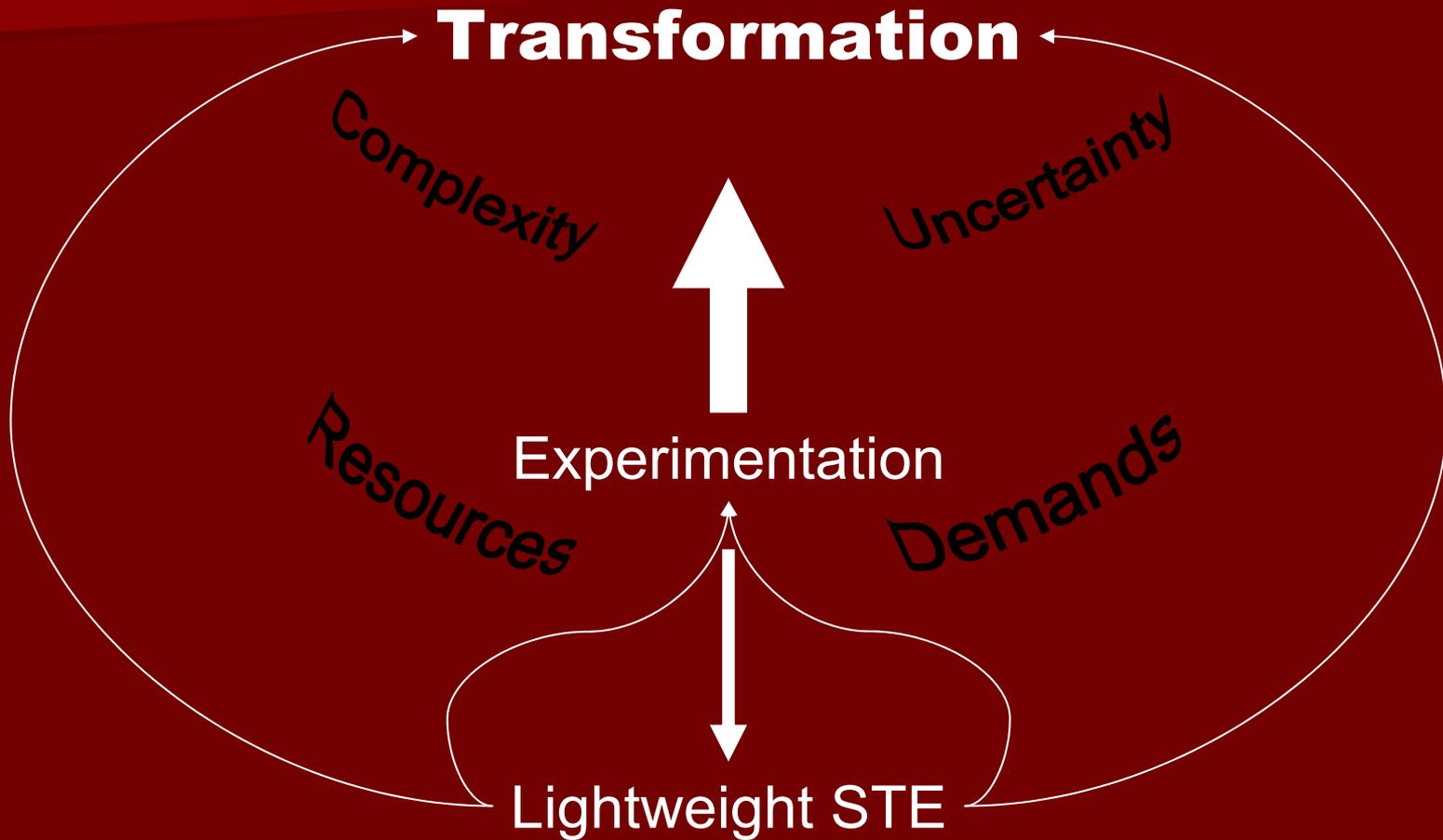


Lightweight Synthetic Task Environments for C2 Research Experimentation

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Seeing the Need



Lightweight STEs

Concept

A sample of the world simple enough to construct quickly, but rich enough to elicit expert performance

Criteria

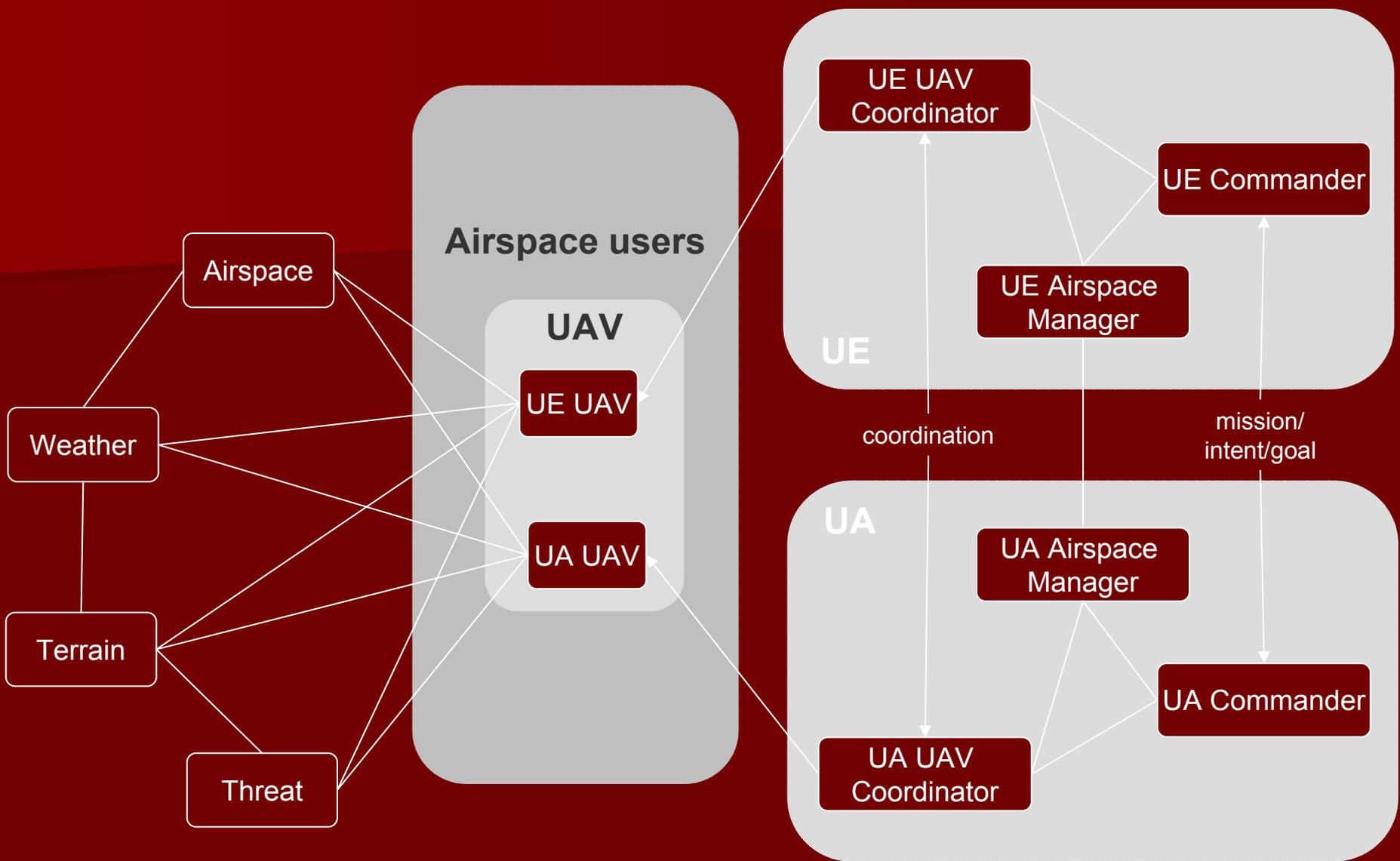
- Cognitively authentic
- Differentiates Expertise
- Multiple paths
- Minimalist

Varieties of STE

- Team research testbed (Cooke & Shope, 2002)
- Cognitive Modeling (Gray, 2002)
- UAV AVO performance (Martin et al., 1998)

STE Development Process

1. Develop research question
2. Investigate current or analogous performance
3. Select features to preserve or simplify
4. Review abstract design
5. Initial design of STE
6. Design review
7. Complete construction of STE
8. Pilot test



CPOF CHAT SITREPS

0545: 1st wave into LZ. Meeting organized resistance, estimate rein company. MGs, mortars. Moving to secure LZ. Taking casualties.

From: Recon Tm 6

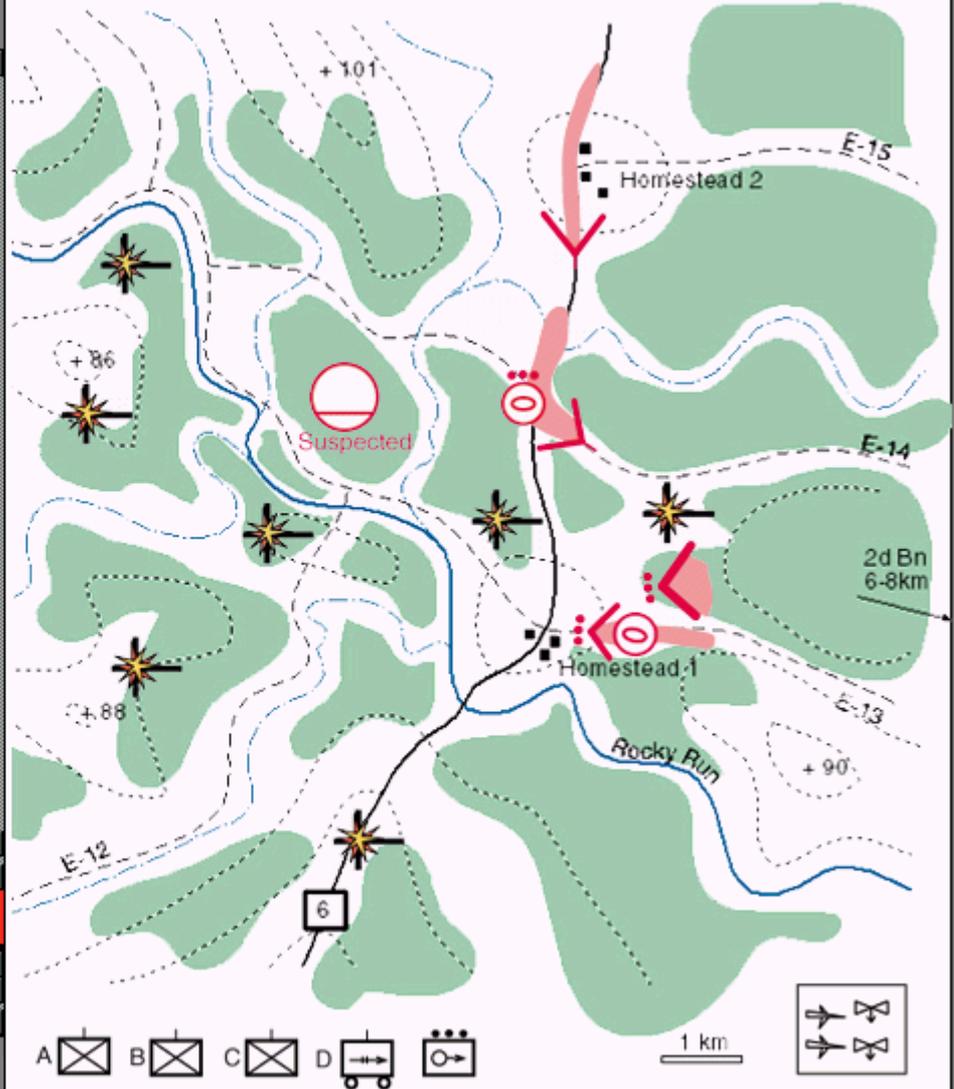
SALUTE REPORT: 100-150 double-timing south on Rte 6 near Homestead 2. Unit: unknown. Time: 0630. AKs, LMGs, RPGs, SA-7s.

From: Burp 1

SITREP: 0700: En infantry and tanks moving W toward Homestead 1 on E-13. Estimate company strength. Tanks on the trail. Infantry in woods to the N. Appear to be adopting assault formation.

ENTER CHAT MESSAGE AND PRESS RETURN:

REFRESH MEMBERS PRINT



Lightweight STE Roles in R&D

Exploration



Experimentation

Experience

Engineering

Next Steps in Development

- Validate in practice
- Explore the use of software formalisms in documenting design
- Find the trade-offs in researcher and practitioner involvement

Conclusions

- Useful STEs can be developed quickly and cheaply.
- Lightweight STEs have life cycle roles throughout R&D with a high multiplier on initial investment.

Acknowledgments

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Questions?