Personnel Training of Automotive Manufacturers in Virtual Reality

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Abstract : Due to the high demand for automobiles, manufacturers have to run their production lines non-stop for long periods. At such a scale, unplanned downtime could cost up to $50 billion annually. Improper training of new hires could lead to safety issues causing unplanned downtimes. The project developed a virtual reality simulation that could train personnel for key operations on an automobile manufacturing floor, reducing the risk of unplanned downtime while eliminating any disruption (due to training) on the assembly line. An automation firm sponsored it to explore the possibilities the likes of Jaguar and BMW are yet to achieve! The project was inspired by Bentley, the only company that succeeded in simulation training scenarios within virtual space. The project aims to inspire other significant firms to do the same. It was increasing employee safety, eliminating downtimes, and improving efficiency. The developed prototype uncovered various limitations within existing simulation providers and was able to simulate state-of-the-art training scenarios. It also explored the possibility of a multiuser interface and resolved complex issues such as lack of movement space within the training area.

Keywords : virtual reality, scenario training, limited movement, multiuser

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