



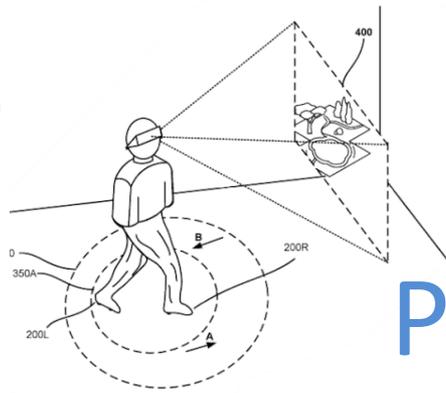
Protecting Creations in The Virtual World

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Background

- Virtual Reality (VR) and Augmented Reality (AR) are two areas where technology is advancing rapidly
- Numerous creative “virtual designs” have been created in these areas
- These “virtual designs” and supporting technology can be used for work and/or entertainment purposes



Past to Future

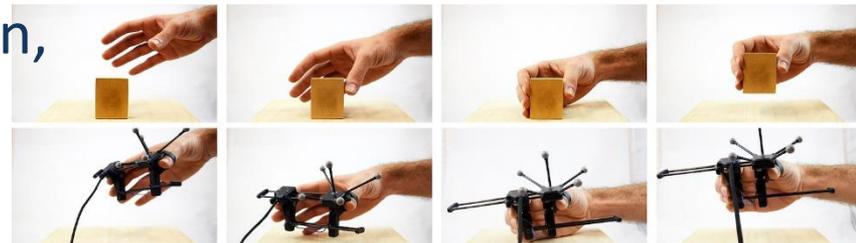
- VR is old technology dating back to 1960s,
- NASA amongst earliest developers
- First commercial tools 1980s
- Through 90's game applications
- 2010 Palmer Lucky's VR proto-type, to become OCULUS RIFT followed by VIBE etc
- Currently not just games, clinical studies, rehabilitation, simulation, education, elder-care, treating mental health
- Future – improved haptics
- Tactile TMs?



Varjo's Flight simulator



Stanford Medicine VR Theatre



Shape Lab's Gravity wearable haptic interface



Virtual Reality

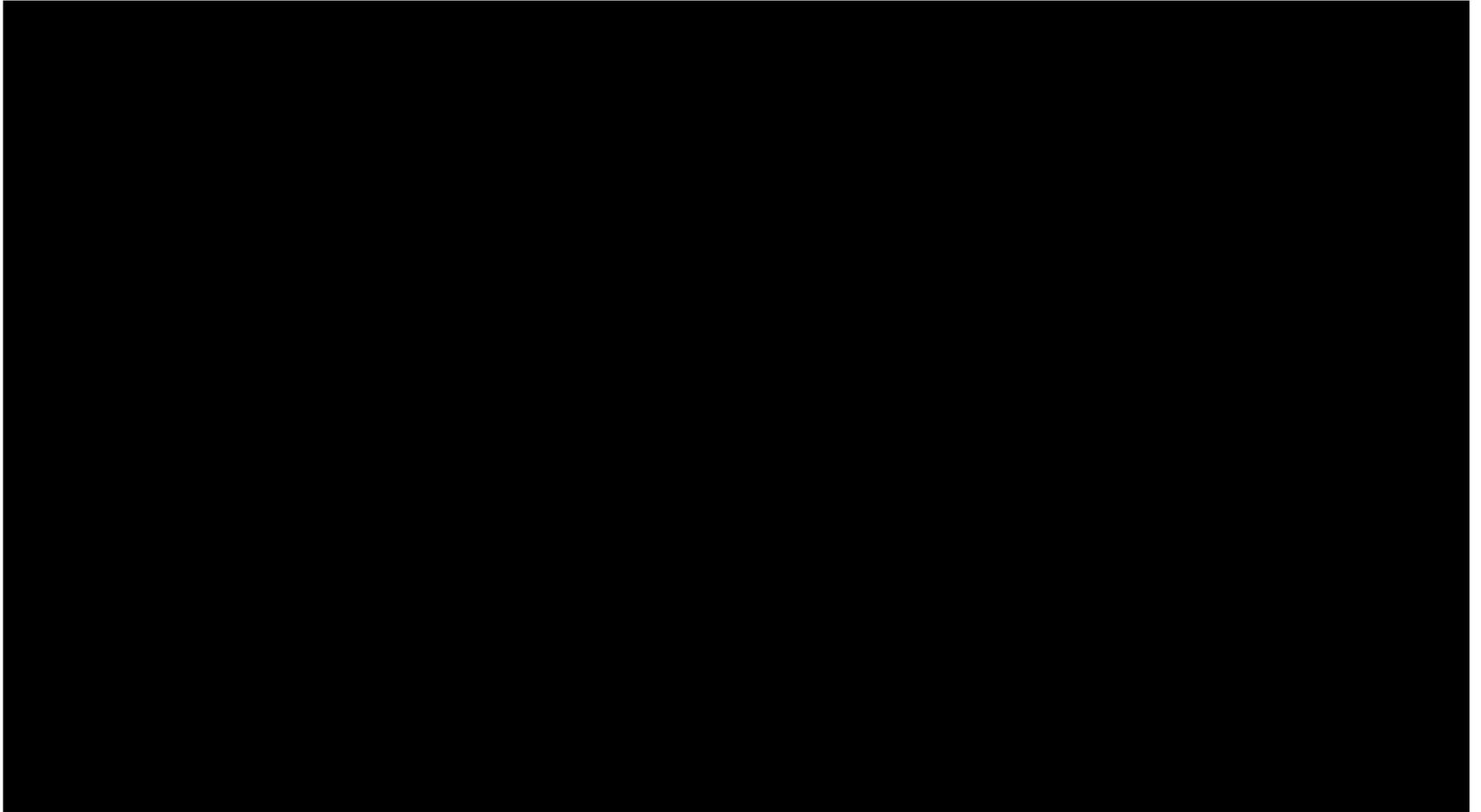
- “a three-dimensional, computer generated, environment which can be explored and interacted with”
- VR immerses individuals in a completely artificial, digitally-generated environment
- VR headsets or glasses are the most common method



Image by contributor [Rido](#)



Virtual Reality Demo





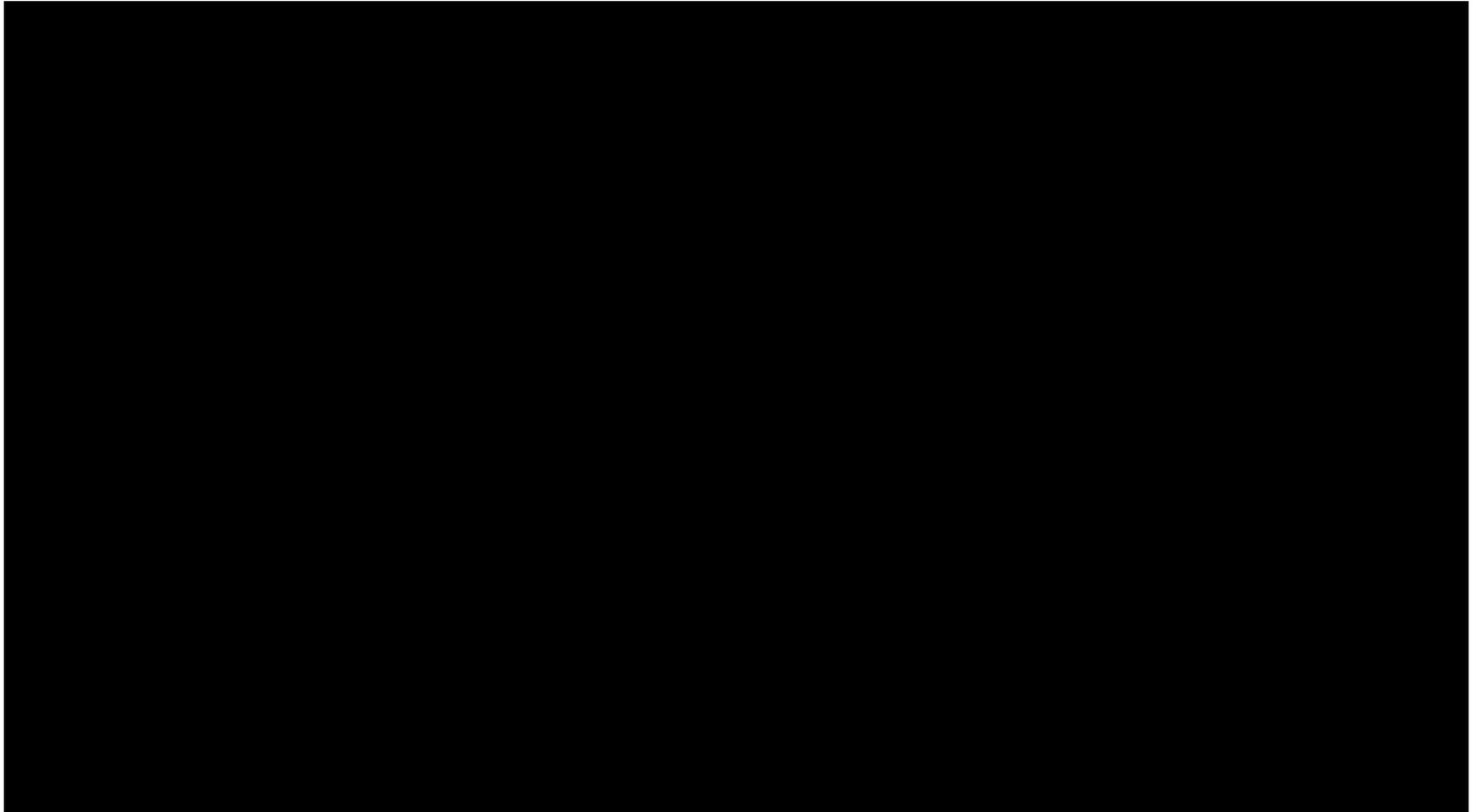
Augmented Reality

- “an interactive experience of a real-world environment whereby the objects that reside in the real-world are *augmented* by computer-generated perceptual information”
- AR overlays digital objects onto the real-world environment
- Mobile phones are the most common method





Augmented Reality Demo





Augmented Reality Examples

➤ Pokémon GO

- Starbucks became Poké Stops or gyms merging real and virtual worlds
- Frappuccino integration
- Not on menu, tap on Starbucks in game

➤ Magic Leap + Spotify





Projected Designs

- [Mitsubishi](#) have developed a indicator system that projects the path of the car onto the road
- A number of projected keyboards are now available (see [here](#))





Will Design Patents Protect Works in the Virtual World?

- Most frequent jurisdictions where patent protection for VR is sought:
 - US (by a wide margin)
 - EU, also Korea
- Huge increase in VR/AR Patent applications in last 5 years
 - 2013 ~10,000
 - 2018 > 30,000
- **Microsoft, Intel, Sony, Samsung, Google, IBM, Canon, Qualcomm**
- USPTO continues to grant design patents for 3-d virtual works #
- Federal Circuit has signaled that the contrary view



AR/VR Design Patents US - Basics

- “design for an article of manufacture”

35U.S.C. §171(a)

In Re Zahn 617 F.2d 261, 268 (CCPA 1980) said the word “therefore” in the phrase “may obtain a patent therefore” refers back to design not article of manufacture

- Design patents protect aesthetic appearance

MPEP§ 1502.01

- Solid lines = actual ornamental aspects, dashed lines show environment that is not part of claim

- Need to be

- Novel
- Not obvious
- Ornamental
- Article of manufacture



Requirements for Design Protection US

- §171 designs analogous to § 101 for utility
- No requirement to be useful but a requirement to be novel and original
- Ornamentation requirement
 - “a design must present an aesthetically pleasing appearance that is not dictated by function alone”
 - Bonito Boats Inc. v. Thunder Craft Boats, Inc.* 489 US 141 (1989)
- Article of Manufacture is the issue for AR/VR



US Article of Manufacture

- In re Hruby 373 F.2d 997 (C.C.P.A 1967) Court interpreted the scope of “article of manufacture” to include the ornamental display of a fountain after the Examiner and Board rejected
- Rejected notion that something made of “fleeting” or “ephemeral” particles could not be protected
- Water particles were like molecules in all articles
- Rejected finding that water sprays Could not be articles of manufacture Because they did not “exist of themselves”





Early Analogies

- Icons and computer generated graphics were the first modern day test of Hrudu principles
- USPTO granted design patents to Xerox for extremely simple icon designs in early 80's
- Feedback generally positive but then USPTO began rejecting
- Xerox challenged refusal of “a design for a[n] Information Icon for Display Screen of a Programmed Computer System

Ex parte Strijland No 92-0623 26 USPQ 2d (BNA)



Early Analogies - Icons

- Xerox argued the computer as the article of manufacture
- Examiner rejected because applicant did not include a depiction or description of the computer in the application.
- Board said merely presenting a picture on a computer display does not constitute a protectable design
- Next effort by applicants was to reference Hruby and argue dependency, ephemeral nature and permanence did not preclude protection as a design
- Board rejected on basis icon was surface ornamentation (not “applied” like fountain) and ornamentation must be applied to article of manufacture
- USPTO then changed tack again and started accepting icons for protection publishing interim guidelines and examining



Early Analogies - Icons

- USPTO required solid lines around icon to represent the computer display thereby meeting AoM requirement
- 1996 Finalized Practice allowed solid or dashed
- Federal Circuit has not heard a case on scope of protection for icons

?



Analogies - Utility Patents

- Subject matter construed “manufacture” broadly by SCC in *Chakrabarty*

447 U.S 303 (1980)

- But more narrowly in *Nuitjen*
 - Watermarked signal not “a manufacture” (dissent included issue of contradictory approach for these cases)

500 F. 3d 1346 Fed. Cir. 2007

- Court dealt with *Hrudny* as a precedent by limiting findings to §101 not §171



Utility Patents - Article

- ClearCorrect
 - involved jurisdiction of U.S. International Trade Commission
 - Considered meaning of “article” to see if ITC had jurisdiction
 - Three dimensional digital models of teeth aligners
 - Clear Correct took scan, sent 3-D models to Pakistan where incremental positioning scheme was developed and 3-D models sent back where printed and used on teeth
 - Unfair acts involving the importation of “articles” was question before ITC.
 - ITC found digital data was “article”

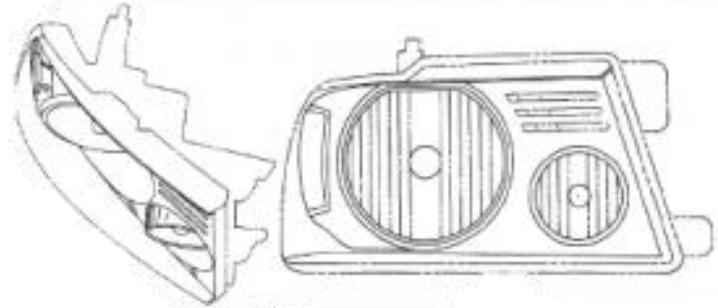


Analogies – “Articles”

- Fed Cir. Reversed saying “articles” extends only to “material things” and does not extend to 3-D digital models
- Dissent held:
 - findings conflicts with SCC rulings, Fed. Cir. etc.
 - Law had to evolve for digital age
 - Meant to apply to all patented technologies including digital
 - Rejected tangible limitation on articles



Utility vs. Design Patent?



- Same rules apply to design patents as utility patents look to utility patent law not trade dress
- Design Patent law prohibits protection for primarily functional designs
 - if feature essential to use can't be protected*
- ABPA argued that protection should be prohibited because the design was aesthetically functional
- Court aesthetic appeal is not functional
- *Automotive Body Parts Ass'n v. Ford Global Techs., LLC*, Case No. 2018-1613 (Fed. Cir. July 23, 2019). Spare parts for hoods and headlights
- ABPA argued there is a functional benefit to designs that are aesthetically compatible with [consumer's] vehicles

**L.A. Gear, Inc. v. Thom McAn Shoe Co.*, 988 F.2d 1117, 1123 (Fed. Cir. 1993)





How can these be protected?

- Design laws can be broadly classified as:
 - Requiring the design to be applied to a product/article of manufacture
 - Not requiring this, by virtue of allowing protection of icons or defining product broadly to include ‘graphic symbols’
- The first category make it difficult to protect ‘non-applied’ designs
- The second category seems to make protection possible (but not clear)



How can these be protected?

- Singapore is leading the way by broadening registrable designs to include “features of design applied to a non-physical product”
 - Defined to include virtual or projected designs
- Japan has recently expanded the definition of designs to include digital images (not necessarily recorded on articles, but displayed outside an article) (projected designs)



How can these be protected?

- The ID5 has studied “protection of new technological designs”

In particular, considering changes to products and services and the new uses of industrial designs brought about by the Fourth Industrial Revolution, the Partners intend to enhance their efforts to effectively protect industrial designs, noting user interest and input.

ID5 Joint Statement, November 2018



FICPI Advocacy

- Encouraging offices to take an expansive view of design protection
- Resolution



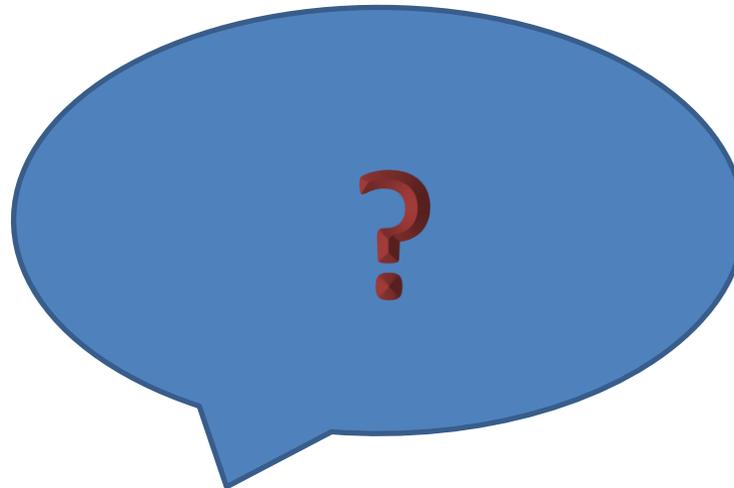
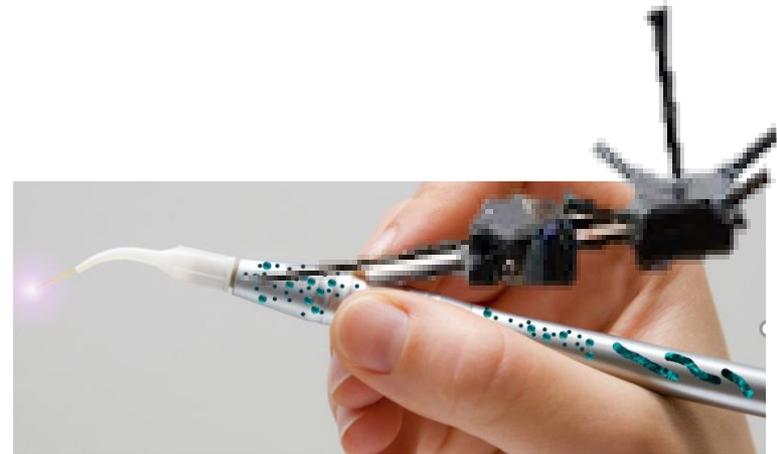
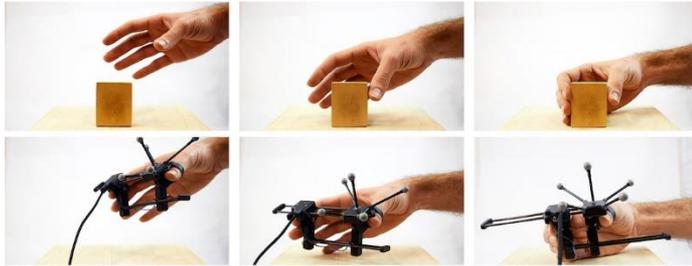
Protection and Enforcement – Other IP?

- Trademark – use in commerce?
 - Pokemon Starbucks
 - Buying clothing/accessories in VR world?
 - City of Heroes case
 - Court rejected Marvel’s claim that NCSoft’s providing tools to design Wolverine, Spiderman or Captain America costumes was not infringement bc no use in commerce.
- Distinctiveness
- Deceptiveness
- Tarnishing dilution? Like product placement?
- Damages? Superimposition of AR on real buildings in Pokémon Go but what is the damage.
- Like 3-D printing licensing might be a way to ensure owners have measure of control



Protection and Enforcement – Other IP?

➤ Audience test





Questions?

Thanks for your participation

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