PURDUE INNOVATES | Office of Technology Commercialization

ProceduAR: An augmented reality-based tool to create in-situ procedural 3D AR Instructions

The Augmented Reality procedural training application combines AR and computer vision to easily create training programs that guide employees through tasks while automatically detecting and integrating real-world tools into the AR environment.

Researchers at Purdue University have developed an all-encompassing Augmented Reality (AR) procedural training application. The application combines AR and computer vision to easily create procedural training programs then allows the student to use the created AR content to follow the steps to perform the task. This software could be a low cost solution for companies wanting to better train their workforce. Skilled workers are the lifeblood of economies around the world and there is a critical need for better training platforms to close the skills gap. With retirees outpacing new employees in the industrial and manufacturing spaces, new employees often are not trained sufficiently enough by their senior staff. These new employees are often given paper instructions or videos on how to perform their niche activities, which can be a dismal learning experience. The Purdue user friendly procedural training AR system gives better learning outcomes than traditional paper/video instructions. This application offers the added benefit of automatically detecting tools in the real world and integrating them within the AR environment. This application has been verified to assemble an engine, repair a bike, and build a shelf.

Advantages:

-Faster AR Authorship

-Easier AR Authorship

-Closing the Skills Gap

Potential Applications:

-Augmented reality

Technology ID

2020-RAMI-68836

Category

Artificial Intelligence & Machine Learning/Computer Vision & Image Recognition

Education & EdTech/Immersive & XR Learning Environments

Education & EdTech/Industrial & Workforce Training Platforms

Authors

Subramaniam Chidambaram

Fengming He

Karthik Ramani

Further information

Matt Halladay

MRHalladay@prf.org

Erinn Frank

EEFrank@prf.org

View online

-Job Training

TRL: 3

Intellectual Property:

Provisional-Patent, 2019-10-30, United States

Keywords: Augmented Reality training, AR procedural training, workforce training, skills gap, computer vision AR, low cost training solution, ProceduAR, in-situ 3D augmented reality, AR instruction platform, job training, Application, Augmented Reality, Computer Technology, Employee Training, Skills Gap, Software