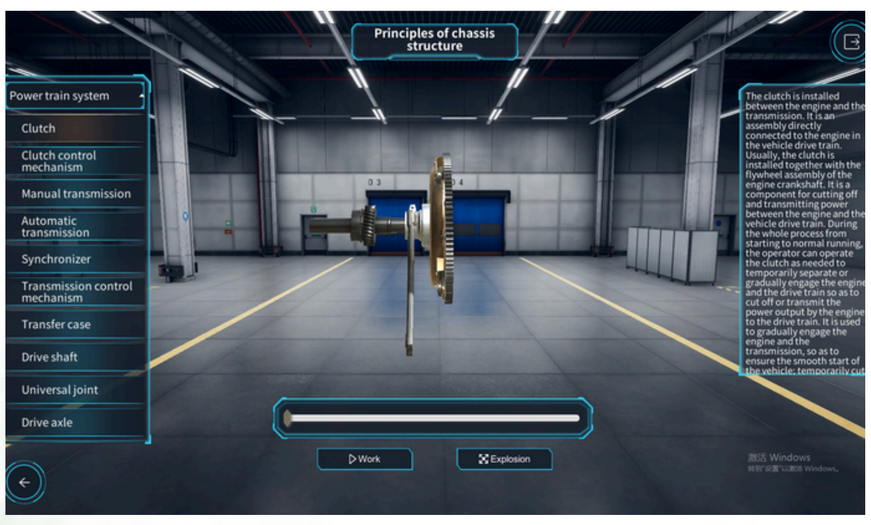
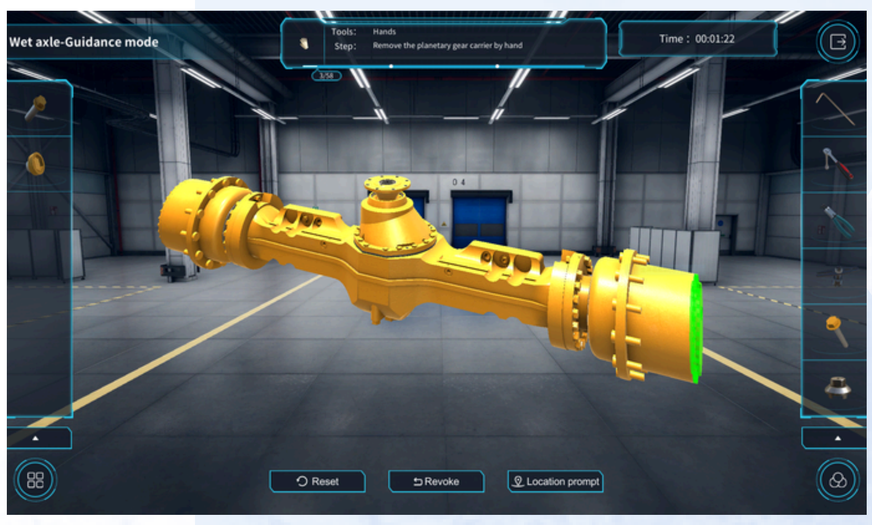
VR Software for Practical Training on Maintenance of Construction Machinery Chassis System

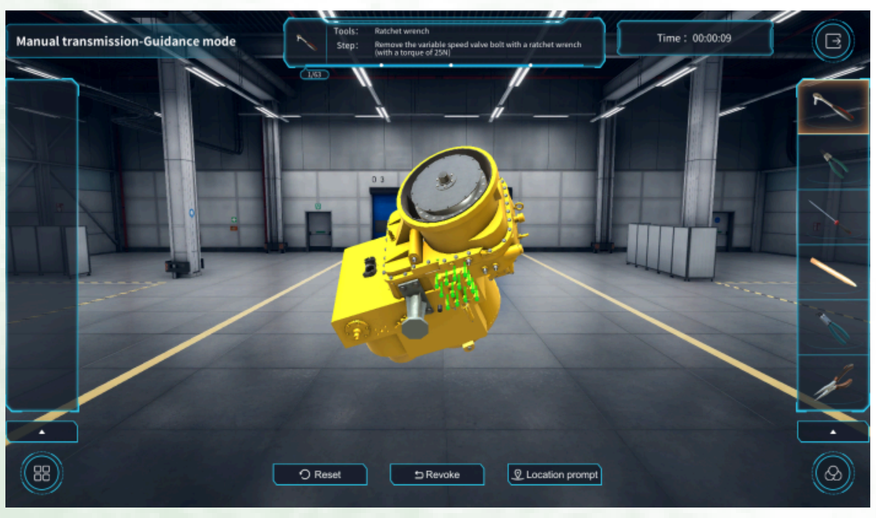
The VR software for maintenance and training of engineering machinery chassis system is a practical teaching product designed and developed for **vocational colleges** and **application-oriented undergraduate colleges** to assist in the teaching of engineering machinery. This software uses the most advanced VR virtual simulation technology to simulate the disassembly and assembly of the loader chassis system and related principle teaching. Students can learn the structural principles of the **loader chassis system**, **wet axle**, **dry axle**, and **manual transmission disassembly and assembly training** through virtual scenes. The 3D materials in the software are **modeled 1:1** according to real objects, which can clearly display the relevant structures of the loader chassis system in front of students.



Text description, model display, and work animation of the construction machinery chassis system structure principle



Interactive training exercises on wet axle disassembly, dry axle disassembly, and manual transmission disassembly



Interactive training exercises on wet axle assembly, dry axle assembly, and manual transmission assembly

Interactive training exercises on loader gearbox missing gears, abnormal noise from loader drive axle, insufficient power of loader mechanism, and overall lack of power output of loader

Highlights

- The software is a teaching software developed for **the chassis system of construction machinery**. From disassembly training to installation training, it can freely switch between guidance mode, training mode, and assessment mode, record the training operation steps and duration, and comprehensively and effectively improve students' practical hands-on operation ability.
- The software not only provides teaching of theoretical knowledge points in professional materials, but also offers practical training operations such as **wet drive axles**, **dry axles**, and **manual transmission disassembly and assembly**, helping to make the pre training process more efficient.
- The structural principle module allows for arbitrary dragging, free rotation, and scaling of the model; Clear and intuitive structure and principle analysis support operations such as **pausing**, **replaying**, and **model explosion**.
- Equipped with the leading **Desktop**, **All-In-One Virtual Holographic Interactive Desktop**, providing enhanced operational experience and advanced presentation effects.

Functionalities

Modules	Content
Strcture Priciple	Cognitive learning of clutches, clutch control mechanisms, automatic transmissions, manual transmissions, synchronizers, transmission control mechanisms, etc.
Disassembly Training	Wet axle disassembly, dry axle disassembly, manual transmission disassembly.
Assembly Training	Wet axle installation, dry axle installation, manual transmission assembly.
Fault Diagnosis	The gearbox of the loader is in gear, the drive axle of the loader makes abnormal noises, the power of the loader is insufficient, and the loader has no power output.