

First Person Augmented Reality



ARt of Magic

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Scope of Presentation

- **Types of Virtual Technology**
 - **Why Magic Leap**
- **Various Applications and Market Segments**



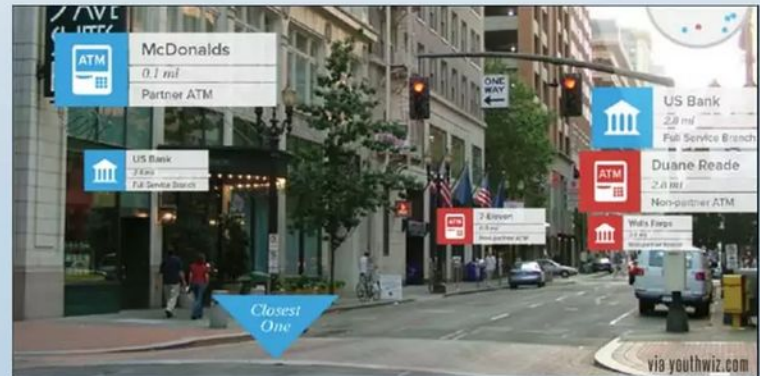
- **Value Network**
 - **Scope of Activities**
- **Methods of Strategic Control**
 - **Conclusion**

Types of Virtual Technology

Image from www.magicleap.com

Technology Definition

- **Virtual Reality (VR) :**
Replaces the real world with a simulated/digital world experience
- **Augmented Reality (AR):**
Real world experience enhanced with digital overlays (text, audio, graphics, 3D objects etc)



Evolution of AR Technology



Data



3D objects

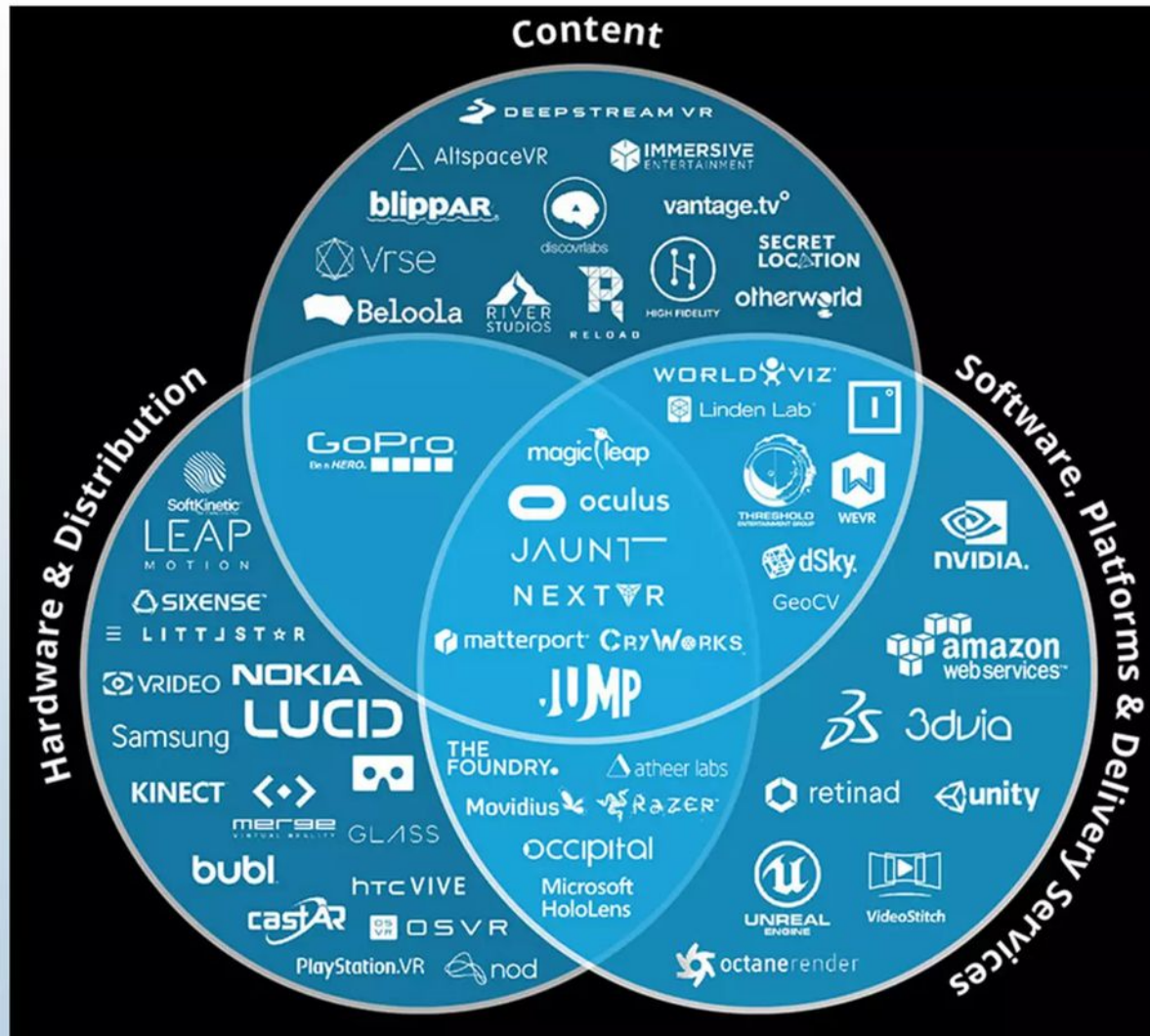


Games



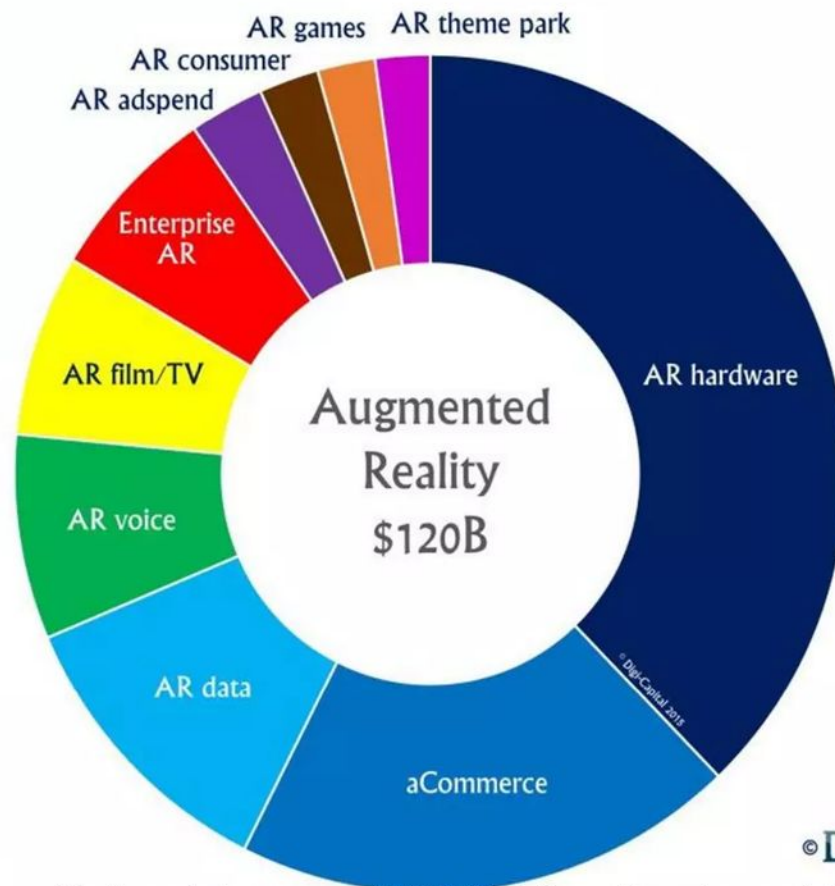
And soon...first person experience

Who is in the game?



By 2020, AR hardware is biggest revenue generator

Augmented/Virtual Reality Revenue Share 2020F



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<http://www.fastcompany.com/3052209/tech-forecast/vr-and-augmented-reality-will-soon-be-worth-150-billion-here-are-the-major-pla#6>

AR Hardware - Wearable Smart Glass

A wearable computer

- adds visual information to wearer
- overlays augmented reality with digital images
- allows wearer to see through it



Wearable Smart Glass

Issues

- Not natural to eyes
 - L & R eye see different superimposed images
 - Near 3D effect
 - Causes headache/nausea
- Limited field of view
 - In front of eyes only
- Not interactive



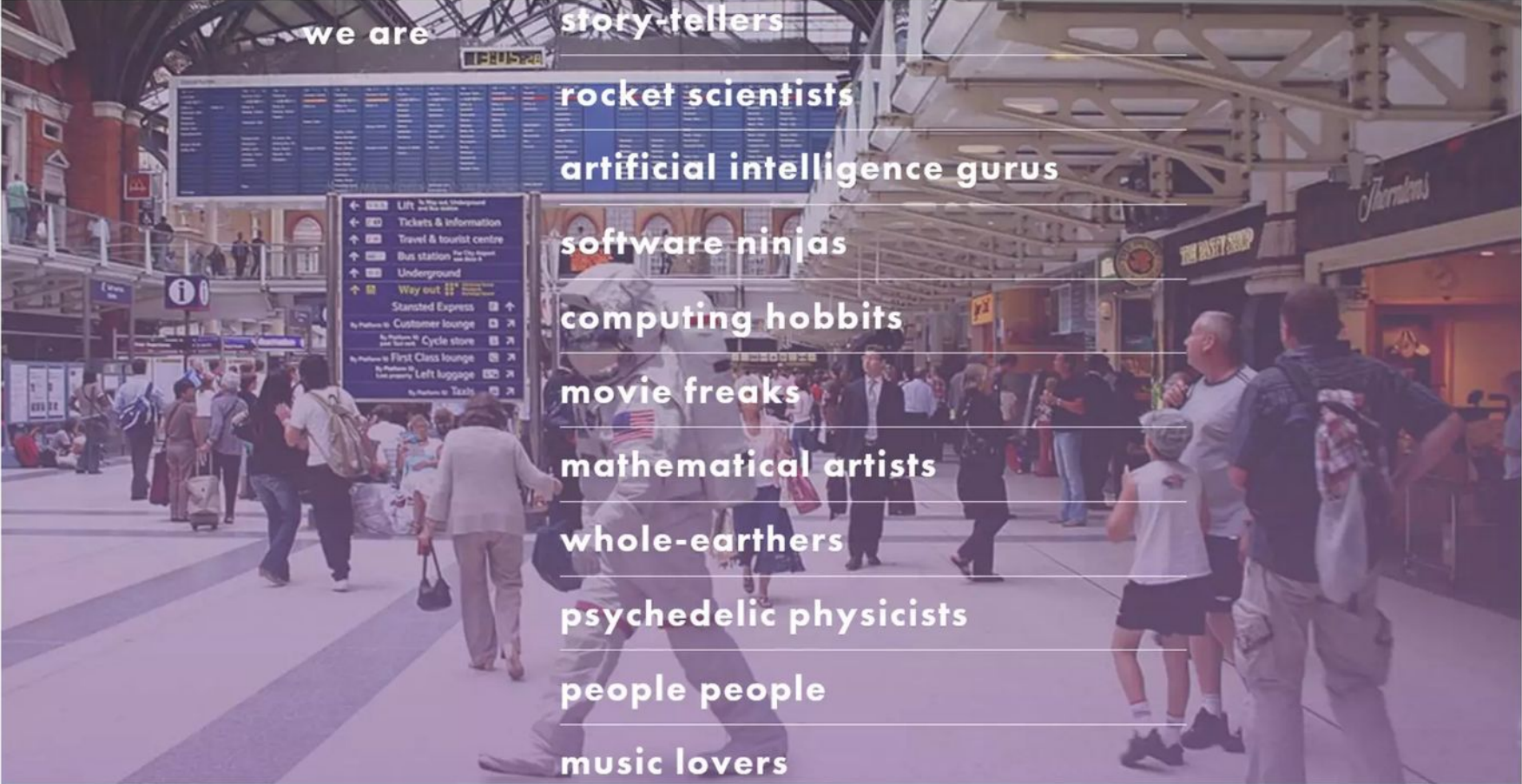
What's needed

- Natural to eyes
 - Correct focus within virtual scene
 - 'Reality' resolution
 - No headache/nausea
- Wider field of view
- Richer interactive experiences

Who is Magic Leap?



[ABOUT US](#) [DEVELOPERS](#) [BLOG](#) [WIZARDS WANTED](#) [PRESS](#) [CONTACT](#)



we are

story-tellers

rocket scientists

artificial intelligence gurus

software ninjas

computing hobbits

movie freaks

mathematical artists

whole-earthers

psychedelic physicists

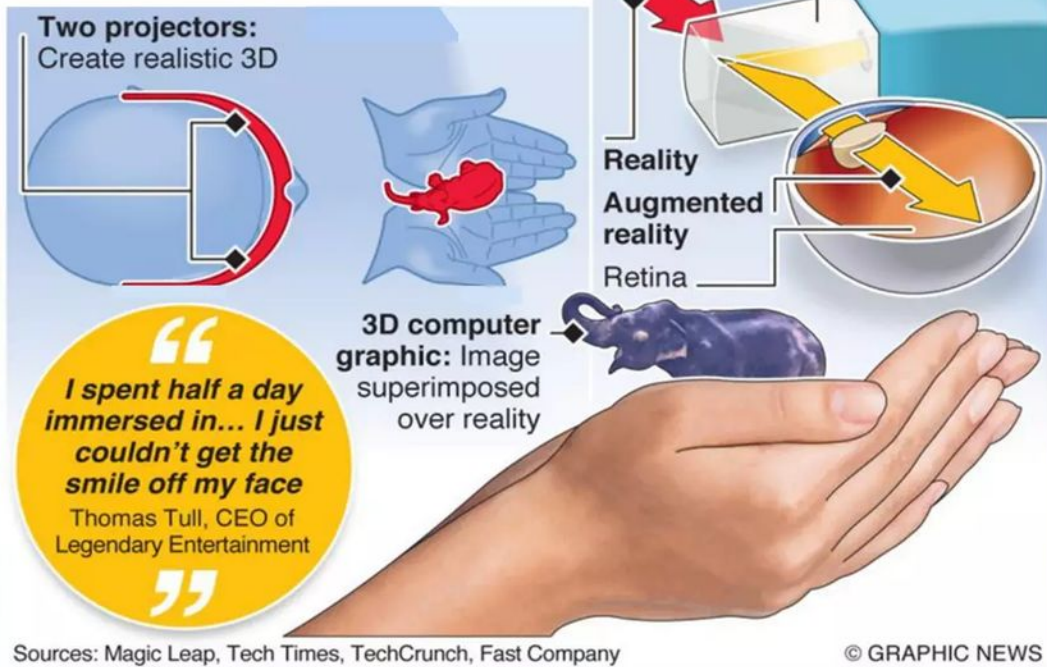
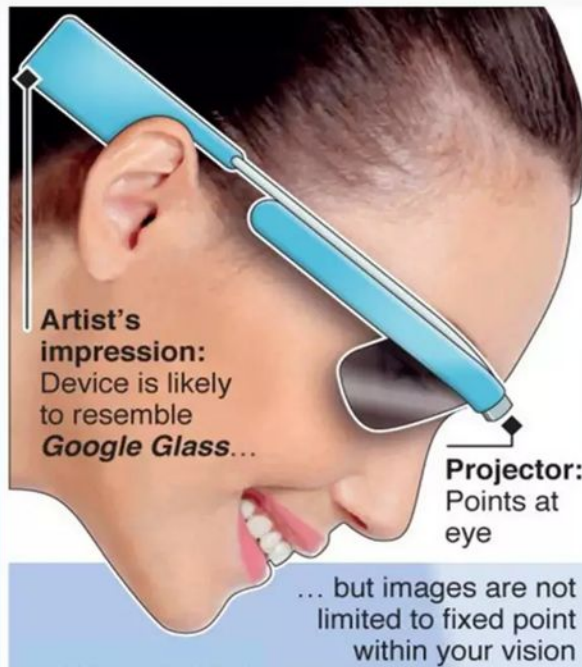
people people

music lovers

www.magicleap.com

How Technology Works

Magic Leap – the “secret” tech sensation



“Reverse engineer” what we see in real life and make it virtual

Why Magic Leap?



Patents filed by Magic Leap

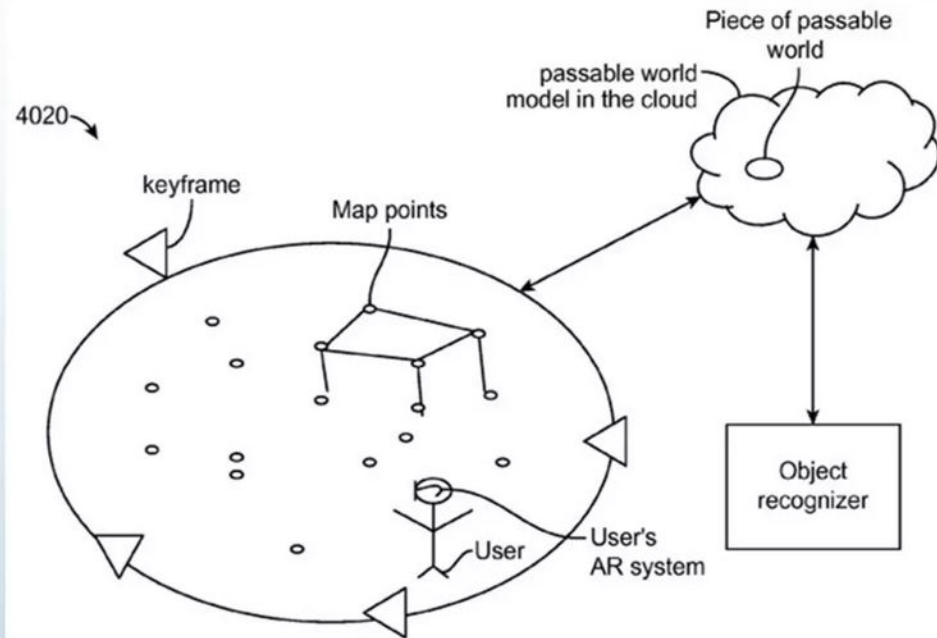
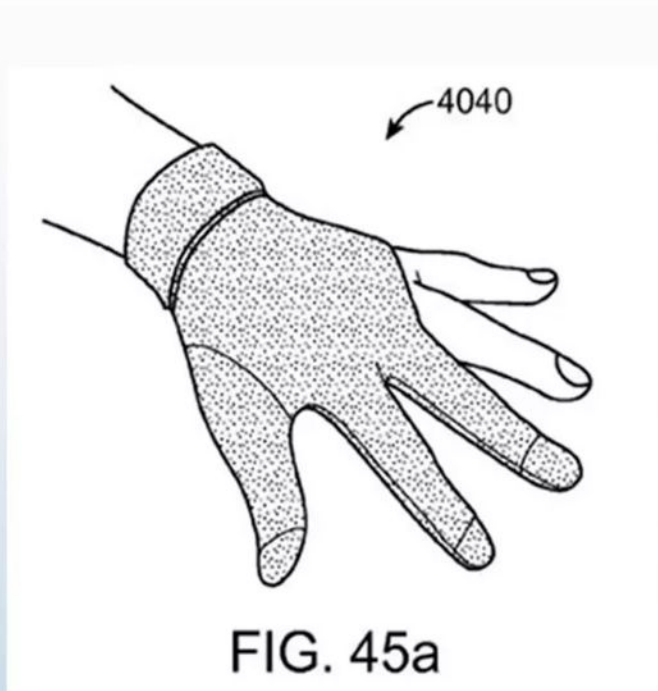


FIG. 20

Cloud is KEY

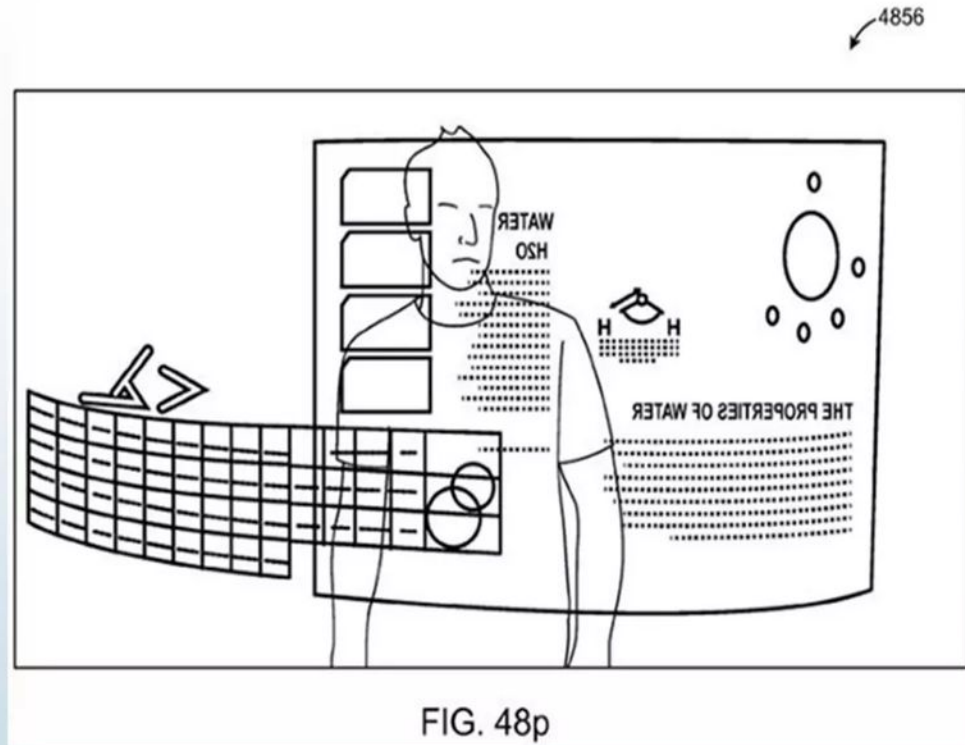
- System detects user's location
- It constantly adjusts
- Virtual content fits and interacts with user's environment

Patents filed by Magic Leap



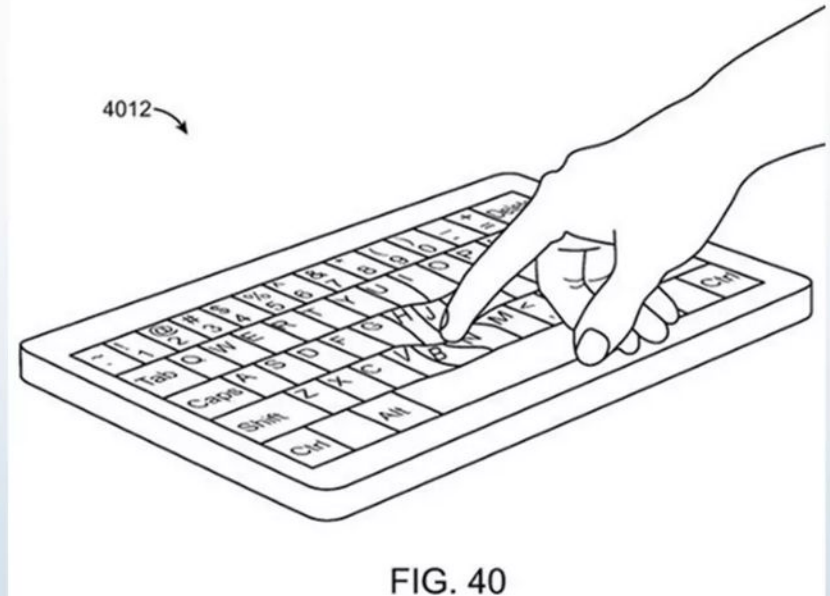
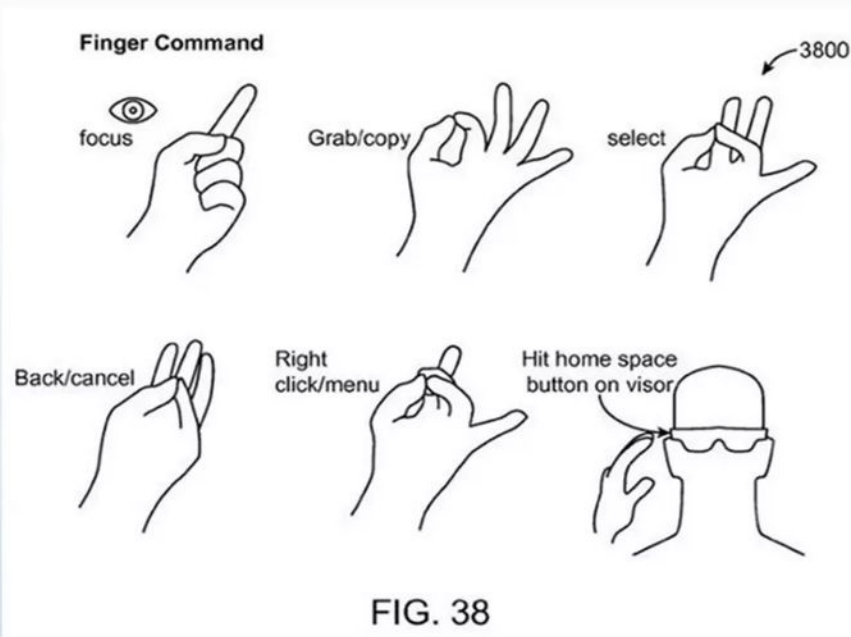
A haptic glove

- Provides vibration feedback
- Gives touch sensation to physical objects in mid-air



A screen is always
at your fingertips

Patents filed by Magic Leap



Hand gestures

- Pull up menus
- Issue commands

Magic Leap can remap
a keyboard on the fly

Magic Leap's Value Proposition

Provides Cinematic Reality

- Neurological effects as real-life objects
- Different depths of focus

Enables Real-time Interaction

- 3D objects interact with real world
- Eye tracking capabilities
- Natural hand gestures input

Promotes Social Interaction

- Device worn all day (non nausea)
- Interactive augmented experiences

Main Competitors in AR Market

- Smart Phones and Tablets

- Basic AR game experience



- Microsoft Hololens

- Key differences : Focuses on hologram features
- Limitations: narrow FOV in front of your eyes



- Technology Illusion CastAR

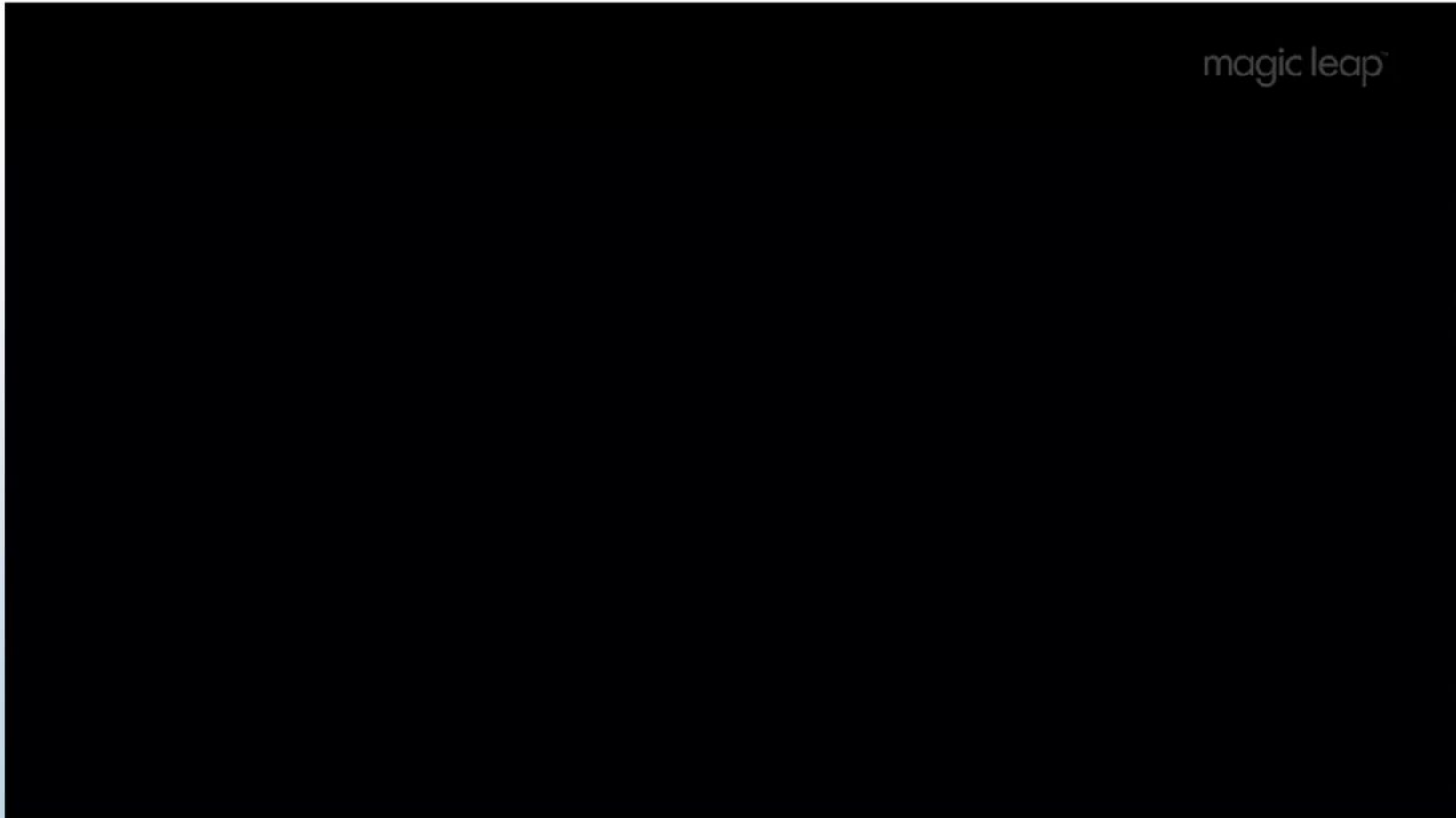
- Key differences : Able to project both in Augmented Reality form and Virtual Reality form.
- Limitations: User input is via a wand instead of hand gestures



Comparison against Competitors

	Magic Leap Glasses	Microsoft Hololens	Technology Illusion CastAR
			
3D images Interaction – real world and eye contact		Tracks head and body motion only	Tracks head and body motion only
Effects as real life objects		Focus on hologram images with high resolution	Focus on hologram images with high resolution
Eye tracking Capability		Tracks head and body motion only	Tracks head and body motion only
Virtual objects have different levels of focus		Limited FOV and focus	Limited FOV and focus
Natural hand gestures input			Only accepts input via a tethered wand
Natural virtual experience		Not stated	

Magic Leap's Value Proposition

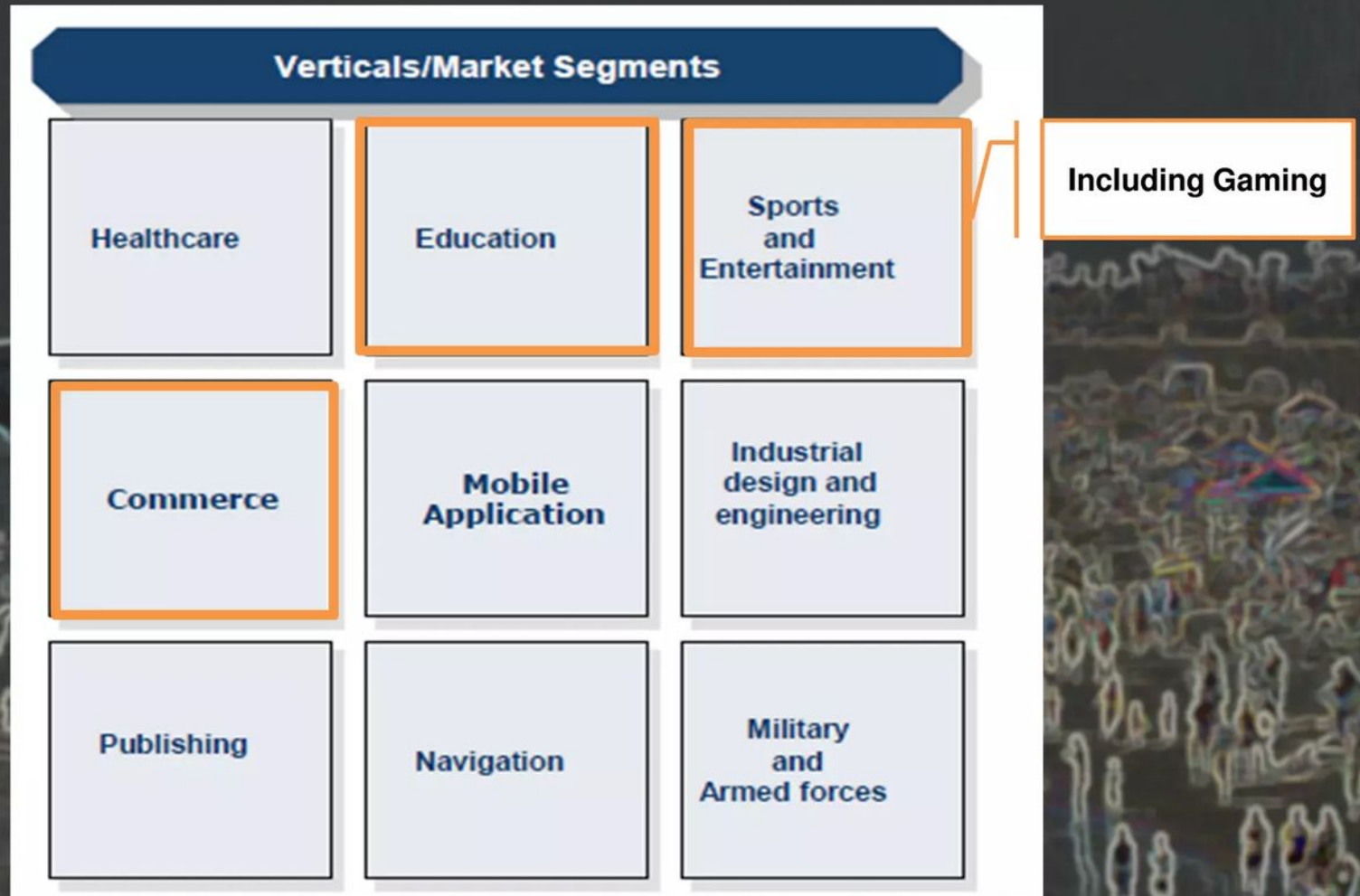


14 Oct 2015 video from Magic Leap with no special effects – robot under table and solar system

A blurred background image showing several children sitting around a table, playing with large, colorful balloons (yellow, pink, and blue). The scene is bright and cheerful, suggesting a classroom or play area.

Various Applications and Market Segments

Technology Adoption – Key Application Segments



Gaming



Types of platforms in Gaming



1980s

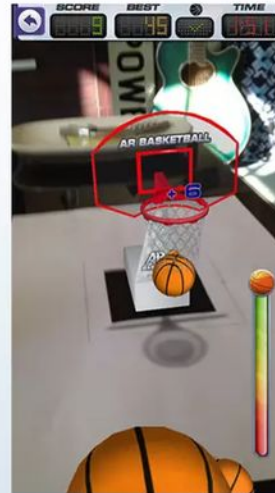
2007

Fall of 2015 onwards



Current state of AR Gaming

- Mainly uses smart phone/tablet camera to capture real world scenes but just as a form of backdrop
- Lack of realistic integration between the game graphics and the real world
- Lack of interaction between the player, game and real world surroundings



Value Proposition for Magic Leap in AR Gaming

- Creates a new dimension to games



*A truly immersive first
person action game*

Value Proposition for Magic Leap in AR Gaming

- Allows gamers to interact with their physical surroundings in real time

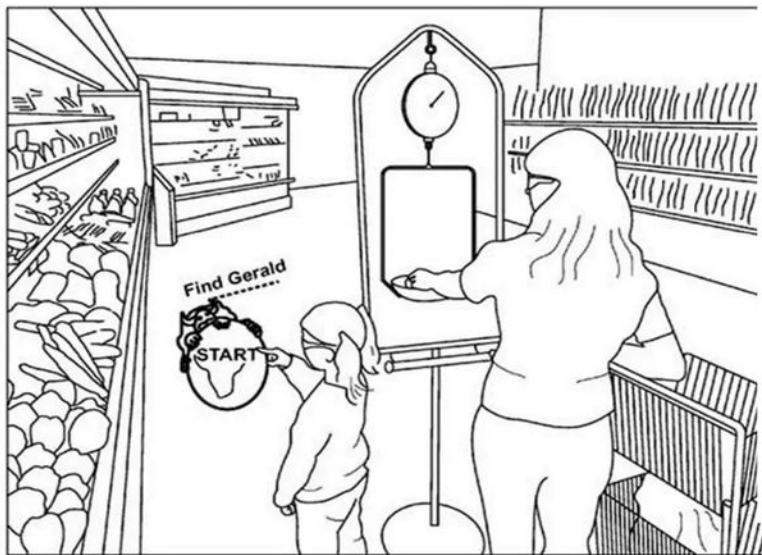


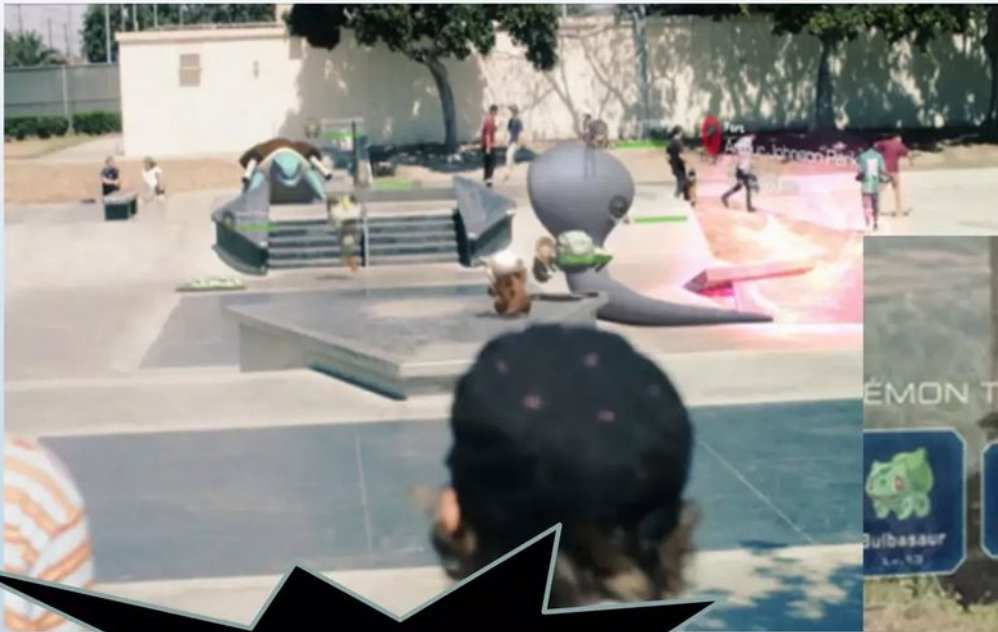
FIG. 66c



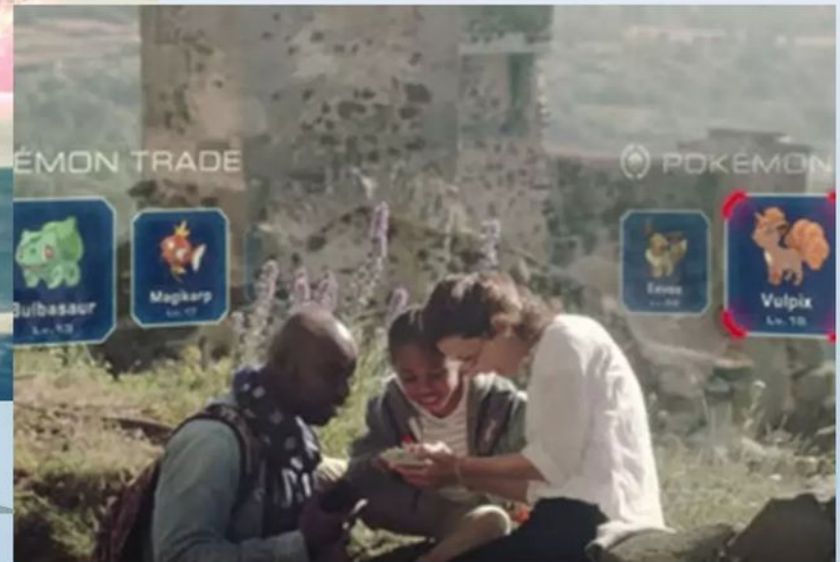
*Play it
anywhere anytime*

Value Proposition for Magic Leap in AR Gaming

- Promotes physical social interaction and networking through multiplayer network games at a coordinated environment.



Let's celebrate with a drink after the game



Value Proposition for Magic Leap in AR Gaming



Magic Leap video – A Day in the office

Target Market for AR Gaming

Target Market

Hard Core Power Gamers (11%)

Age: 15 – 40,
Gender: 95% M, 5% F
Platforms: PC, Xbox,
PS, Wii, Smart phone,
Tablet

Demographics:
Teenage kid, Young
Professionals, dads
Plays everything, all
the time

Social, Leisure Gamers (27%)

Age: 8 - 50,
Gender: 50% M, 50% F
Platform: PC, Xbox, PS,
Wii, Smart phone,
Tablet

Demographics: All
walks of life
Will try anything but
sticks to what is easy to
learn or has large
community & support

Dormant, Incidental, Occasional Gamers (62%)

Age: All ages,
Gender: 30% M, 70% F
Dormant, Incidental,
Occasional Gamers
Platform: Smart Phone,
Tablet
Mainly social network
gaming

Entertainment



Current state

- Simple apps for smartphones using picture from camera to overlay simple content.



<https://informationstrategyism.files.wordpress.com/2015/10/snapchat.png>

<http://www.circuitstoday.com/wp-content/uploads/2011/01/Augmented-Reality.jpg>

<http://1.bp.blogspot.com/-LZdS0mfoKo0/T4b-sh8zsrI/AAAAAAAAAV4/pnijo6UI9eM/s1600/augmented-reality-4.jpg>

<http://www.tccommunications.co.uk/wp-content/uploads/2015/09/Snapchat.png>

Customer Value Proposition - Entertainment

Customer Value Proposition - General

3D images Interaction – real world and eye contact

Virtual objects have **different levels of focus**

Natural virtual experience

Effects as real life objects

Eye tracking capability

Natural **hand gestures input**

Customer Value Proposition- Consumers

Immersive cinema experience

Theatre performance on a coffee table

Turn room into **interactive museum/gallery**

Interactive content to magazines, TV shows and ads.

Customer selection for entertainment

Target first
customers



18 – 30 aged
male technology
enthusiasts

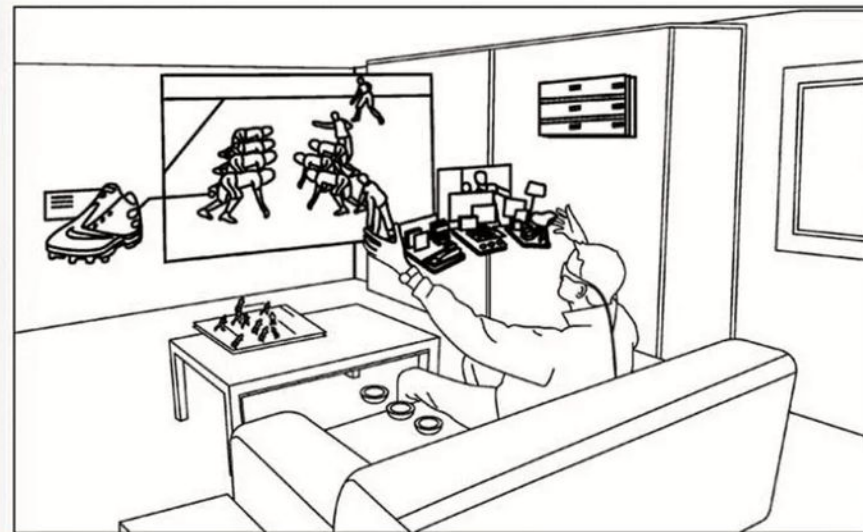
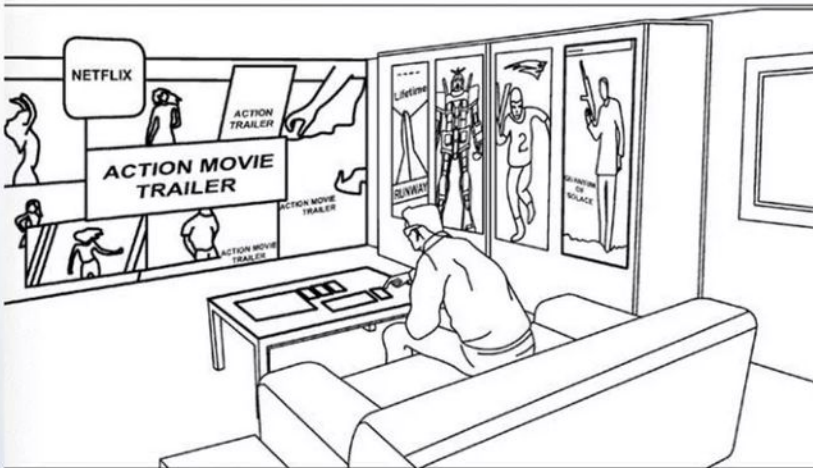
Mainstream
customers



Families with
children under
18 years



Magic Leap and Entertainment



Education



your new way to
learn.

Comparison - Other Digital Tools

	Digital Whiteboard	AR Book	Magic Leap
Value Proposition	Creates learning experience with students' imagination	Creates 3D learning experience with augments specific to each book	Creates new 3D learning experiences that are too complex, costly or dangerous in real life
Classroom experience	One dimensional Mix usage of videos, images, graphs, texts Fixed to wall 	- View augments relevant to books - Videos, images & graphs In or out of classroom 	- Tracks presence Interactivity - Provides additional context Anywhere 

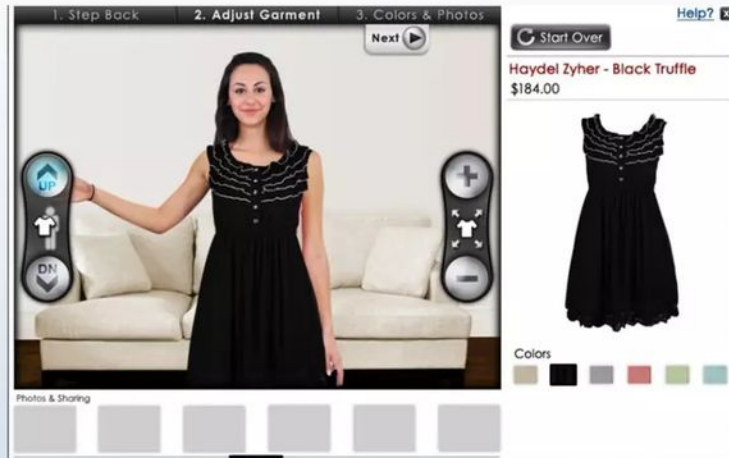
Customer Selection



Bacca, J., Baldiris, S., Fabregat, R., Graf, S., & Kinshuk. (2014). Augmented Reality Trends in Education: A Systematic Review of Research and Applications. *Educational Technology & Society*, 17(4), 133-149.

Commerce

Current Players in This Market



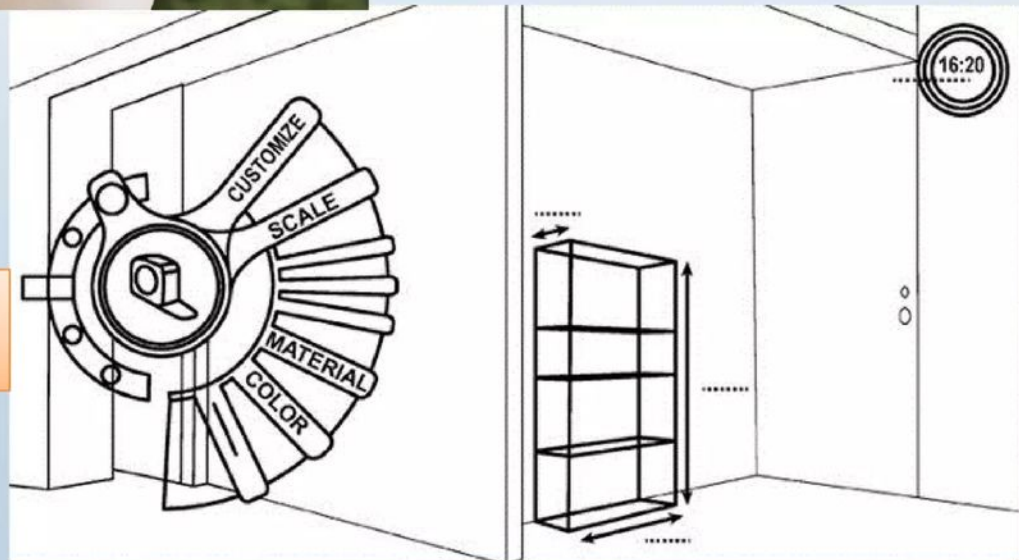
zUGARA



Magic Leap and Commerce



**Place your goods any
where, with customization!**



-

Customer Value Proposition - Commerce

Customer Value Proposition - General	Customer Value Proposition- Retailers	Customer Value Proposition- Consumers
3D images Interaction – real world and eye contact Virtual objects have different levels of focus Natural virtual experience	Better Consumer experience	Better Shopping experience
Effects as real life objects	Better Sales & Promotion, Branding	Better Decision Making
Eye tracking Capability	Identify Consumers' choices - Data	Easy goods identification
Natural hand gestures input	Easy Consumer adaption	Easy control

Customer Selection



Companies

Advertising
Branding
Selling



Consumers

Tech Savvy
Curious
Want exciting shopping experience



Market Research Companies

Consumer Data



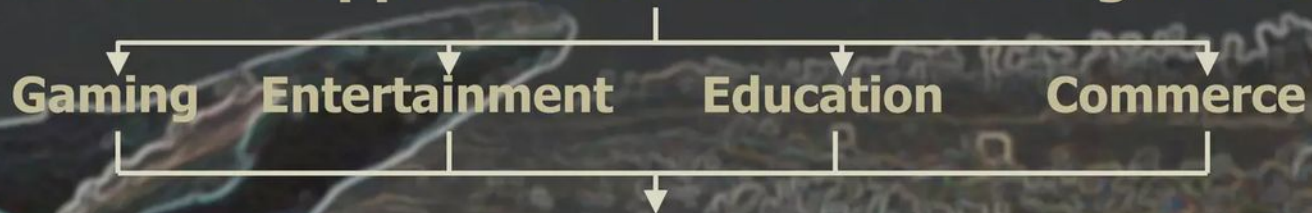
Advertising Firms

Partnership for Commercial Design



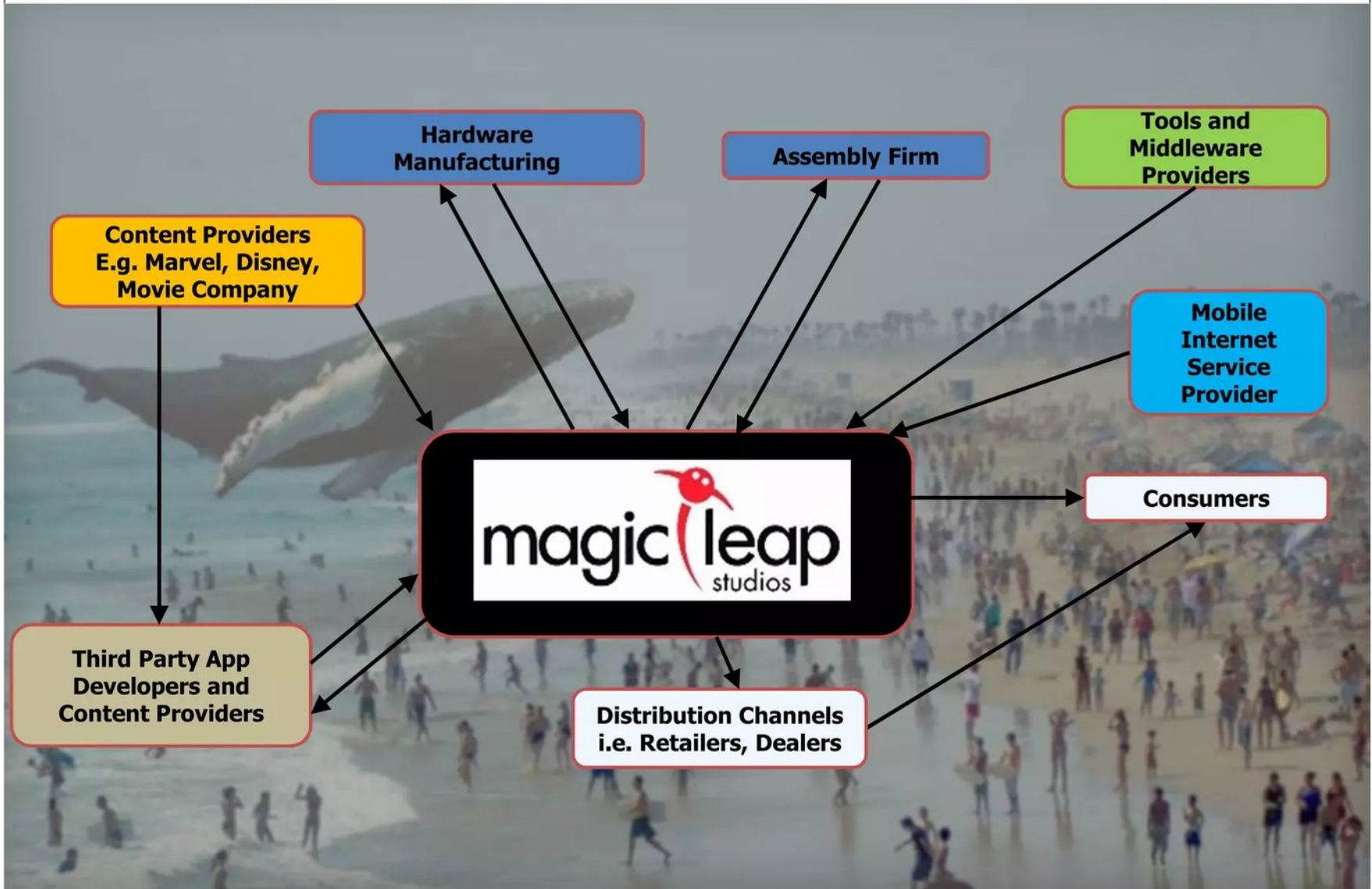
Scope of Presentation

- **Types of Virtual Technology**
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- **Various Applications and Market Segments**



- **Value Network**
 - **Scope of Activities**
- **Methods of Strategic Control**
 - **Conclusion**

Value Network for Magic Leap



Scope of Activities for Magic Leap



Internal R&D



Hardware
and
Architectural
Design



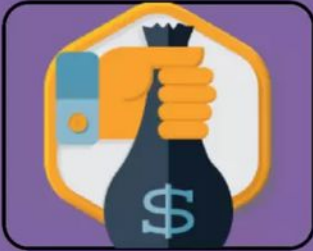
OS and
Software
Development



Marketing,
Publishing
and Sales



Method of Value Capture



Main Source of Revenue

- Hardware sales
- Software content & application through app store
- Software Development Kits
- Licensing
- Non Recurring Engineering services, e.g. app integration
- Pay to upgrade



For Commerce Sector

- Commission from retailers
- Advertising for retailers
- Subscription from users
- Fee for service (effects for advertising firm and retailers)s



Other Possibilities

- Data
- Key components sales

Methods of Strategic Control

Intellectual Property

Network Effects

Economies of Scale

Establish Standards

Strategic Control - IP Protection



120 patents filed



Protection on Operating System and in house developed software apps



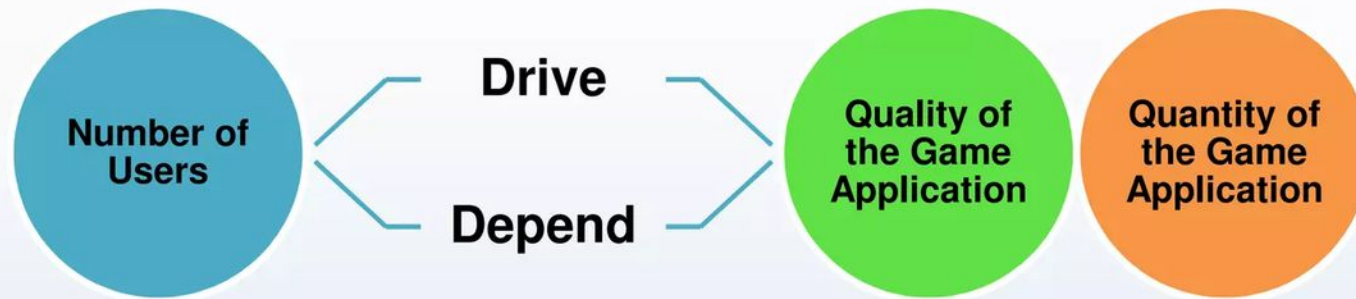
Slogans, Logo and branding



Industrial Design

- Overlapping patents and combination of patents and trademark
- Protects the key enabling technology from copying.

Strategic Control - Network Effect



- Provide games with **good contents/story line, good graphics** and with **key differentiation** to other games in the market.
- Network Effect through **networking** and **social games**
- Make use of the **existing user base** of investor **Google's** platforms.

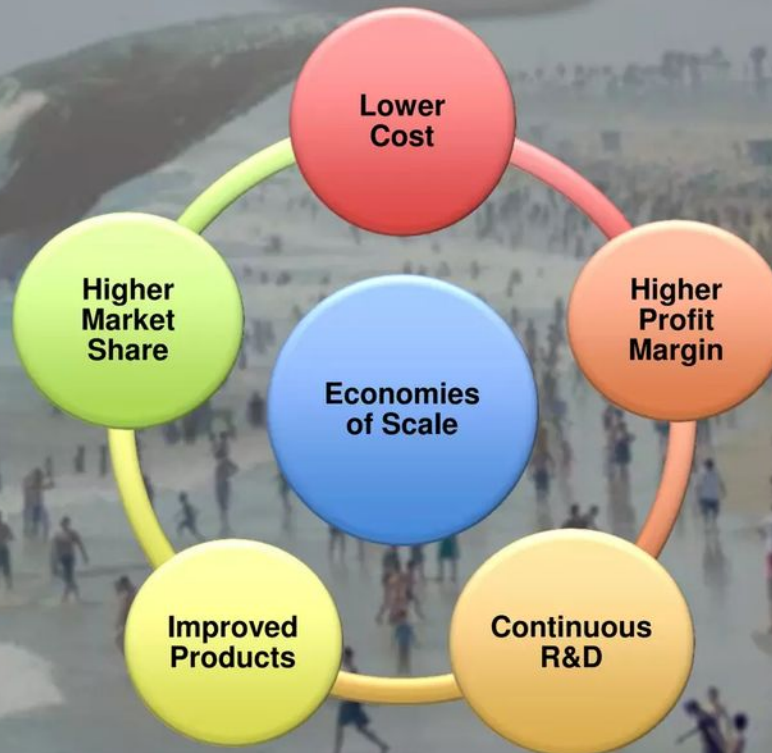
Strategic Control - Economies of Scale

Network Effects



Higher Market Share

Economies of Scale



Strategic Control – Establishing Standard

Control Install Base

- Manufacturing millions of devices

IP Rights

- 120 patents filed

Ability To Innovate

- Hiring top talents in diverse fields

First Mover Advantage

- Buzz around first person AR

Strategic Control – Establishing Standard

Manufacturing Ability

- Old Motorola factory to develop manufacturing processes

Complementary products

- Create content, develop hardware, platform & delivery services

Brand Name & Reputation

- Google investments provide credibility
- Highly regarded talents recruited

Conclusion

Magic Leap - Potential to Dominate AR



Vertical Integration of Value Chain



Methods of Strategic Control



Establishing a Standard



Game-changing Innovation



Whale video from www.magicleap.com



your new way to
**bring magic back into the
world.**



magic leap

