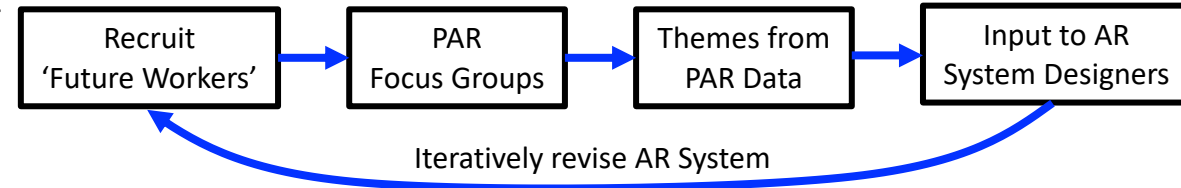


Collaborative Research: FW-HTF:-Participatory Design Process for Co-Creating Augmented Reality Based Education and Training Systems, #2128950 – *A Learner-Centered Model for Intergenerational Knowledge Transfer*

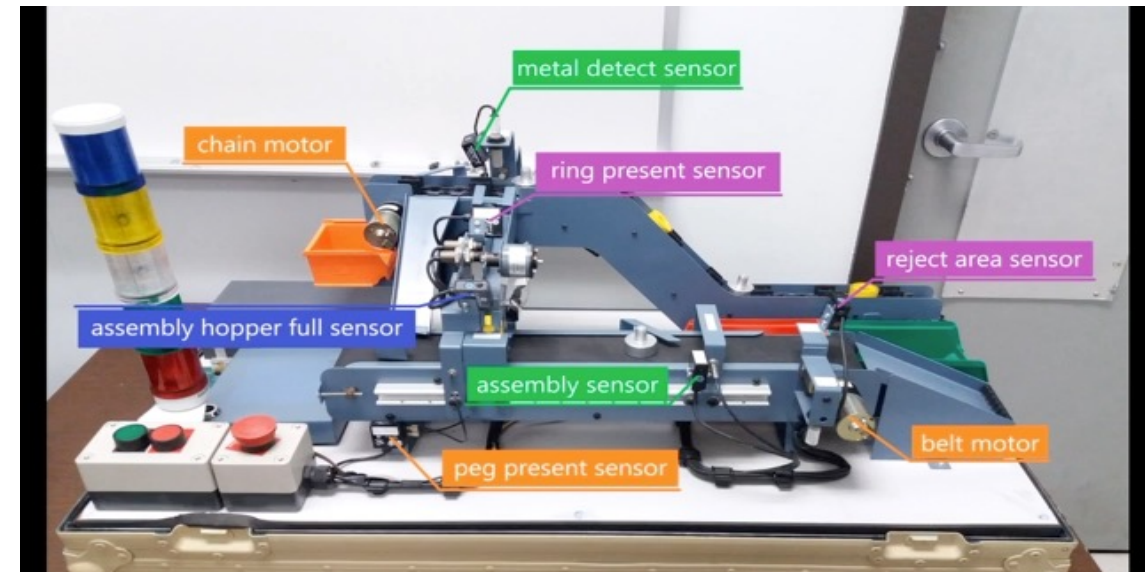
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The Need: Emerging technology advances, such as the Electrification of Vehicles, demand creative and effective approaches for reskilling the industry workforce by harnessing their current skills and expertise and providing new digital skills.



Our Approach: We are transforming document-based training processes to a digital, AR-based, AI-assisted learner-centered framework. The “AR Application” provides guidance via just-in-time informatics and gives voice to key stakeholders. The software framework enables the creation of AR Apps without changing code. Multidisciplinary teams comprising engineers, graphic designers, social scientists and educators create AR Apps. Participatory Action Research (PAR) Focus Groups with representative future workers are used to adapt the AR Apps to make them more effective and usable. Themes extracted from the PAR data and iteratively deeper input from key stakeholders (Delphi Method) are used to assess the AR integration.



Immersive view of a future worker's experience using an AR device.

Progress (June 2022): (1) Students at UA and UML shared expertise. (2) UA Conveyor System Testbed has been transferred to UML and fully operational with UML AR Devices. (3) IRB Approved at UA and UML. (4) Finalizing Test Scenario and Recruitment Plan for AR Experiments and PAR @ UML.