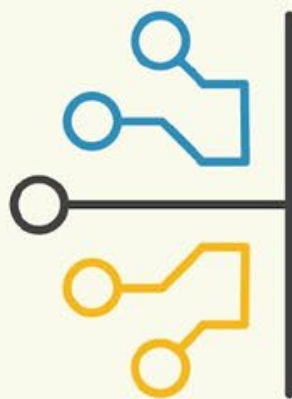


*Welcome to*



**EMERGING  
TECHNOLOGIES**  
CONFERENCE at Advanced Textiles® **EXPO**



# National Science Foundation North Carolina Textile Innovations Engine

## Jonathan Crumpler

Assistant Dean for the Business and Technologies Division at Western Piedmont Community College in Morganton, North Carolina.

Oversees three digital media creation degree programs that provide training for area college students in both linear and streaming media productions and interactive simulations.

Team Leader for WPCC's partnership with Burke County's *The Industrial Commons* in the NC Textile Innovation Engine funded through National Science Foundation.



EMERGING  
TECHNOLOGIES  
CONFERENCE at EXPO  
MORGANTON, NC 28655

# National Science Foundation North Carolina Textile Innovations Engine

## Tom Wright

Lead developer on the *NC Textiles Innovation and Sustainability Engine*. His experience in the film and game industry span over twenty years working major studios including Disney, DreamWorks, Sony Imageworks, Naughty Dog, Activision, DICE, Illfonic Retro Studios (Nintendo) and Epic Games.

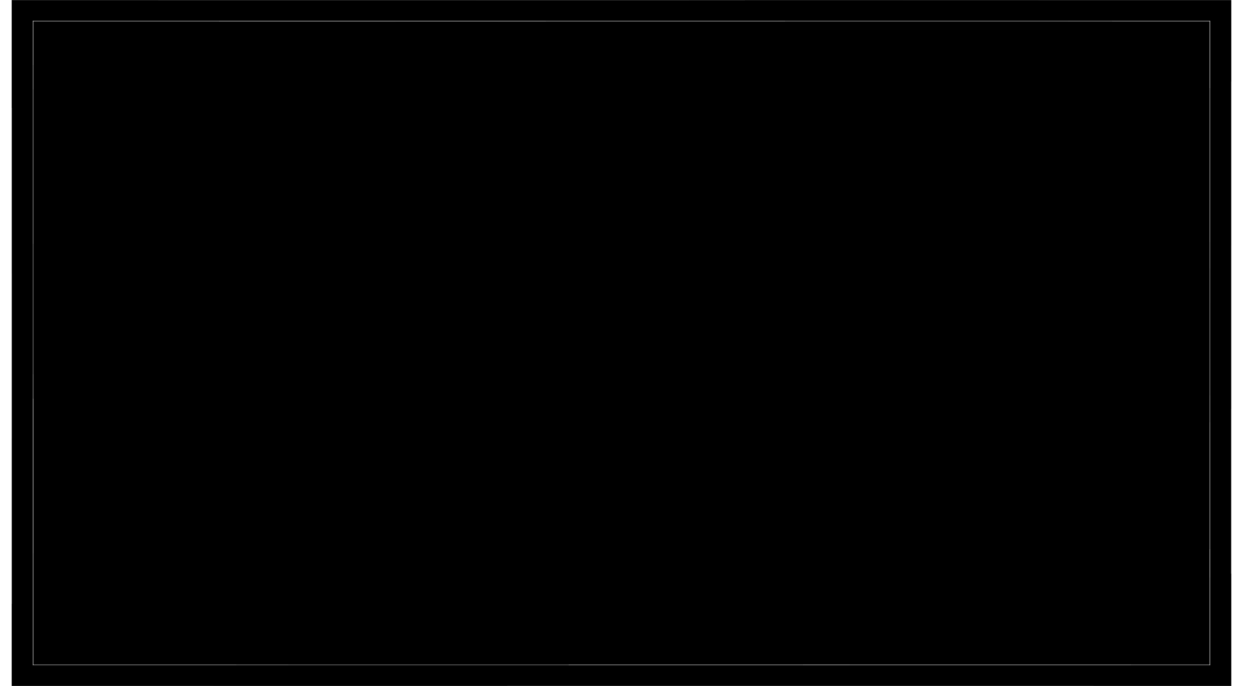
Tom's expertise in game asset creation and emerging AI assisted programming is leading WPCC's efforts in creating sustainable training and workforce development in mixed reality training for the NC Textiles Innovation Engine.





# NSF North Carolina Textile Innovations Engine Partnerships

- The Industrial Commons, Morganton NC
- Western Piedmont Community College, Morganton NC
- Catawba Valley Community College, Hickory NC
- Gaston College, Gastonia, NC
- North Carolina State University, Raleigh NC



# North Carolina Textile Innovations Industry Partnerships



Valdese Weavers



Material Return



Seiren North America

Meridian Yarn



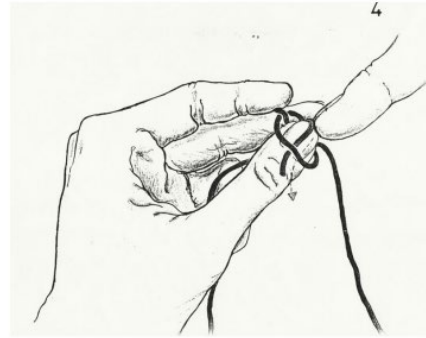
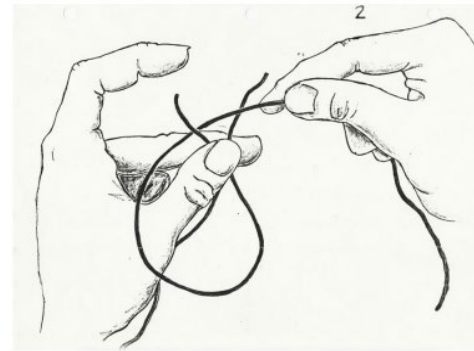
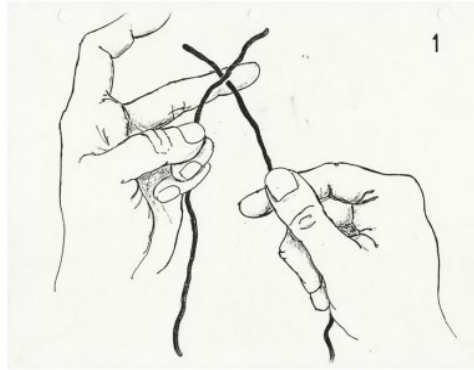


# How is the development of XR/AR/VR experiences transforming industry training?

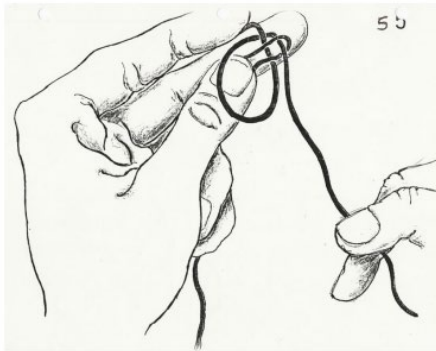
- Interactive Training to engage new workforce
- Expediting training demands that keep pace with technology updates
- Supporting new training tools that target the generational gap in textile industry workers
- Converting traditional SOP documentation into user experiences that expedite learning and retention



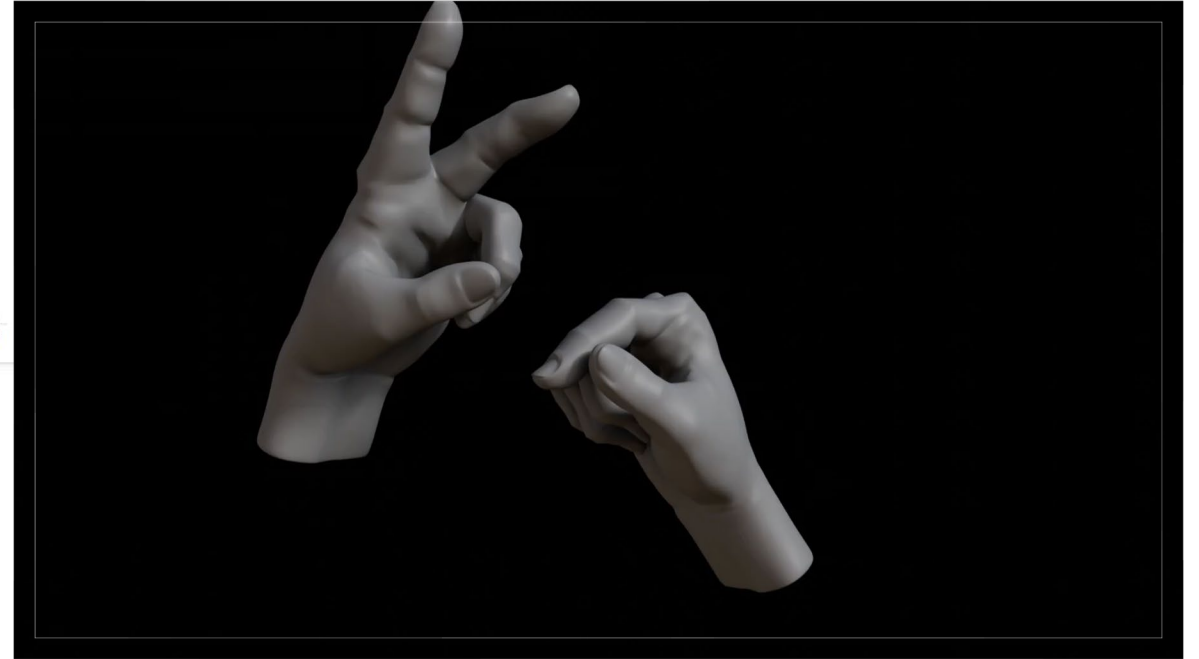
# Converting manufacturing training content into interactive experiences using AI



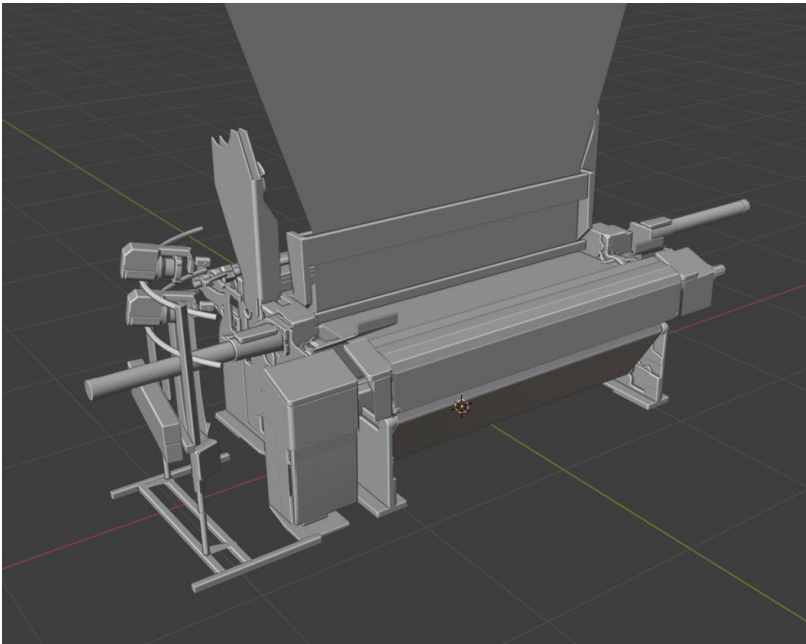
5 of 8 ISO9000 > Approved Doc > Weave > Weaver > Training > 30 Tying TM-01-WR-030-01



6 of 8 ISO9000 > Approved Doc > Weave > Weaver > Training > 30 Tying TM-01-WR-030-01



# Converting manufacturing training content into interactive experiences using AI



Concept Art and Design



User Interface Design



Interactive Programming





# Simulation training experiences from a game designer's perspective

- Connecting industry training to familiarity of gameplay design
- Integrating achievement based rewards during user experiences
- Building engaging content into the framework of training modules that can merge entertainment with learning



# Exploring new methods for industry training applications



# Apple Vision Pro Simulation Live Presentation





Thank you and we want  
your feedback

Please provide your feedback and ideas that will assist our team in expanding areas of XR training that are specific to the textiles industry.

**Please take our Textile Industry Survey in the link provided below**

<https://forms.gle/HZcUcF1zzaUbEkmK8>





*See you next year!*

# EMERGING TECHNOLOGIES

CONFERENCE at Advanced Textiles **EXPO**

Nov. 3–5, 2026 | Orlando, FL USA