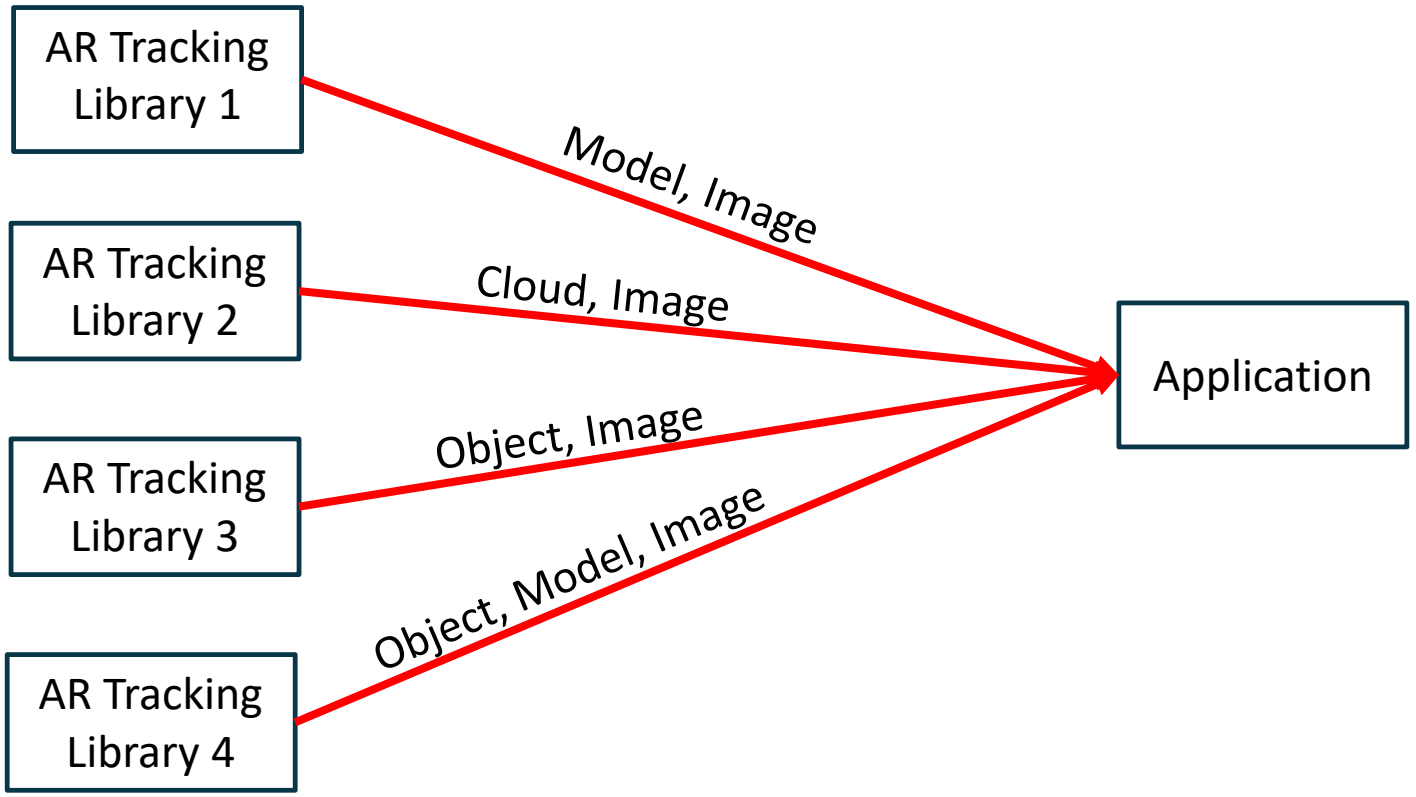
Common interface to swap out AR tracking libraries

- Category: Software Development

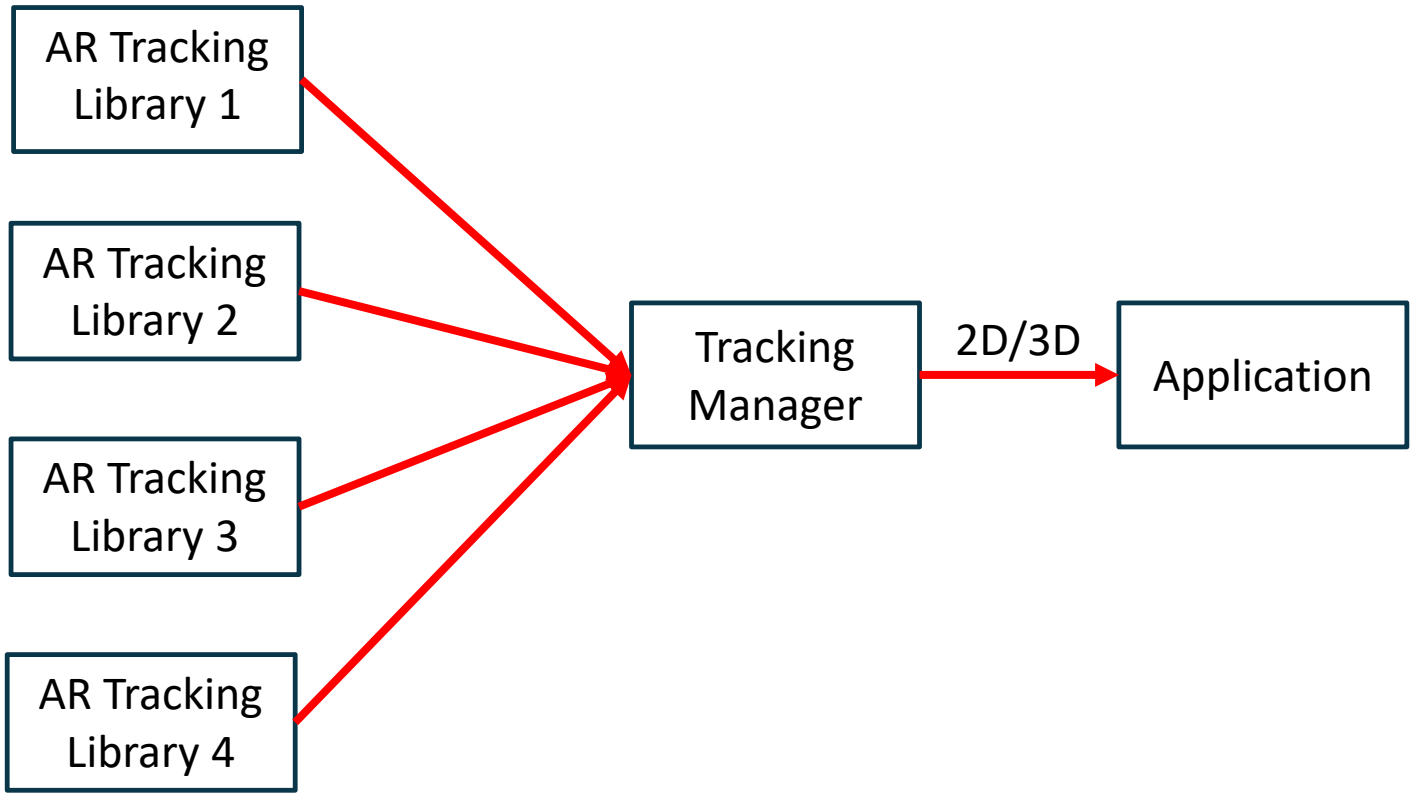
Problem this Research Would Address (1 of 3)

- A barrier to widespread adoption of AR is the risk of picking the wrong AR tracking library
- To be considered:
  - Multiple AR tracking libraries
  - Standardization of a common AR tracking interface
- PROBLEM: Your AR tracking library no longer fits your need, how do you transition to a different library quickly and with confidence.

Problem this Research Would Address (2 of 3)



Problem this Research Would Address (3 of 3)



Whose problem would be addressed?

- *Providers of enterprise AR platforms* would be able to more quickly and reliably
  - Switch between AR tracking libraries
  - Validate the library used is the best one for the task
  - Ensure future compatibility of the application
- *Enterprise safety managers* would
  - Evaluate the various technologies going to be used
- *Regulatory agencies or groups* would
  - Have the ability to specify a set of rules for an AR tracking library and verify conformity to those rules

How would this research be conducted? (1 of 2)

1. Conduct a survey to determine AR libraries to evaluate
2. Determine if it is possible to simplify multiple AR libraries into a single interface for an application
3. Write a wrapper for each tracking library that interfaces with a single tracking manager
4. Determine methods to validate the transition
5. Determine if an AR tracking library can be certified to a common standard

How would this research be conducted? (2 of 2)

Ideally, the research project will produce:

- A report
- A “tool” or framework for assessment or to help implementers
- A case study (public document 2-5 pages, demonstrates potential benefits of the research results)
- Software documentation of the application

Benefits to AREA Members

- AREA members will be able to more quickly evaluate and transfer to other AR tracking libraries.
- Long term impacts of this research: Develop a common AR tracking library standard that is adopted within the Enterprise community. Similar to VR trackables in VRPN, VR trackables and displays in OSVR, and AR/VR hardware in OpenXR.