

Metaverse and Intellectual Property: From Snow Crash to Meta Cash?

Raymond Van Dyke
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METaverse

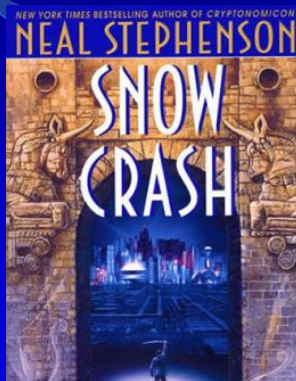
What is the Metaverse?

- The Metaverse is the merger of the physical real world and a virtual created one
- Likely to be the first Multi-trillion dollar industry
- Land rush is on to stake claims in this new world



What is the Metaverse?

- Coined in Neal Stephenson's 1992 sci-fi novel Snow Crash
- Today, Wikipedia defines the metaverse as the "concept of a future iteration of the internet, made up of persistent, shared, 3D virtual spaces linked into a perceived virtual universe"



The Different Realities in the Metaverse

- Real – you, headset, gloves, etc.
- Virtual Reality– your avatar, in a virtual artificial world
- Augmented Reality – enhance senses, smart glasses/phone
- Extended Reality (XR) or Mixed Reality, a blend
- A spectrum of realities



Intellectual Properties at Play

- Patent: covering physical devices, methods and systems used in the making and using of meta inventions
- Trademark: branding in the virtual world
- Copyright: creations in the virtual world
- Trade Secrets: protect the tools of the trade



Sectors Affected by the Metaverse: Fashion



Sectors Affected by the Metaverse: Fashion

- Ralph Lauren

Zepeto



Sectors Affected by the Metaverse: Fashion

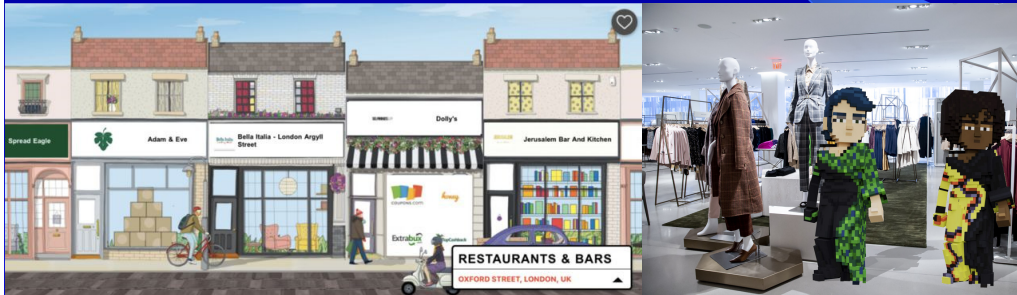
- Nikeland



Sectors Affected by the Metaverse: Retail

Streetify

Future Malls



Sectors Affected by the Metaverse: Automotive

Hyundai

Honda



Sectors Affected by the Metaverse: Consumer Electronics and Banking



Sectors Affected by the Metaverse: Entertainment, Media and Sports



Sectors Affected by the Metaverse: Travel, Real Estate and Restaurants



Sectors Affected by the Metaverse: Manufacturing



COPYRIGHT ISSUES

- Protects against unauthorized copying of an author's work
 - work could be code, visual and other art, performances, and other expression
 - infringement remedies can be huge, statutory damages
 - avatar using a copyrighted work? Making the work available in the Metaverse?
 - likely a copyright infringement can be filed – but fair use defense
 - subjective analysis of fair use – Supreme Court not help! Google v. Oracle
 - potential to go after the infringer, but the provider?
- Digital Millennium Copyright Act (DMCA)
 - Safe harbor to ISP/Metaverse providers, not liable for copyright violation
 - Provider not liable if notice and take down procedures in place
 - If flagrant misuse of a work, e.g., for money, not taken down?



COPYRIGHT ISSUES

- Creations Made by Avatars in the Virtual Realm
- Requirements for Copyright met?
 - Authorship, must owe its origin to a human being
 - A blurring line with AI
 - Reduced to a Tangible Medium
 - Will need to crossover to reality to file
 - Possible that Copyright Office will amend laws
- Policing the Metaverse
 - Very difficult! Look at the web right now
 - Review licenses, intent to allow use of work in Metaverse?



COPYRIGHT CONTROVERSIES

- Second Life, Alternate Realities
 - liability of avatars in virtual world? virtual crimes?
 - spillover to real world? actual crimes?
 - already a reality



COPYRIGHT CONTROVERSIES

- Non-Human Creations—already an issue
 - animal art, elephant painters, monkey selfie
 - David Slater, Wiki takedown request denied
 - U.S. Copyright Office
 - Original works of Authorship
 - The Office will not register works produced by nature, animals, or plants. Likewise, the Office cannot register a work purportedly created by divine or supernatural beings, although the Office may register a work where the applicable or the deposit copy(ies) state that the work was inspired by a divine spirit.
- PETA suit, Naruto, Indon. Macaque, 25%
- Computer Algorithm Creations
- Artificial Intelligence



COPYRIGHTING DANCE MOVES

- The Fortnite Saga – Epic Games
- Celebratory Dance Moves – Dance Emotes
- Rapper 2 Milly (Terrance Ferguson) Milly Rock – Emote “Swipe it”
- Alfonso Ribeiro, aka Carlton Banks on The Fresh Prince of Bel-Air, “The Carlton” now Emote “Fresh”



COPYRIGHTING DANCE MOVES

- The Fortnite Saga
- Russel Horning, the Backpack Kid
- “The Floss” dance
- The Floss emote



COPYRIGHTING DANCE MOVES

- The Fortnite Saga – violate copyright law?
- Do “simple” dance moves constitute choreography?
- The Moonwalk? Macarena?
- Waltz? Foxtrot? Folk Dances? Tribal Dances?
- Per the Copyright Office “individual movements or dance steps by themselves are not copyrightable”
- 1976 Copyright Act unclear
- Complex Choreography can have Copyright Protection and individual aspects therein also
- Cannot coopt simple moves



TRADEMARK ISSUES

- Protects against unauthorized use of a mark
 - reasonable consumer confused as to source? endorser?
 - avatar driving a Porsche, assume association? confusing?
 - avatar wearing Ralph Lauren clothes?
 - analogous to incidental use in film/television, hard to protect
 - but if emphasis or strong degree of association, metaverse abuse?
 - better argument for brands to be responsibly licensed
 - Support trendsetters in the virtual world
 - Akin to licensing the sale of toy car Porsches
 - No DMCA protections but Anti-Dilution Act available
 - If flagrant misuse of a brand, e.g., for money, what to do? Take down/remove?
 - But, as per Tiffany v. eBay, likely not contributorily liable if unaware/take down
 - Metaverse owners best avoid famous brands – tarnish/blur



CURRENT TRADEMARK ISSUES

- Use of Brands in Virtual Reality
 - growing interest, transition of Society to digital realms
 - augmented or mixed reality long out there
 - VR start in gaming, shift to healthcare and other uses
 - Facebook acquired Oculus for \$2B in 2014
 - Pokémon VR craze in 2016, insertion of VR into views
 - Unwelcome attention, fans, robbers
 - “We used to say seeing is believing. Now we have to say experiencing is believing.”
 - — Shuhei Yoshida, head of Sony Worldwide
 - Mercedes, Oreo, Nascar, etc. using VR ads
 - Incidental TM Usage? Like TV, more a fair use
 - Commercial Trading on Brand, money, not fair use
- Issue of Ownership of Goods in VR realms vis-à-vis Reality



METAVVERSE LIABILITIES

- Torts in the Metaverse? Personal Injuries?
- VR Equipment Manufacturers
 - Head mounted display (HMD)
 - Vision co-opted, walk around? Out a window?
 - Stress? Heart attacks?
 - Nausea? Mismatch between senses and Metaverse
 - Addiction? Depression?
 - Negligence and Product Liability claims
 - Privacy or data mining issues? Hacking? Credit card/personal info
 - Accurate avatars? Too accurate? Scan user’s personal face/body into the system
 - Track avatar interest? Like eye tracking – sell to advertisers?



METaverse LIABILITIES

- Crimes in the Metaverse?
 - Misdeeds by avatars against other avatars
 - Similar to real life crimes
 - Theft of virtual goods to real money
 - Sexual groping of an avatar causing emotional harm to human
 - Murder? Rape?
 - Post-traumatic stress?
 - Notice/removal of offenders? Repeat offenders?
- Limiting Liability – service terms, arbitration, class action waivers



PATENT ISSUES

- Protects against unauthorized use of a patented idea
 - exclusivity in making, using, selling and importing
 - strong requirements to obtain, but strong rights
 - patent the hardware and software of the Metaverse
 - hardware can be the VR/AR/XR headsets, gloves, haptic devices, sensors
 - CPU configurations to handle the computations, batteries
 - intense amount of computation required and high-speed connectivity
 - physical components generally subject to patent
 - Software and Abstractions, challenge under Section 101 and Alice.
 - patent on new and useful process, machine, manufacture, composition or improvement



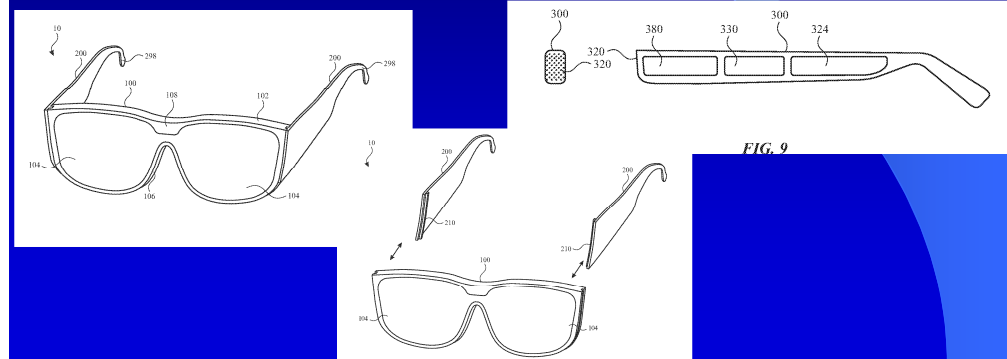
PATENT ISSUES

- The problem of Abstraction
 - physical things are normally eligible for patent, 35 U.S.C. §101
 - intangible things too, e.g., processes listed as patent eligible, software
 - software challenges in Supreme Court in 1970s and 80s, no clarity
 - Federal Circuit *State Street Bank* case in 1998, torrent of software patenting
 - business methodologies and many other abstractions too
 - pushback on patent eligibility under 35 U.S.C § 101 due to the huge valuations
 - Alice case (2012) an attempt to resolve the abstraction issue, failed, no clarity
 - district courts happy to dispose of patent cases with a § 101 dismissal motion
 - meanwhile challenges under § 101 for all patent cases
 - America Invents Act (2011) provides more challenges to patents
 - Law now unsettled, Court not willing to step in again, despite need
 - Nonetheless, technology progresses, innovations arise, and patents sought



PATENTING EFFORTS - APPLE

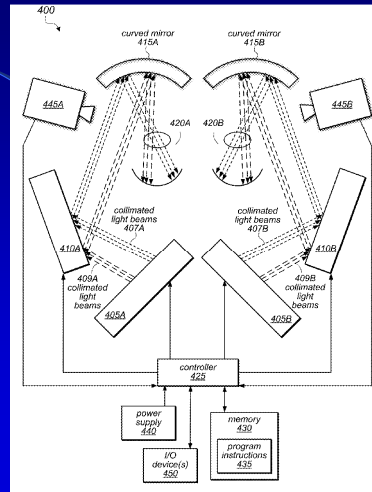
- U.S. Patent Application No. 20200201042
- Modular Head Mounted Device – XR/VR/AR, customize use





PATENTING EFFORTS - APPLE

- U.S. Patent Application No. 2021034489
- Scans images pixel by pixel
- Projects directly on user's retinas
- Mitigates mismatch due to
- Accommodation-convergence problems
- Dynamic 3D focusing for VR/AR
- Advantage: user can stay on for hours



PATENTING EFFORTS - APPLE

- U.S. Patent Application No. 20210134245
- Adaptive VR Display
- Measures ambient light
- User's physiologic attributes
- User's gaze and other positions
- Adapts the user's eye to
- Particular surroundings

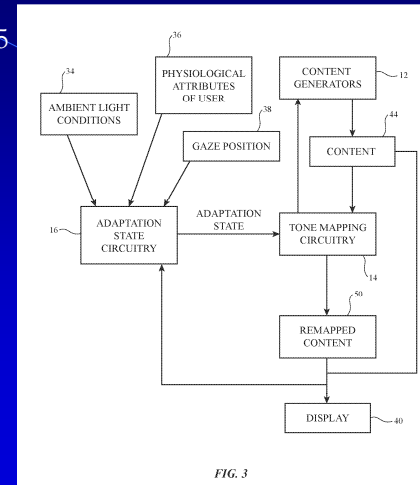


FIG. 3



PATENTING EFFORTS - APPLE

- U.S. Patent Application No. 20210041948
- Eye tracking control
- Detects position/movements of user's eyes
- Gaze tracking, control without touch

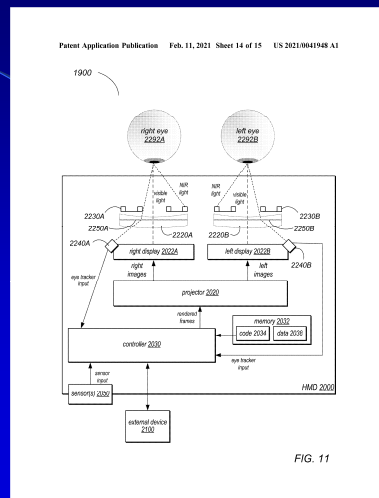
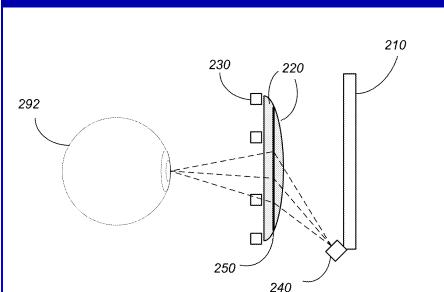
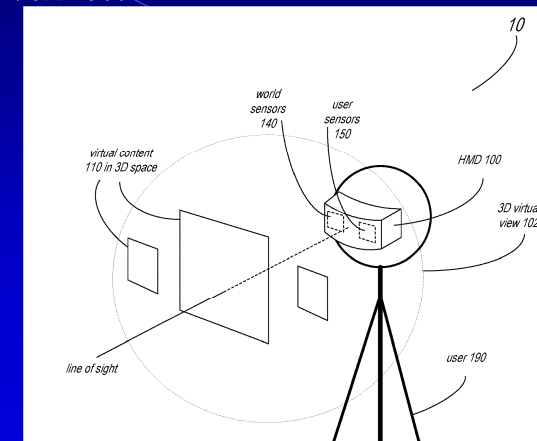


FIG. 11



PATENTING EFFORTS - APPLE

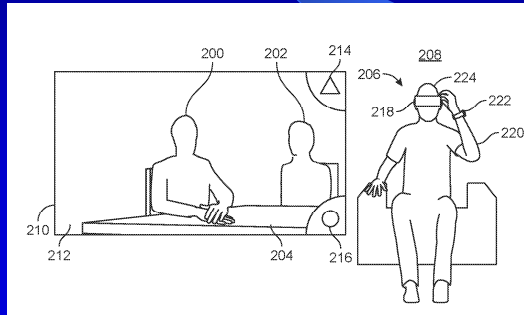
- U.S. Patent Application No. 20190221044
- Extended Reality (XR)
- Mixed reality
- Views of the user's
- Environment augmented
- With virtual content
- Overlay of realities





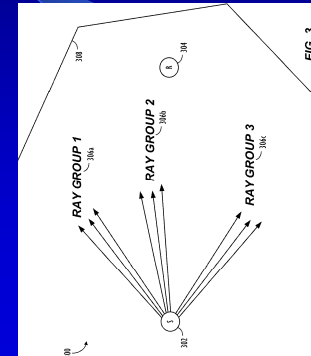
PATENTING EFFORTS - APPLE

- U.S. Patent Application No. 20210325974
- Technique for attenuating correspondence
- Between a virtual object (in an enhanced setting) and physical object
- Physical muting
- User can do an action
- Without the avatar
- Doing the same thing
- Switch to alternate context



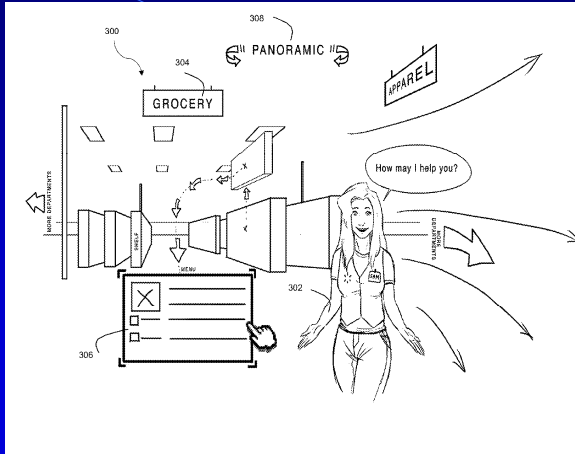
PATENTING EFFORTS - APPLE

- U.S. Patent No. 11,170,139
- Real-time auralization of virtual environment
- Enhances the immersive experience through proper sounds
- Acoustical raytracing
- Just as light rays are computed
- The appropriate sounds are computed and
- Inserted into the virtual environment



PATENTING EFFORTS - WAL-MART

- U.S. Patent Application No. 20180121997
- Virtual shopping
- Enter store
- Avatar greeter
- Information source
- Direction to virtual stores
- Virtual products
- Apparel, shoes, watches
- Jewelry, cosmetics



PATENTING EFFORTS - WAL-MART

- U.S. Patent Application No. 20180121997
- Get customer's
- Body measurements
- Depict user with
- Specific product
- Sizes, colors, etc.
- Virtual smart mirror
- 360 degrees
- Sales, events

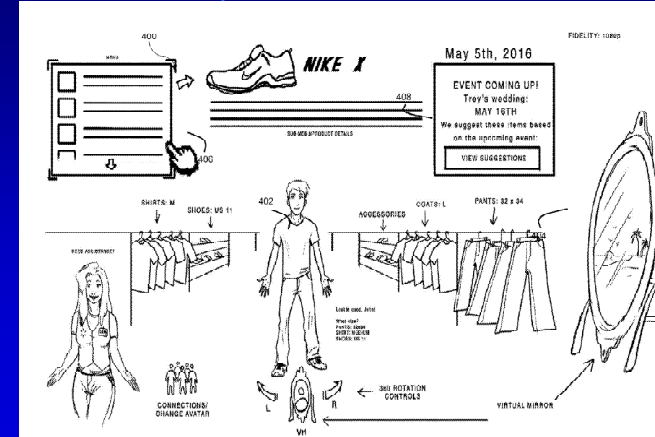
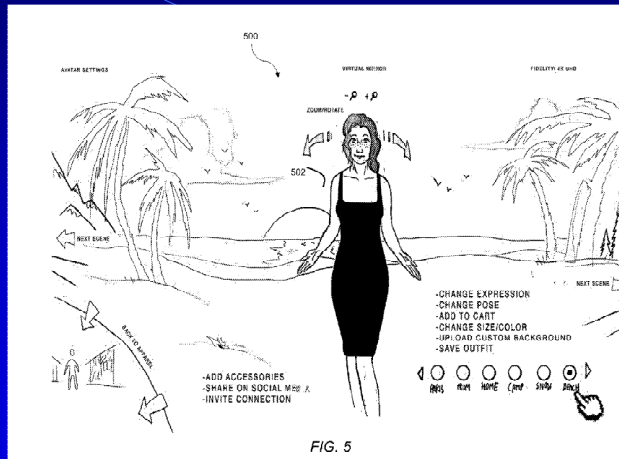


FIG. 4

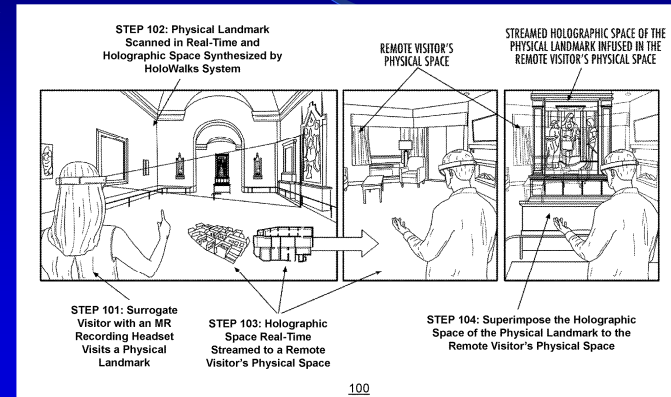
PATENTING EFFORTS - WAL-MART

- U.S. Patent Application No. 20180121997
- Get customer's
- Body measurements
- Depict user with
- Specific product
- Sizes, colors, etc.
- Expressions
- Backgrounds
- Link to cart/NFT



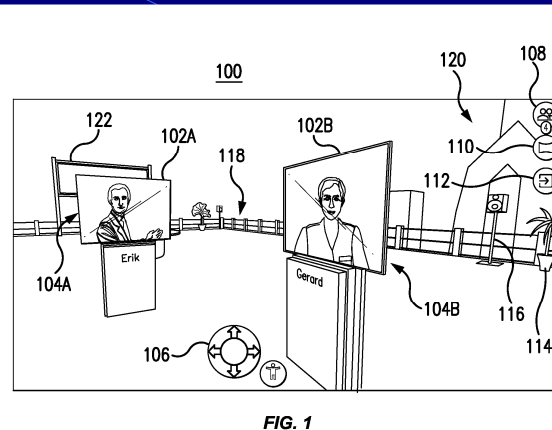
PATENTING EFFORTS - DOUBLEME

- U.S. Patent Application No. 20200133618
- Mixed reality interactive immersion – remote tours
- Tour scanned room
- In real time
- In your own
- Space
- Highly immersive
- Realistic
- Museums



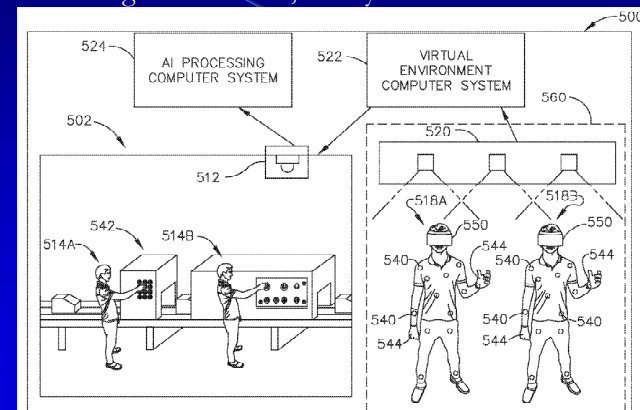
PATENTING EFFORTS - KATMAI

- U.S. Patent No. 10,979,672
- 3D Virtual videoconference
- Navigable avatars
- Common environment
- Sense of space
- See the faces of the others
- Social experience
- Beyond videoconferencing



PATENTING EFFORTS - SAEC

- U.S. Patent Application No. 20210004076
- Virtual AI development and testing environment, train your AI
- Interact with VR/XR
- Digital twin
- Simulation
- Smart Factory



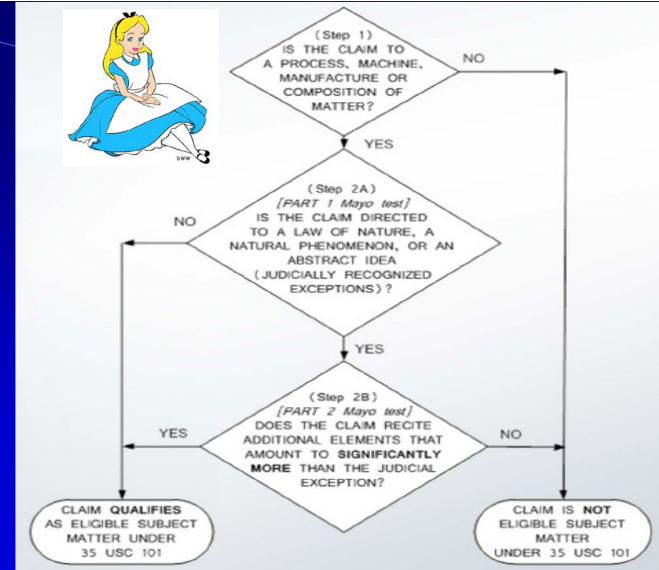
PATENT LITIGATION

- Claims directed to making, using, selling the innovation.
- The exclusive rights given to the patentee
- Threshold issue for EVERY non-tangible invention is eligibility
- Section 101 – can you even reach infringement?
- Motions to dismiss are filed early
- The test is done and if patent ineligible, the case is off the docket
- Complex technologies and complex legal doctrines removed easily
- Current Supreme Court test: the Mayo/Alice test



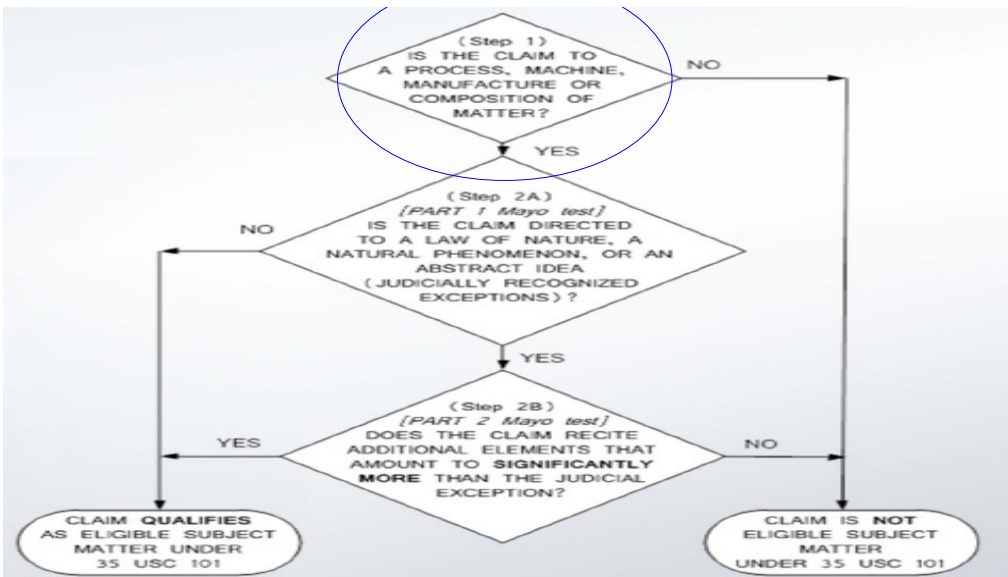
The Mayo/Alice Two-Step Approach for Patent Eligibility

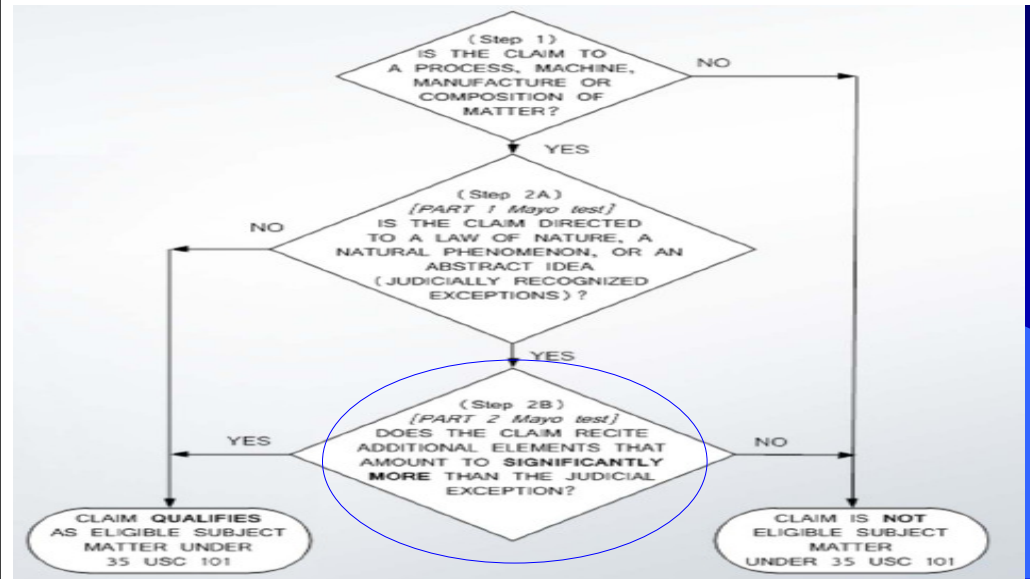
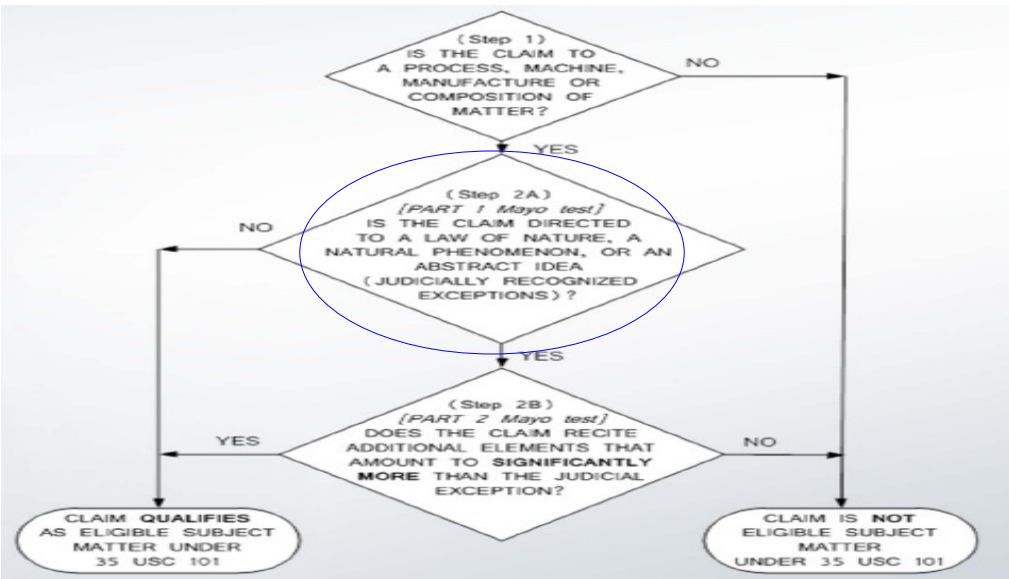
For 2B, Just Loading the code Into a Computer Is No Longer Enough



PATENT LITIGATION

- *Blackbird Tech v. Niantic, Inc.* (D. Del. 2018)
- Geolocation methods for VR NOT abstract ideas
- U.S. Patent No. 9,802,127, Blackbird's patent for geotagging/geolocation
- Pokémon GO software developer Niantic moved to dismiss
- Grounds: failure to state a claim under Rule 12(b)(6), invalid under Section 101
- Invention: enter game at specific location such as at a street location
- That location in the metaverse correlates to a physical location (GPS).
- The geolocation of this first location is done from satellite and other data
- A mapping is done, including camera images of the street location
- Travel to a second location encounter virtual objects along the way (ads)
- For example, a race car going through a town





PATENT LITIGATION

- *Blackbird Tech v. Niantic, Inc.* (D. Del. 2018)
- Defendant Niantic said abstract idea re “receiving location information.”
- Cited other cases on point
 - *Concaten, Inc. v. Ameritrack Fleet Solutions, LLC*, 131 F. Supp. 3d 1166 (D. Colo. 2015)
 - snowplow locations and weather data
 Alleged generic components doing abstract things
- District Court Judge Andrews disagreed
 - Defendant oversimplifying the claims
 - Court must be wary of categorizing the claims at high level of abstraction
 - Untethered from the language of the claims
 - Not let exceptions swallow the rule



PATENT LITIGATION

- District Court Judge Andrews distinguished
 - The *Concaten* case, steps routinely performed by humans using computers
 - Defendant ignored the “mapping” limitations, require camera images
 - Images of the real physical place of the user (first location) AND
 - Integration of those images into the metaverse version
 - Humans cannot do this step
 - Mapping here is tethered to specific instructions on the images
 - From camera angles at the user’s physical location
 - Mapped or integrated into the virtual environment and displayed accordingly
 - Readily distinguishable from *Concaten* and like cases



PATENT LITIGATION

- District Court Judge Andrews disagreed
 - Defendant argued that the claims were not adequately enabled (detailed)
 - Argued that the disclosure was too sketchy to support the sophistication of the invention claimed
 - Judge said that this was a separate question outside the 101 analysis
 - Defendant also argued that the wherein clause language was inadequate
 - Aspirational outcome stated, lacking specificity
 - Judge cited *McRO, Inc. v. Bandai Namco Games America, Inc. et al.* (Fed. Cir. 2016)
 - As with *McRo* (lip/face sync), the instant case improves the relevant technology
 - Judge also noted that here physical items are created, the camera images
 - These images are overlaid onto a virtual landscape
 - Claims thus patent eligible under step 1, no need to proceed to step 2



The METAVERSE

- Gaming is leading the way, Epic and others
- Companies are staking claims in this terrain
- Our lives will increasingly become meta
- The law will have a tough time to adapt
- In 10 years, all of this will be old



Raymond Van Dyke
Van Dyke Intellectual Property Law
Washington Square
P.O. Box 65302
1050 Connecticut Avenue, NW
Washington, DC 20035
(202)378.3903
vandyke@acm.org
ray@vandykeiplaw.com

