Sports Training and Virtual Reality: Challenges in Making the Physical, Virtual
EON Sports VR
Disrupting Sports Training

Founded in 2013, EON Sports VR is the world’s leading provider of Virtual and Augmented Reality training simulations for athletes.
EON Sports VR currently works with
- NFL Teams
- MLB Teams
- NCAA Teams
- 1000’s of individual athletes
Why VR in Sports?
Finding the RIGHT solution

“There is no greater anti-brain environment than the classroom and the cubicle.” – Dr. John Medina, Brian Rules

Stone Tablet Technology
• IPads
• Film rooms
• Scouting report
Brain Rules
What = on field advancement?

Learning and training is effected by:
• Attention
• Short Term Memory
• Sensory Integration
• Vision
• Exploration….FAIL!
MLB

How is it done currently?

- Watch screen of pitcher
- Watch their own swing

None give you what it feels like to play against the pitcher!
Virtual Reality Game Simulation

VR Simulation had to be:

- Data
- Scalable
- Interactive
- Responsive
Solution
Virtual Reality Game Simulation

To hit the ball you have to:
• Recognize Ball/Strike
• Pick up type of pitch
• Know situation – to swing?
• 95 MPH

• .4 seconds!
Future
Connected Realities

We will see more:
• Augmented Reality
• Mixed Reality
• Wireless
EON Reality Solutions

Software
Display systems/Hardware
Integrated solutions
ExxonMobil Qatar

Problem to solve

Operators training
Emergency response team
Train for low probability/high-consequence scenarios.
ExxonMobil Qatar

Task

Develop a 3D immersive virtual reality simulator for training operators in oil and gas production, processing, and transportation facilities

Have an experience of being on site
Process control integration
Routine operations & Emergency Response
ExxonMobil Qatar

Solution

EON Icube – 4-sided
Nvidia Quadro
Vicon Optical Tracking
Process control integration (Honeywell etc)
Voice control
Odor, Vibration and Directional Wind
Multiuser/Team Training – LMS integration
ExxonMobil Qatar
Icube Solution/Upgrades

GPU Upgrades:
- 4 x Quadro FX 5000, 4 x 1440 x 1080
- 4 x Quadro FX 6000, 4 x 1920 x 1080
- 4 x K5000, 4 x 1920 x 1080
- 1 x M6000, 4 x 1920 x 1080

Model shows 50 000 000 polygons!!!
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New training facility

Floor 1: EON Icube Mobile
Floor 2: Advanced display systems
Floor 3: Medical patient simulators
Floor 4: “Live” surgery training
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Advanced Display Systems

5 sided Cave
10 meter wide curved screen
2 x CAD Walls – 4 screens each
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5 sided cave

18 high end computers
34 Barco OLED projectors – total resolution 65280 x 36720
A.R.T. optical tracking system
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Computers

Cave: 18 computers
Curved display: 10 computers

Each computer:
2 x Nvidia K5000
Nvidia Quadro Sync
Nvidia Mosaic
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Outcome

High resolution 3D models for training