

MAGPIE | FRAMEWORK

An immersive intelligent platform for military training

The future of effective military electronics training

The MAGPIE Framework, now called KWYN Immersive, is an advanced training platform that guides students in highly interactive virtual environments, enabling realistic experiences with electronics and maintenance procedures. The platform uses modeling and simulation to create digital twins of machines, allowing students to learn, practice, and test their skills. KWYN Immersive bridges classroom instruction and hands-on experience, saving time and fast-tracking mission readiness.



The MAGPIE framework supports several instances:



MAGPIE Avionics, which the 365th Training Squadron actively uses at Sheppard Air Force Base for F-15E avionics maintenance



EAGLE Satellite Groundstation Troubleshooting, a development prototype to train the Hawkeye III Lite for the 338th Training Squadron at Keesler Air Force Base



Weaver High-Risk Career Field Training, a development prototype to train the Altec DM47 Derrick Digger for the 364th Training Squadron at Sheppard Air Force Base



VMT UH-72 Helicopter Maintenance Training, which models complex maintenance procedures and analyzes performance at the Western Army National Guard Aviation Training Site in Marana, Arizona



Efficient instruction and deeper learning

When instructors use the MAGPIE Framework, their students learn more in less time.

Efficient instruction is crucial, especially when technical orders comprise tens of thousands of steps, job sites are based in precarious environments, and specialized equipment requires niche expertise. During a formal course evaluation at Shepherd Air Force Base, for example, students completed a course in 12 hours through the MAGPIE Framework that previously took 24 hours with traditional instruction. In other words, students learned the same material in half the time, and instructors saved 50% of instruction time. Now that Shepherd Air Force Base has adopted the MAGPIE Framework, the instructors report that thousands of students who use it each year demonstrate a deeper knowledge of the theory, material, and aircraft systems.

50%
savings on
instruction
time

Key features and benefits

- **Responsive to individual learning needs**
- **Provides real-time performance assessments and immediate feedback**
- **Instructional classroom management tool**
- **Available 24/7 for training when needed**
- **Immersive course material keeps students engaged**
- **Adaptive training backed by artificial intelligence and 3D modeling**

Inside the MAGPIE Framework

Combining virtual 3D models, performance assessment models, and content-authoring and classroom management tools, the MAGPIE framework (now KWYN Immersive) enables students to practice with a virtual model of equipment and learn by trial and error.

Offering feedback to students as well as reporting features that help instructors better understand training outcomes, MAGPIE's streamlined dashboard provides assistance when needed. Training based on KWYN Immersive has been shown to reduce the time needed for hands-on practice.



Charles River Analytics brings foundational research to life, creating human-centered intelligent systems at the edge of what's possible, through deep partnerships with our customers.

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