



Cultural Barriers to HPC Software Development

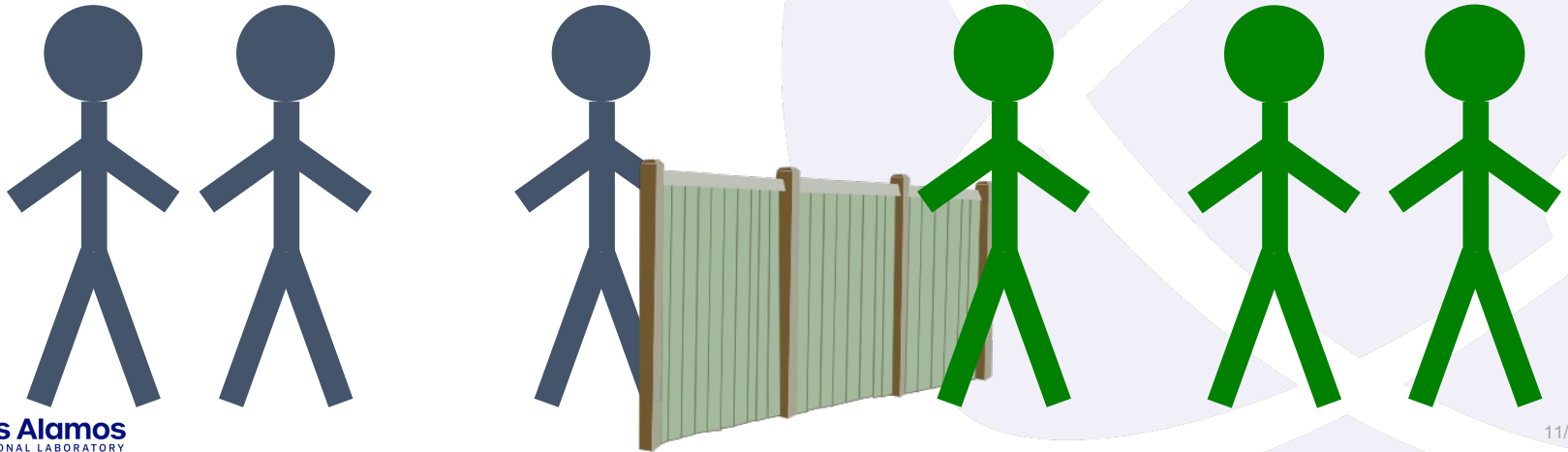
Charles Ferenbaugh
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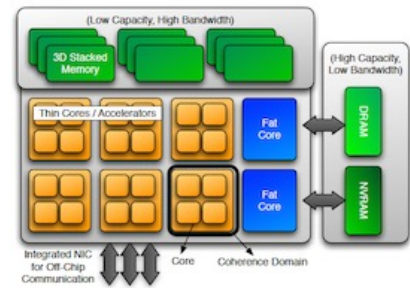
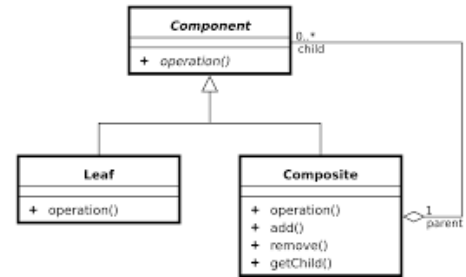
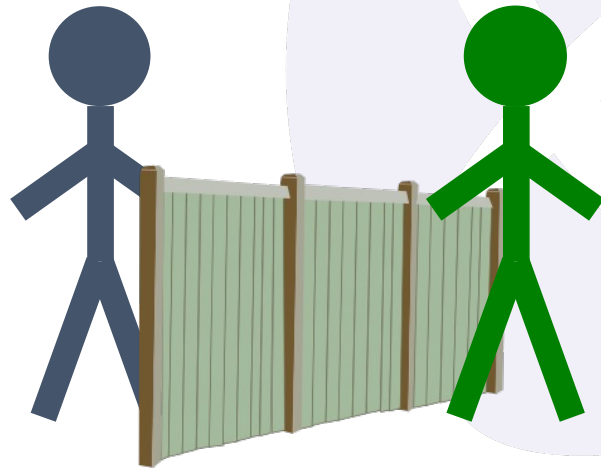
SC22 – Software Engineering and Reuse BOF
November 16, 2022

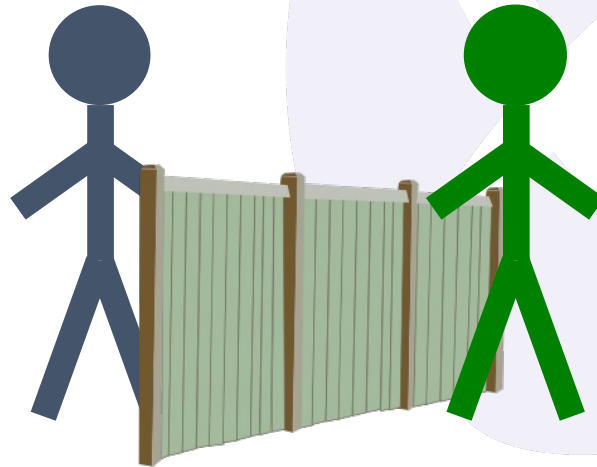
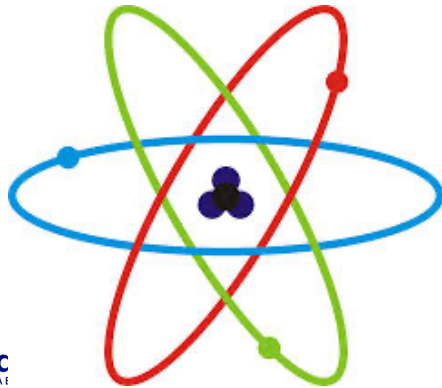
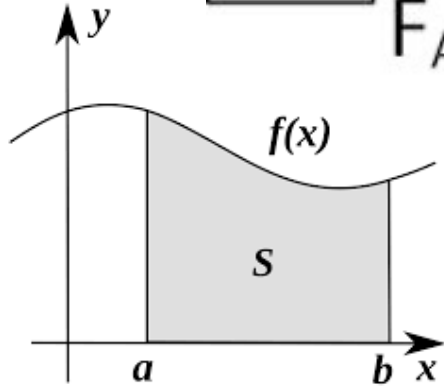
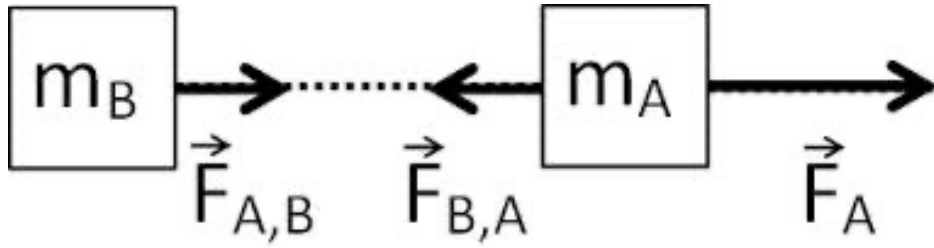
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Historically, domain scientists and **computer scientists** have worked in different organizations with different cultures.

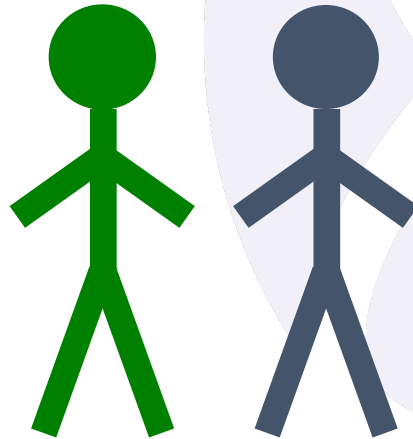
They were concerned with different things...

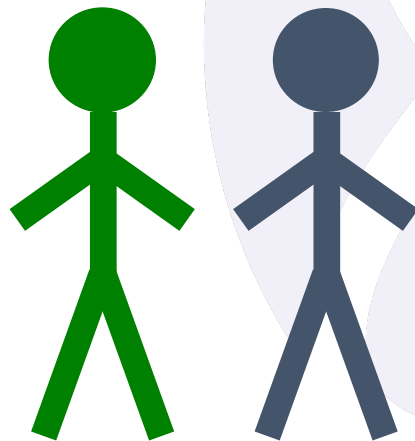






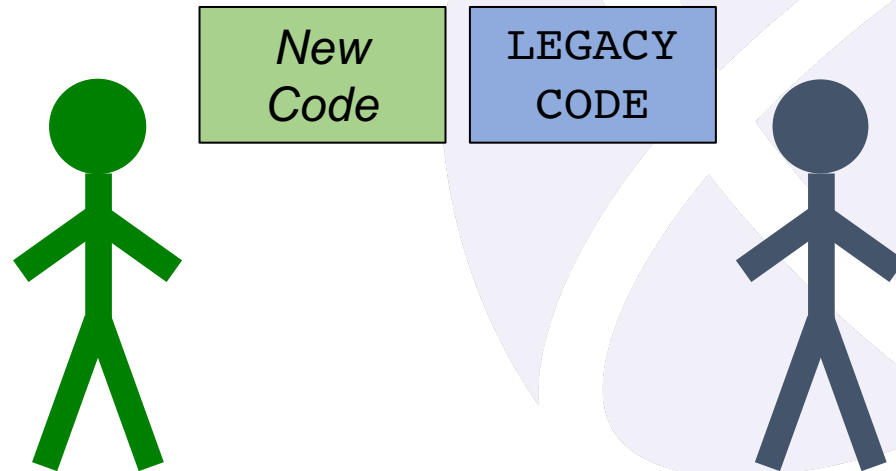
They looked at development tools differently...

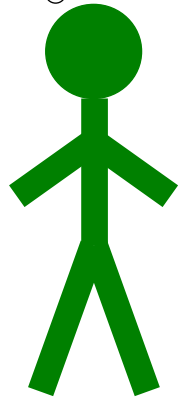
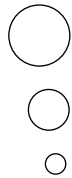
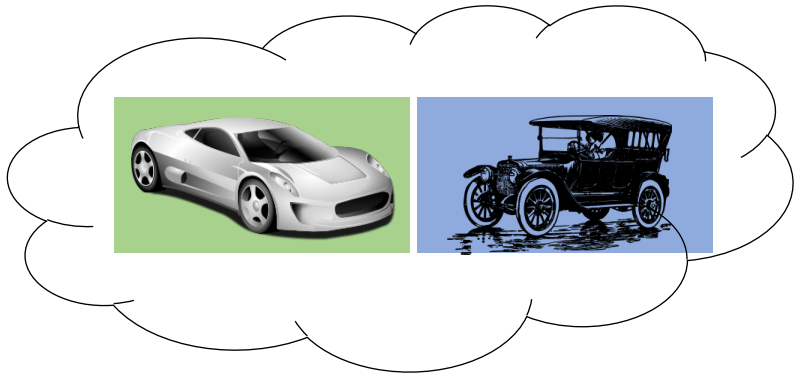






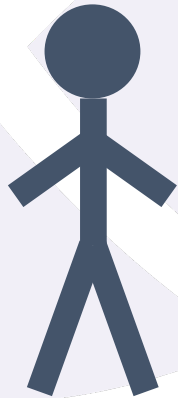
They looked at software differently...

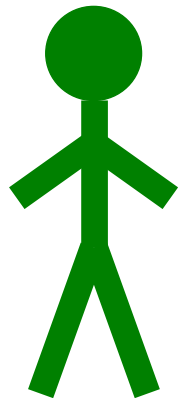




*New
Code*

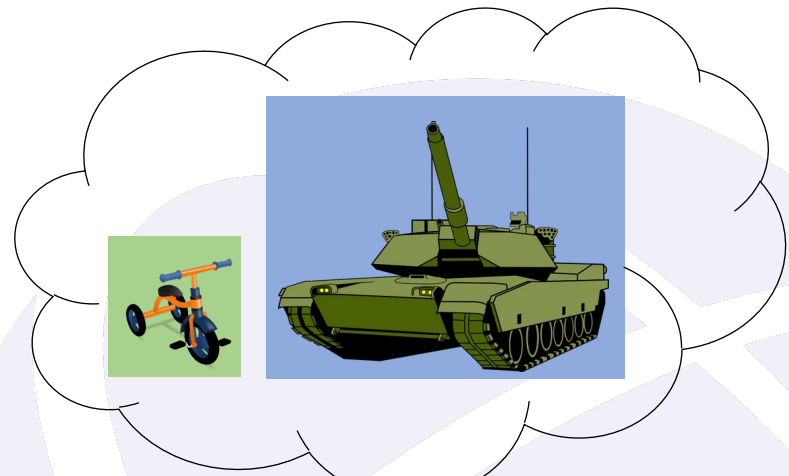
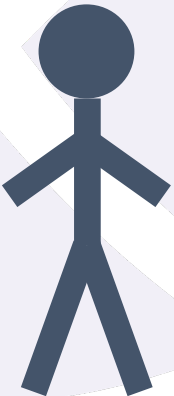
LEGACY
CODE



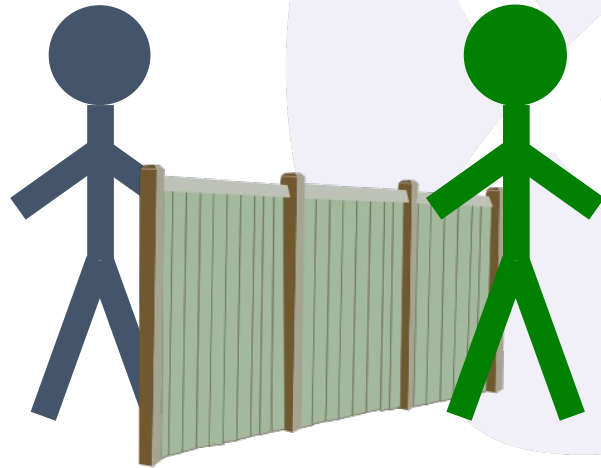


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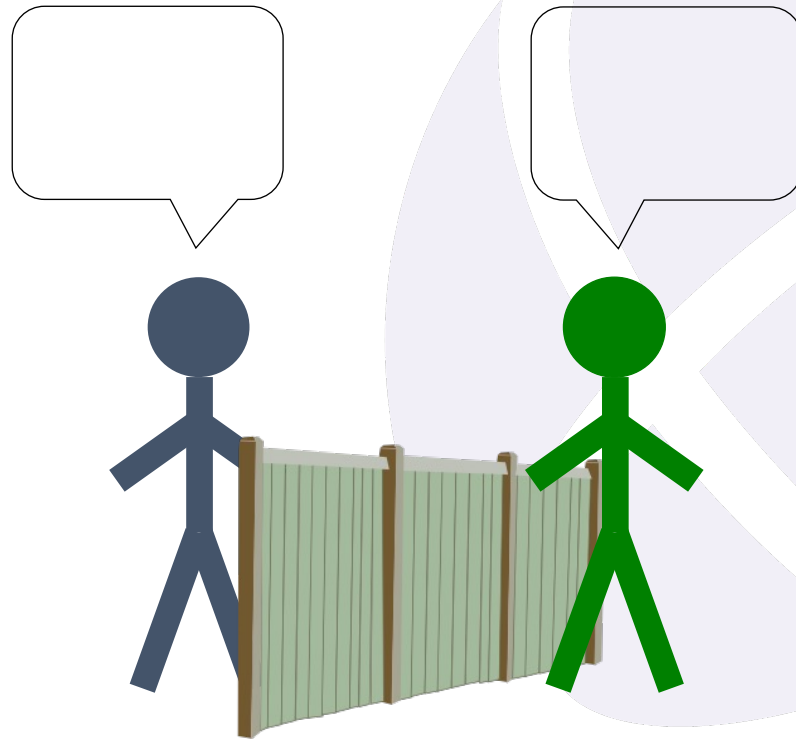
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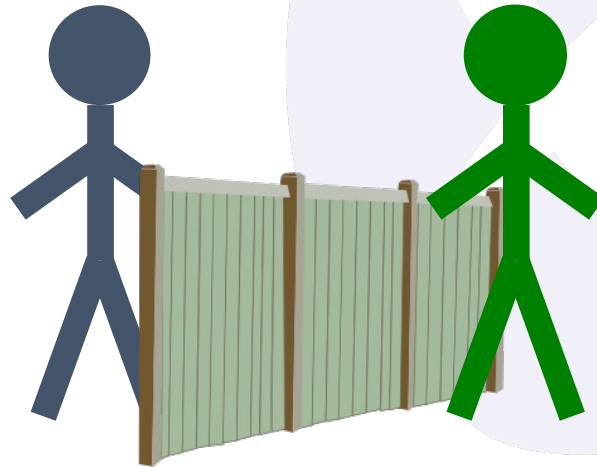
How can they work together on software?



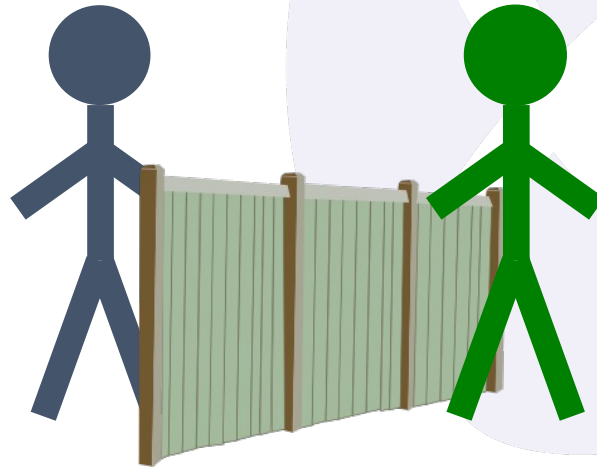
Once they realize their cultures are different, they can start trying to understand each other's language...



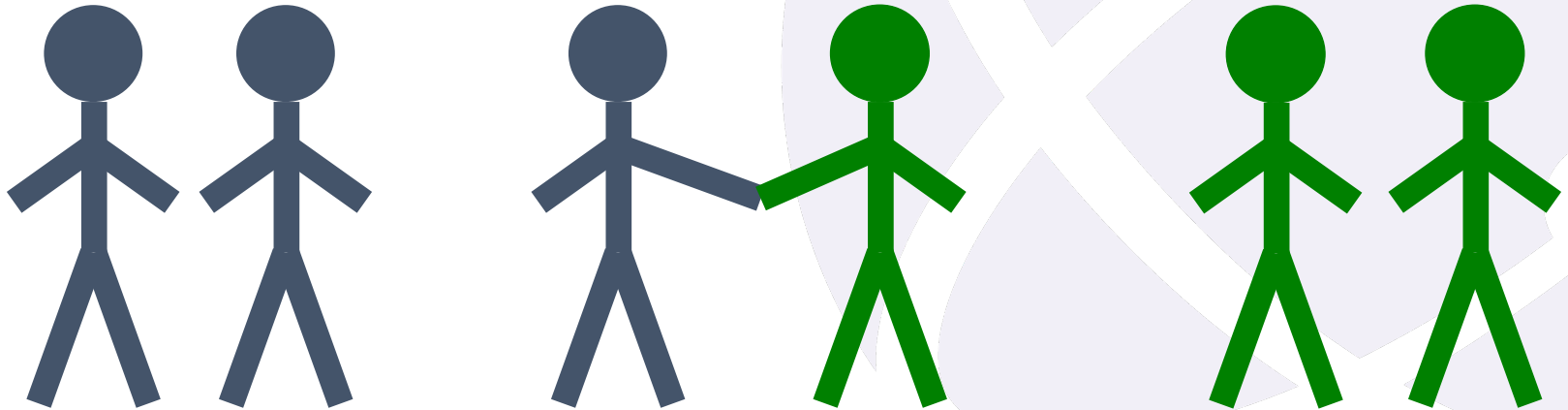
correctness
reproducibility
productivity
new architectures



**exploratory research
mission requirements
verification
validation**



As they learn to understand each other, they can start working together for better software...



The End



Reference

This is adapted from a workshop white paper from 2015:

Cultural Barriers to Software Productivity Practices at Los Alamos

<https://arxiv.org/abs/1509.07899v1>