Augmented Reality

smartAR™

smartAR Application View

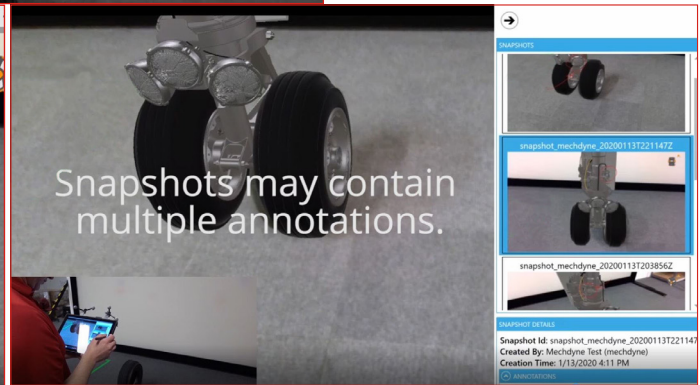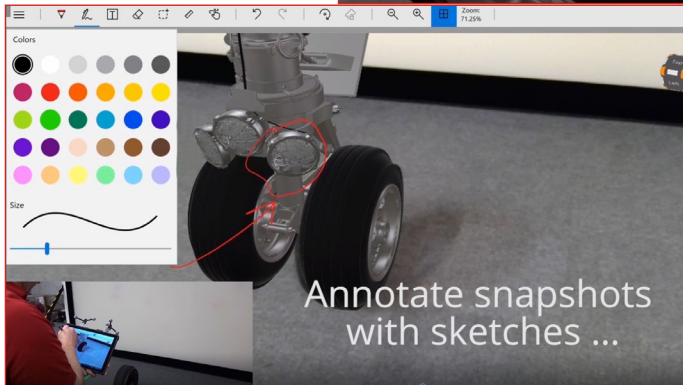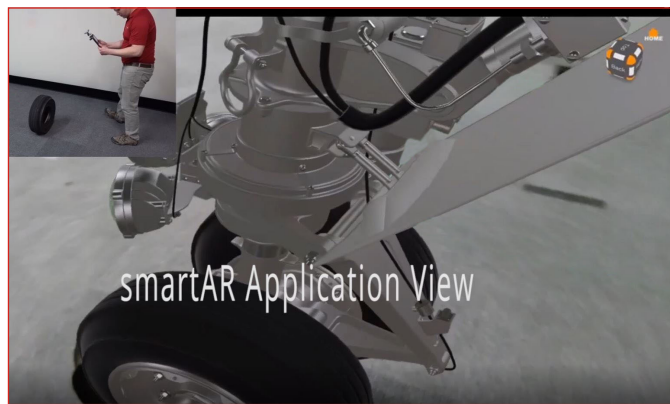Annotate snapshots with sketches …

Snapshots may contain multiple annotations.

Developed for companies that build large and complex scale prototypes where the goal is to reduce the number or variations of prototypes produced.

smartAR's Core Capabilities:

• Augments a CAD model (part or assembly) overtop a live camera feed of a physical model, maintaining scale, placement and position of the CAD model relative to the physical model.

• Mechdyne's TGX software is used to access high resolution CAD data from central workstation/servers to minimize latency on the viewing device.

• A tablet is used to view the virtual CAD objects but tablet position is monitored by an external motion tracking system. Tracking the tablet enables very high precision when overlaying virtual CAD components on a real world representation. As the user moves around the physical model, virtual images on the tablet remain fixed relative to the real world. Virtual objects can be 'snapped to position' on the real world with accuracy better than 3 millimeters in most stationary views.

• Visualize mechanical component clashes, CAD animations and more on the physical prototype

• The connection between the tablet and the CAD workstation/server is bi-directional. As the user moves the tablet, the motion tracking system enables awareness of the position of the overlaid CAD model related to its location in the entire CAD assembly model on the workstation.

• The tablet interface is used to change color and other options

• Make notes and capture observations

• Take pictures of the combined prototype/CAD image. This enables CAD engineers to view the picture within the CAD model space. The picture transparency can be varied to allow the CAD engineer to see through the image to the CAD model.

• Make annotations on the prototype image or combined prototype/CAD overlay image. Annotations can be saved back into the CAD application with exact planar location and orientation for proper alignment of the physical and digital information. The CAD engineer can make changes based on the annotations.

• Use the tablet as an 'x-ray' system, moving through the entire CAD model relative to its real-life counterpart. Users can snapshot and/or annotate areas of interest to inform and speed CAD changes.

• Alias and VRED are currently supported, but other CAD programs can be integrated as required and requested by designers

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