SkillSphere MR

An innovative mixed reality application to educate field technicians for efficient training

Ground Wire
SFP Optical
LMP
QSFP+ Optical Transceiver
Power
HDMI
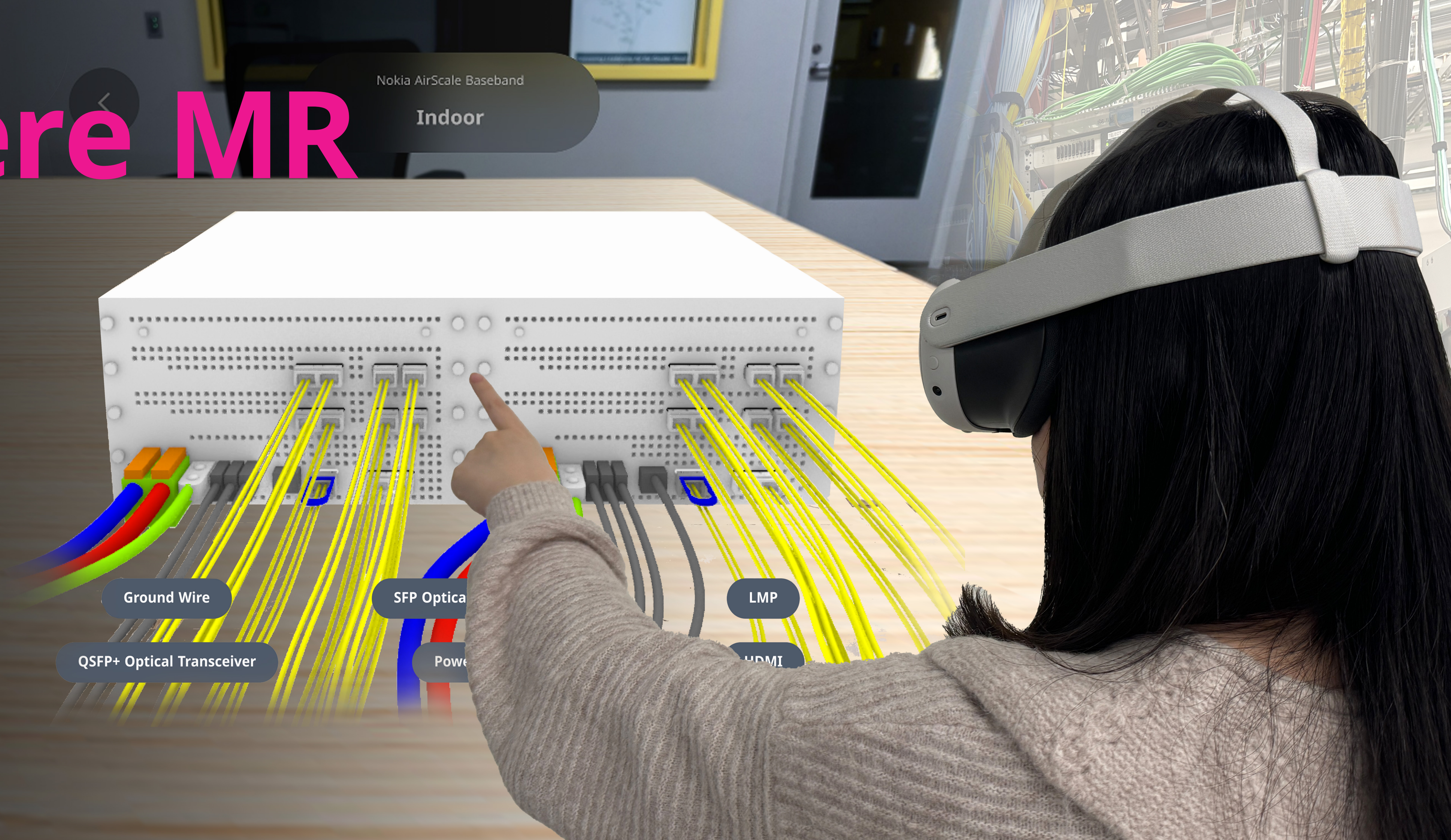
Problem

Field Technicians work on cell sites, conducting equipment installation, maintenance, and repair almost everyday. They require professional training for hands-on skills. However, the training process relies heavily on senior field technicians to instruct new hires. It consumes a significant amount of the seniors' time and poses challenges for new hires to access training guidance.
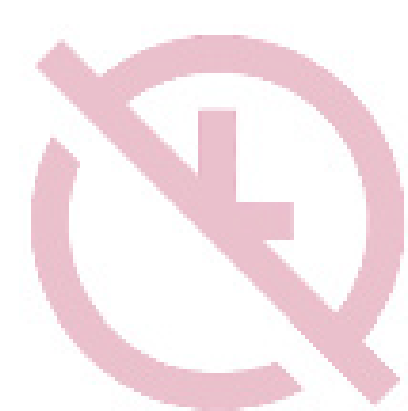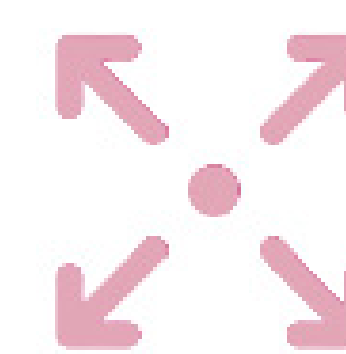
Time Inefficiency

New technicians shadow senior technicians for 3-6 months before working on their own sites.
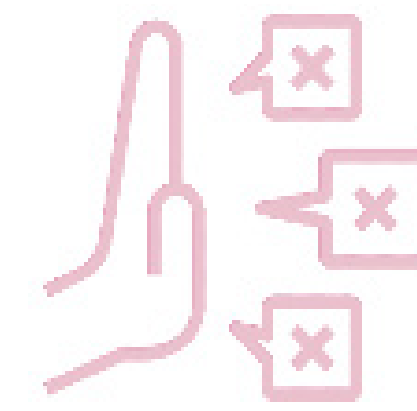
Inflexible Learning

The team conducts workshops and training sessions usually only once per year

Unscalable

Manager's workload has increased due to recent organizational changes, making it harder to conduct monthly ride-alongs with technicians.

Solution

### Mixed Reality Application

Our solution leverages Mixed Reality (MR) technology to offer immersive Nokia AirScale training for field technicians.

Key Features:
• Trainees benefit from real-time guidance and feedback
• Personalize learning pace
• Step by step instructions
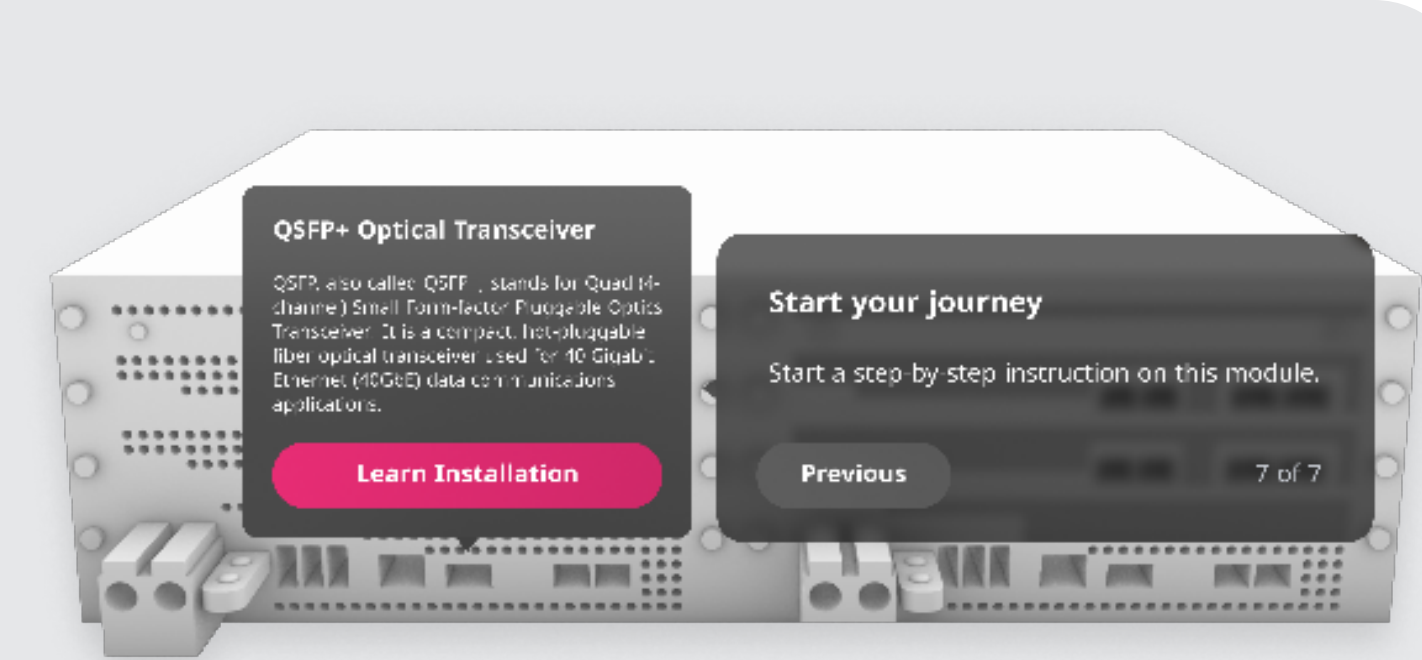• Sync progress with managers

Data we will track:
• Reduce training time compared with existing baseline
• Error tracking on simulations
• Number of technicians who complete an individual real world project within 1-3 months of graduating the course
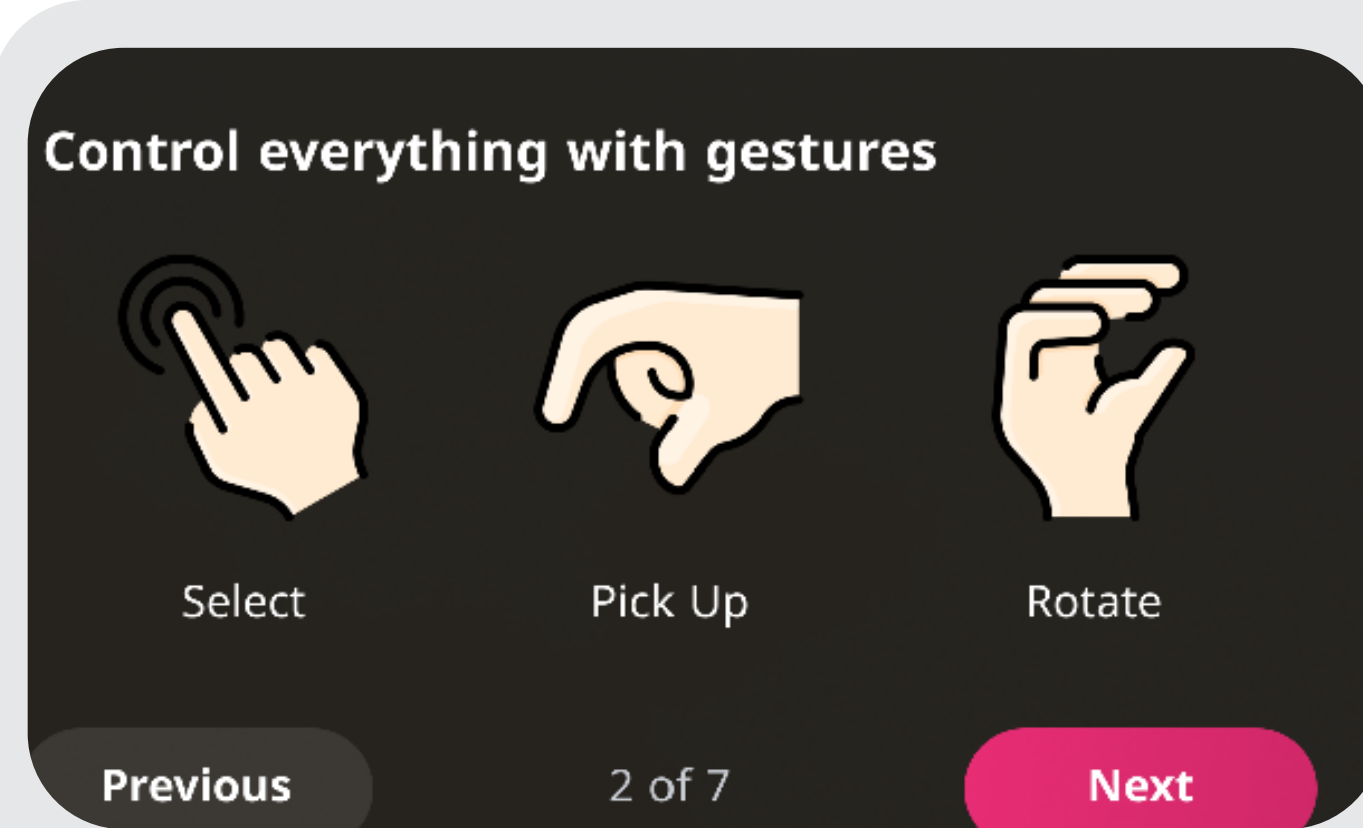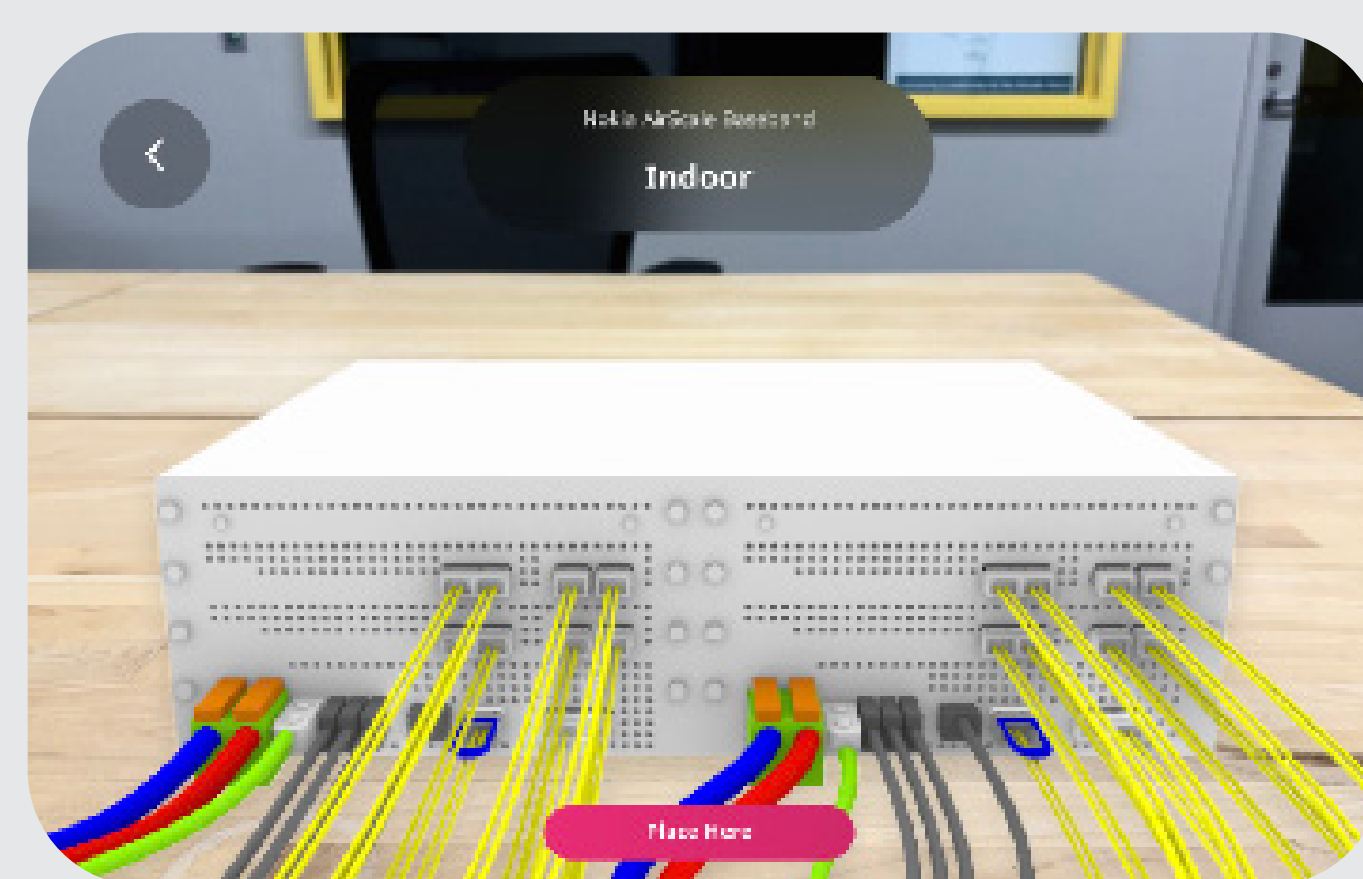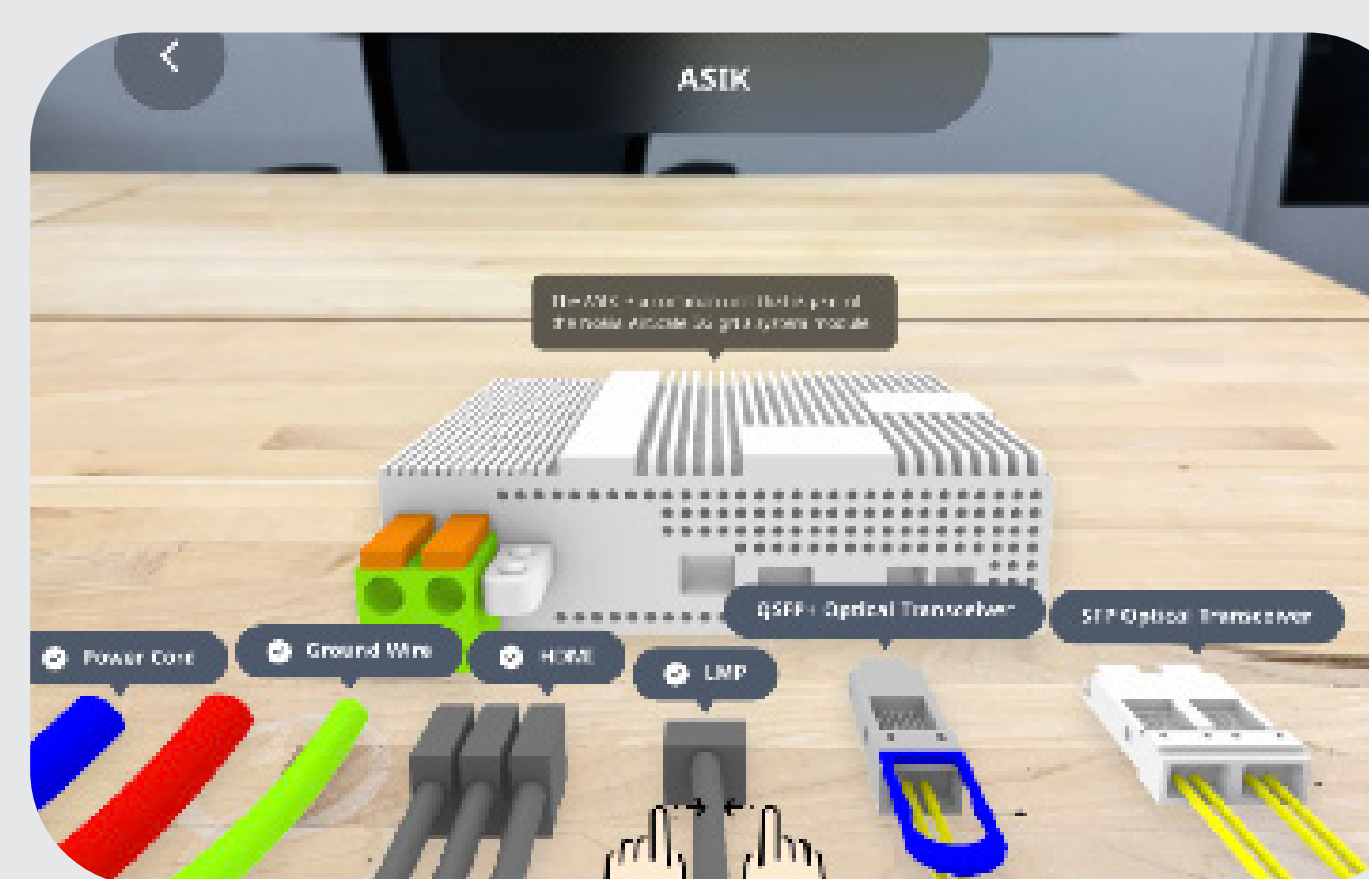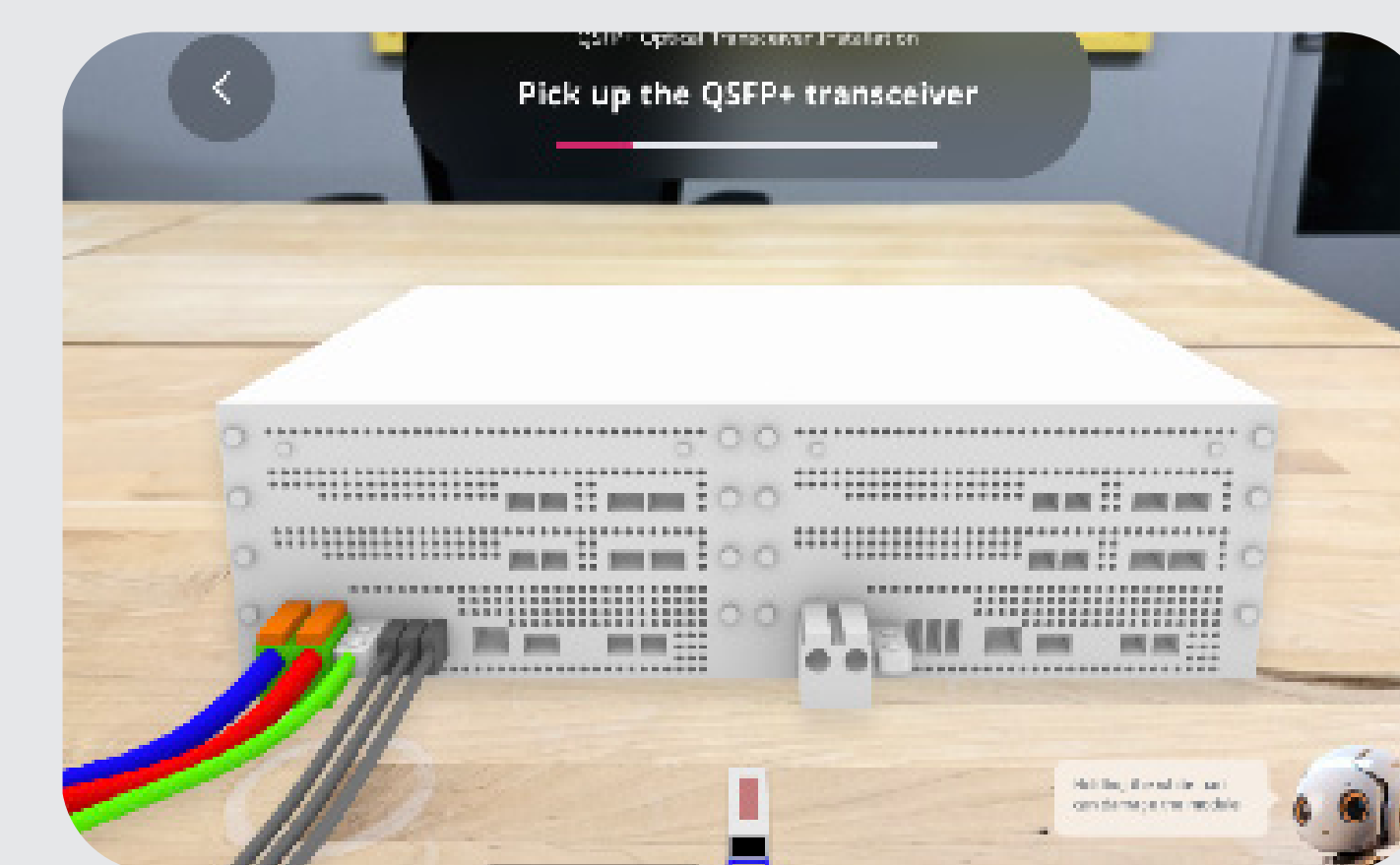

Onboarding
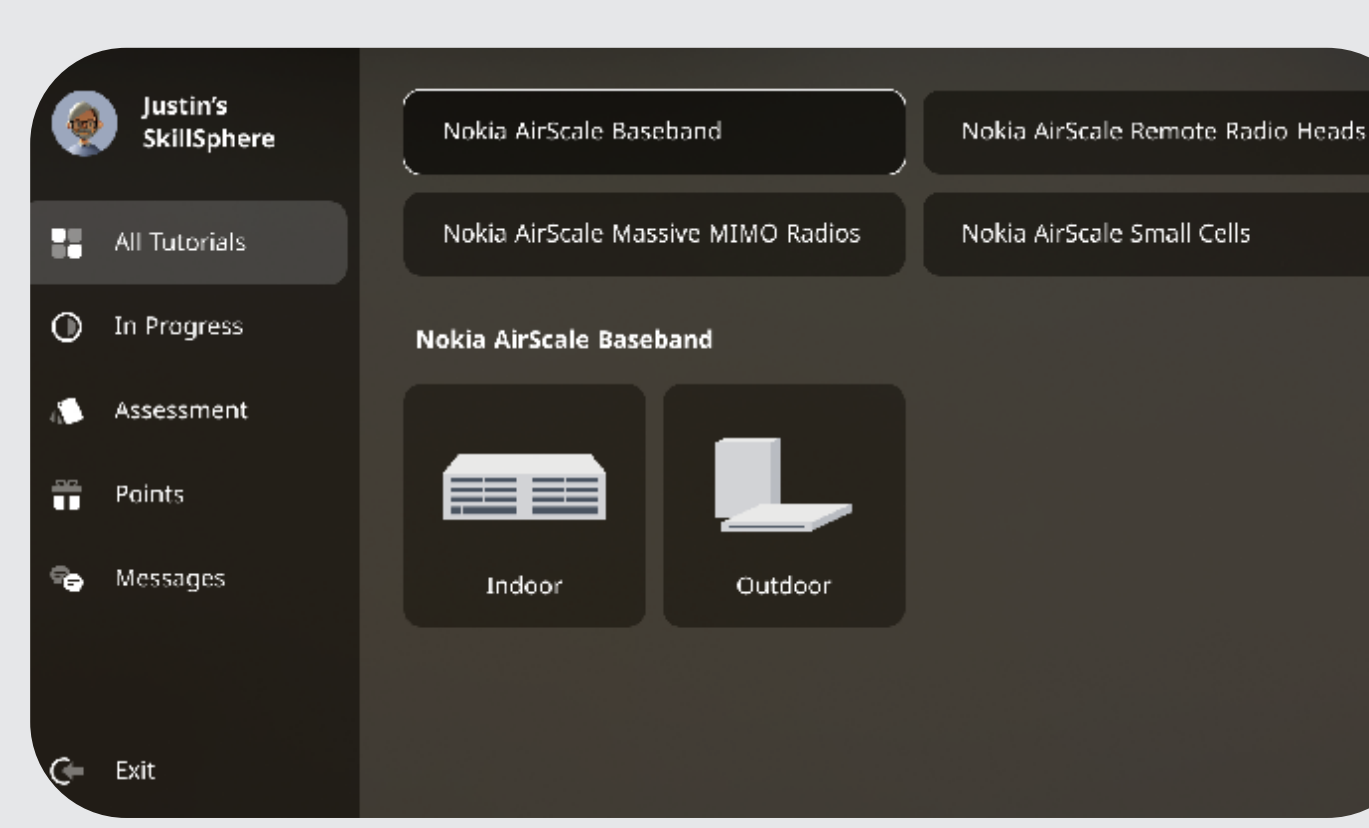
Dashboard

Begin Installation
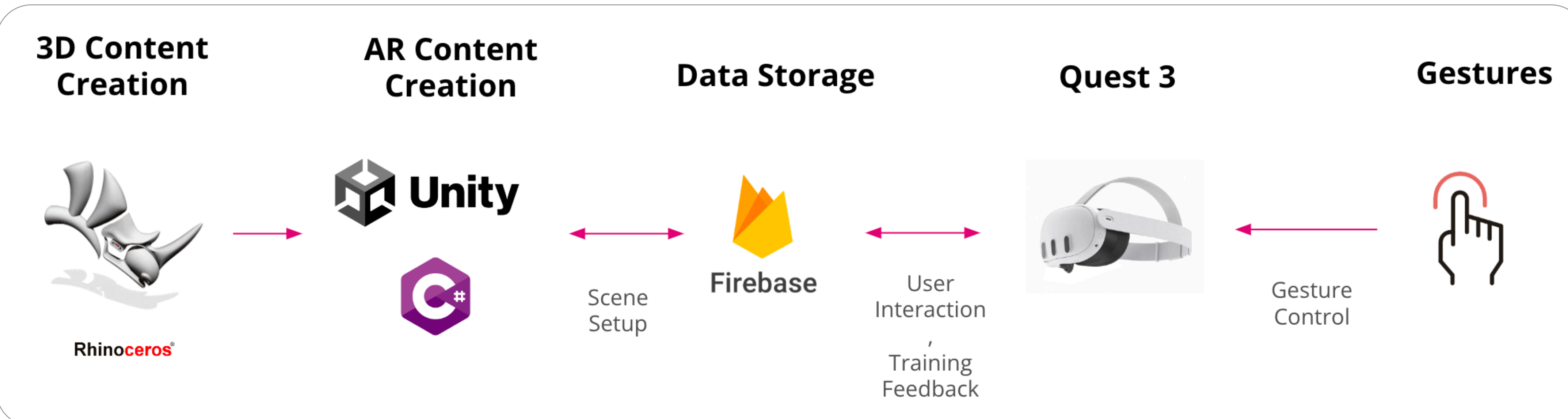
Overview of complete AirScale

Inventory of components

Pick up QSFP transceiver

Process/ Approach

We developed interactive prototypes of the MR training platform, iteratively refined prototypes based on user feedback, usability testing, and stakeholder input. Once the rough prototype was ready we conducted pilot testing with a small group of field technicians to assess its effectiveness, usability, and user satisfaction.

3D Content Creation → **AR Content Creation** (Unity, C#) → **Data Storage** (Firebase) → **Quest 3** → **Gestures**

Rhinoceros

Scene Setup

User Interaction

Training Feedback

Gesture Control

System Diagram