
USING 3D INTERACTIVE AND VIRTUAL REALITY TRAINING FOR OPERATIONS, MAINTENANCE & SAFETY



WHAT'S IN IT FOR YOU?

1. Problems w/ Training
2. Why, How, Where – **Visual & Interactive Tech.**
3. In-action Training videos!
4. Companies, Case Studies
5. What YOU can do ...and what **NOT** to

OUR MISSION

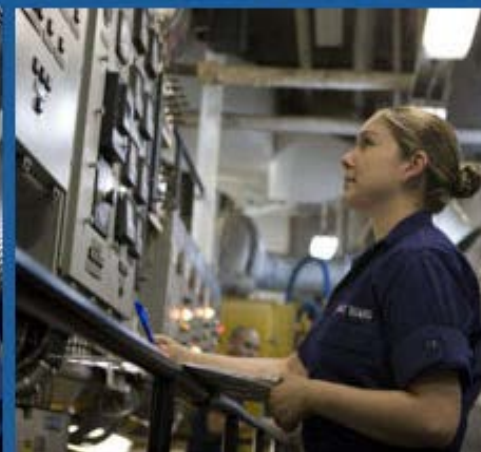
To make critical, complex information
easy to follow, learn and master.



HOW IS YOUR TRAINING
CONDUCTED **TODAY**?



HEARTWOOD
www.hw3d.com



#1 CLASSROOM/FACILITY

INSTRUCTOR-LED PRACTICE ON EQUIPMENT

- ✓ Engaging
- ✓ Must-have experience
- ✗ Costly - Travel, Instruc., Equip.
- ✗ Production Downtime
- ✗ NOT Accessible later

#2 E-LEARNING/LMS



POWERPOINT NEXT-PAGE STYLE

- ✓ Deploy on scale, Cheaper
- ✓ Anywhere, anytime
- ✗ SEEING, not much DOING
- ✗ “No PRACTICE, No Training”
- ✗ Tedious, Low Retention

IF...

LIVE TRAINING - **COSTLY, NOT SCALABLE**

E-LEARNING - **NO PRACTICE, NOT ENGAGING**

... HOW TO BRIDGE
THIS **GAP?**



I HEAR, I FORGET.

I SEE, I REMEMBER.

I DO, I UNDERSTAND.

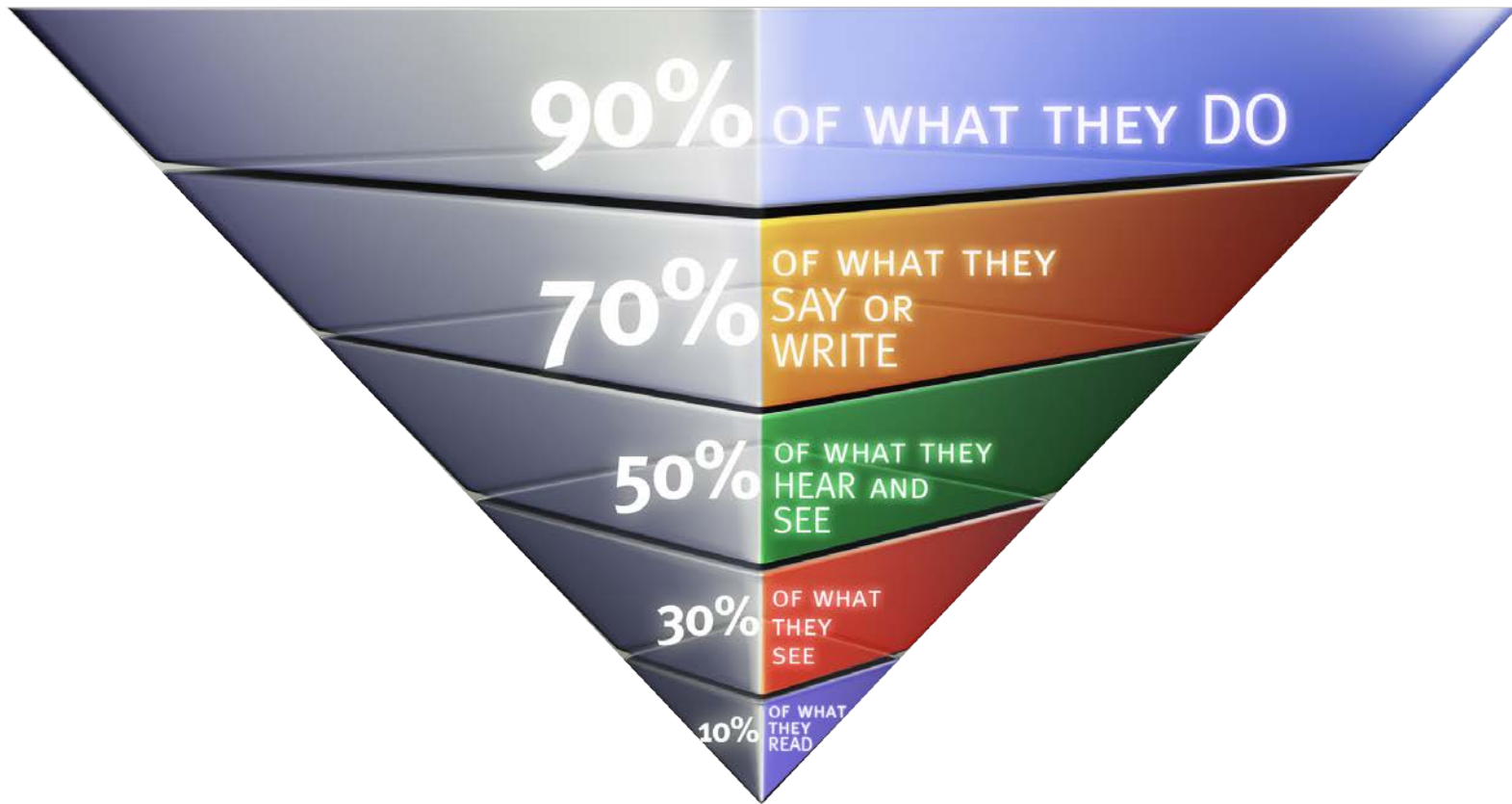
Confucius

(551 BC - 479 BC)



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PEOPLE REMEMBER...



10,000 HOUR RULE



“...what really pays is ordinary experience... the magic number appears to be **10,000** hours”

MALCOLM GLADWELL
AUTHOR - OUTLIERS

“An average high schooler plays **10,000** hours of games by graduation...
..only 100 hours less than in the classroom.”

JANE MCGONIGAL
INSTITUTE FOR THE FUTURE

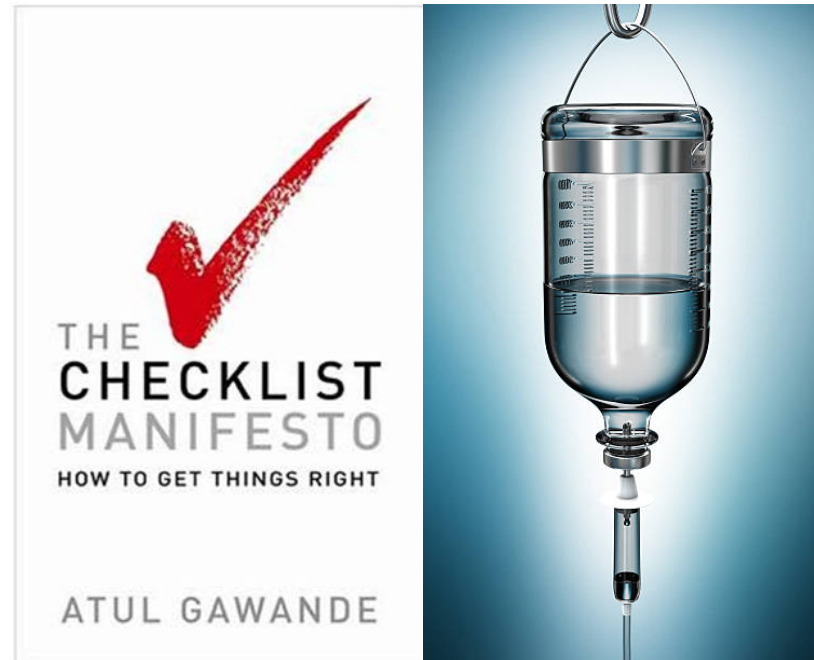
3D INTERACTIVE VIRTUAL TRAINING



“Learning by seeing becomes **LEARNING BY DOING...**
Education & learning will be immersive like games.”

KLEINER PERKINS

VISUAL CHECKLISTS



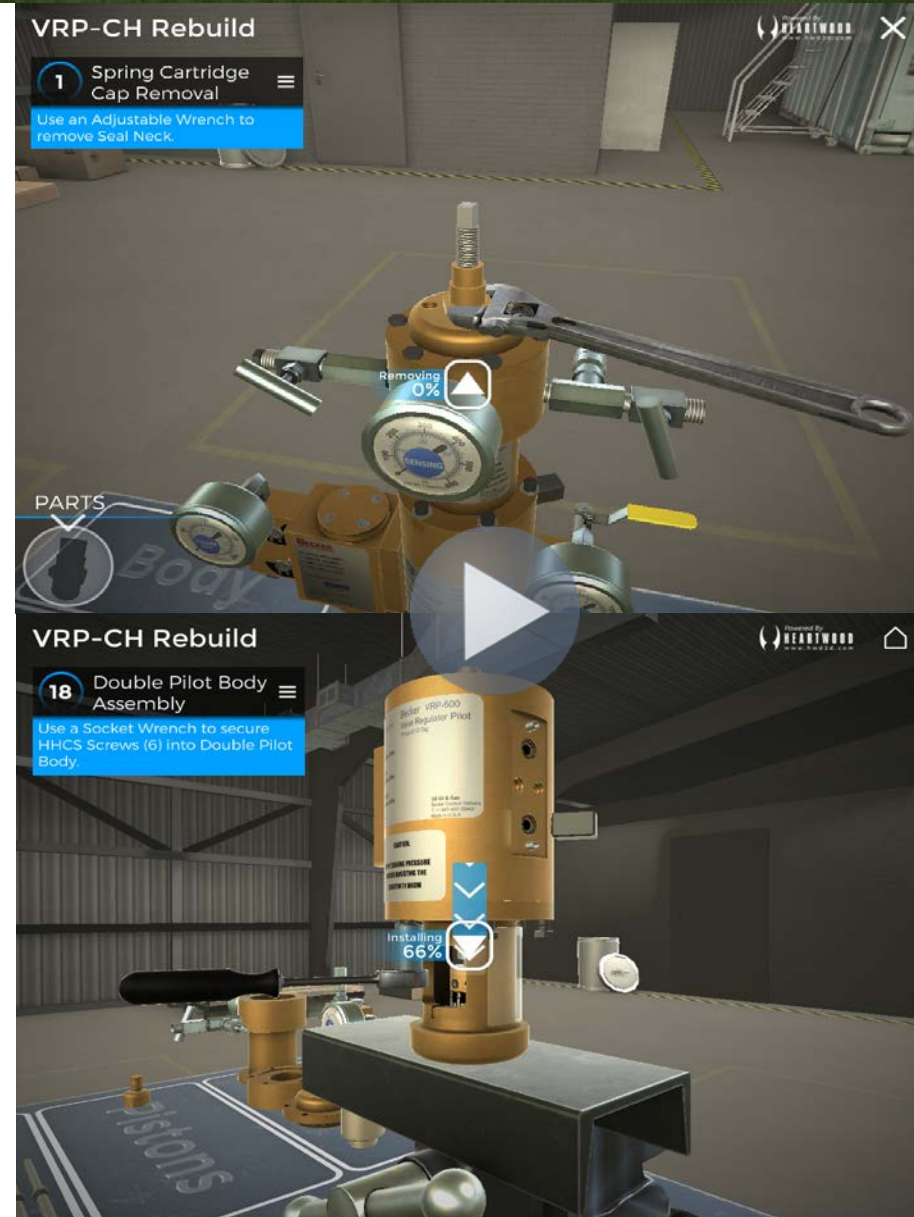
“The volume and complexity of what we know has exceeded our individual ability to deliver its benefits *correctly, safely, or reliably.*”



*Pacific Gas and
Electric Company*[®]

“The manual is so confusing but **it’s almost impossible to mess up** when we use your app. It cut the training time in half and **no one blew a diaphragm**, we had at least 1 per class.”

TECHNICIANS & INSTRUCTORS



MACHINE ORIENTATION



Applicator Unit

Applicator Unit

The Applicator Unit picks a cap from the Cap Sequencer and applies it on a package below.

PRODUCTION

Instruction



Applicator Unit



“We reduced our training class time from 2 days to 1, a **50% reduction!**”

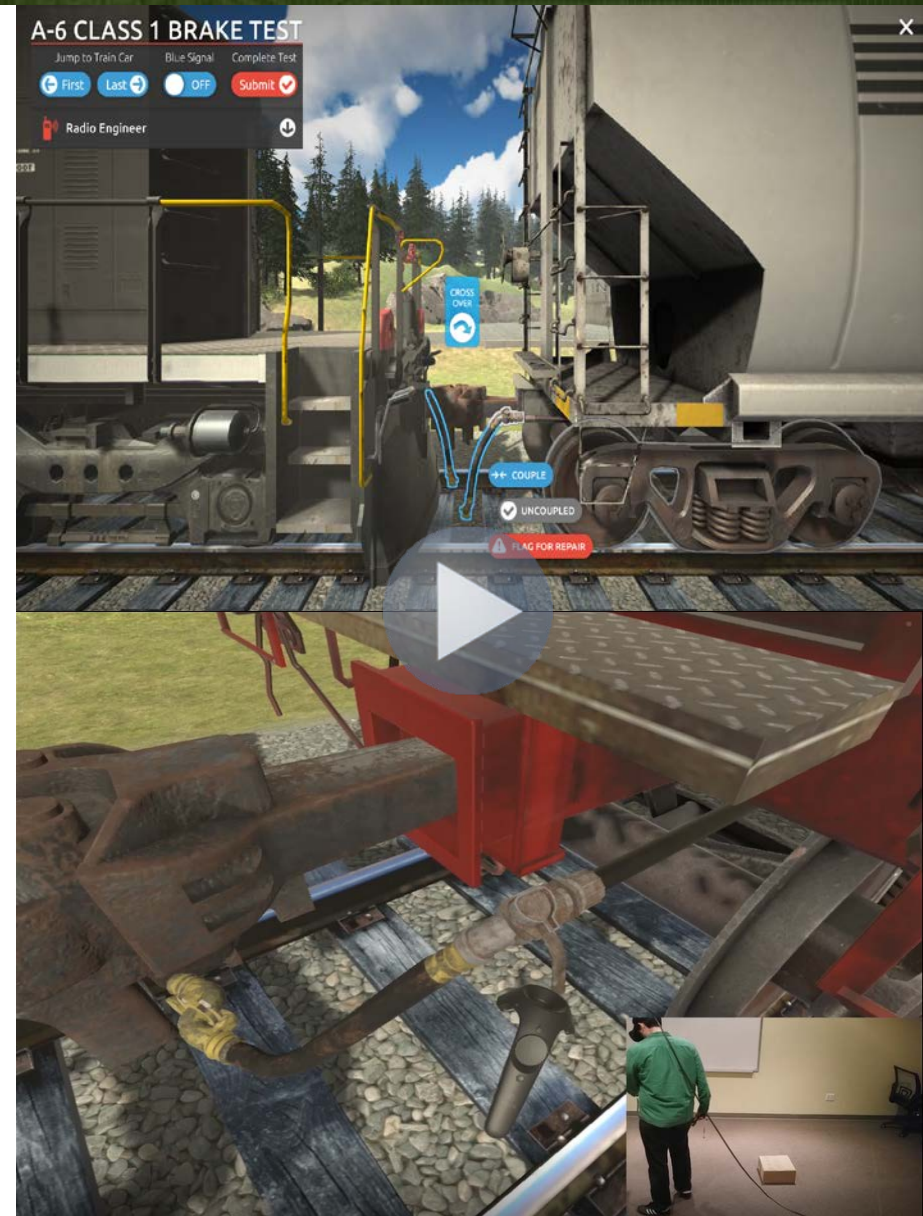
Trainees were inspired by the score feedback in the practice lessons and **repeated the lessons until the score was perfected”**

TETRA PAK INSTRUCTORS



“..confidence & mastery has noticeably improved! Where students seemed uncertain before, you can now see that the **person knows what they're doing**. There is interest to make this available to approximately **15,000** people within NS ”

MANAGER, TECHNICAL TRAINING





Apply a Lock to the Valve Cover

LOCKOUT TAGOUT TRYOUT

“Checklists seem able to defend anyone, **even the experienced**, against failure in tasks.”

THE CHECKLIST MANIFESTO

1 Spring Cartridge Cap Removal
Use an Adjustable Wrench to remove Seal Neck.



MAINTENANCE TRAINING

OPERATOR TRAINING



Applicator Unit



SAFETY TRAINING



FIELD SERVICE & OJT



INDUSTRY 4.0

CYBER-PHYSICAL SYS.
INTERNET of THINGS

DIGITIZATION

CLOUD COMPUTING

VISUALIZATION

SMART **TOOLS**,
SMARTER **WORKER.**



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WHEN 100+ TOP TIER
COMPANIES DO THE SAME THING,
IT'S TIME TO PAY ATTENTION



FROM HERE...

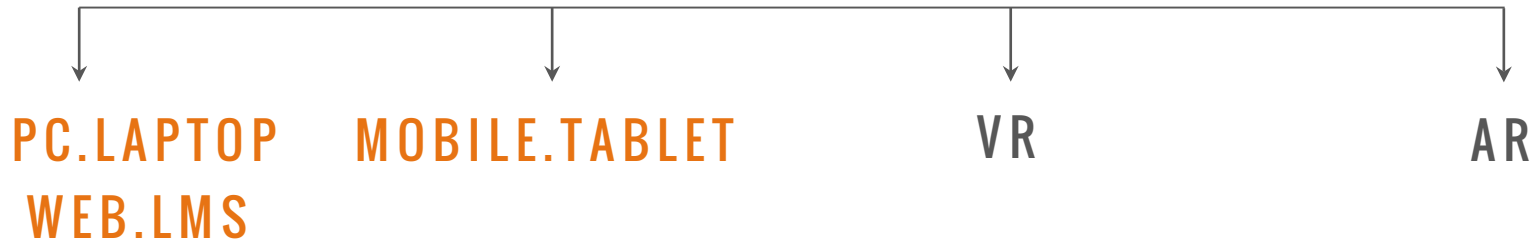


TO
HERE?



HEARTWOOD
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YOUR VIRTUAL TRAINING



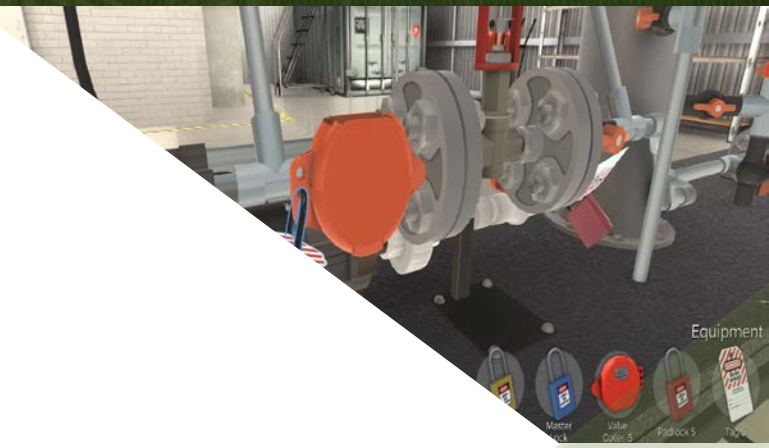
{ INTERACTIVE TRAINING }
100% USERS

{ IMMERSIVE TRAINING }
30% USERS

{ ASSISTED DOING }
10% USERS

WHAT'S NEXT

- Questions!
- Reach out: info@hwd3d.com
- References & Links.



REFERENCES & LINKS

- [Questions to ask your Training Team](#)
- [How to Budget for this](#)
- [VR/AR Roadmap](#)
- [Case Study – Tetra Pak](#)
- [Case Study – PG&E](#)
- Other [FAQ's](#)