Building Games for the Next Consumer Mega Trend: Wearable Technology

Shawn Hardin
Co-founder & CEO, Mind Pirate

Unni Narayanan
Co-founder & VP, Game Prod/Ops, Mind Pirate

This Story We Know Well…

…Computers Continue To Get Smaller And More Powerful

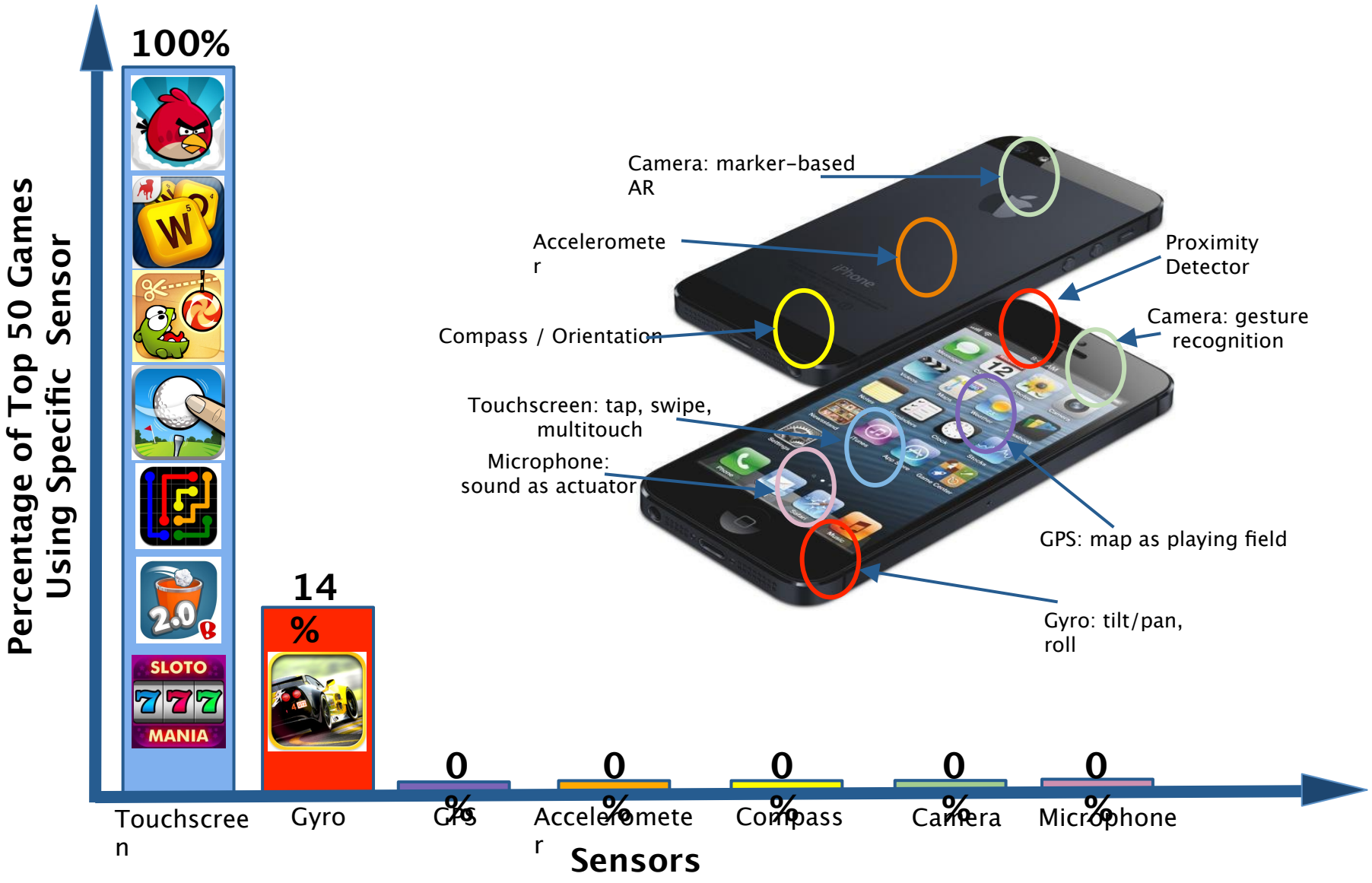
MindPirate

90% of mobile games are centered around one sensor….

…the touch screen

MindPirate

Smartphones Today Are Powerful, But Underutilized



Source: Based on Top 50 paid iOS and Android games in the Apple and Google Play App

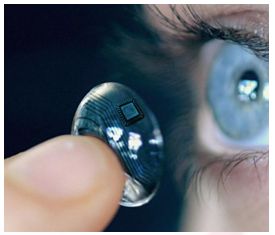
MindPirate

What's Next?

Source: Ryot Iras

MindPirate

Devices…



… Are Fast Changing & Fast Growing

MindPirate

Mobile, Pervasive & Laden With Sensors

Form Factors in Wearable Technology

MindPirate

The Wearable Market is Growing Fast….

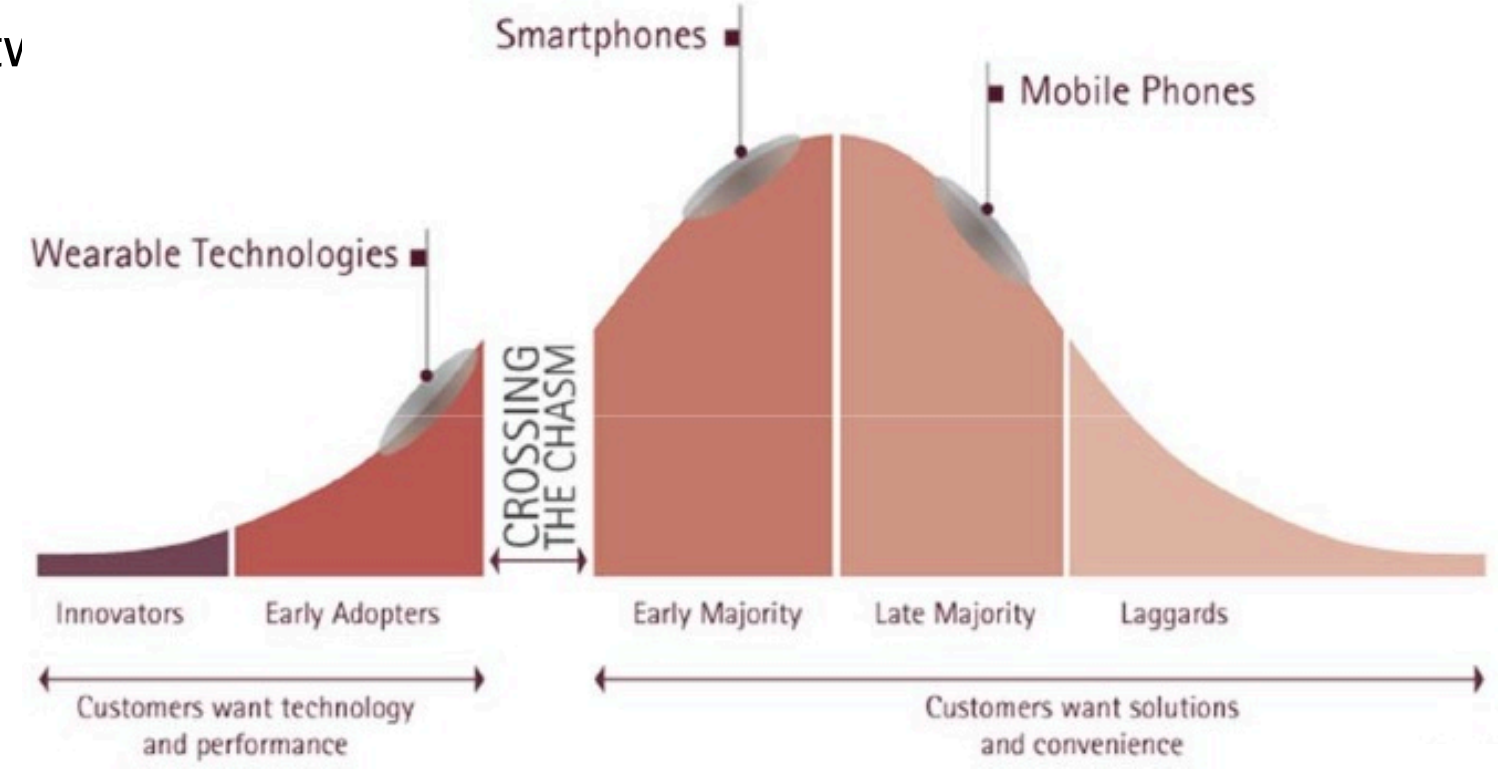
- ü **$19B Market by 2018** (up from only $1.4 billion this year*)
- ü **Compounded annual growth of 50%+** for the foreseeable future**
- ü **64 million units in worldwide shipments** of wearable devices in 2017 (3.1M in 2011, 8.3M in 2012)**
- ü **Entertainment/Games/Multimedia applications to capture over 50% of $5.2 billion dollar** AR market by 2017*

*Source: * Juniper Research & ** Berg Insight*

MindPirate

Poised To Cross The Chasm To Mass

- 30 million devices sold in 2012
- Innovative companies are fast creating new gadgets and solutions
- Many industries, especially healthcare, fitness and games/ entertainment are primed to grow dramatically over the next tw



Source: Beecham Research and Wearable Technologies

MindPirate

Smart Glass & Smart Watch Market

Rich Platforms For Games

- **80M** smart watches by 2016*
  - *15M units expected to ship next year*
  - *Up from 5 million this year*

- **10M** smart glasses by 2016**
  - *6.6M units expected to ship in*

one

*Source: ** HIS Reseaarch, 4/13 & * Next Market Insights*

MindPirate

Sensor-Enabled Wearable Attributes

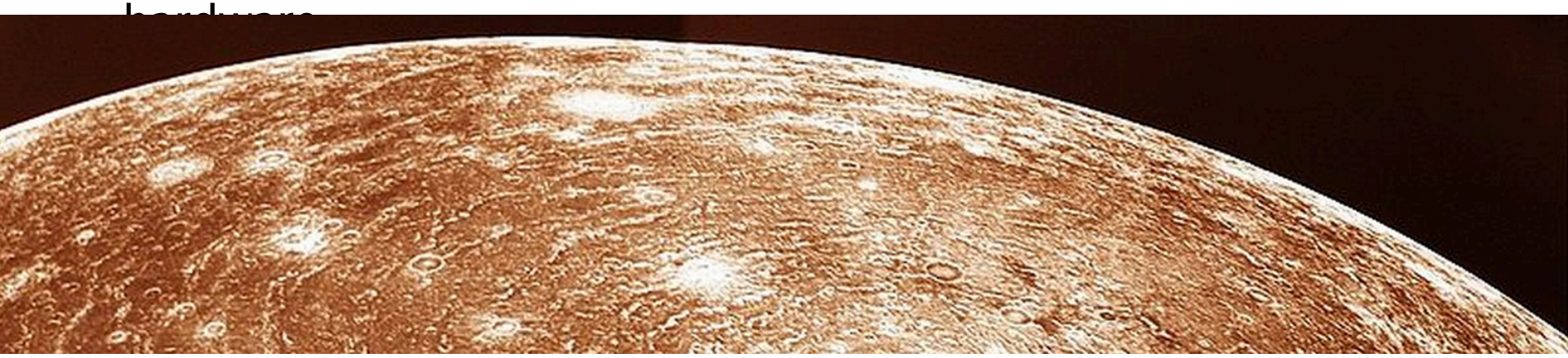
Source: KPCB

MindPirate

New Technology For A New Market

CALLISTO is a moon of Jupiter (and Mind Pirate's Tech/Game Platform)

- Callisto is the first and only tightly integrated client-side and server side game-focused platform that supports leading mobile and wearable devices
- Enables developers to create engaging experiences that merge the virtual and physical worlds
- Takes full advantage of the native capabilities of the underlying hardware

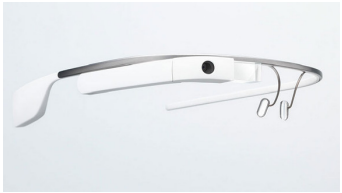


MindPirate

Key Market Drivers

Cloud Computing

Micro Engagement



Multi-Platform

Rule #1 - Design for the Cloud

- User Generated Content will explode on Wearable Devices
- Cross Platform Push
- Shared Game Space

#2 - Design for Micro-Engagement

- Wearable Apps Always On (but, not player)!
  - Battery life on wearable is limited

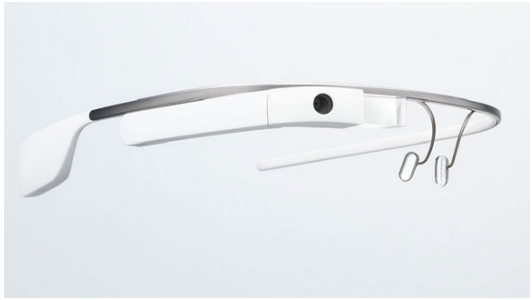
- Design Solutions:
  - Notif based engagement
  - Rich 1-2 minute experiences

MindPirate

#3 - Design for Cross Platform

- Write Code **Once!**

- Wearable apps might be **Distributed**



Use the Rules for the Tools

Features	Unity	Cocos	Havoc	Parse	AWS	GAE
Cross Platform						
Script	✓		✓			
Distributed						
Micro-Engagement						
Notif Based						
Cloud						
UCG				✓	✓	✓
Push				✓	✓	
Shared Game Space				✓		

Case Study: Callisto Architecture

Client Side

LUA Scripting (Device Independent)

C++

JAVA

OBJ C

Server Side

Cross Platform Push

Shared Game Space

Analytics and Services

Hypothetical Case Study – Game Description

- Multiplayer Ballistics Game
  - MMO
  - Smartphone, Smartglass, and Smartwatch
  - Turn Based
  - Users use catapults to fling rocks at one another

Back End / Server Side

- Players need to initiate notifs
- Universal leaderboards

So, how do you create a shared game spa

Back End/Server Side – Solution

- Robust Server Infrastructure:
  - Support cross OS push (Android APNs and iOS push notifs)
  - Lobbys and administration for MMO
  - Streaming of sensor data for wearables

Principle #1: DESIGN FOR the Cloud!

MindPirate

Core Interactions

- Smart Glass
  - People are grounded in a physical space and will have limited time to stare at a small screen
  - Glass has limited battery life

So, how do you keep the user engaged

Core Interactions – Solution

- Make the game "notif" based

- Initiate Game at Intermediate Points with State

Principle #2:
DESIGN FOR Micro-Engagen

MindPirate

Client Side & U/X

- Smart Glass
  - Touch pad replaces touch screen
  - Different Gyroscope Behavior
  - Limited Screen Size

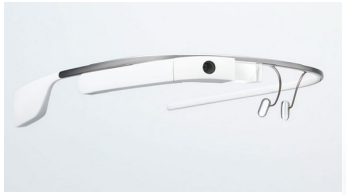
- Smart Watch
  - Touchscreen
  - Tether to smartphone?

So, how do you pilot the Damn Rock and write code just once?

MindPirate

Client Side & U/X – Solution

- Create a “Virtual Joystick Controller”
- In Glass, the head is the joystick
- In Smartwatch, the entire watch is the joystick
- Both Glass and SmartWatch have a symbiotic relationship with SmartPhones



Principle #3
DESIGN FOR CROSS PLATF

MindPirate

Key Takeaways

- Wearable Computing implies a complex device ecosystem
- Game Creation on both the Design and Programming side has to anticipate these challenges
  - Cross Platform
  - Micro Engagements
  - Shared Game Spaces

- Exciting new tools to simplify implementation on the horizon

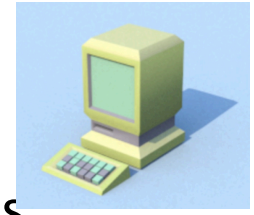
- ü The first-ever program focused on developing games and consumer apps for the emerging wearable consumer market
- ü Participants will use Mind Pirate's Callisto technology
- ü Created by the Canadian CFC Media Lab and Silicon Valley-based Mind Pirate
- ü A three month boot camp for developers and companies that want to navigate the incredible potential of games on the next consumer mega trend of wearable technology

MindPirate

Finalists Announced For Wearables Workshop

Developers from around the world applied to join the IdeaBOOST/Mind Pirate Production Lab and the following outstanding companies are all finalists for the Lab:

- Normative
- Imaginary
- XMG Studio Inc.
- Little Guy Games
- Race Yourself (glassfitgames.com)



- NeoBird GmbH & Co
- Social Game Univers
- Smokebomb Entertai
- Hammerspace
- Wero Creative I

NeoBird GmbH & Co. KG
Cross-Platform Game Development

SMOKE BOMB
A Shaftesbury Company

Little Bandits

RACE YOURSELF

HAMMERSPACE

Wero CREATIVE

MindPirate

Building Games for the Next Consumer Mega Trend: Wearable Technology

Early Access Available to GDC Next Attendees

If interested, please send your name in an email to:

gdcnext@mindpirate.com

MindPirate