

## First Person Augmented Reality



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## Scope of Presentation

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

Gaming Entertainment Education Commerce

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

## Types of Virtual Technology



## 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



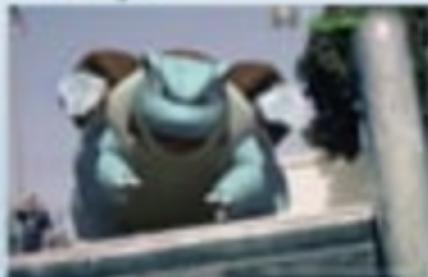
Data



3D objects

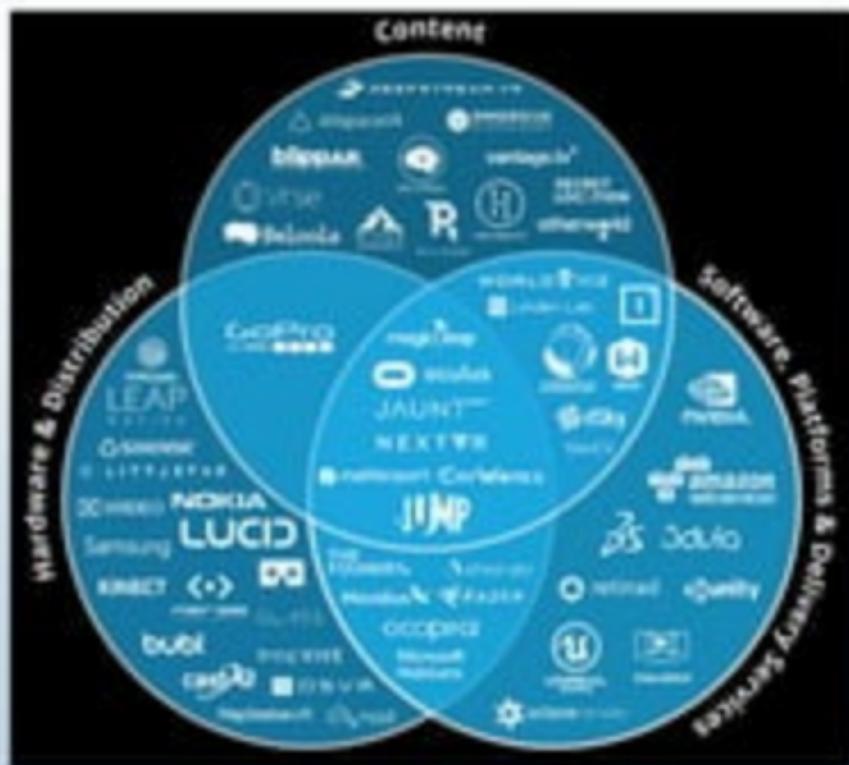


And soon...first person experience



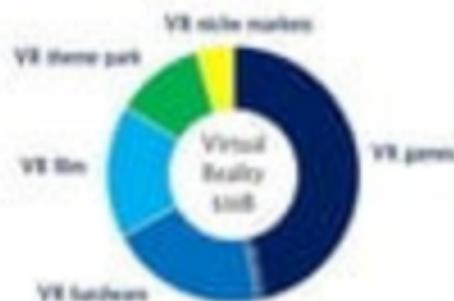
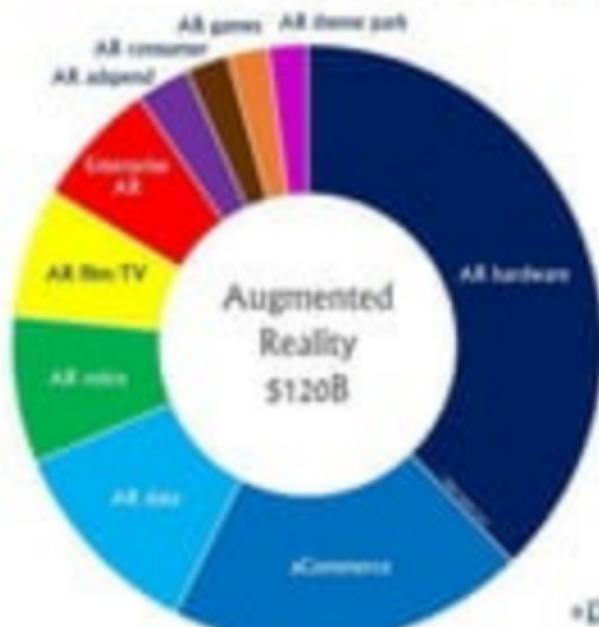
Games

# Who is in the game?



# By 2020, AR hardware is biggest revenue generator

Augmented/Virtual Reality Revenue Share 2020F



•Digi-Capital

<http://www.digicapital.com> AR and VR: Forecast and augmented reality will soon be worth \$20 billion here are the major players.

## 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

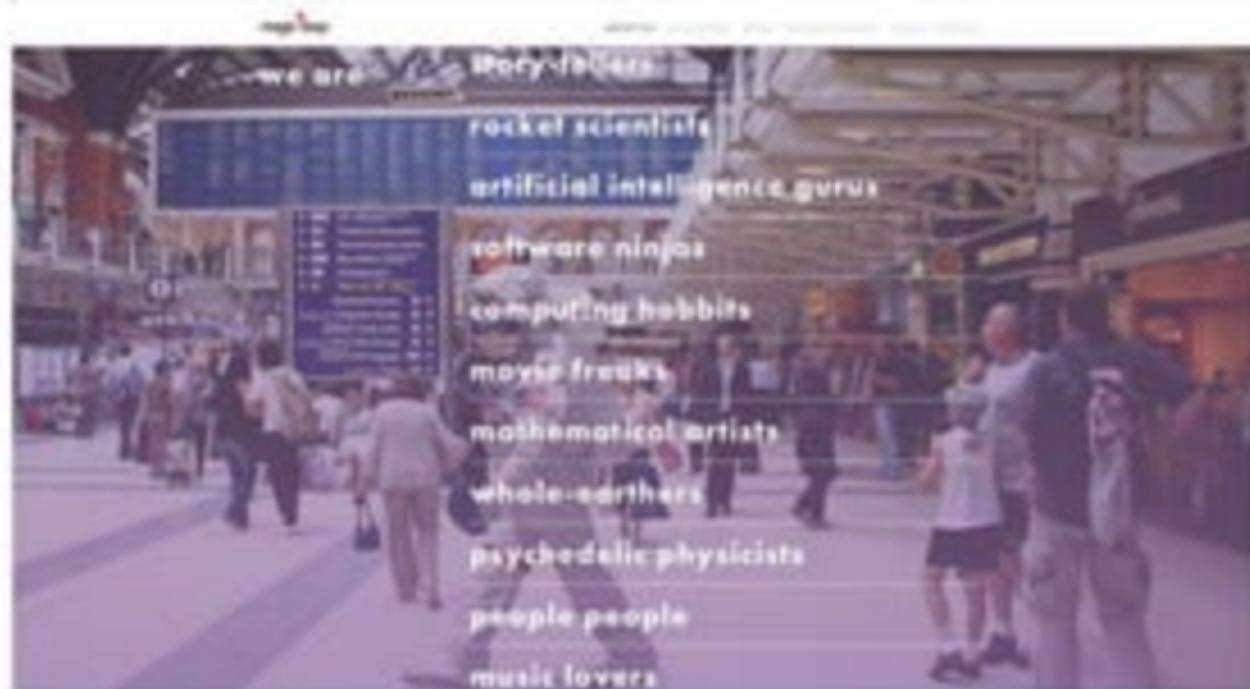
- Not natural to eyes
  - L & R eye see different superimposed images
  - Near 3D effect
  - Causes headache/nausea
- Limited field of view
  - In front of eyes only
- Not interactive



### 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?



# How Technology Works

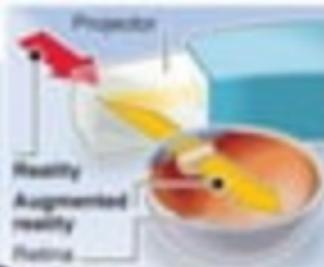
## Magic Leap – the “secret” tech sensation



Two projectors:  
Create realistic 3D



3D computer  
graphics: image  
superimposed  
over reality



Reality  
Augmented  
reality  
Projection



“  
I spent half a day  
immersed in... I just  
couldn't get the  
smile off my face  
Thomas H. D'Elia, CEO of  
corporate Magic Leap

”

Source: Magic Leap, Tech Times, TechCrunch, Fast Company

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

## Why Magic Leap?



## Patents filed by Magic Leap

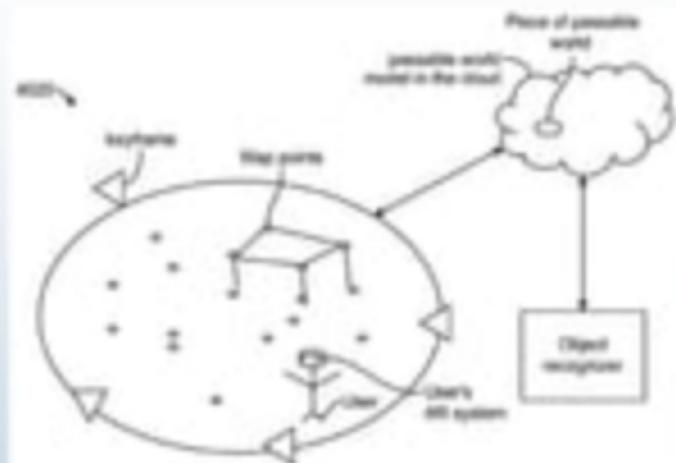


FIG. 20

### 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



FIG. 45a

A haptic glove

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

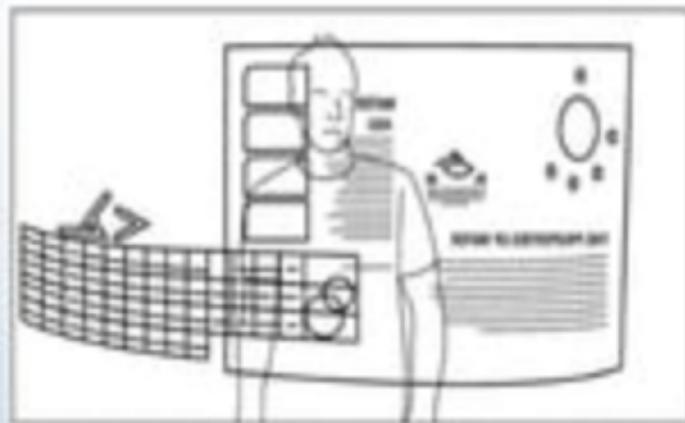


FIG. 48p

A screen is always  
at your fingertips

## Patents filed by Magic Leap



FIG. 38



FIG. 40

### 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

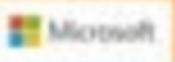


- Technology Illusion CastAR

- 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 
<b>3D Images Interaction</b> – real world and eye contact		Tracks head and body motion only	Tracks head and body motion only
<b>Effects</b> as real life objects		Focus on hologram images with high resolution	Focus on hologram images with high resolution
<b>Eye tracking</b> Capability		Tracks head and body motion only	Tracks head and body motion only
Virtual objects have <b>different levels of focus</b>		Limited FOV and focus	Limited FOV and focus
<b>Natural hand gestures</b> input			Only accepts input via a tethered wand
<b>Natural virtual experience</b>		Not stated	



# Various Applications and Market Segments

# Technology Adoption – Key Application Segments



# Gaming



your best way to  
**play.**

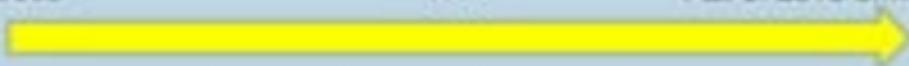
## Types of platforms in Gaming



1980s

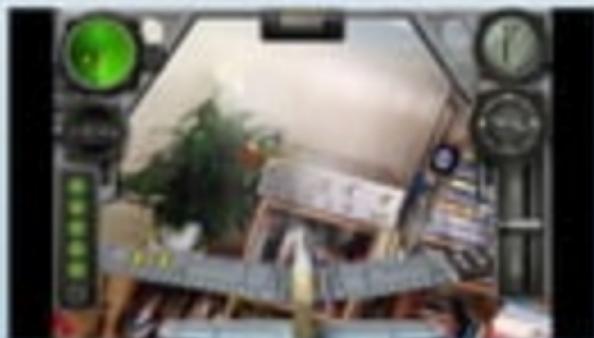
2007

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. 6Bc



*Play it  
anywhere anytime*

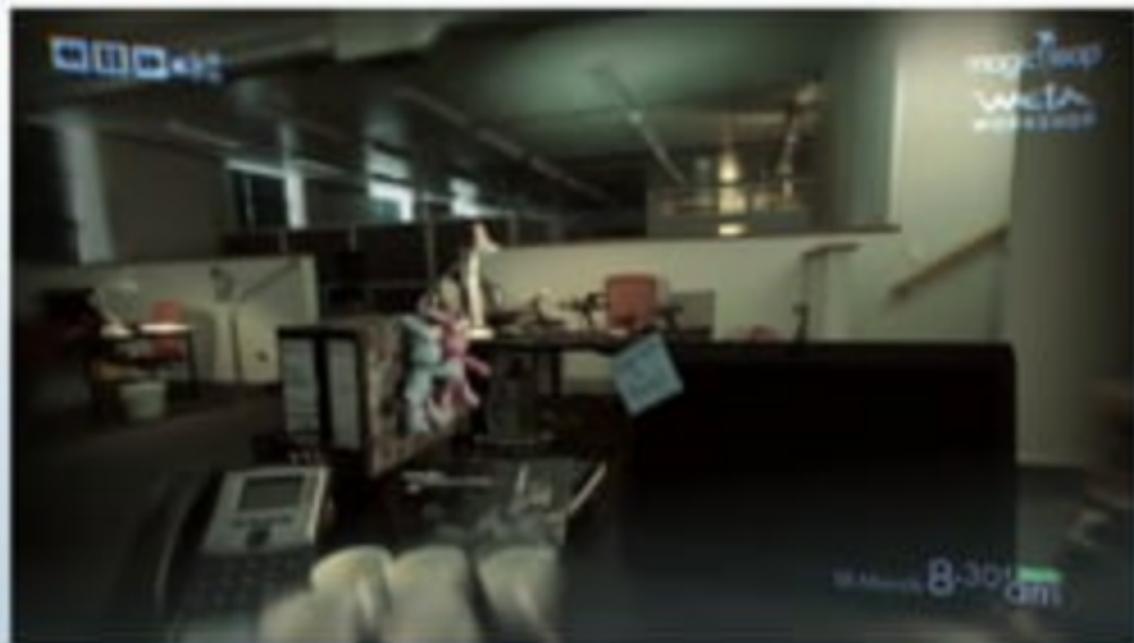
## Value Proposition for Magic Leap in AR Gaming

- 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



## Target Market for AR Gaming

### 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





## 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.**

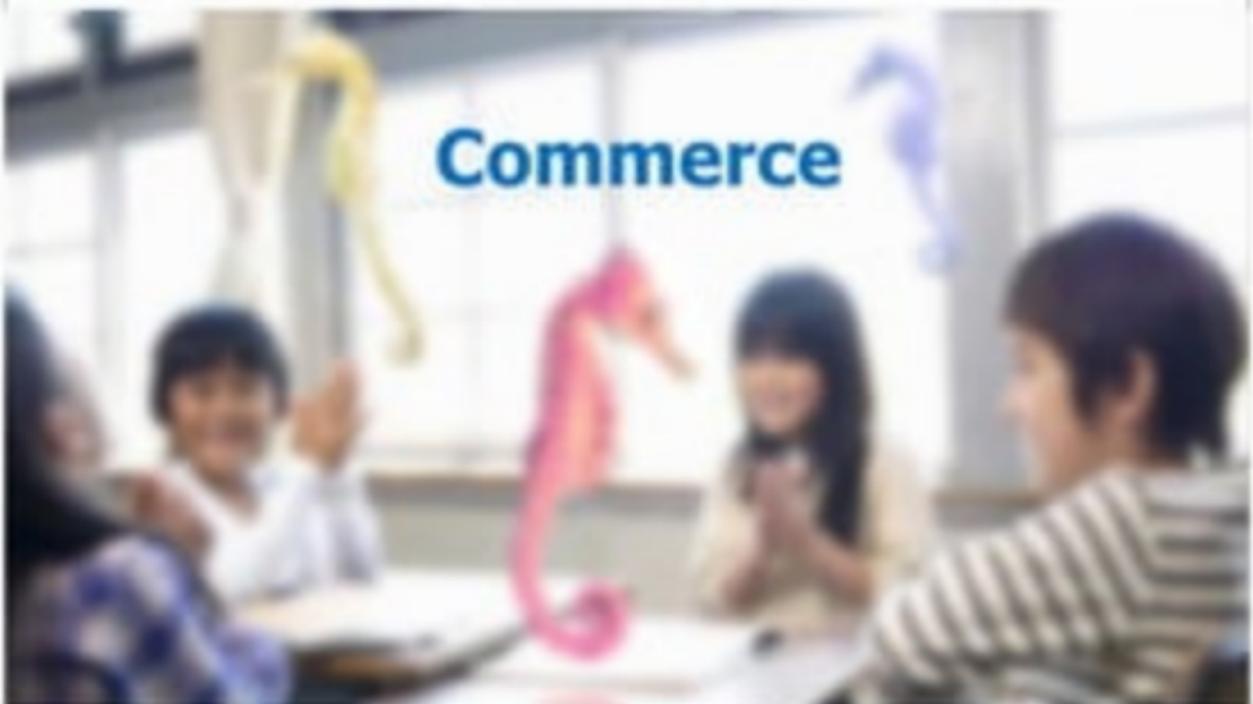
## Comparison - Other Digital Tools

	Digital Whiteboard	AR Book	Magic Leap
Value Proposition	<ul style="list-style-type: none"><li>Creates learning experience with <b>students' imagination</b></li></ul>	<ul style="list-style-type: none"><li>Creates 3D learning experience with <b>augments specific to each book</b></li></ul>	<ul style="list-style-type: none"><li>Creates <b>new 3D learning experiences</b> that are too complex, costly or dangerous in real life</li></ul>
Classroom experience	<ul style="list-style-type: none"><li><b>One dimensional</b></li><li><b>Mix usage</b> of videos, images, graphs, texts</li><li><b>Fixed to wall</b></li></ul> 	<ul style="list-style-type: none"><li>View <b>augments</b> relevant to books</li><li>Videos, images &amp; graphs</li><li><b>In or out of classroom</b></li></ul> 	<ul style="list-style-type: none"><li>Tracks <b>presence</b></li><li><b>Interactivity</b></li><li>Provides additional context</li><li><b>Anywhere</b></li></ul> 

## Customer Selection



# Commerce



## Current Players in This Market



Augmented Reality - Technology, Personalization and Real-time Mapping (Technical Insights) - Frost & Sullivan

## Magic Leap and Commerce



magic leap

Place your goods any  
where, with customization!

