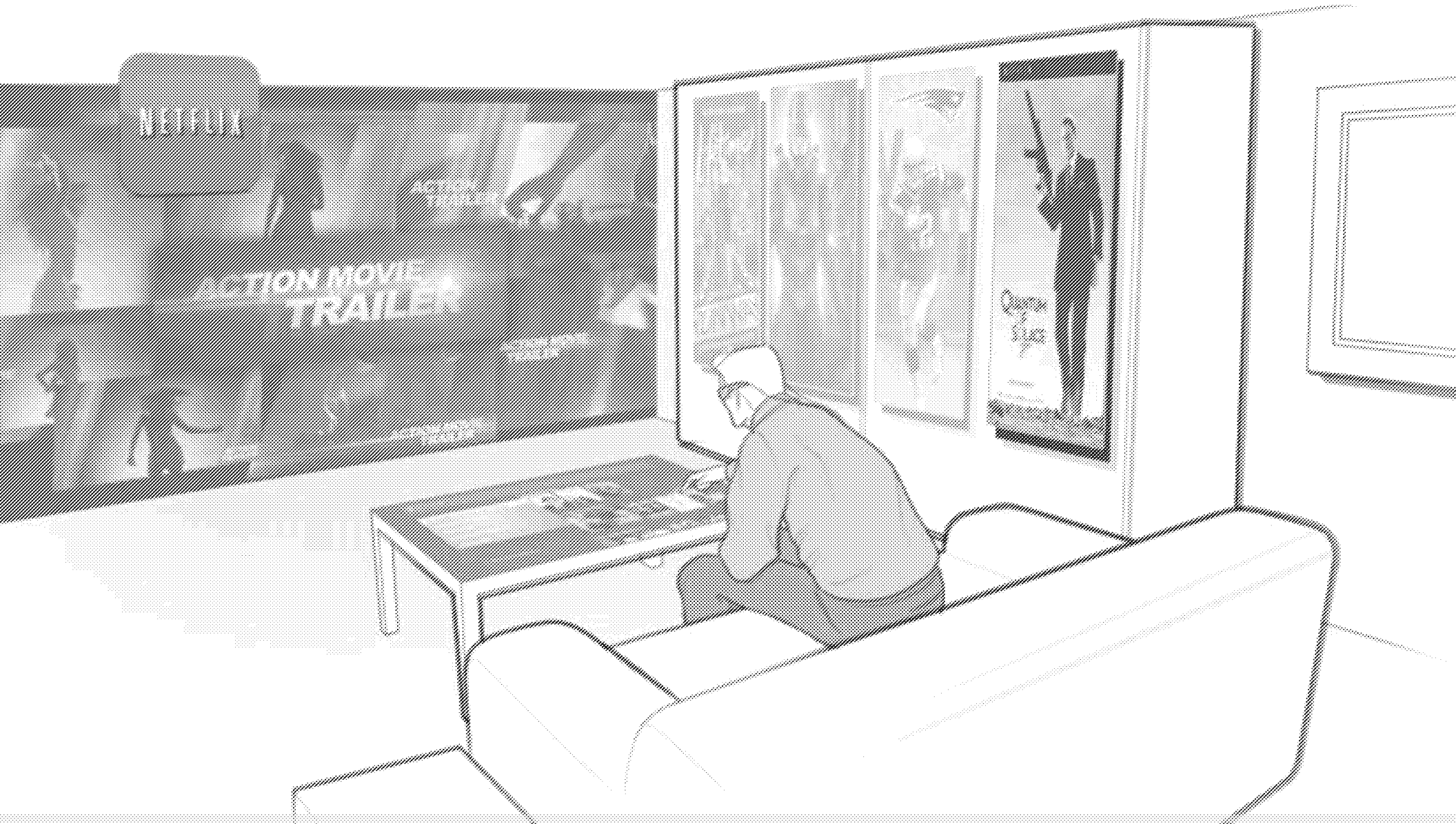
Based on physical location mapping



Virtual touch pad

PRE-MAPPED MENUS

Based on physical location mapping



More detailed navigation menu appears once the specific room is selected

USER INTERACTION

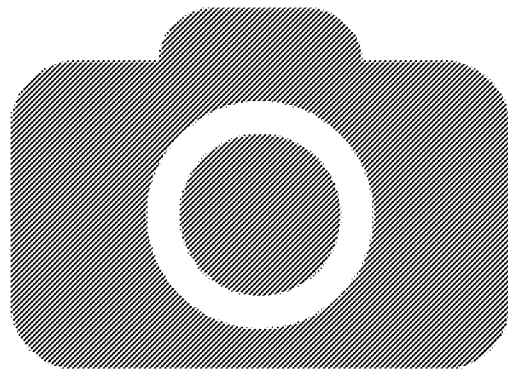
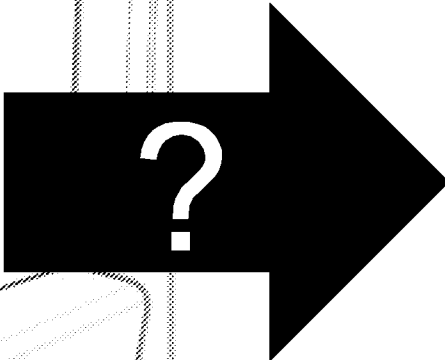
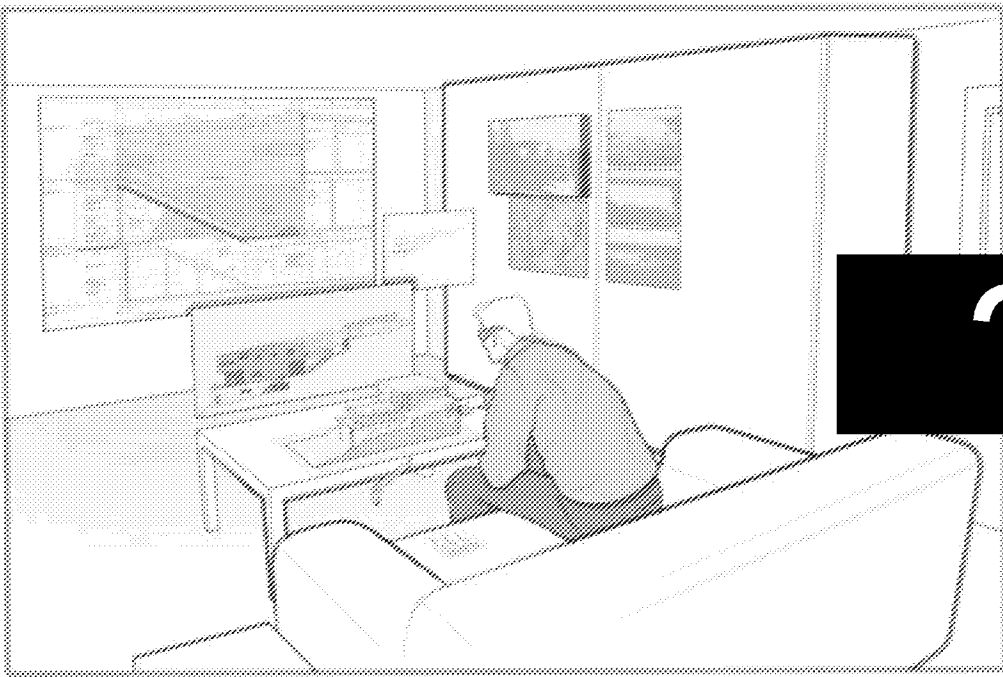
Navigating Rooms

Scenario:

- Select application for use while in a specific room

USER INTERACTION

Navigating Rooms

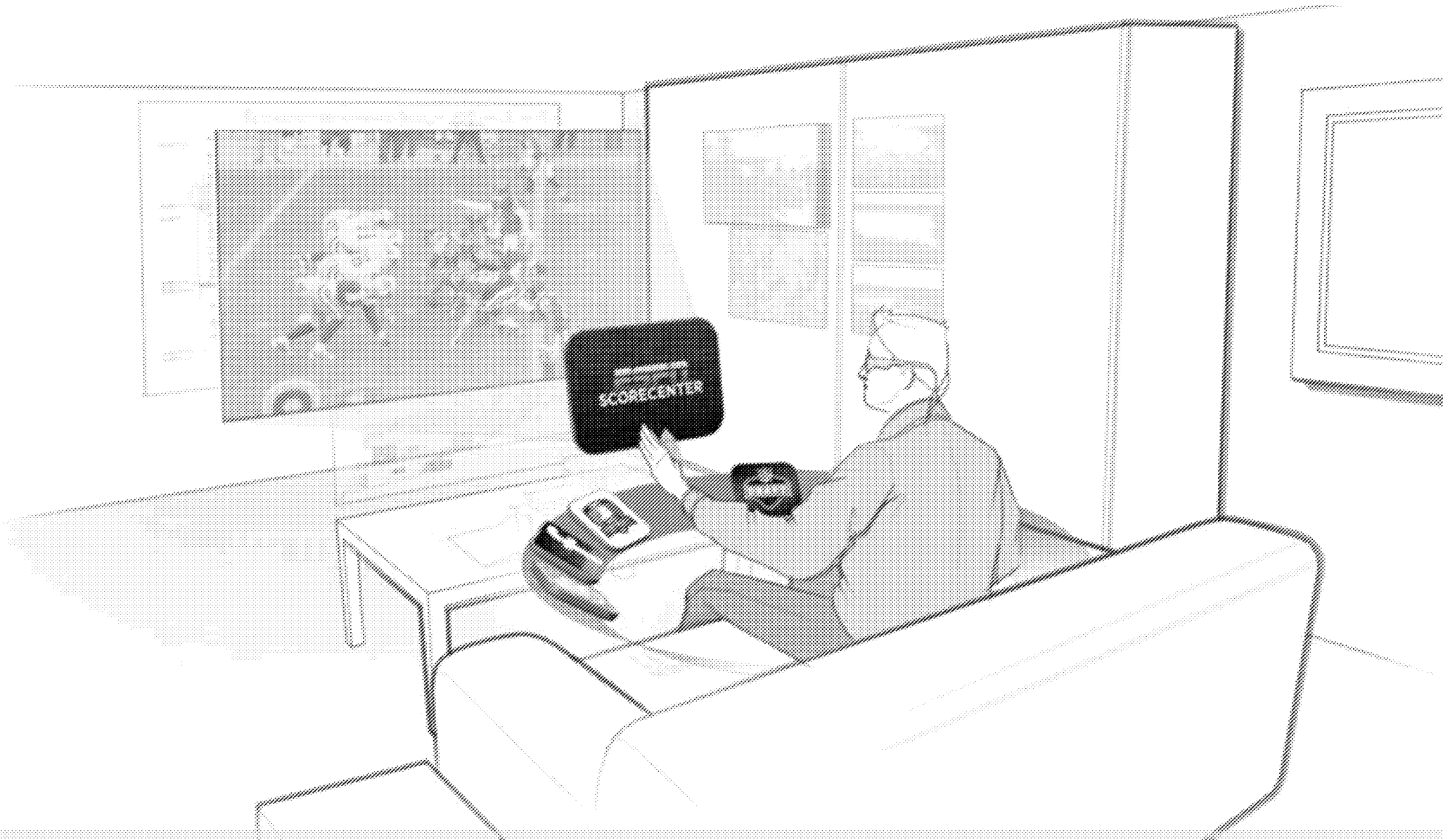


Work Room at Home

Specific Application (i.e., Camera)

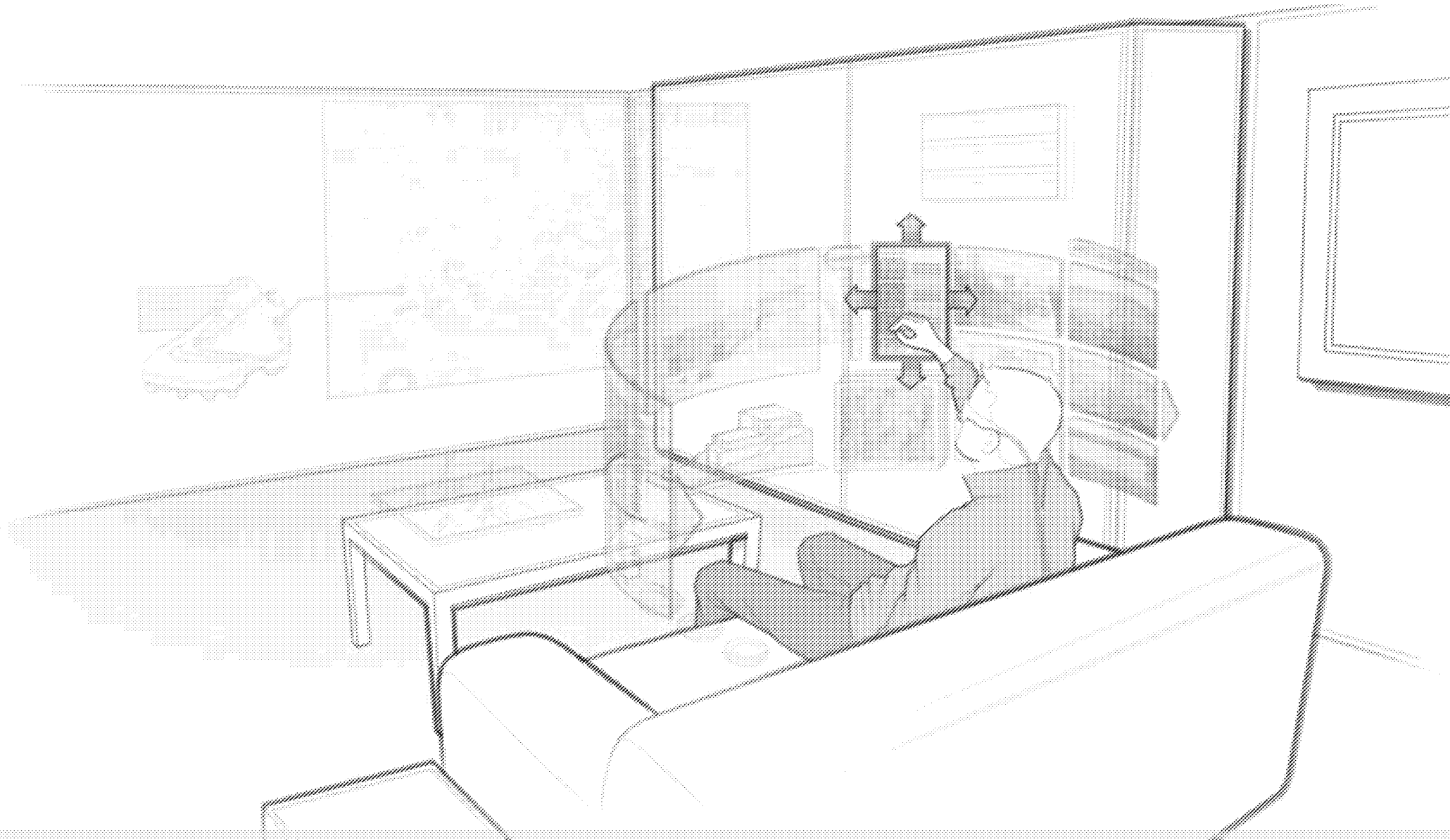
COMPREHENSIVE 'HULA HOOP' MENU SYSTEM

Open SportsCenter while in 'work' room



POD

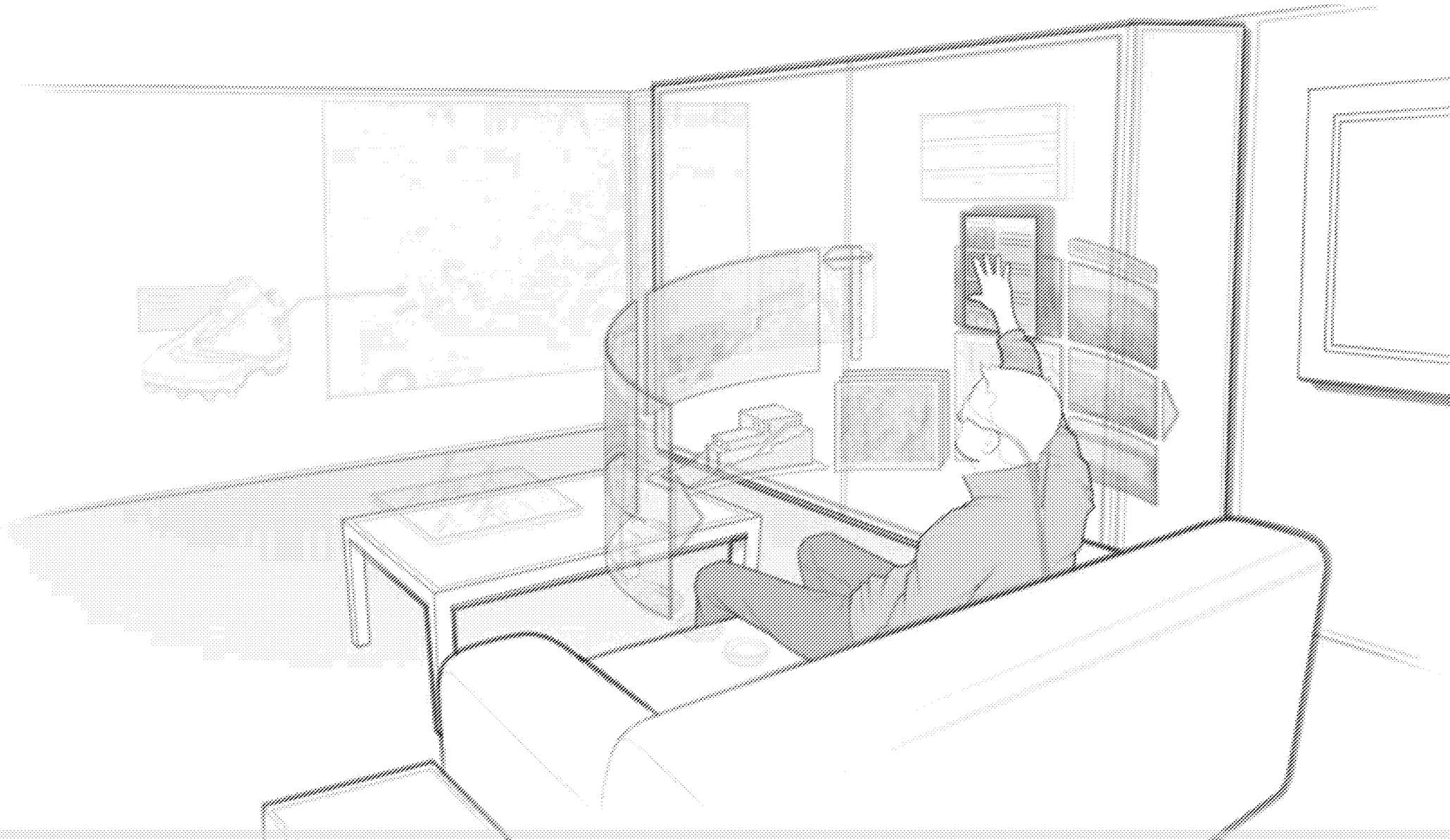
Access specific app while in entertainment room



Navigate existing rooms to find specific apps

POD

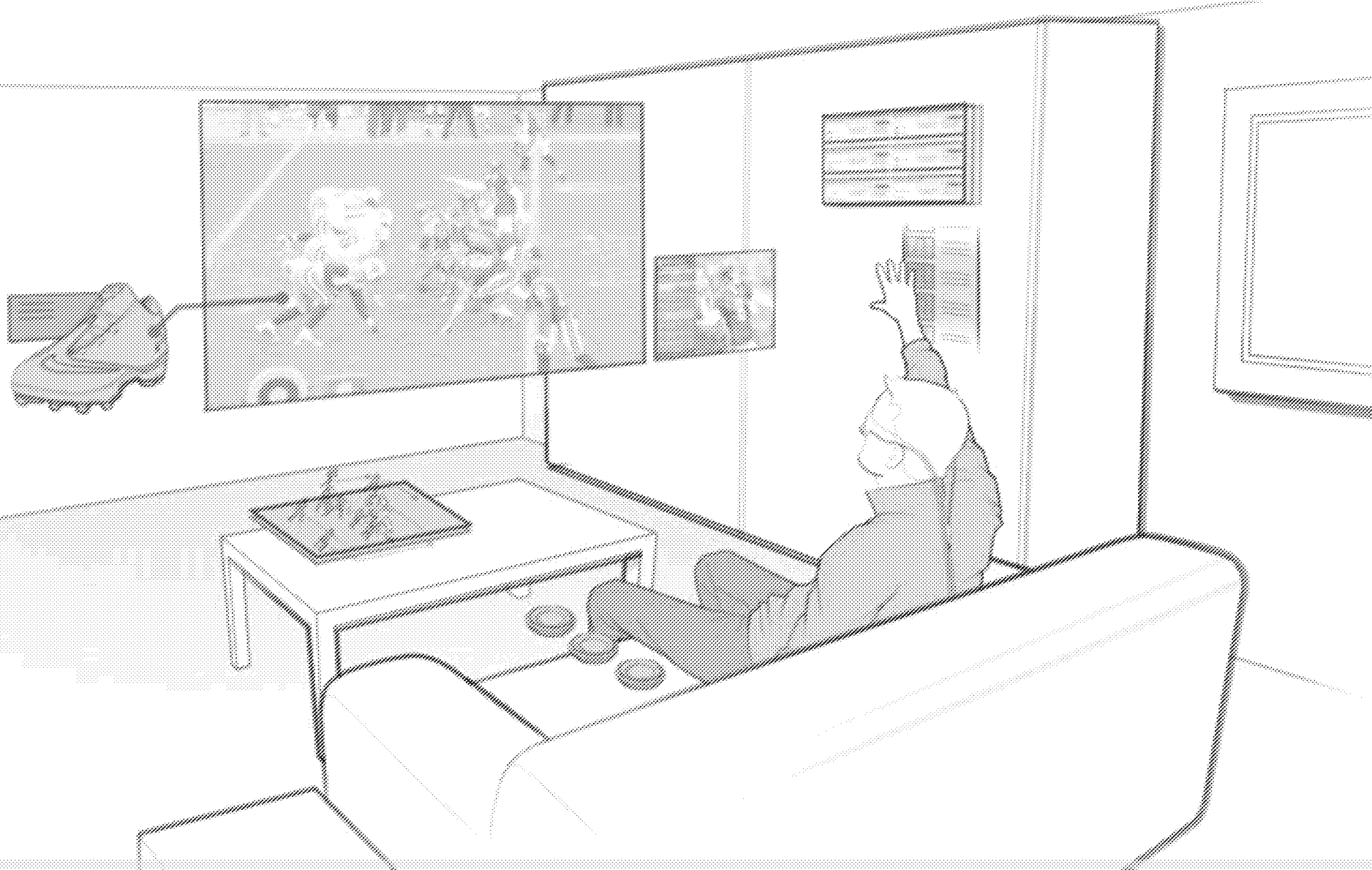
Access specific app while in entertainment room



Map/copy apps into current room

POD

Access specific app while in entertainment room



App becomes permanently mapped to entertainment room

COMMON USE APPS

Gesture as hot key for the most commonly used apps



Define common use apps; unique and intuitive gestures for each 'common use app'

USER INTERACTION

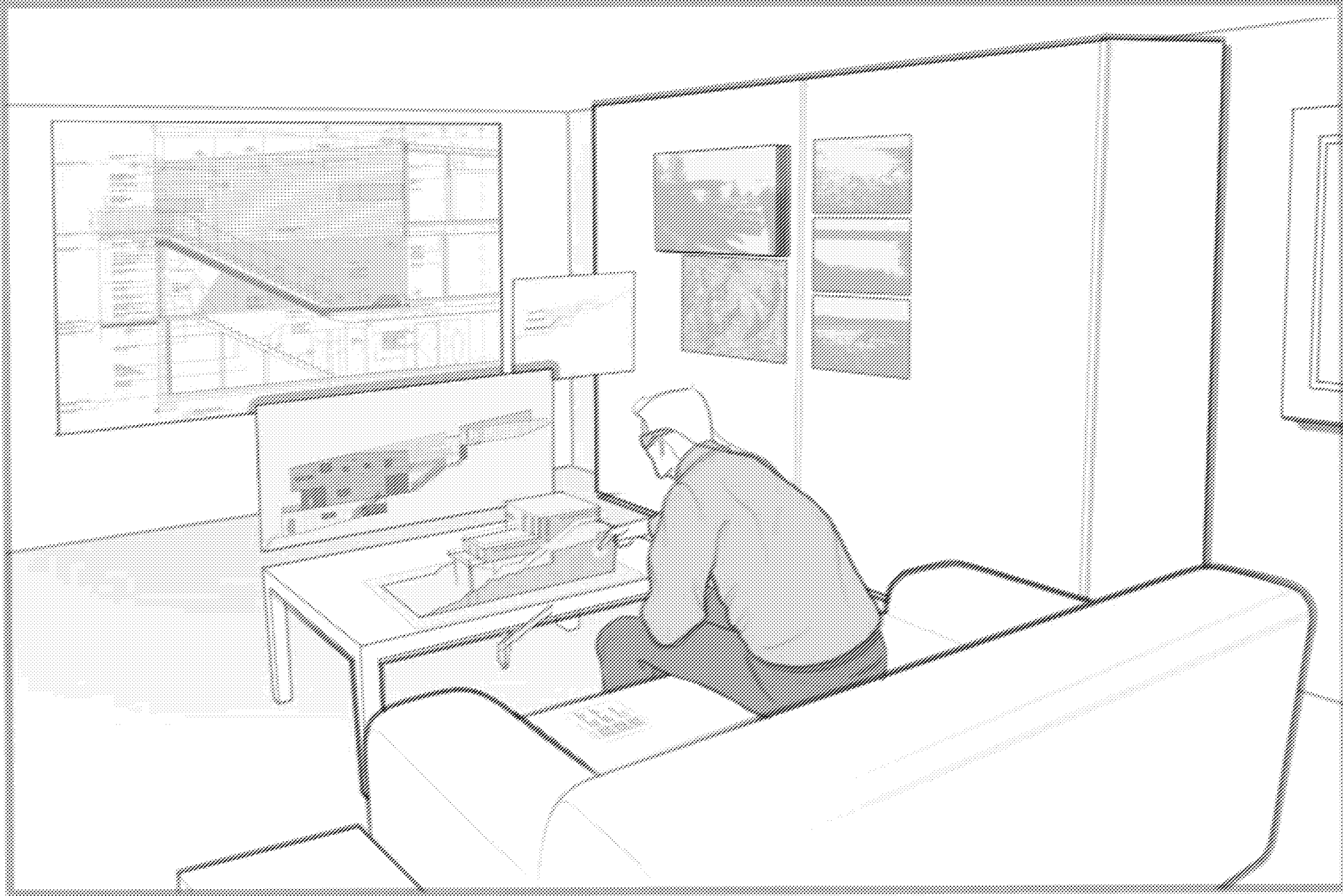
Rooms

WHAT IS A ROOM?

- A convenient grouping/organization of system tools and applications
 - The tools/apps have a relationship that makes sense to the user
(supports the user's mental model)
 - The rooms could be defined by: activity or goal, location (i.e., work, home, etc.), time of day, etc.
 - Rooms are defined (created) by the user to support understanding, ease of use, and search efficiency
- Rooms support navigation of the different system tools and applications
 - Tools/apps not located within a specific "room" should be readily available and easy to locate

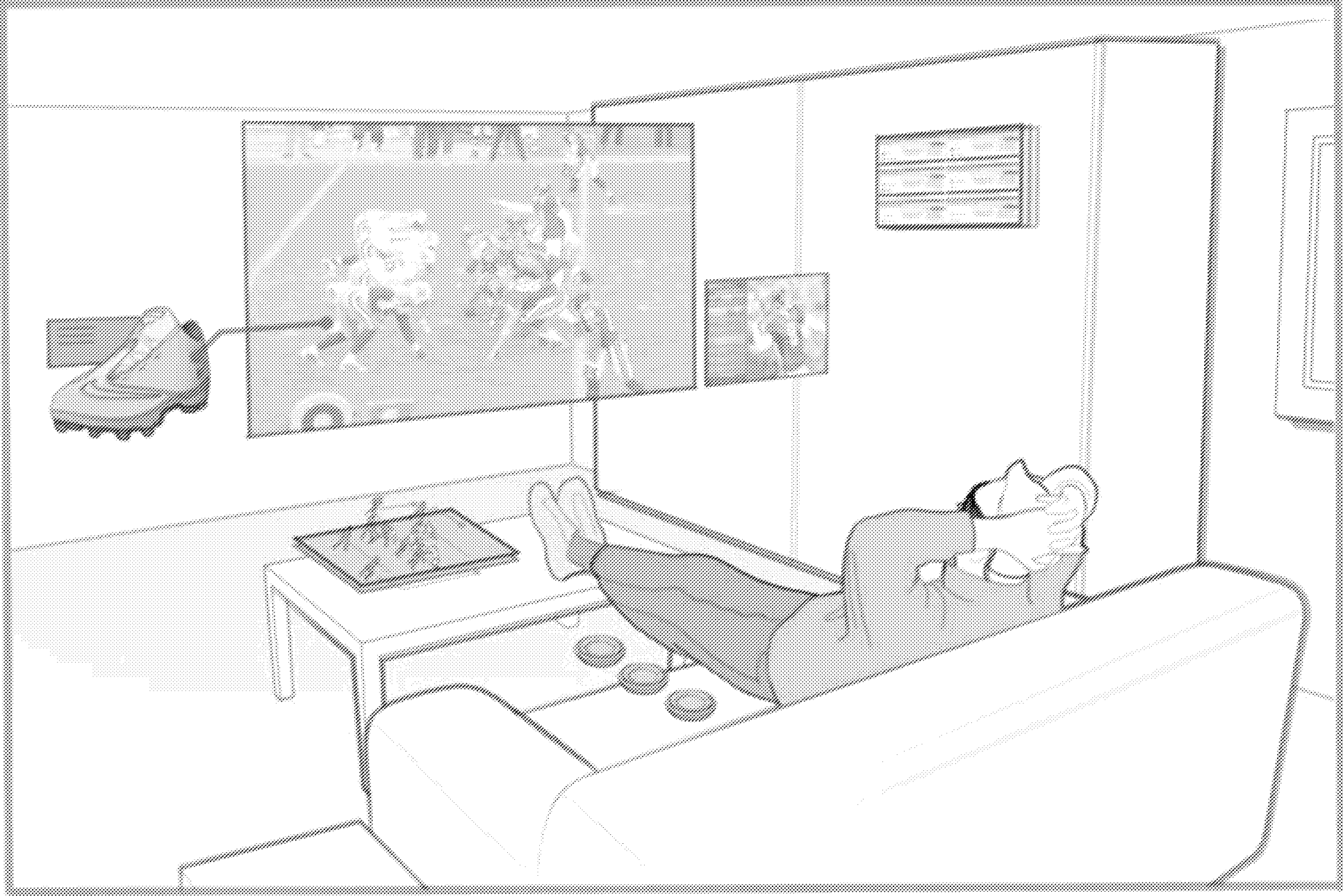
USER INTERACTION

Office Room at Home



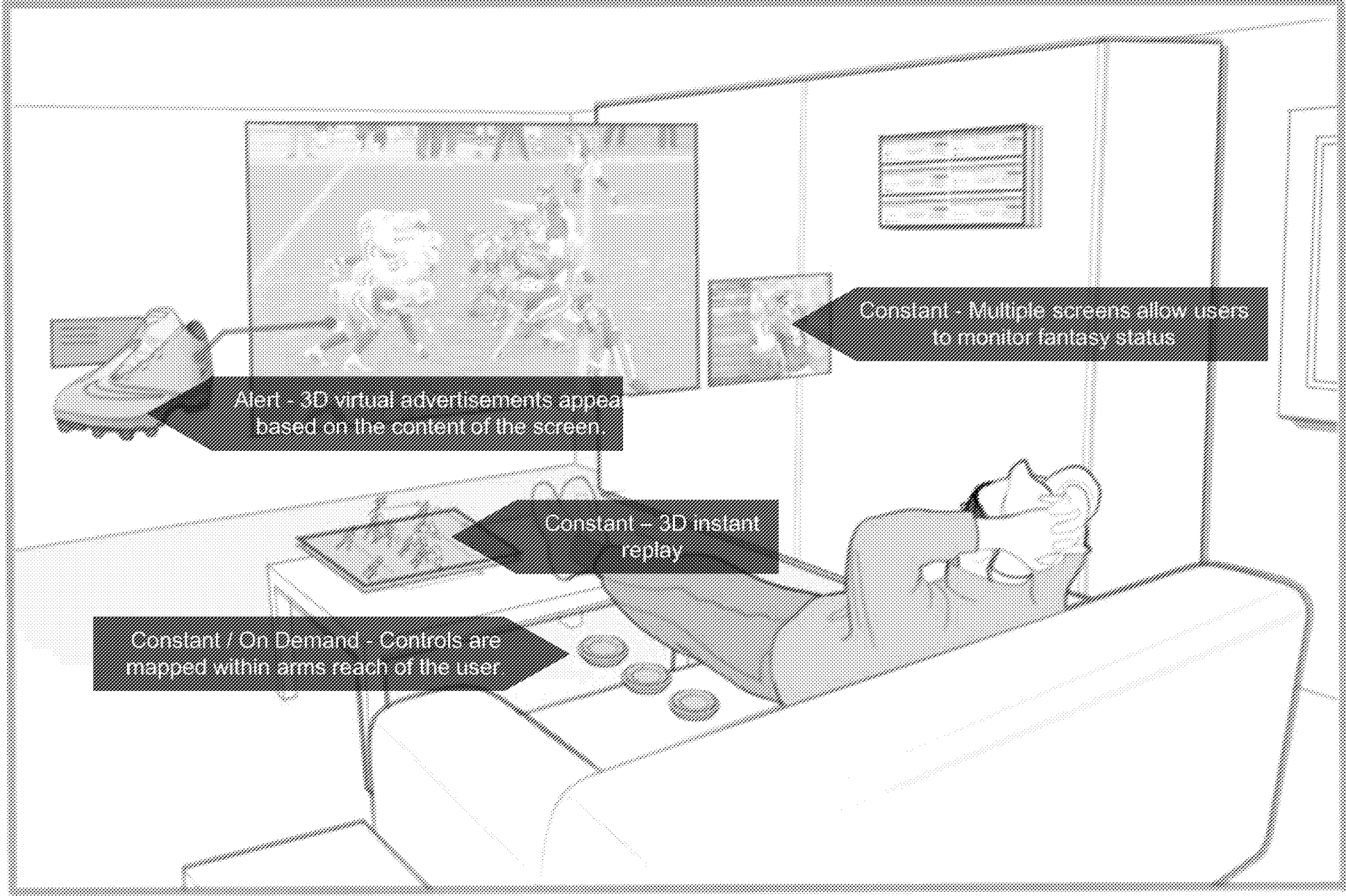
USER INTERACTION

Entertainment Room at Home



USER INTERACTION

Entertainment Room at Home



Alert - 3D virtual advertisements appear based on the content of the screen.

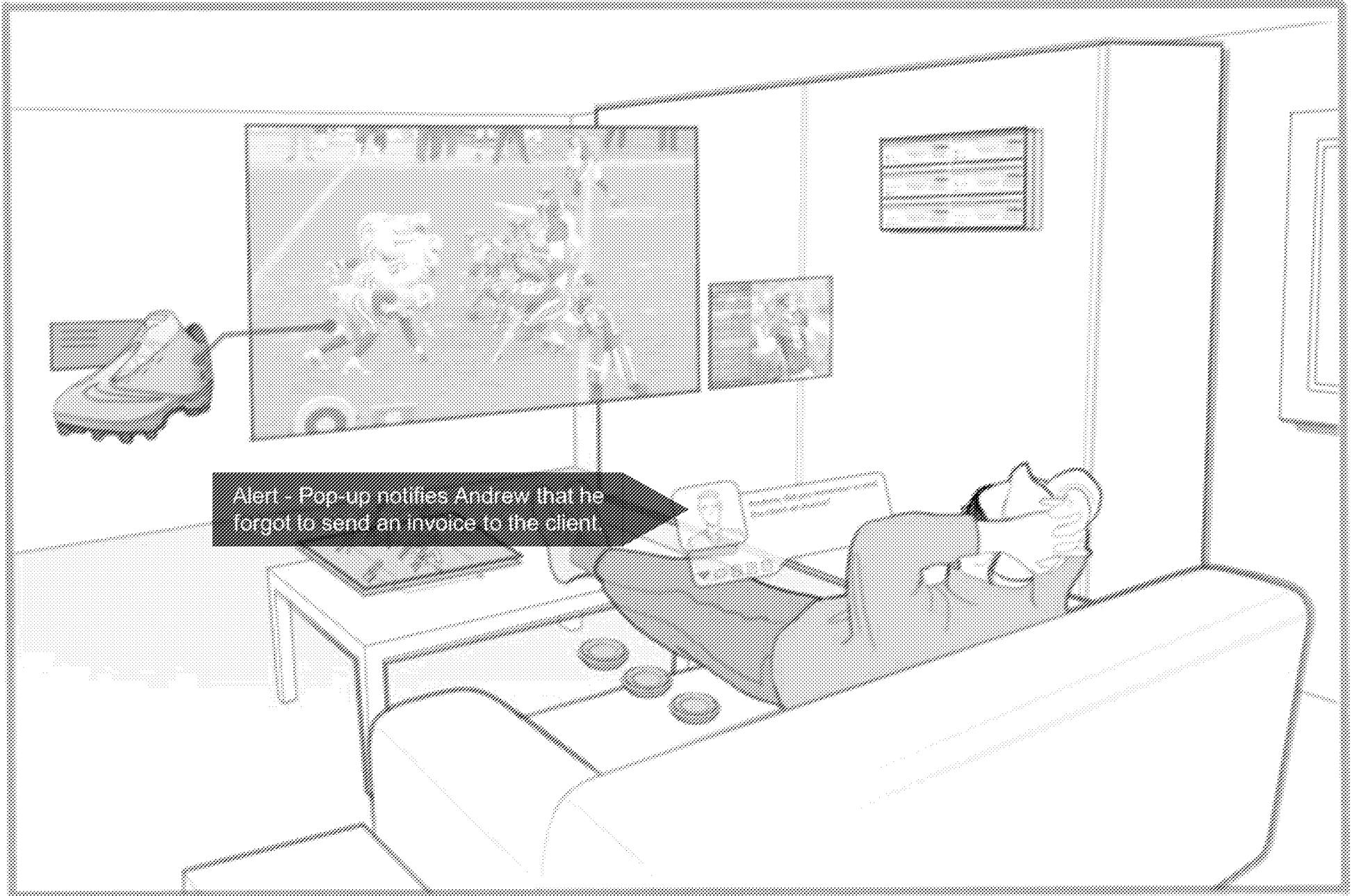
Constant - Multiple screens allow users to monitor fantasy status

Constant - 3D instant replay

Constant / On Demand - Controls are mapped within arms reach of the user

USER INTERACTION

Entertainment Room at Home





What constitutes a room

DISCUSSION

Rooms

CREATING ROOMS, IDEAS:

- Users create rooms based on how they think features should be grouped
(feature of the system)
- The system provides pre-populated rooms based on a theme: activity based, location based, time based, intelligence based, etc.
 - Combination of system and user defined rooms

DISCUSSION

Next Steps

NEXT STEPS / AREAS OF FOCUS:

Deeper dive on interaction methods for:

- Primary and secondary navigation
- Set up and customization of menus, dashboards and other content
 - “Room” setup and features
- Features AND further definition of Magic Leap enabled apps
 - Exploration and definition of “toy Box”

Create workflows for primary tasks

Determine level of fidelity for next round of deliverables



IMMERSION / INSPIRATION

Existing UI concepts & ideas

IMMERSION / INSPIRATION

Common Interaction & Input Gestures

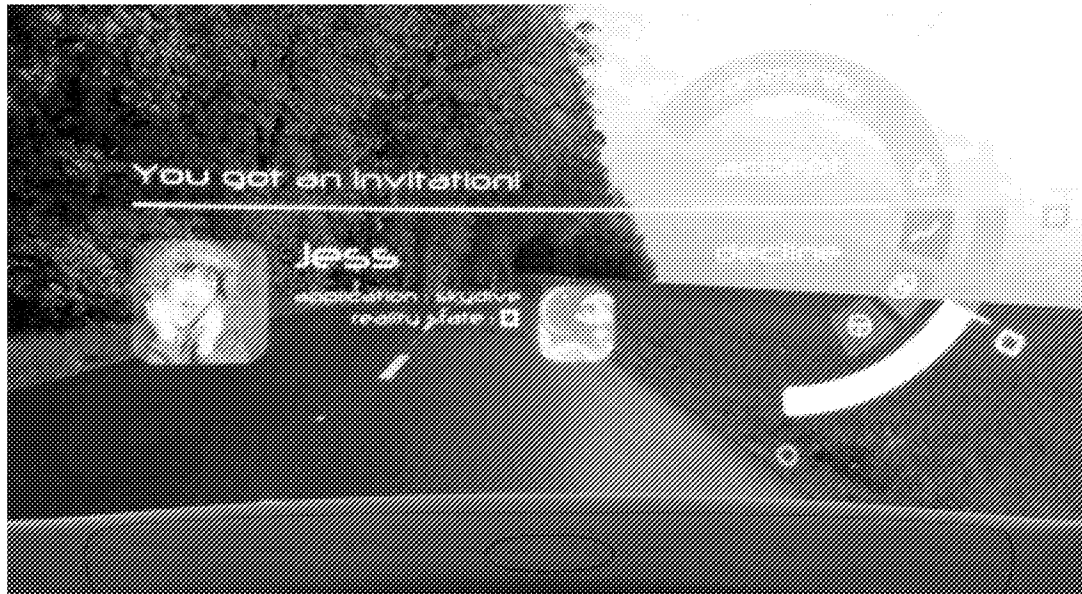
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IMMERSION / INSPIRATION

Mediating Mediums – The digital 3d

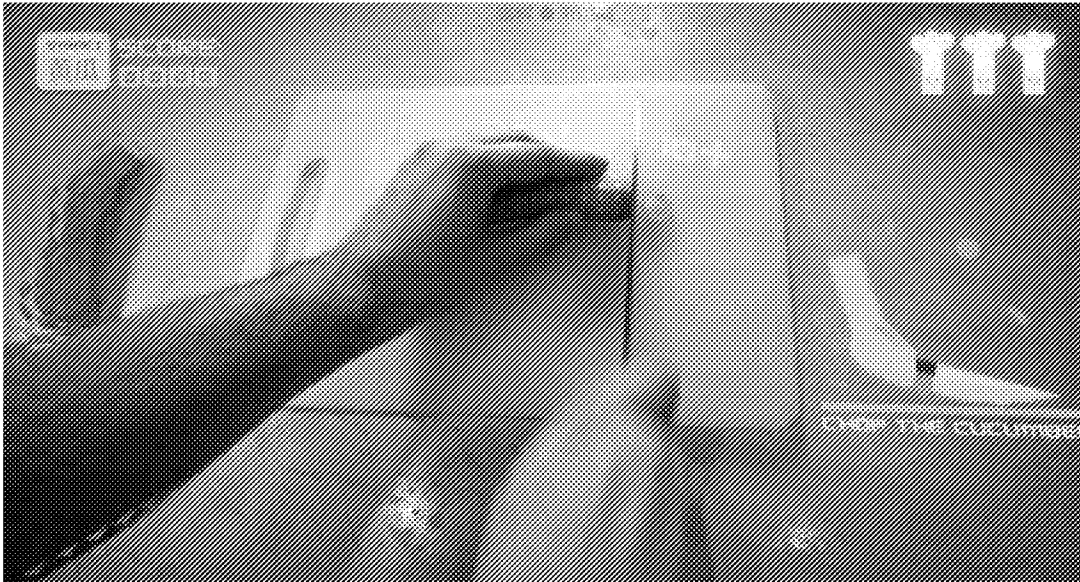
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- Visualizing / manipulating virtual objects
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IMMERSION / INSPIRATION

“Sight”



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IMMERSION / INSPIRATION

Ringo Holographic Interface

- Hula-hoop like interface
- Navigation of content
- Data entry / Game play
 - VIDEO 1:

<http://www.youtube.com/watch?v=t0H1NNa6zX>

c



IMMERSION / INSPIRATION

3D Navigation with 2D platforms

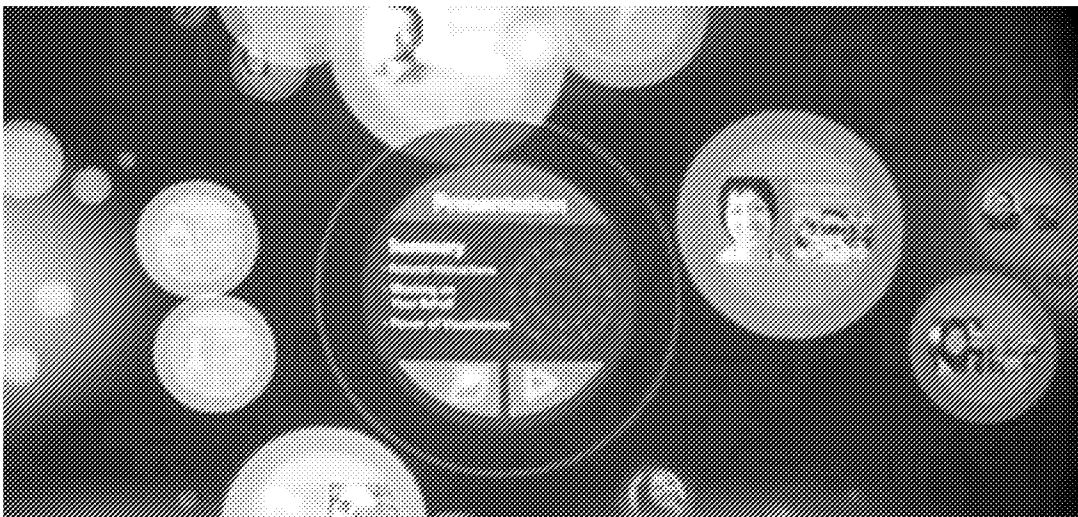
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- Visual grouping by subject and/or color
 - Organic navigation style

- VIDEO 1:

<http://www.youtube.com/watch?v=rOOYK8RO6u4>

- VIDEO 2:

<http://www.youtube.com/watch?v=MqUaxnhp7rQ>

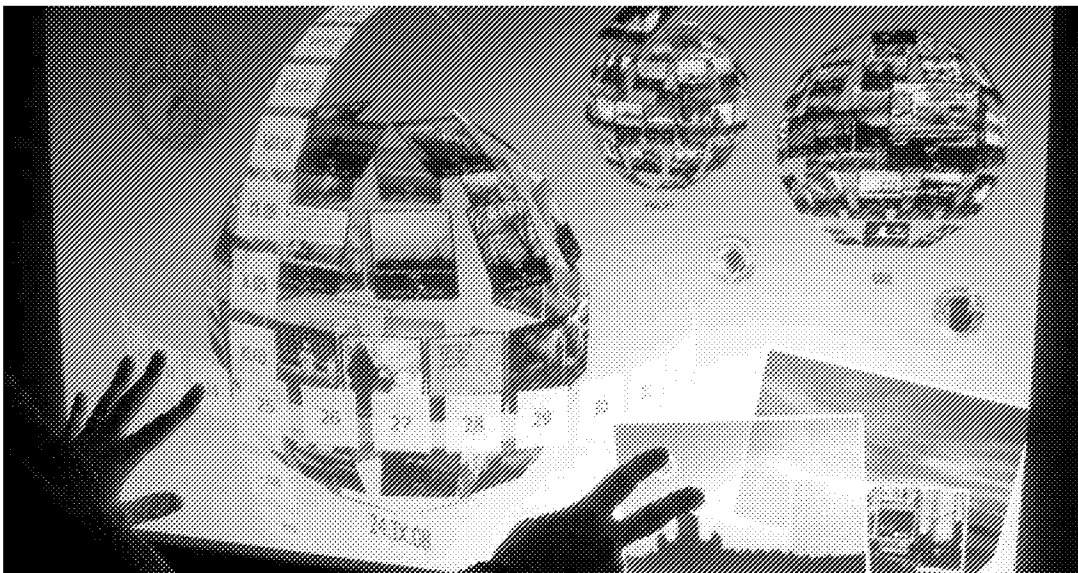
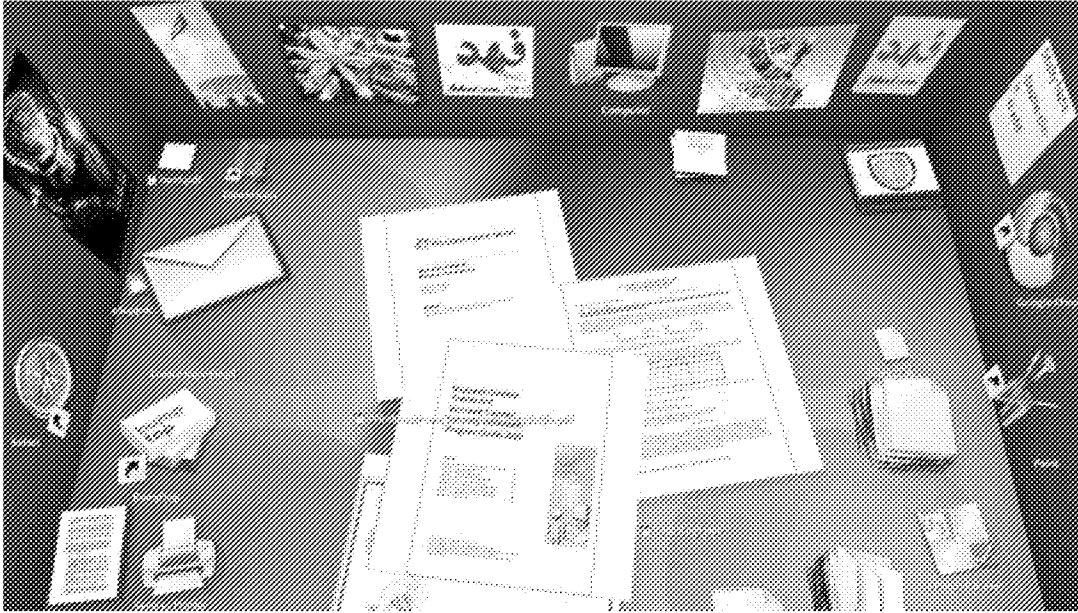


IMMERSION / INSPIRATION

3D Organization of 2D Content

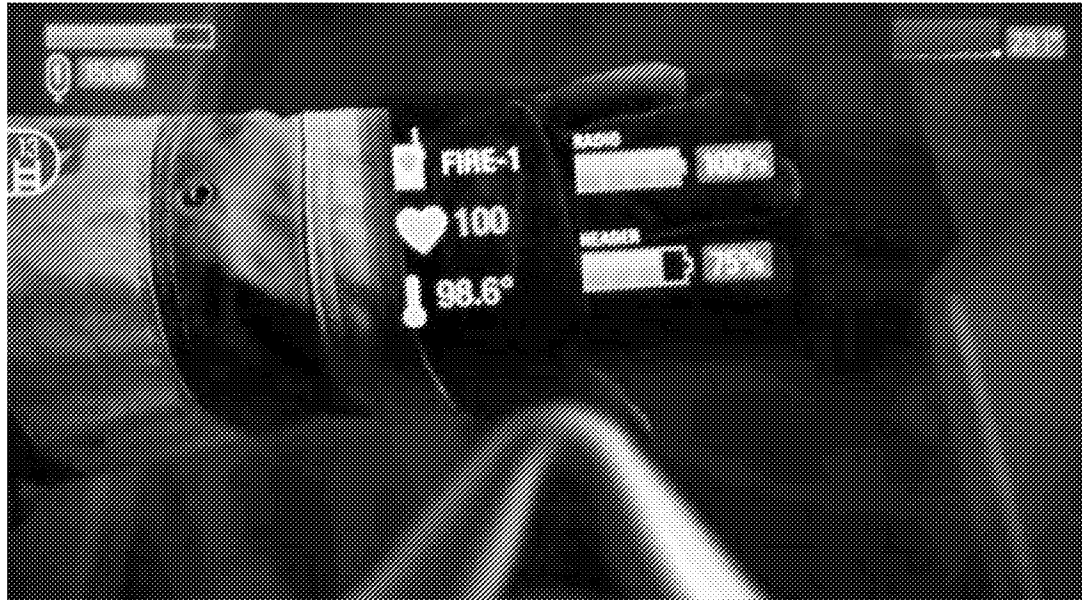
- Organization of 2d icons / content
- Flexibility (maybe too much?)
 - Personalization
 - VIDEO:

http://www.ted.com/talks/anand_agarawala_demos_his_bumptop_desktop.html



IMMERSION / INSPIRATION

The Future of Firefighting



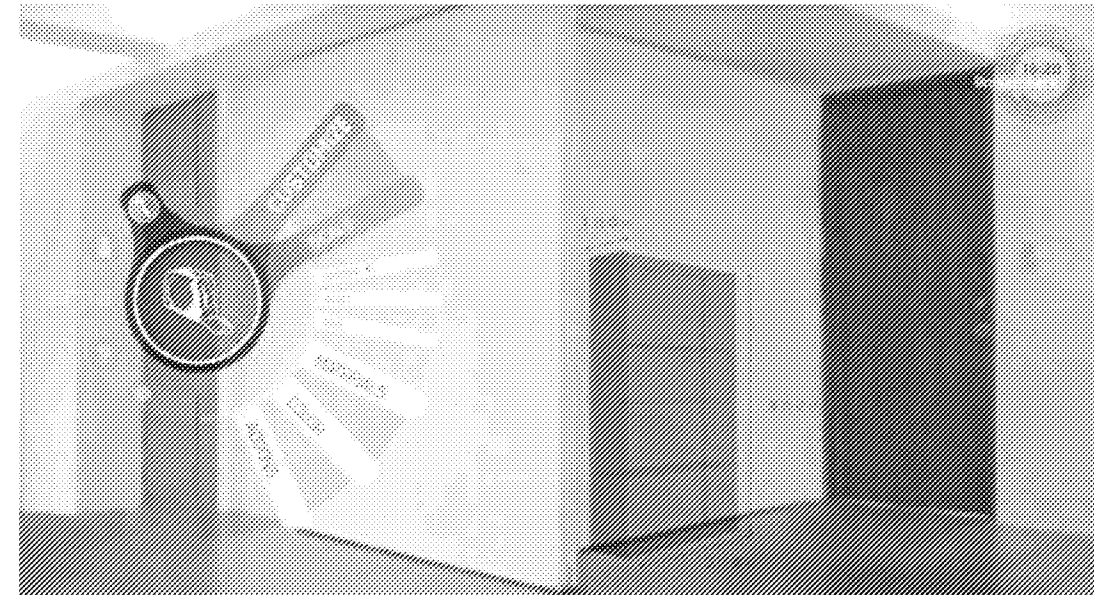
- Hand mapped interface
 - Layered Content
- Constant – always available, easy to access, corner of user's FOV
- On Demand – gestural interaction to initiate, menus to dig deeper
 - Alerts – pop-up style icons

• VIDEO:

http://www.youtube.com/watch?v=QBAnr2gQT_H0

IMMERSION / INSPIRATION

Other examples



- Radial menu
- Scalable 3d virtual objects
- 2d display of information
 - Floating interface

- VIDEO:

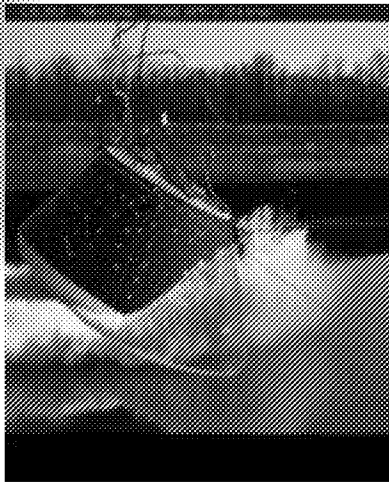
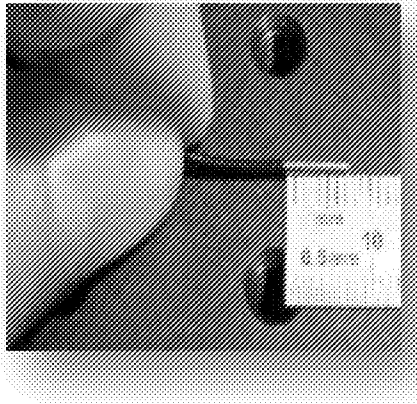
<http://www.youtube.com/watch?v=MytC7rnnJM>
8



Sensoryware™



- **Core Technologies –**
- **Scanning Fiber Projector**
 - 1mm x 9mm
 - Low power consumption
 - Near zero weight
 - High-resolution RGB
- **Natural 3D Cinematic Reality**
 - Breakthrough technology solves 100+ year old stereoscopic 3d problem
- **Proprietary Machine Vision Portfolio**
 - Breakthrough tech developed at NASA



Product Technology

Sensorywaretm System

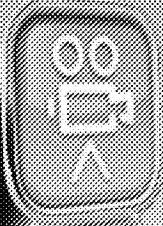


confidential draft - not for distribution

The World Is Our New Desktoptm



confidential draft - not for distribution -

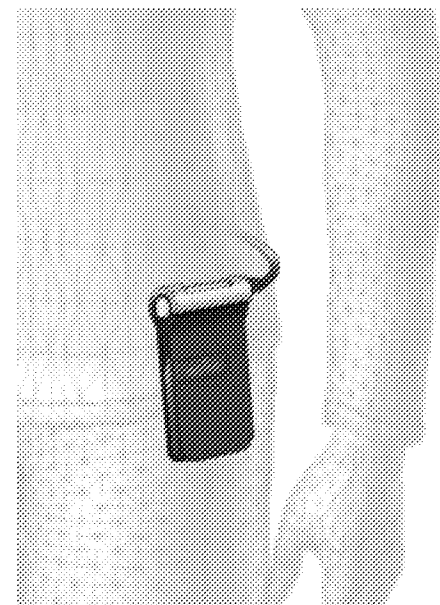
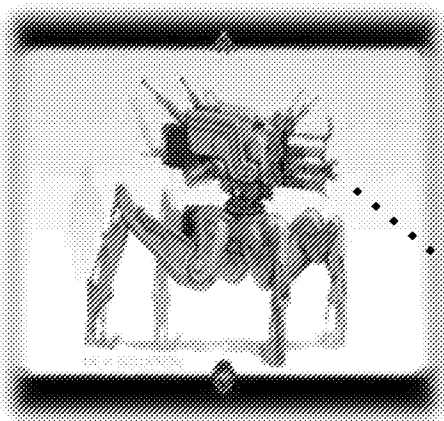


The World Is Our New Silver Screen™

confidential draft - not for distribution

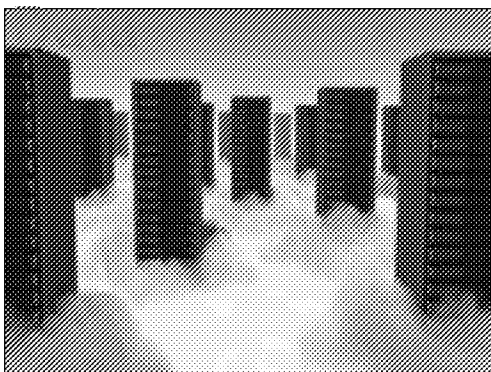
Sensoryware™ Ecosystem

Content



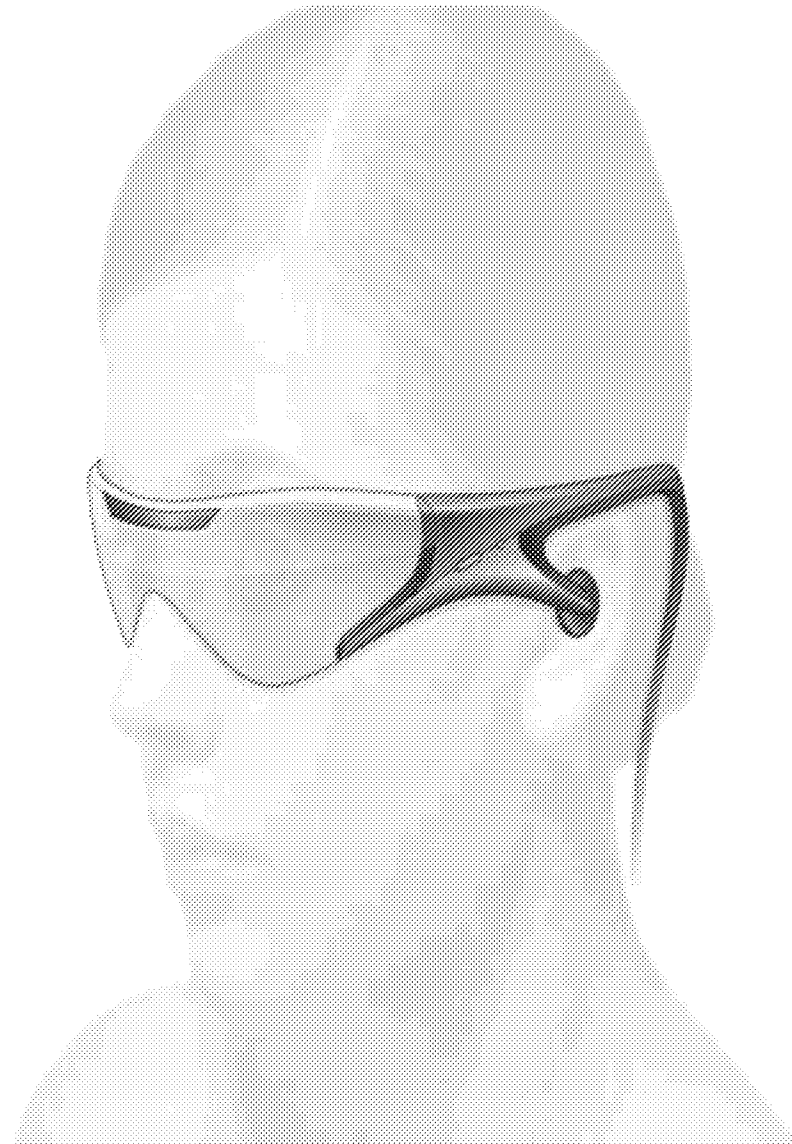
Magic Box Mobile

Cloud



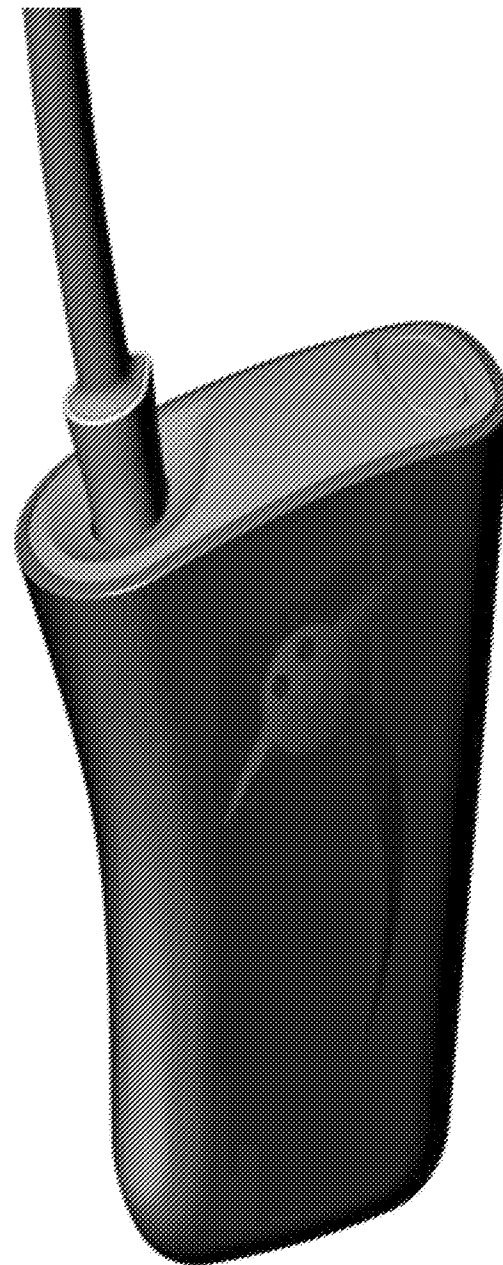
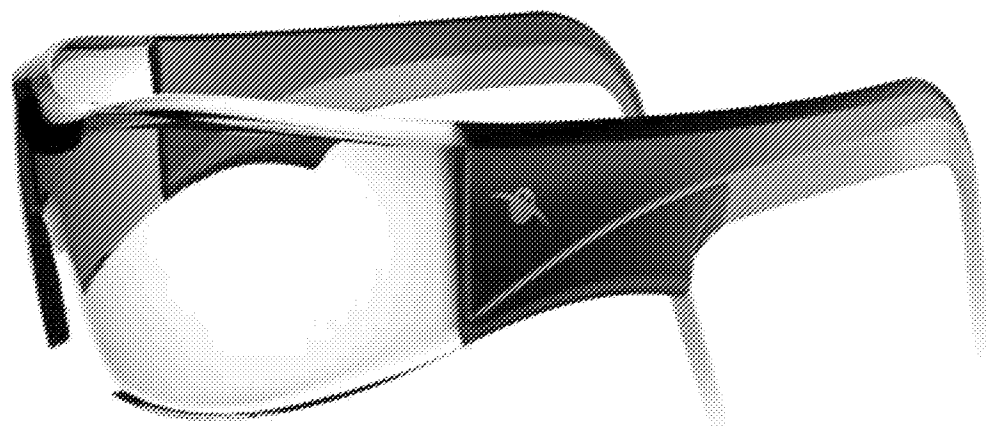
confidential draft - not for distribution -- property of Magic Leap, Inc. - all rights reserved

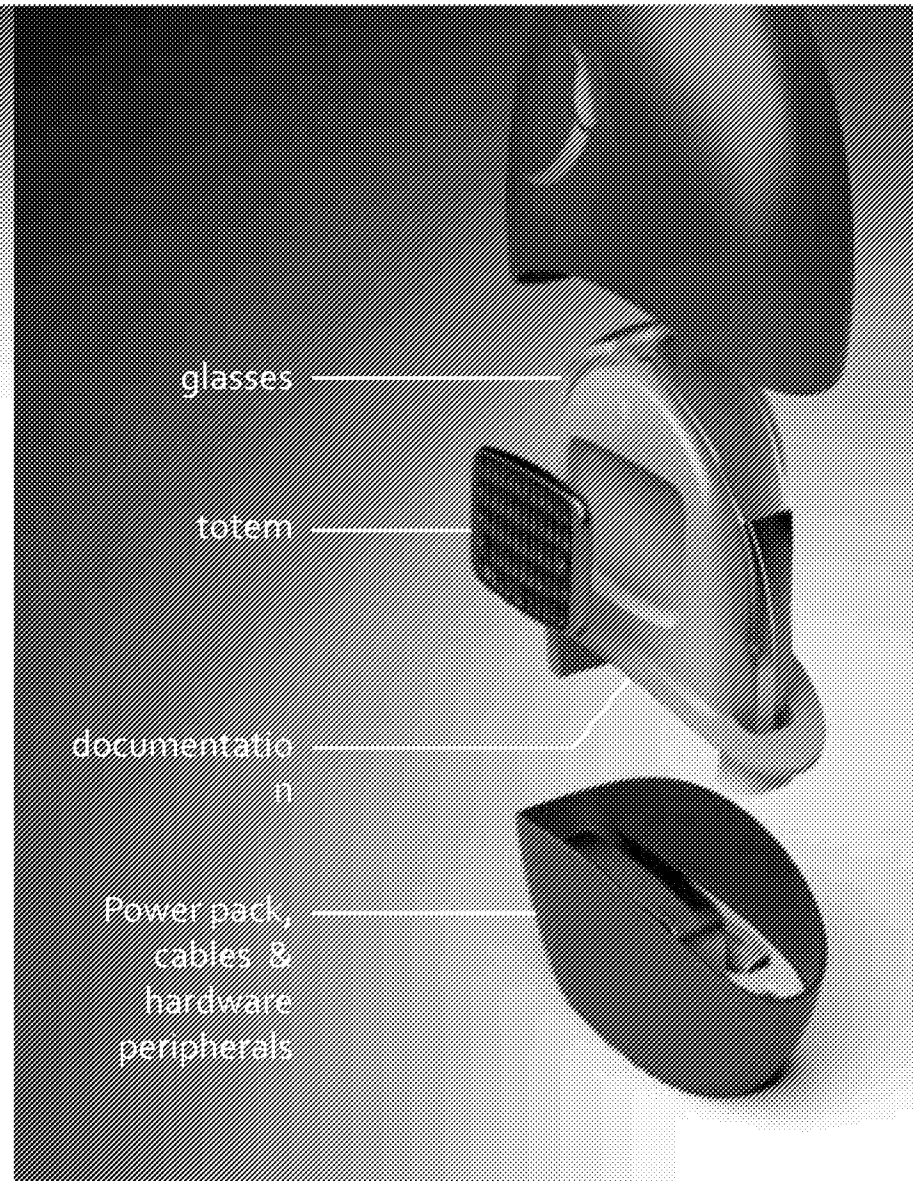
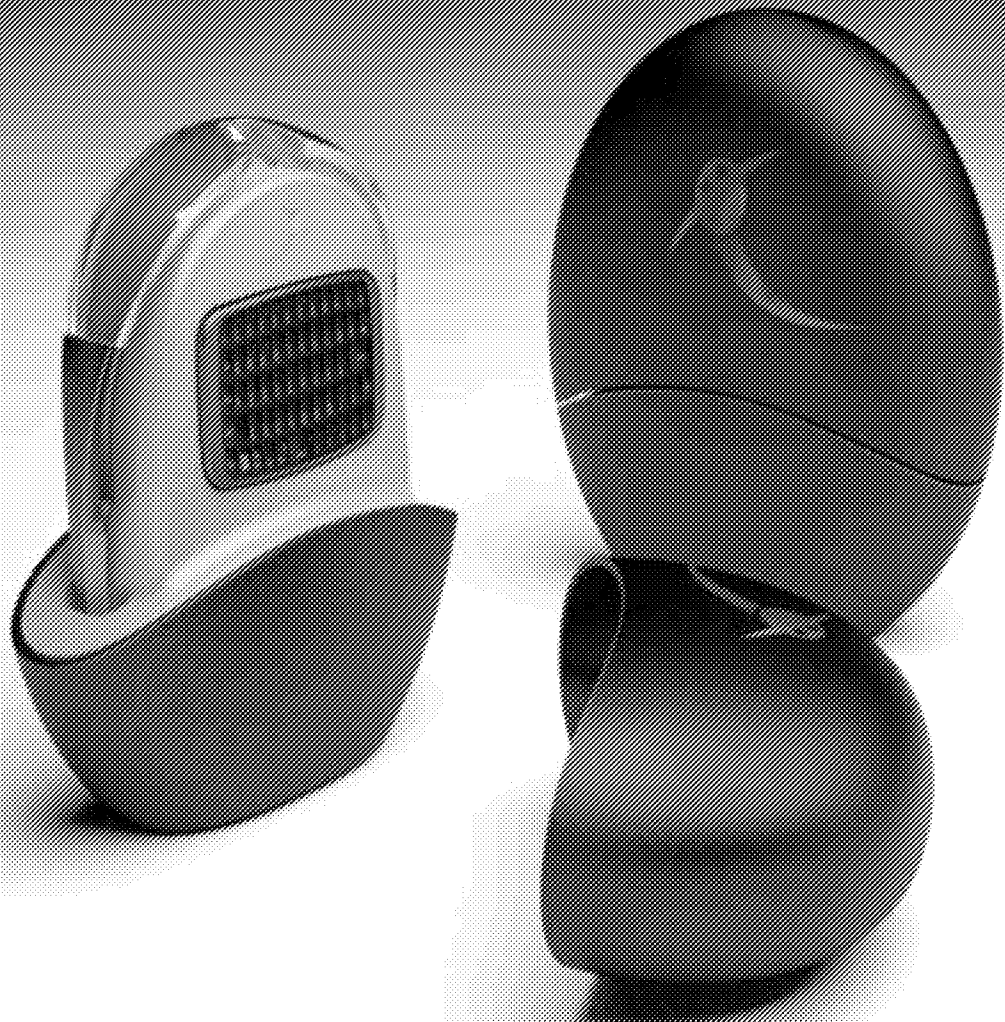
Sensoryware™



- **Complete Wearable Computing Platform & Ecosystem**
- **Magic Glass™ See-Through Display**
- **Focus on Gaming/Entertainment**
- **\$500b+ Mobile Computing Market**
- **Enabled By Proprietary Ultralightweight projection And True Lightfield Technology**
- **Natural Blending Of Digital And Physical Worlds**

Family Overview





glasses

totem

documentation

in

Power pack,
cables &
hardware
peripherals

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Additional Game Applications





DR. GRORDBORT'S

INVADERS

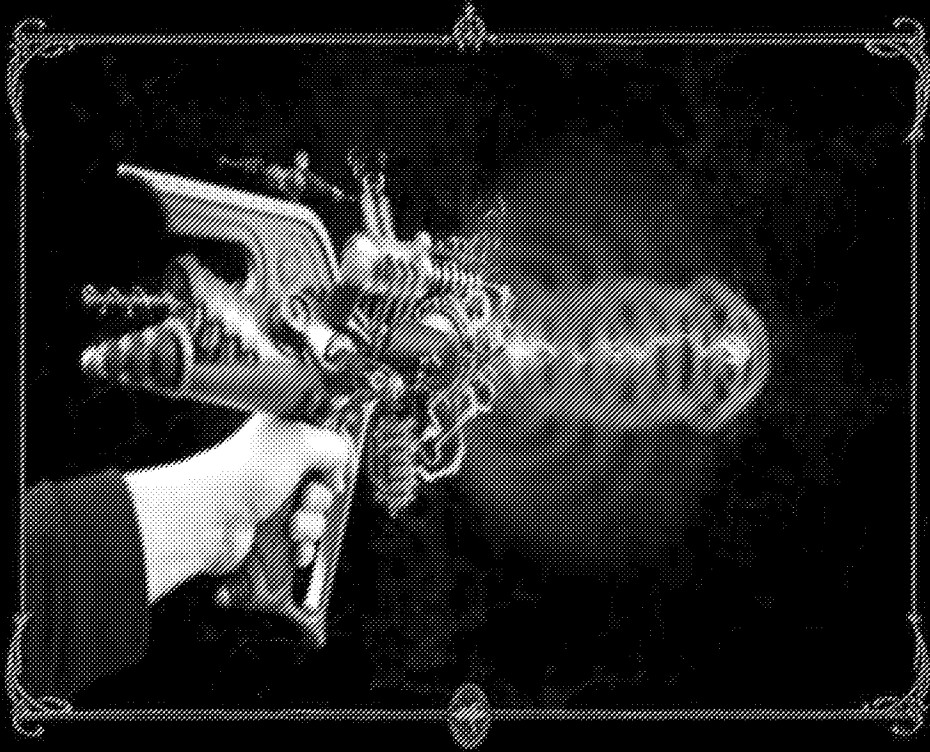
wcia

magic leap





Probebot



Virtual Mods Digi/Phys Blend

Dr. Grordborts Invaders

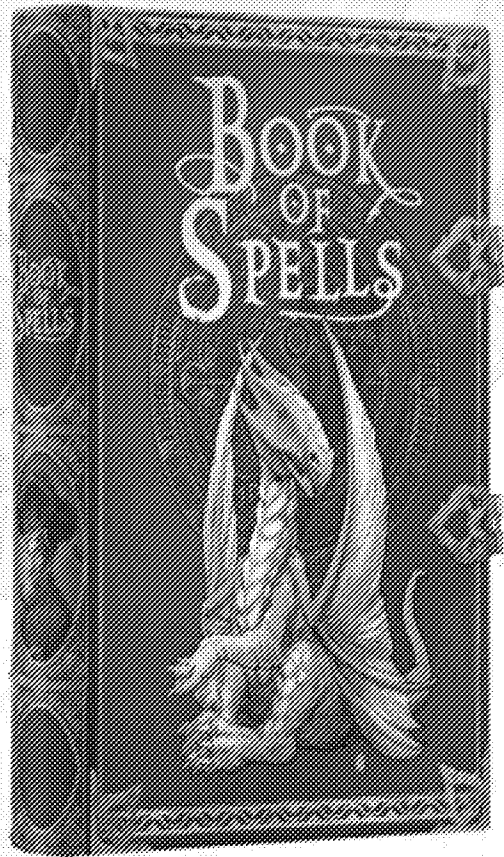
- First ever true 3d/ lightfield interactive game
- Existing cult fan base around Dr. G's awesome ray guns
- Invaders can expand into massively multi-player franchise (ex: Halo)
- Novel Physical/Digital Experience
- Virtual Mods
- Novel game engine concept – virtual bots use real AI in the world
- User – character interaction is key
- Stress tests and helps develop our SDK!

BOOK
OF
SPELLS

MAGIC LEAP'S SENSORYWARE™ SYSTEM

MAGIC MADE REAL BY MAGIC LEAP'S
REVOLUTIONARY NEW SENSORYWARE™ SYSTEM

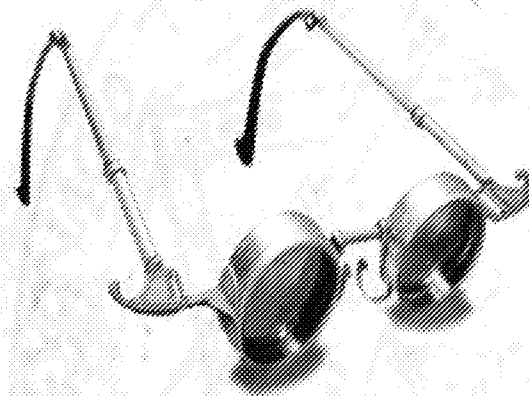
- Magic Leap's Sensoryware™ System and Sensoryware™ Wand bring to life the magic that you have only seen in movies and read about in books.
- Read the adventures – and have amazing ones of your very own!
- Bring to Cinematic Reality™ mythical creatures and magical fun!



BOOK OF SPELLS™

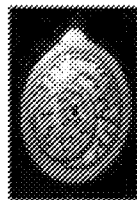


SENSORYWARE™ WAND



SENSORYWARE™ GLASSES

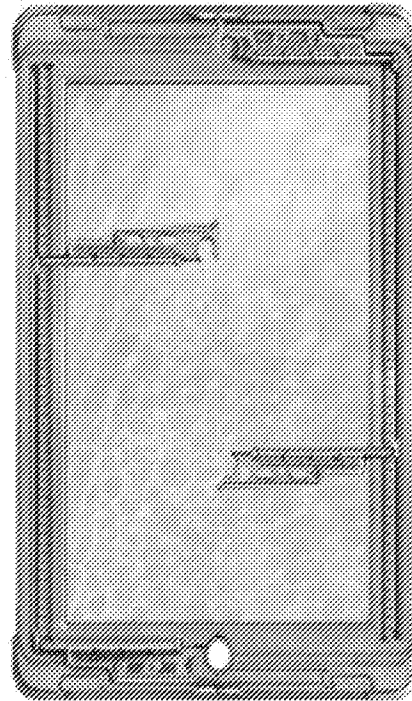
OCTAVIOUS' DESIGN STYLE



The design of Octavious' accessories are based around the clockwork machinery and decorative patterning of his period.



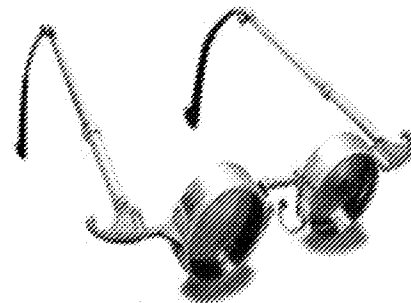
GEOMETRICALLY UNBOUND TUNISIAN
LOOKING GLASS



WAND



OCTOBERCORNER



BALTHAZAR THE OPTICIAN'S SPECTACLES
OF REALITY

BOOK OF SPELLS



WINDMILL WIND
GREEN THUMB
MYSTERY'S HANDS
BONNYARD CHORE
CONJURE WOLF
CONJURE JUVENILE DRAGON
THUNDERBOLT WOLF
FATHERFUL STORM
BEHECHAMN FLOOD
GIANT MULE
WALKING CASTLE

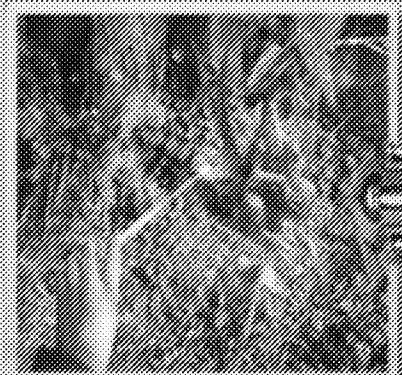
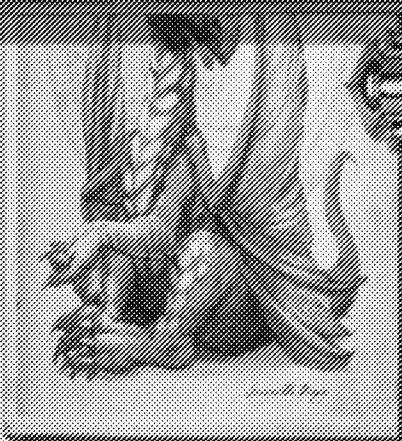
CONJURE JUVENILE DRAGON



Ages 5 and up

Conjure a small dragon of great
 character appearing with frequent
 periods, with the dragon's aspect,
 being, more perfect, it, of
 colorful and more and more.
 Phantoms are upon walls, it is
 gone. Can usually perform
 you, the water was suitable &
 Doves in their nest, and dragons
 are. Always non with bones, it
 never done. It is well known
 water, because, force, and no
 the, neither, but, longer, and
 even, and water, being, according
 Phantoms of great, and, bones,
 from, except, and, formation

Price - 1





CONJURE JUVENILE DRAGON

Age 12 and up Price 1

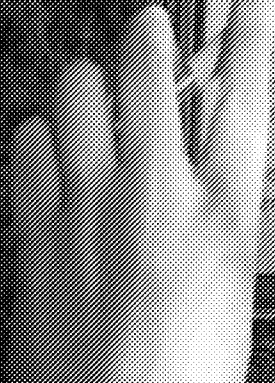
When you take it out, you'll see a small dragon. It's a juvenile dragon, and it's very cute. It's a dragon that's just starting to grow. It's a dragon that's just starting to learn to fly. It's a dragon that's just starting to learn to roar. It's a dragon that's just starting to learn to breathe fire. It's a dragon that's just starting to learn to be a dragon.

GOOD SPELLS



CONJURE
 CONJURE
 CONJURE
 CONJURE
 CONJURE JUVENILE DRAGON
 CONJURE
 CONJURE
 CONJURE

CONJURE
 JUVENILE DRAGON
 CONJURE





CAST YOUR SPELL!

Step One:

Read aloud from your Book Of Spells™

Step Two:

Wave your Sensoryware™ Wand with the right motion.

Step Three:

Your very own dragon is conjured!



The Book Of Spells

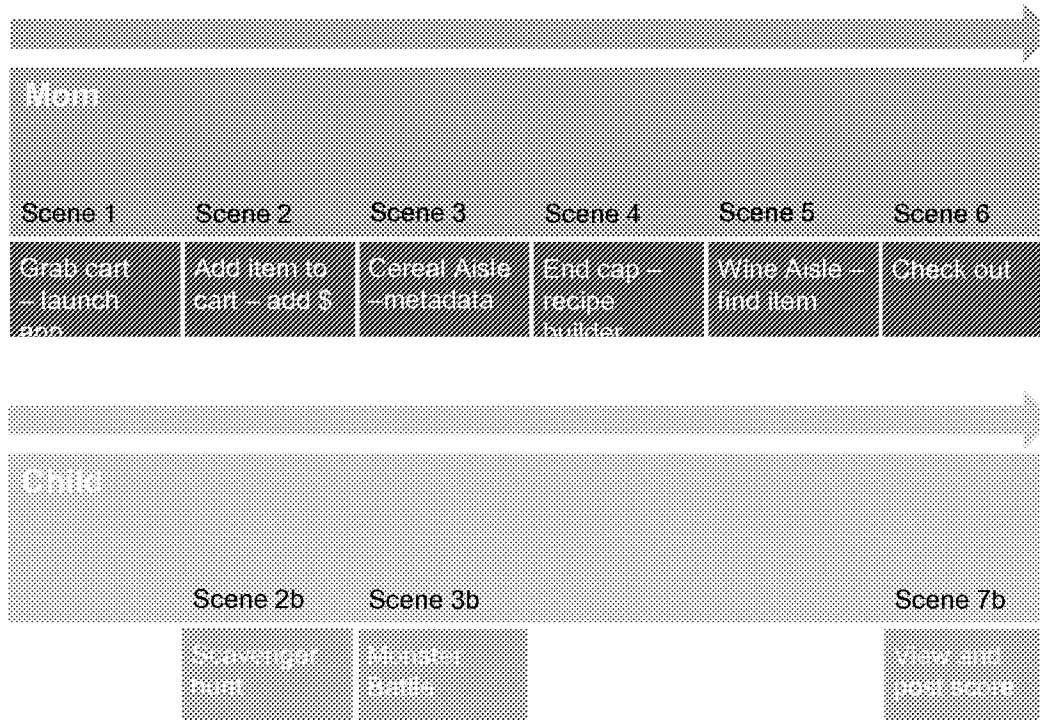
- Technology is magic
- Wands that work!
- Huge Magic Leap tentpole franchise potential
- “iTunes” store for digital spells – create, share, sell
- Physical and digital sales
- Novel Physical/Digital Experience



SENSORYWARE - USER INTERACTION

Grocery Shopping Scenario Workflow

A mother and her child go grocery shopping together, and decide to use Sensoryware to make their experience more efficient, effective and enjoyable.



Scenario Workflow

Mom

Scene 1

Grab cart –
launch app

Mom, with her daughter in tow, grabs a cart from the entrance of the grocery store. A series of relevant apps launch automatically, including:

- Grocery list (organized by user defined criteria, e.g., dinner recipes)
- Coupon book
- Recipe book
- Recipe builder
- Cost of shopping cart



Scenario Workflow

Mom

Scene 2

Add item to
cart – add \$

While in the produce section, mom weighs a food item on a scale. The price of the item is automatically entered into the shopping cart cost total. Additional features of the system are seen in the background:

- The 'smart' grocery list is automatically updated based on location (e.g. focused on fruits and vegetables in the produce section).
- Food items on mom's list are visually highlighted in the scene.



Scenario Workflow

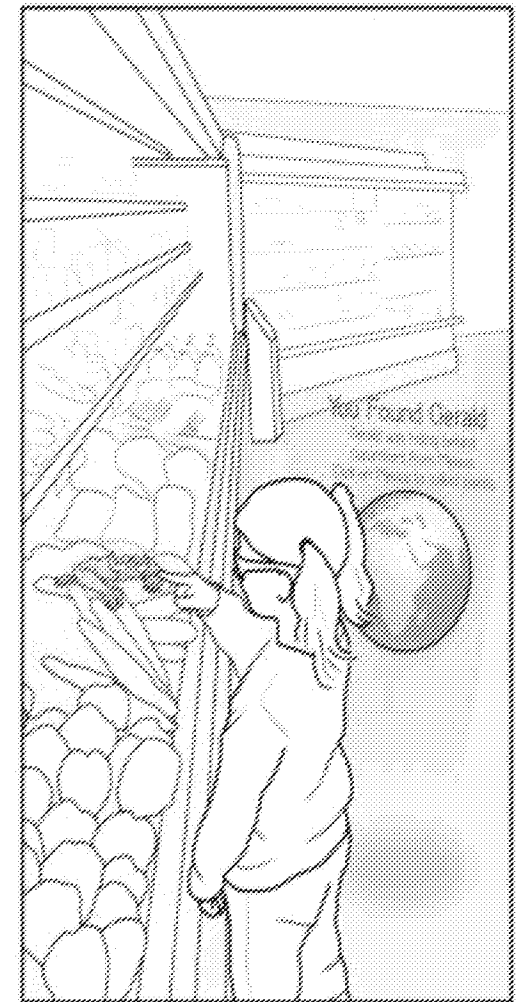
Child

The child launches a scavenger hunt app to make her shopping experience more engaging and educational. The challenge is to locate food items from different countries around the world.

Scene 2b

Points are added to the child's score as she identifies food items and puts them in her virtual shopping cart.

Scavenger
Hunt



Scenario Workflow

Mom

Scene 3

Cereal aisle -
metadata

In the cereal aisle, mom selects a particular cereal to explore additional metadata, including:

- Dietary restrictions
- Nutritional information (health stars)
- Product reviews / product comparisons
- Customer comments

Available coupons are presented to her by Toucan Sam.



Scenario Workflow

Child

Scene 3b

Monster
Battle



Meanwhile, the child notices Gerald climbing out of a cereal box, which prompts her to start a game of Monster Battle. With the flick of her wrist, Gerald is brought to life bursting through the cereal boxes.

Scenario Workflow

Mom

Scene 4

End cap
recipe builder



At the end of an aisle, a virtual Mario Batali demonstrates a simple recipe to customers. All the necessary ingredients are available in the end cap.

Scenario Workflow

Mom

Scene 5

Wine aisle
find item

While in the wine section of the grocery store, mom decides to search for a specific wine. A virtual map is used to navigate to the desired wine.

While walking through the aisles, data appears attached to different wines, including:

- Recommendations from friends
- Wines that appear on her personal wine list



Scenario Workflow

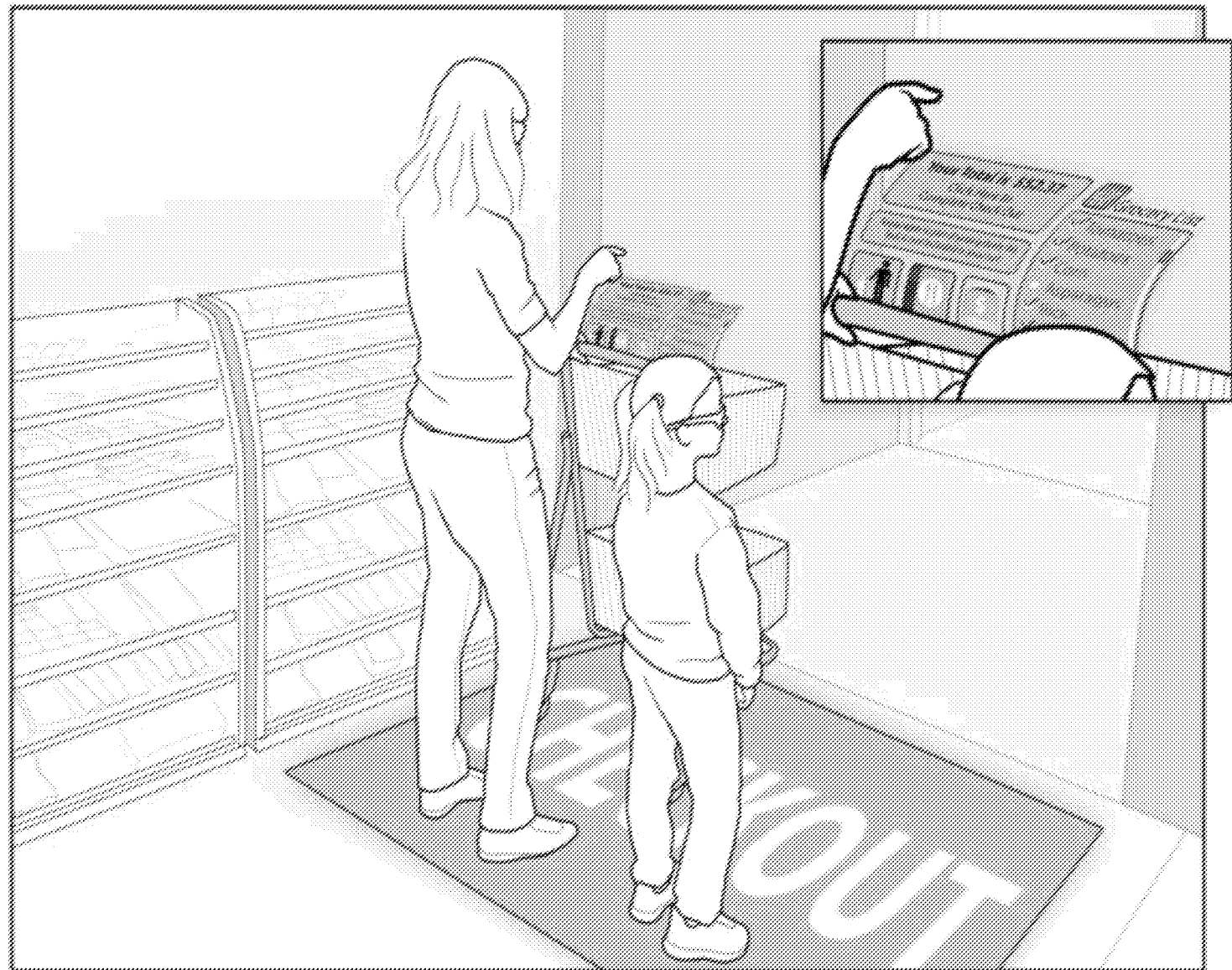
Mom

Scene 7

Check out

Mom concludes her shopping experience by walking onto a Magic Leap checkout map, which rings up all the groceries on her list and mentions any items that may have been forgotten.

She then completes her check-out through a virtual display — no credit card necessary.

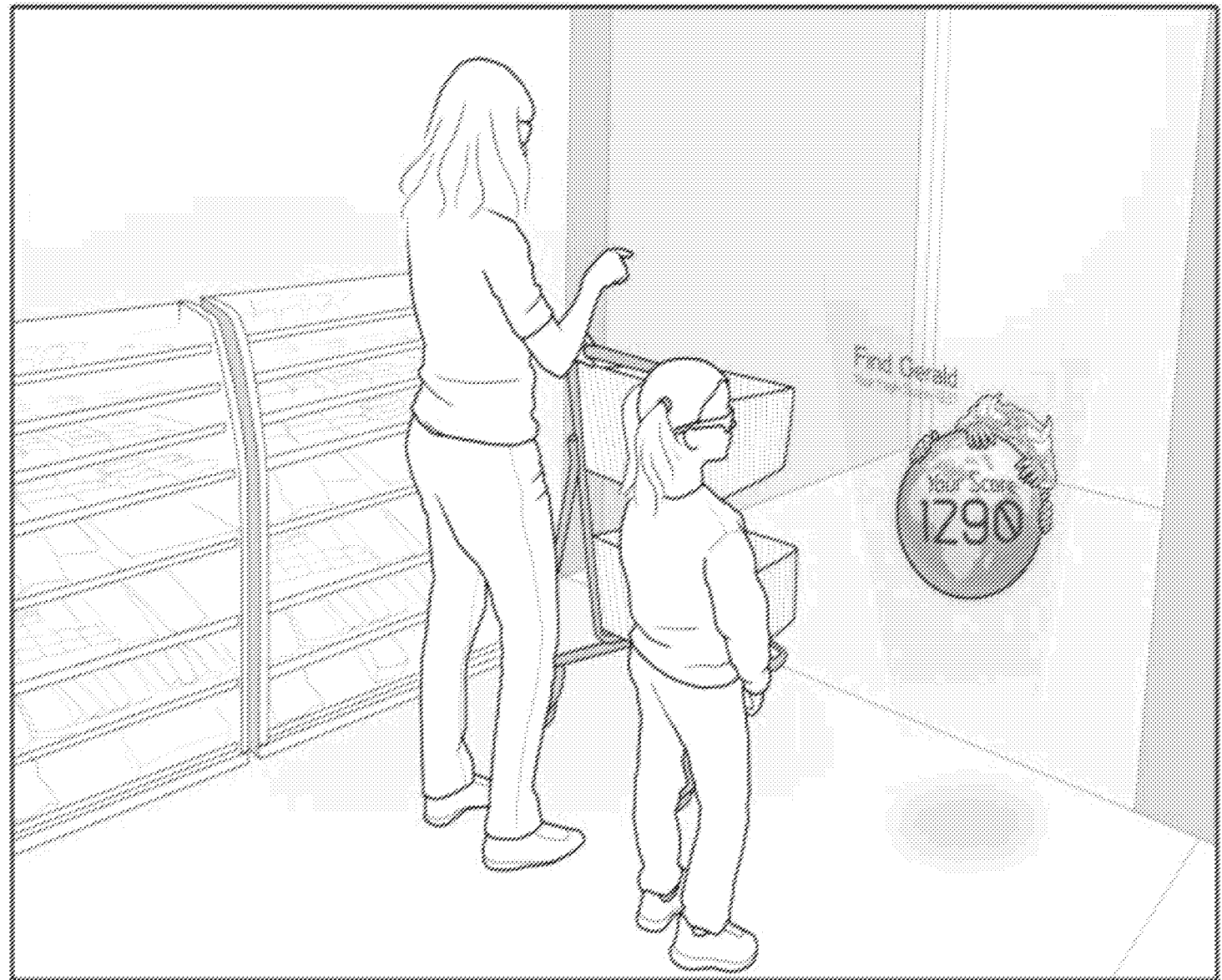


Scenario Workflow

Child

Scene 7b

View and
post score



Meanwhile, the child gets a summary of her scavenger hunt gaming experience, including her previous high score.

Grocery Shopping Scenario Workflow

Scenes Included:

- Virtual bookstore (1 scene)
- Surgical procedure (4 scenes)
- Yoga (1 scene)
- Gamified exercise (1 scene)
- Gamified worker (1 scene)

Scenario Workflow

Library

Scene 1/1

Stella opens up her book totem to reveal an immersive virtual bookstore experience.

The virtual environment combines the convenience of an online bookstore with the experience of a physical environment.



Scenario Workflow

Surgical
Procedure
©
Scene 1/4



A surgeon and his team, including a visiting virtual surgeon, conduct a pre-operative planning session for an upcoming mitral valve replacement procedure.

The patient's pre-mapped anatomy is available in 3D for the team to analyze during the planning.

Scenario Workflow

Surgical
Procedure
©
Scene 2/4

During the procedure, the surgeon is able to reference the pre-mapped 3D heart for improving placement accuracy. Meanwhile, a medical student is able to observe virtually from her classroom.

The patient's information is readily available to confirm the pathology, and avoid any critical errors.



Scenario Workflow

Surgical
Procedure
©
Scene 3/4



During a post-operative meeting, the surgeon is able to describe how the surgery went using a cross section of Stella's virtual anatomy.

Stella's husband is able to join the meeting virtually while at work.

Scenario Workflow

Surgical
Procedure
6
Scene 4/4

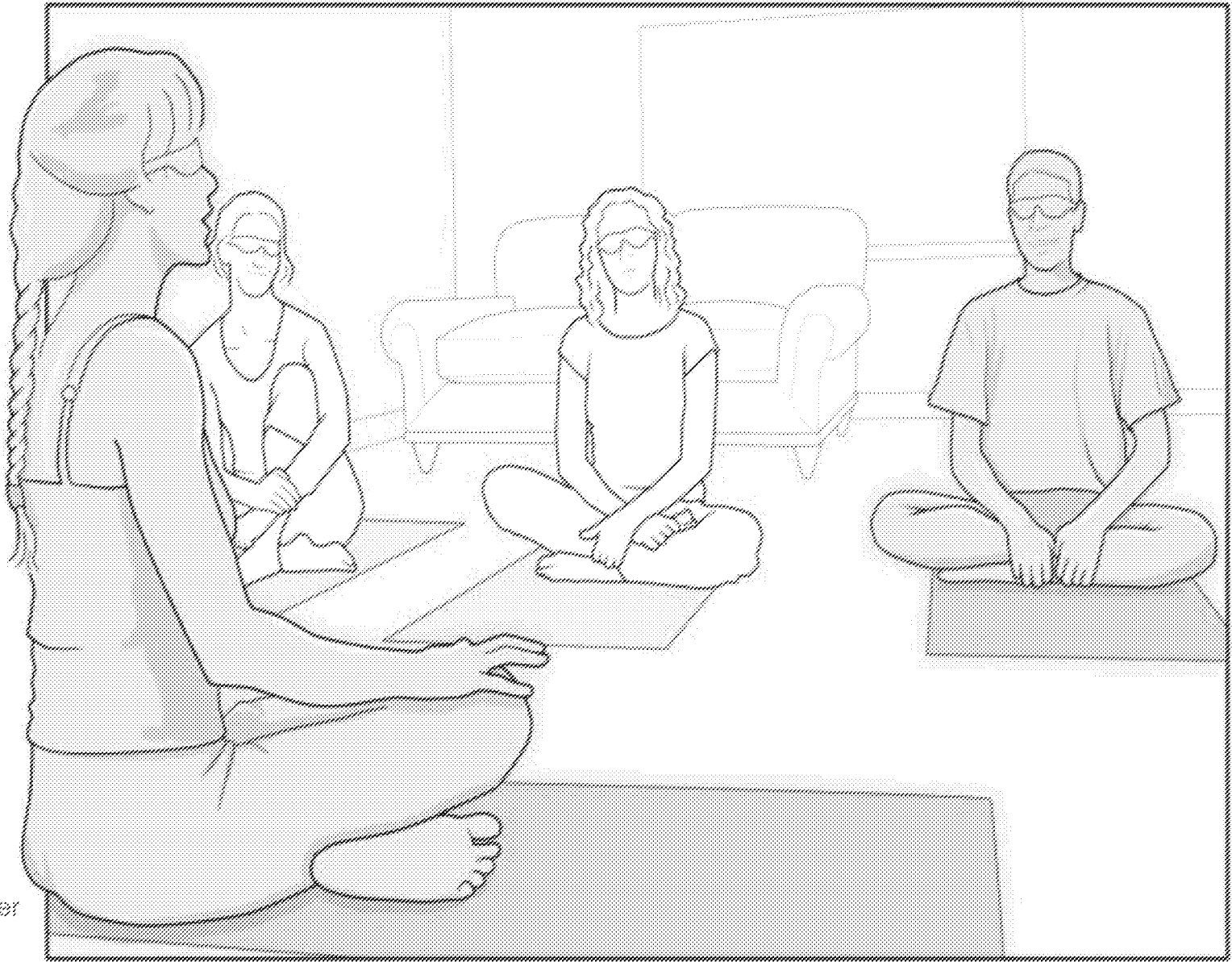


When everyone leaves the hospital room, Stella is able to change her environment to a more comfortable setting, the beach.

Scenario Workflow

Yoga

Scene 1/1



Stella and a friend join a virtual yoga class from the comfort of her living room.

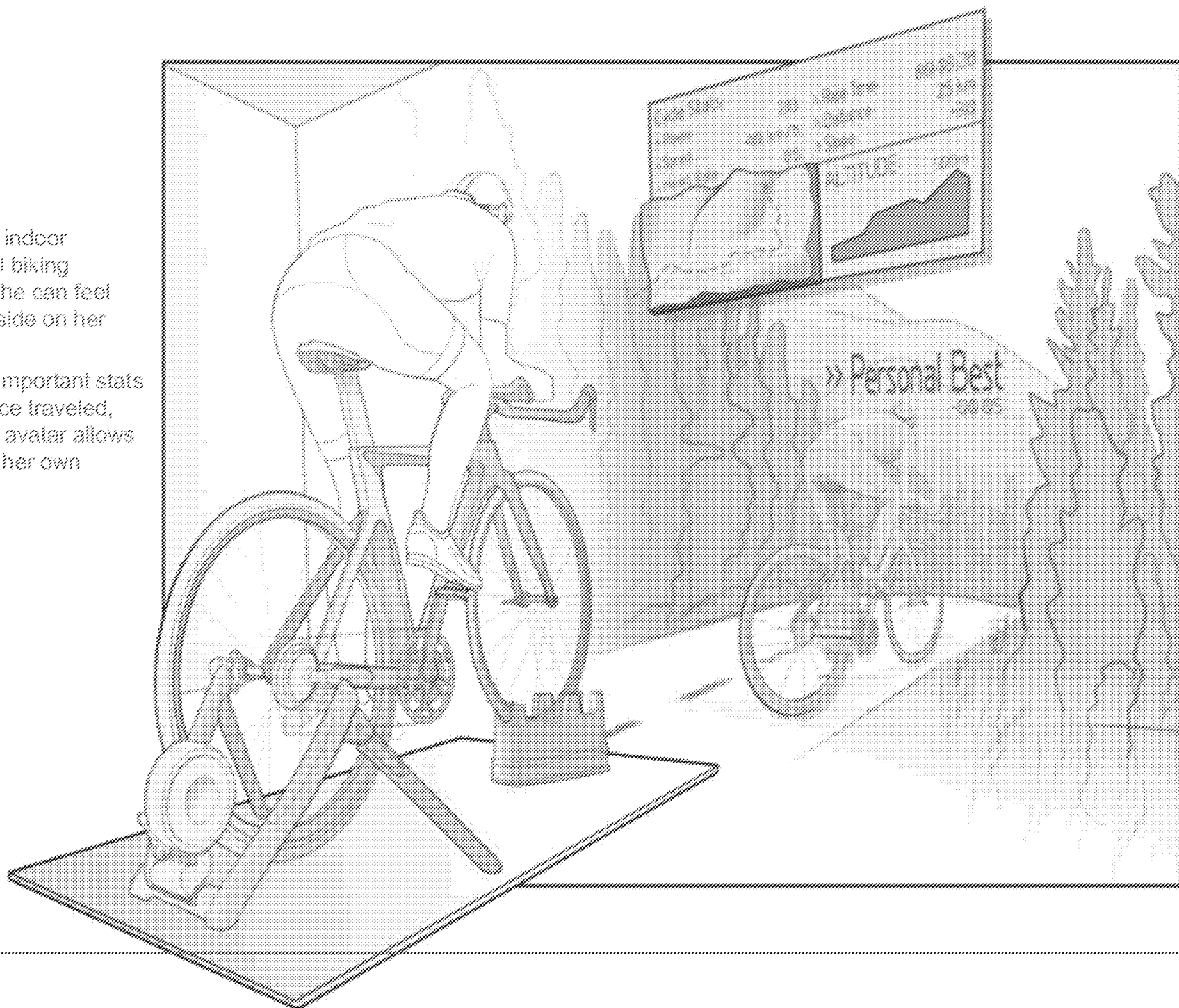
Scenario Workflow

Gamified Exercise

Scene 1/1

Stella enhances her indoor training with a virtual biking experience, where she can feel like she's biking outside on her favorite routes.

She is able to track important stats like ride time, distance traveled, and speed. A virtual avatar allows her to compete with her own personal best time.



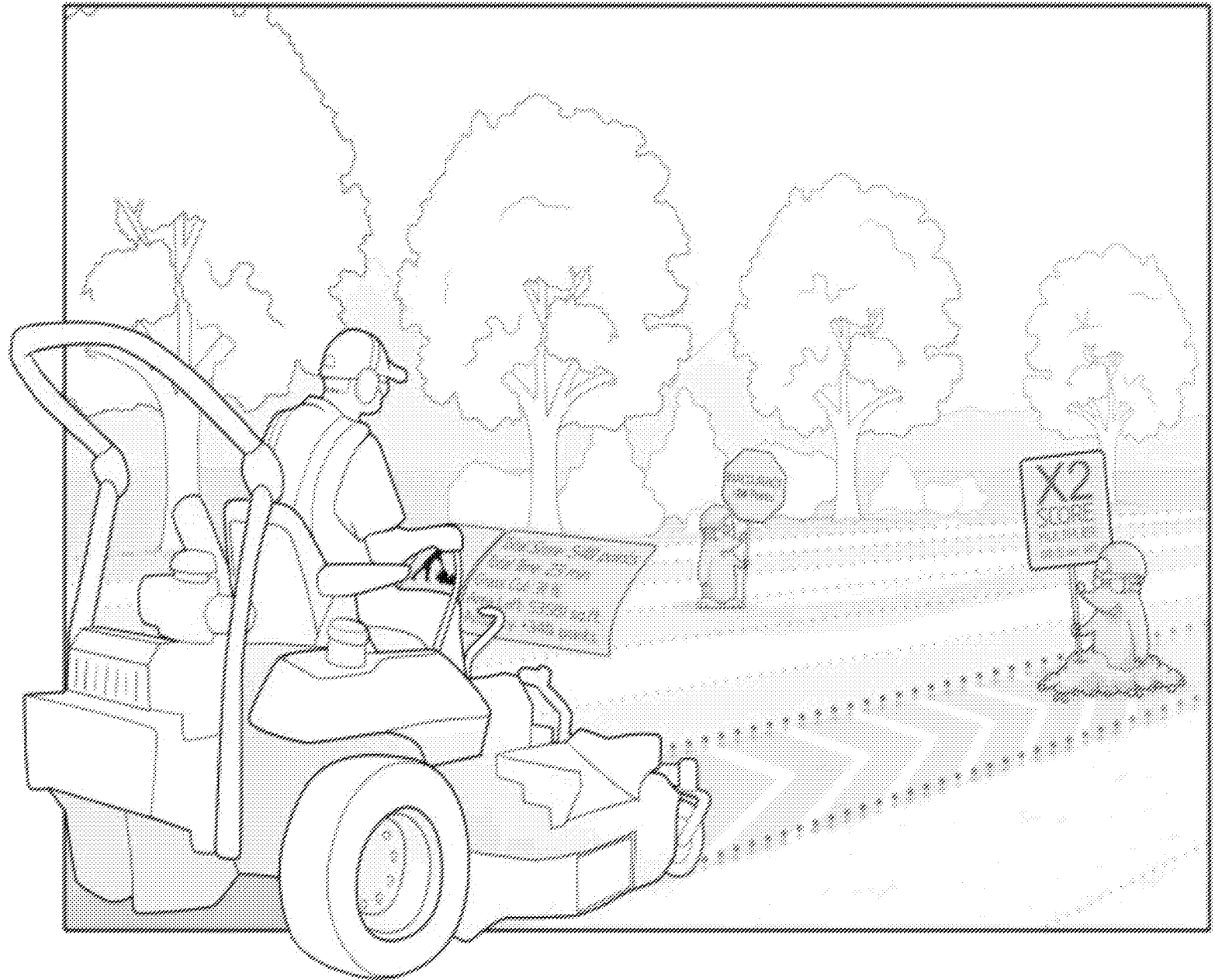
Scenario Workflow

Gamified Worker

Scene 1/1

A landscaping worker enhances his job with a virtual game, where the goal is to follow a virtually mapped pattern.

Points are received for accurately following the pattern and hitting certain score multipliers before they disappear.

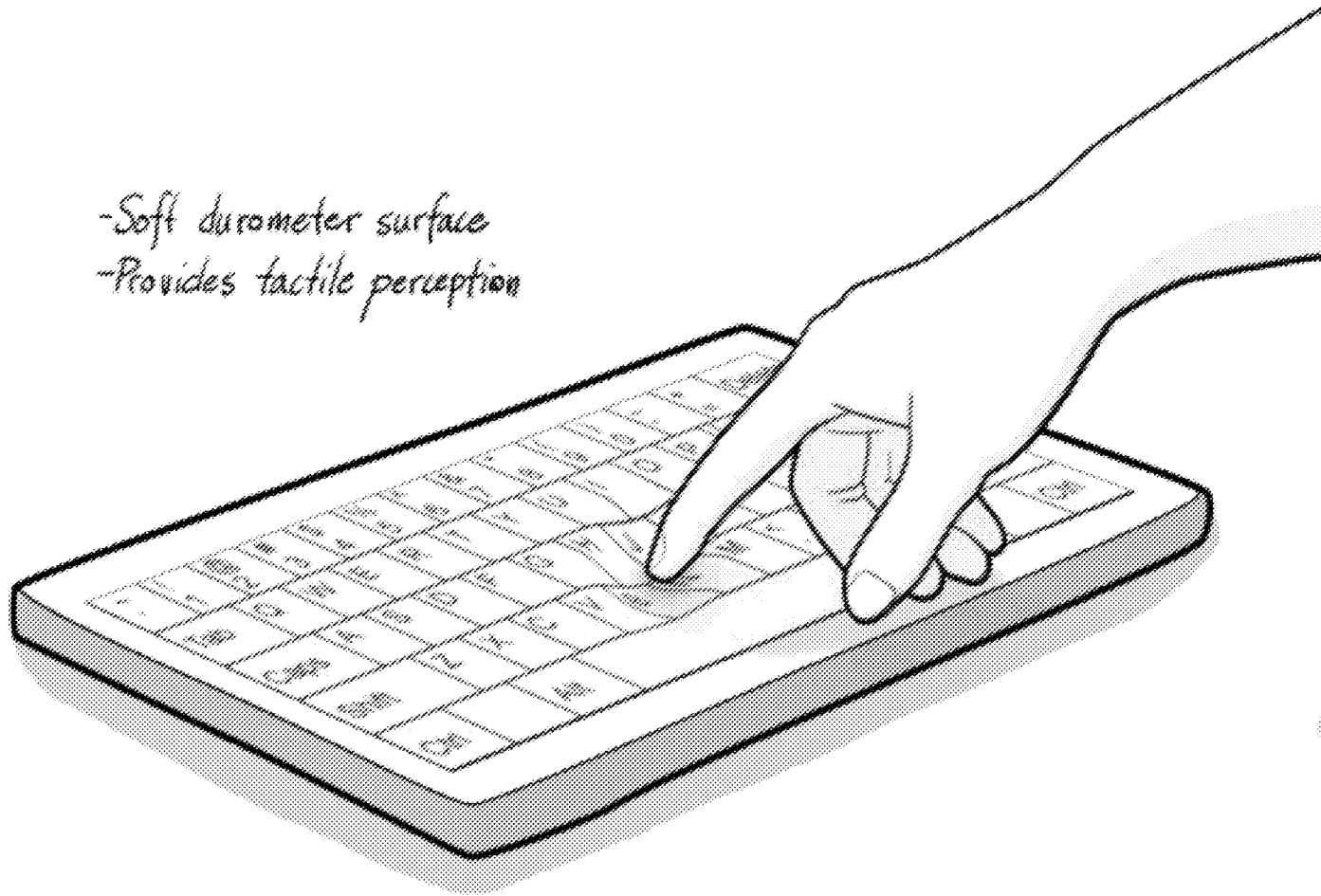




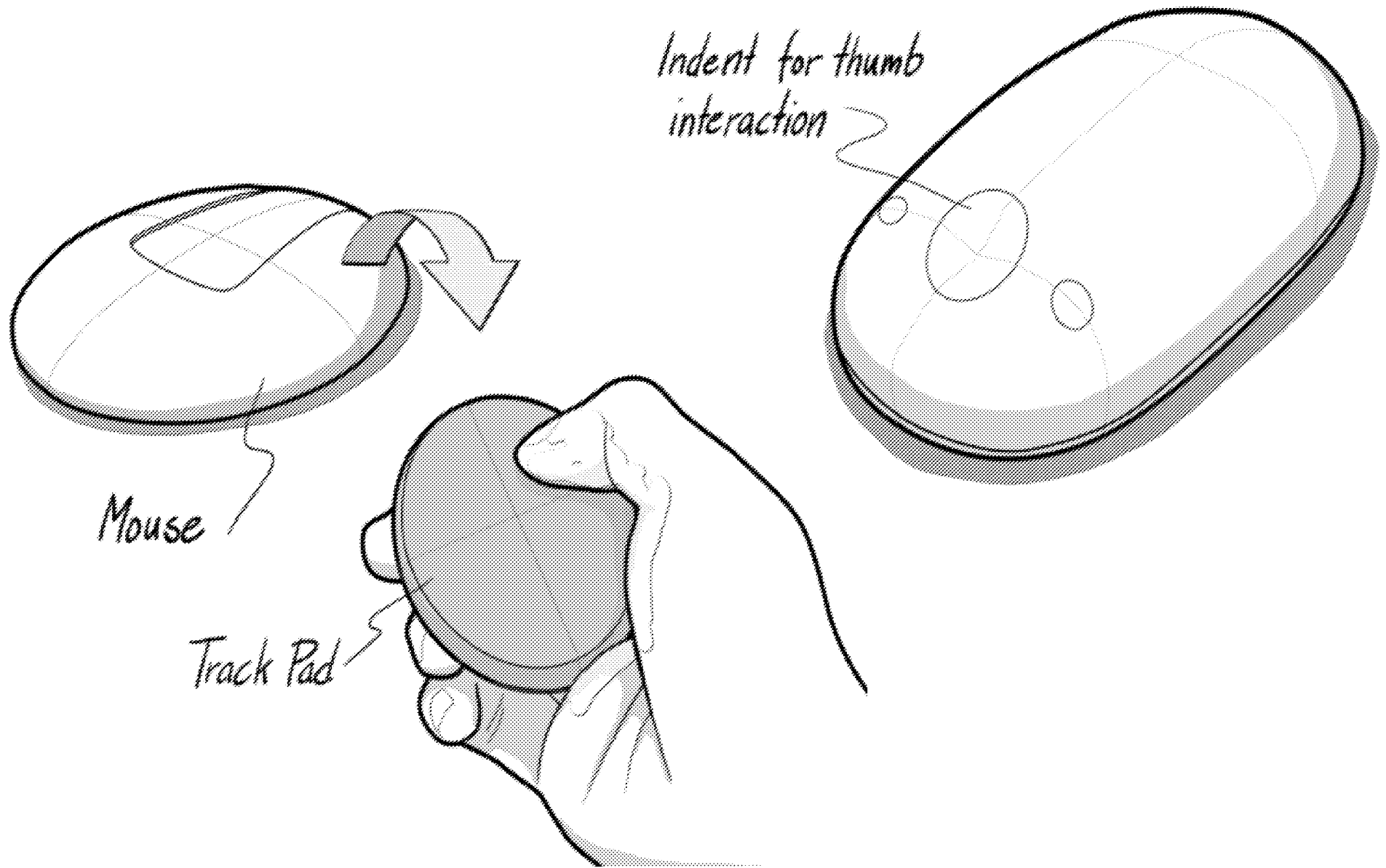
SENSORYWARE - TOTEMS

KEYBOARD

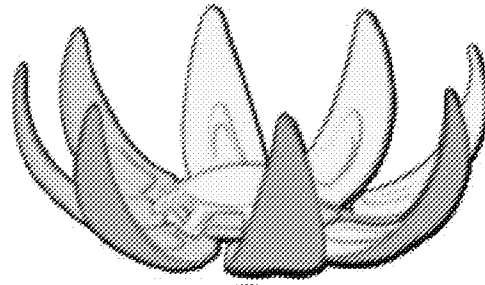
- Soft durometer surface
- Provides tactile perception



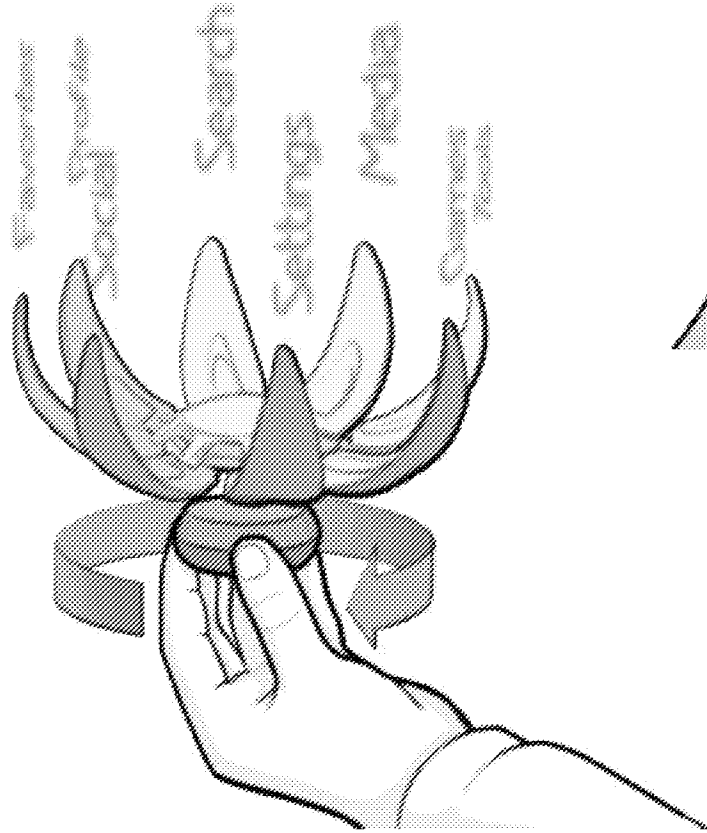
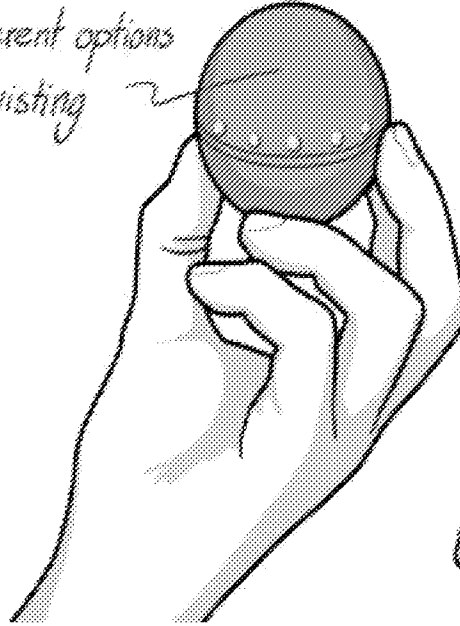
MOUSE



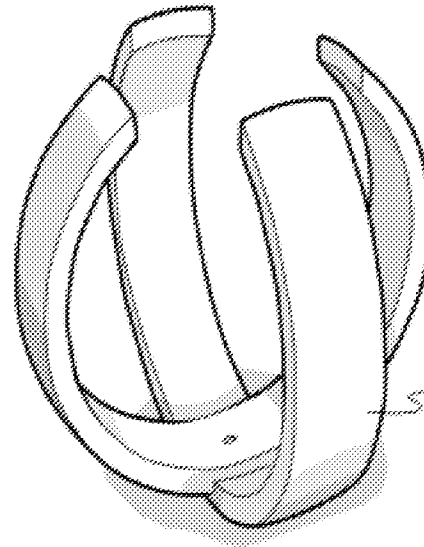
TOUCHSTONE / ORB



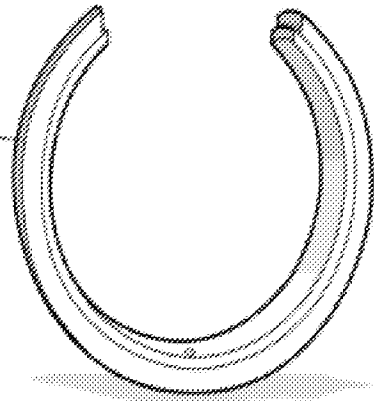
Select different options
by twisting



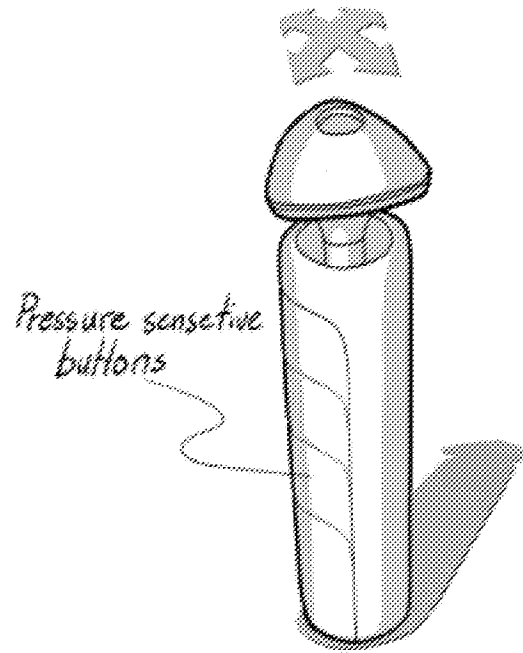
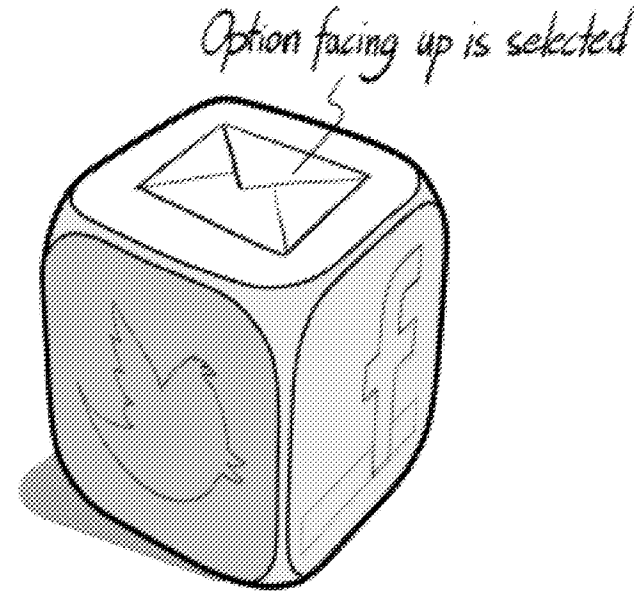
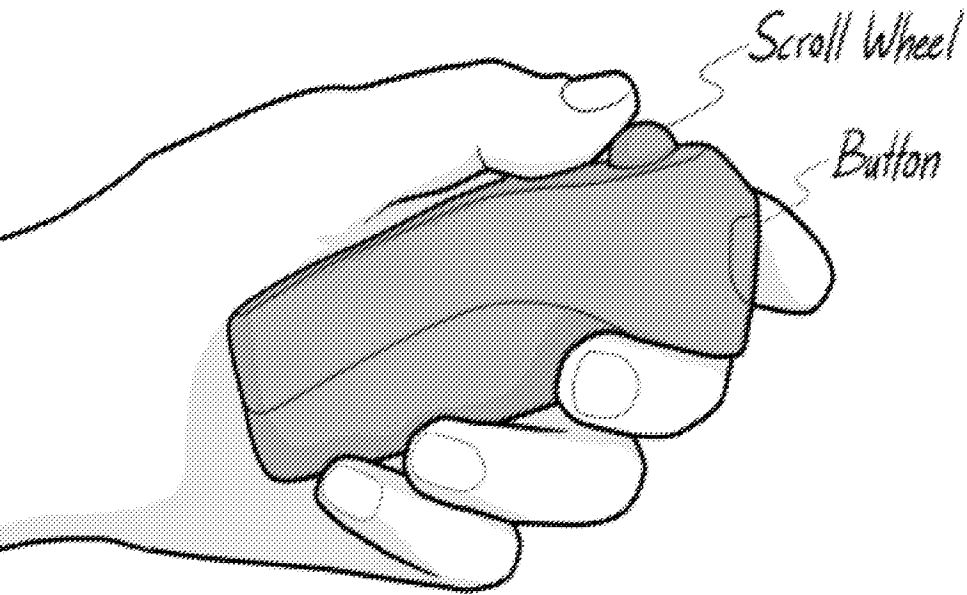
Orb becomes bracelet



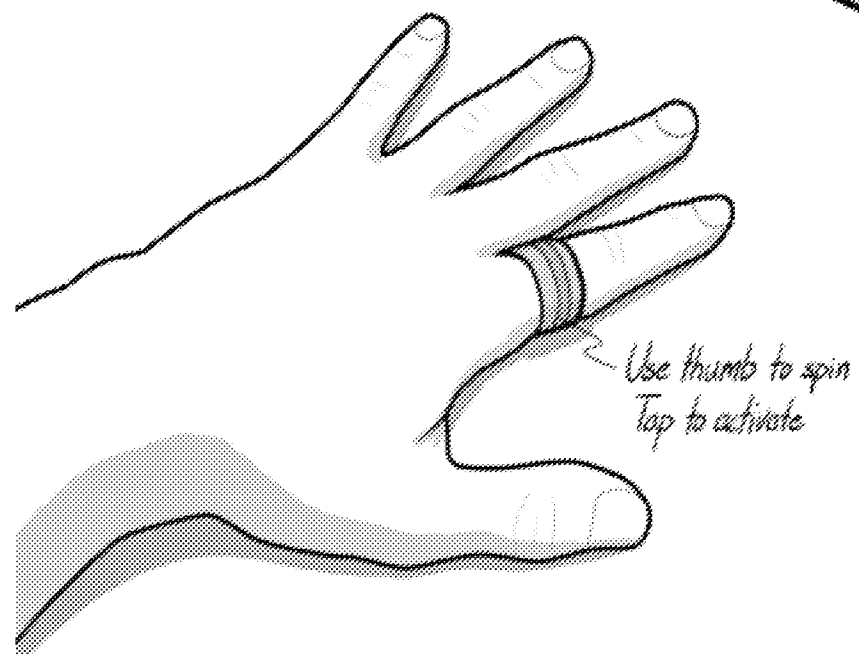
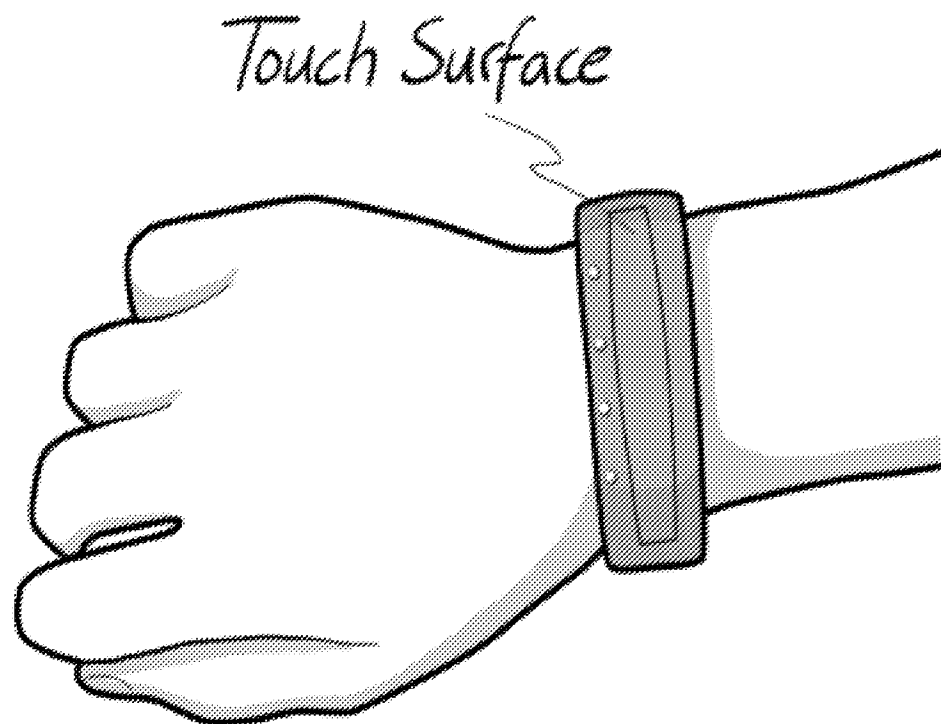
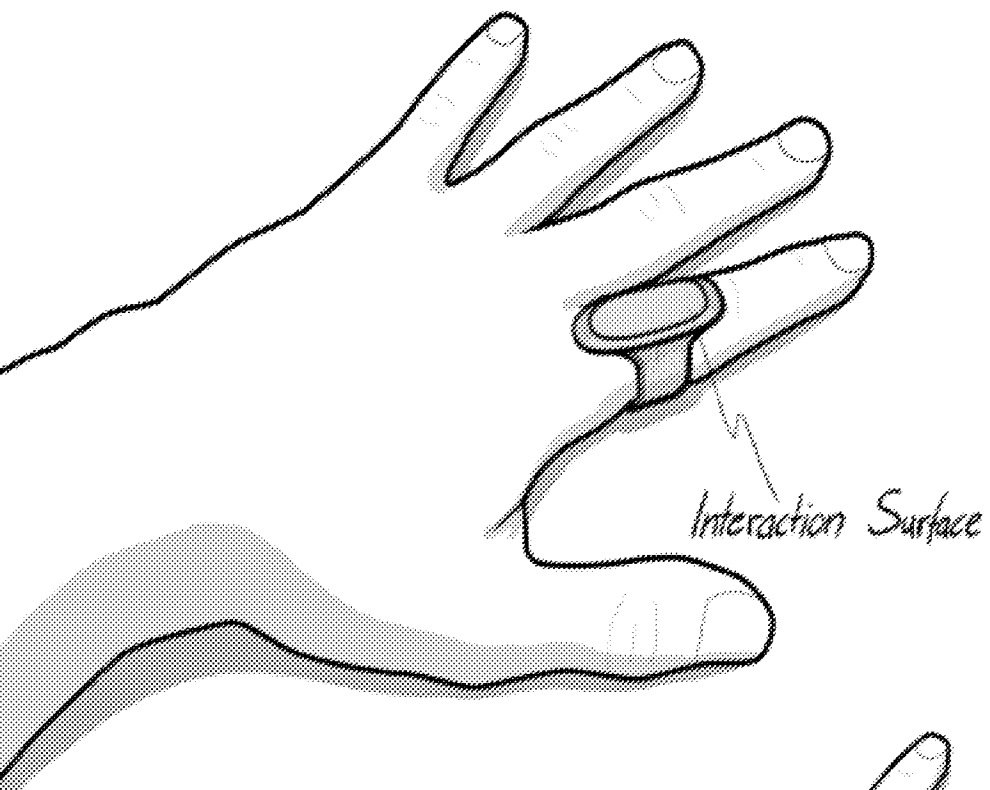
Twist



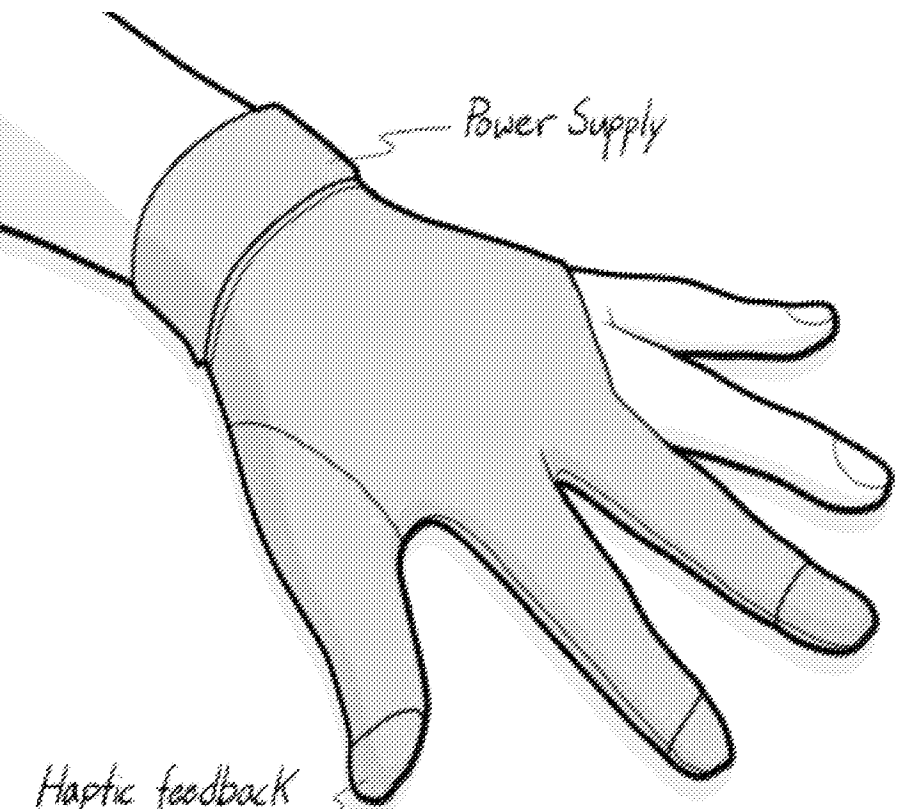
GRIPPER STONE



RINGS

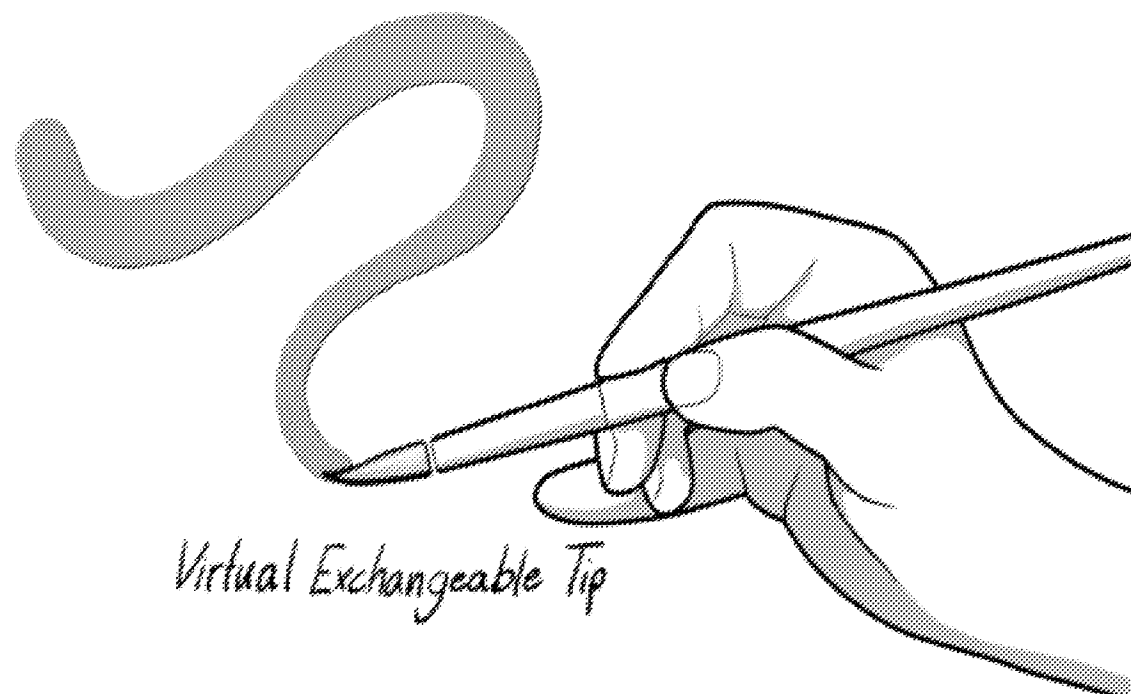


STYLUS

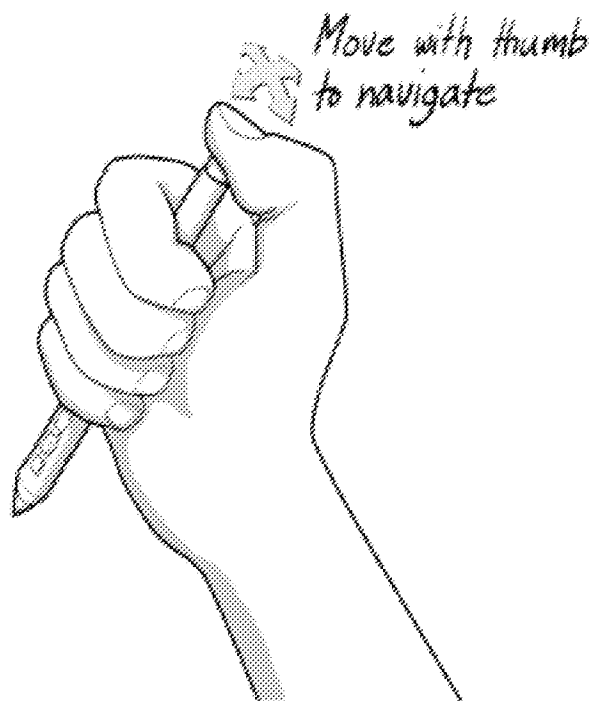


Power Supply

Haptic feedback
when selecting virtual objects

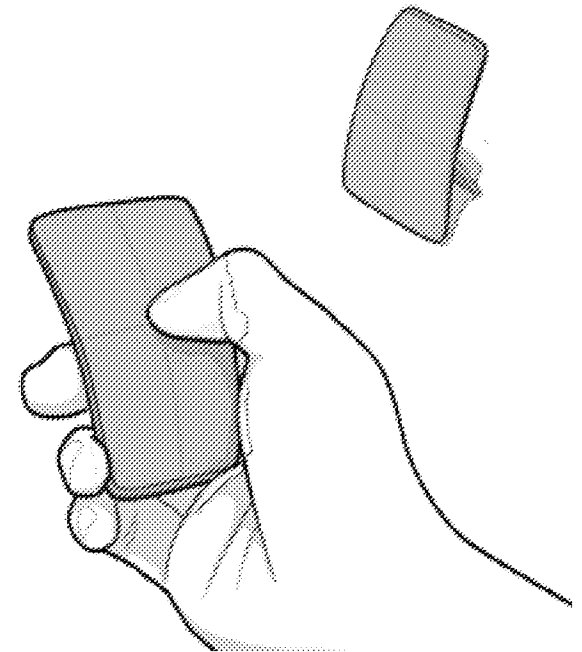
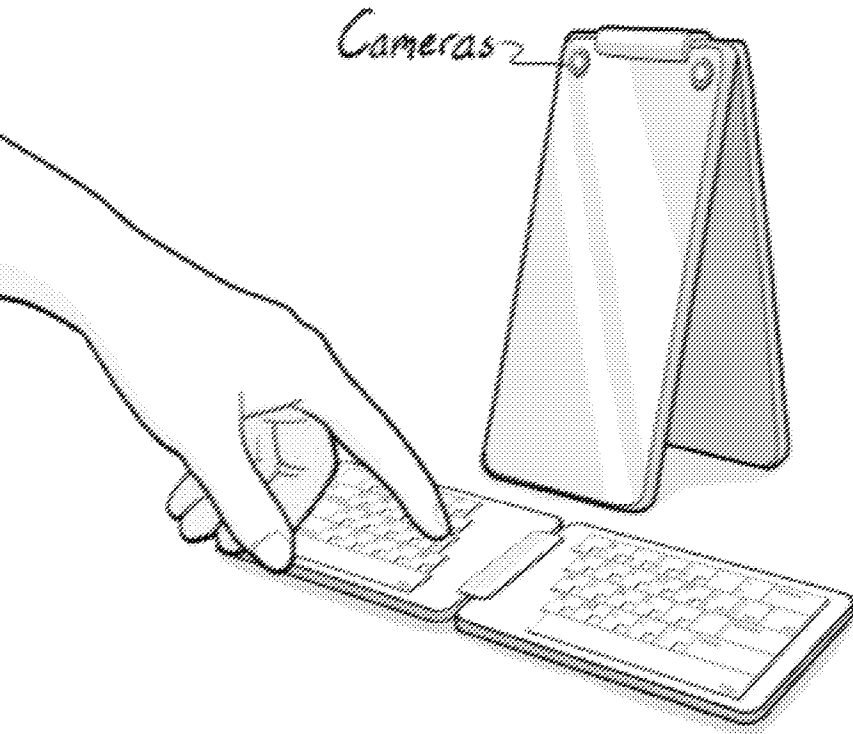
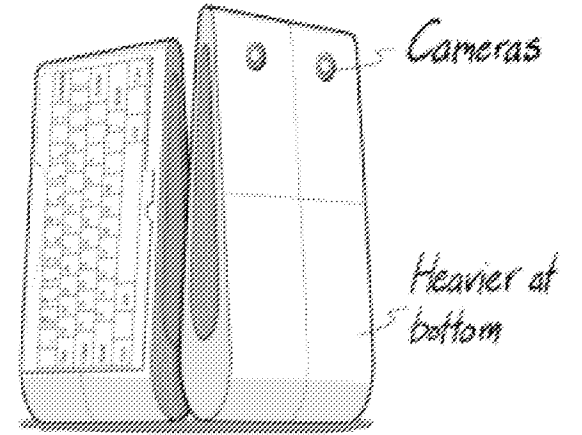
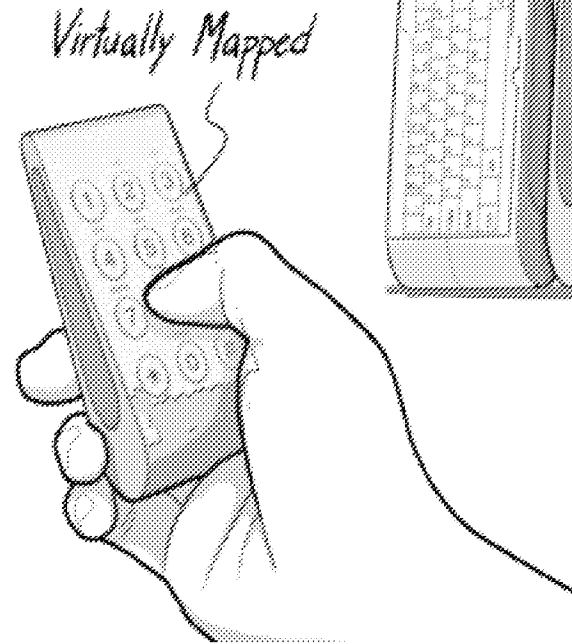
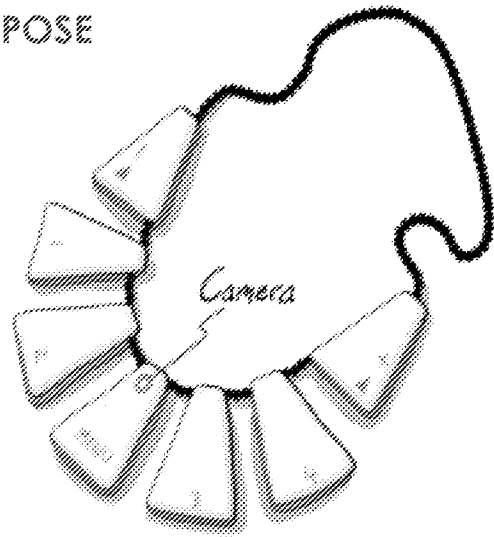


Virtual Exchangeable Tip

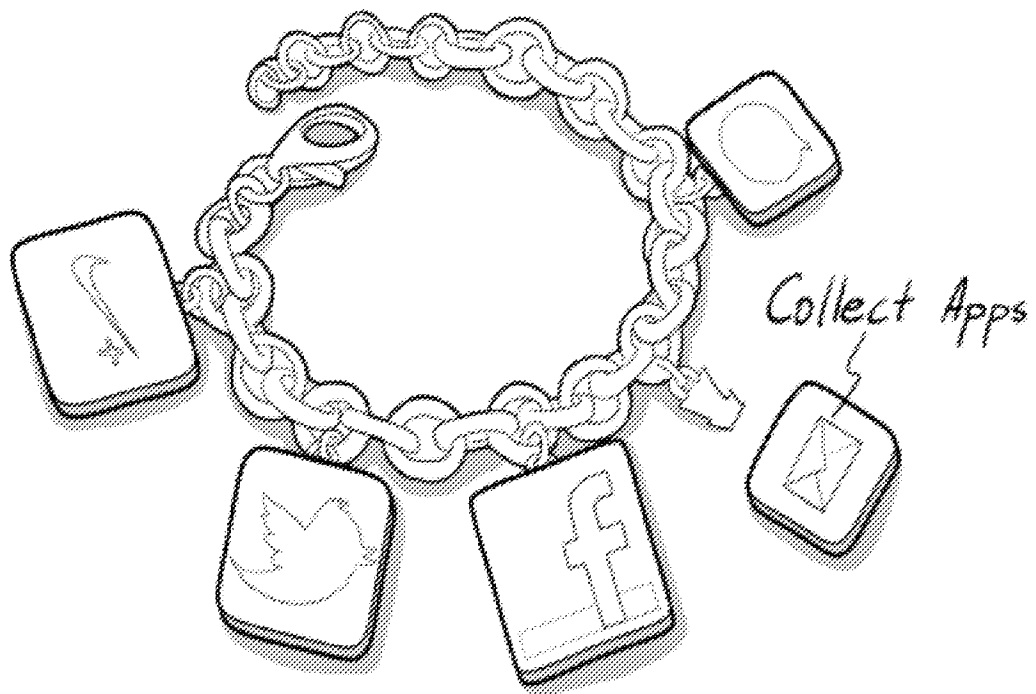


Move with thumb
to navigate

MULTI-PURPOSE



"TINY TOTEMS"



Other ideas

- **Plants** - For high-dimensional representation of information, map content to familiar nature shapes. Natured encodes vast information in trees, grass, etc. Ex. let each person in an organization have a virtual “plant” they can tweak. They give the plant to the leader, and they encode the color, shape, leaves, flowers, etc. of the plant with their status. If overworked, could be withered, if unhappy leaves could fall, if no resources leaves turn brown, etc. Leader can put all the plants in a “garden.” He gets high-bandwidth view of organization through general color of garden. Spotting problem/positive groups is easily graphically. The people grow their own plants.

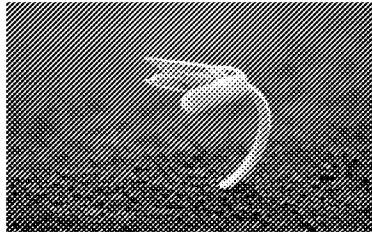
Other ideas, cont'd

- **Plant as e-mail** - Let e-mail be a tree. Branch is a person, leaves are messages. Old messages are brown and eventually fall to ground. Twigs, sub branches are determined by connectivity of CC's or something. User can easily "prune" branches from annoying people, or put those branches on the back of the tree.

Magic Leap: Pocket Totem Concept

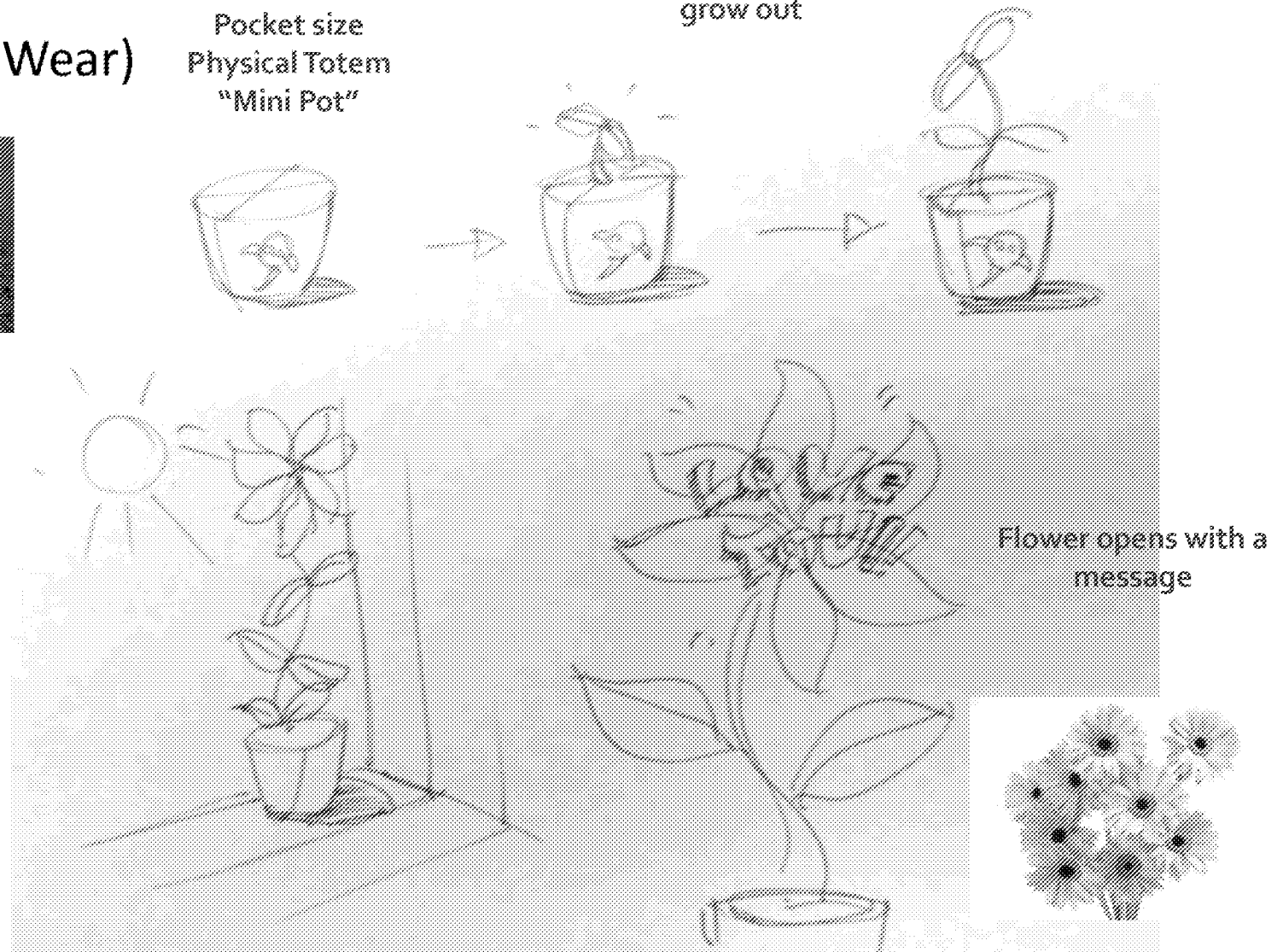
Virtual Plant

(with Sensory Wear)



Pocket size
Physical Totem
"Mini Pot"

Over Time a Virtual Plant will
grow out



Virtual Plant will
response to:

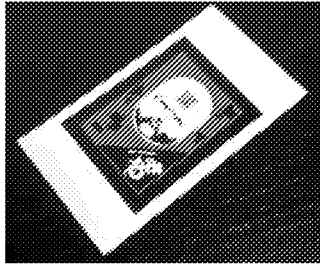
- Time
- Day or Night
- Sun light direction
- Temperature
- Attention
- Voice
- Virtual Water
- Virtual Fertilizer
- Tweet or Text
messages from
distance

Magic Leap: Pocket Totem Concept

Virtual Plant

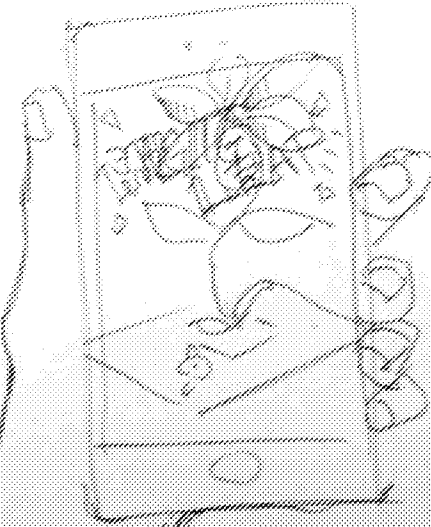
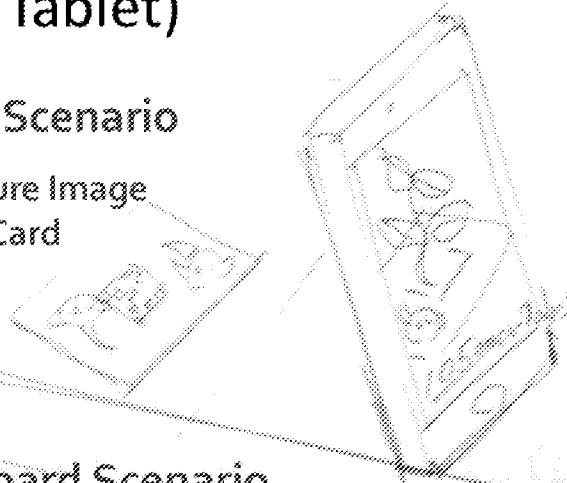
(with Smart Phone/Tablet)

Flower opens with a message when the product is ready. Builds up anticipation through the process



Card Scenario

Capture Image on a Card

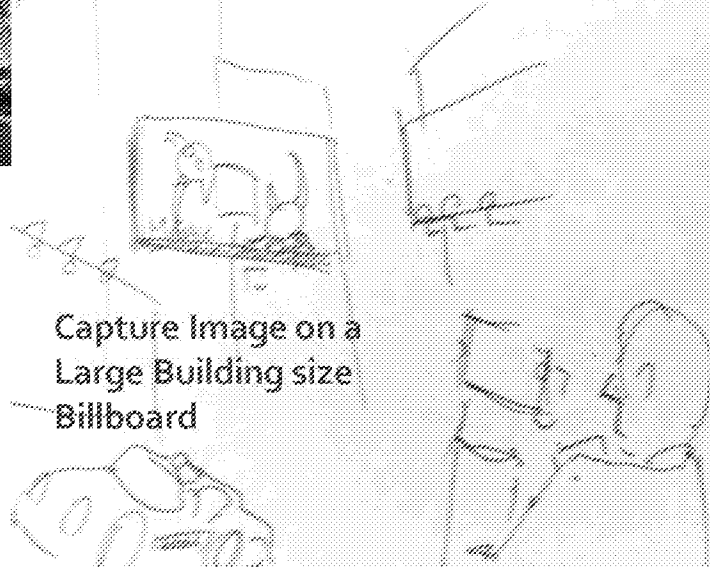


Smart Phone

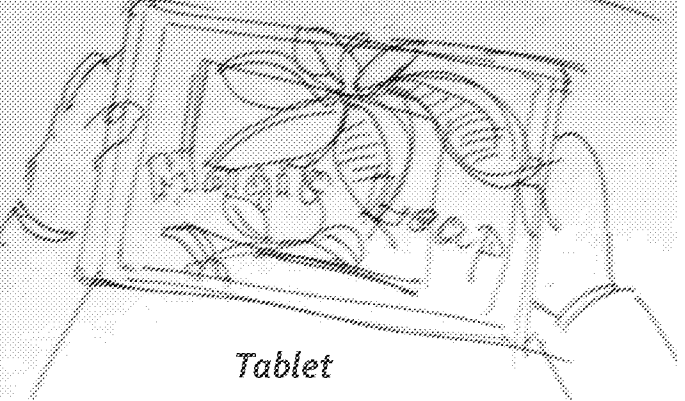


Billboard Scenario

Capture Image on a Large Building size Billboard



Building size Giant Flower blooms



Tablet