Wikipedia for SmallSats: The SSRI Knowledge Base

CubeSat Developers Workshop

April 27-29, 2021

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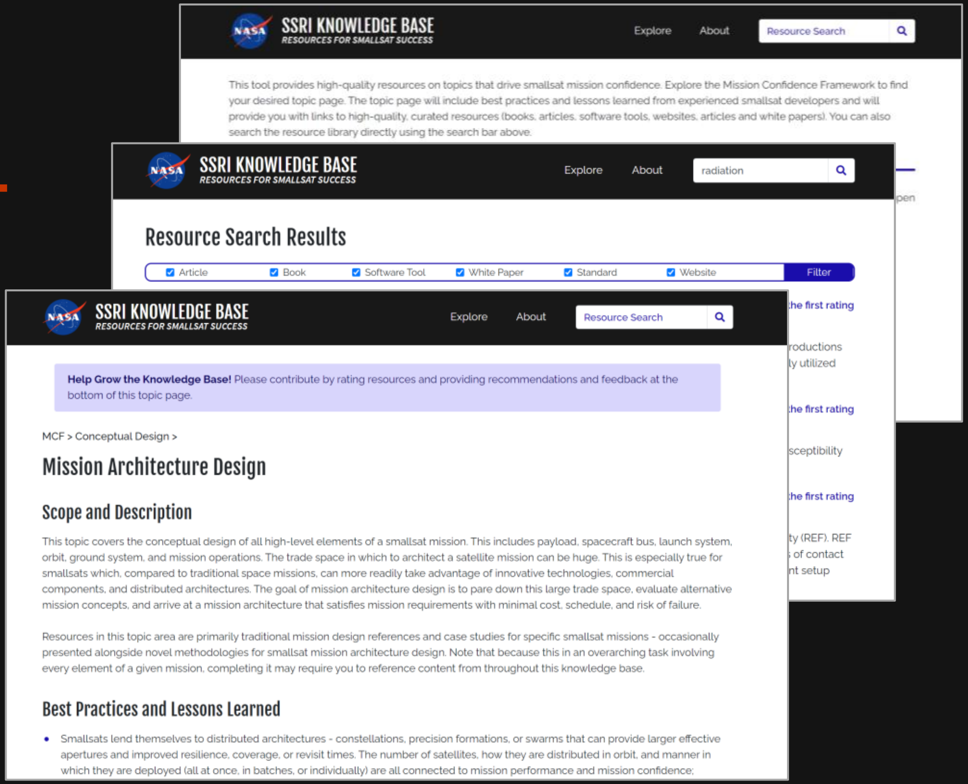
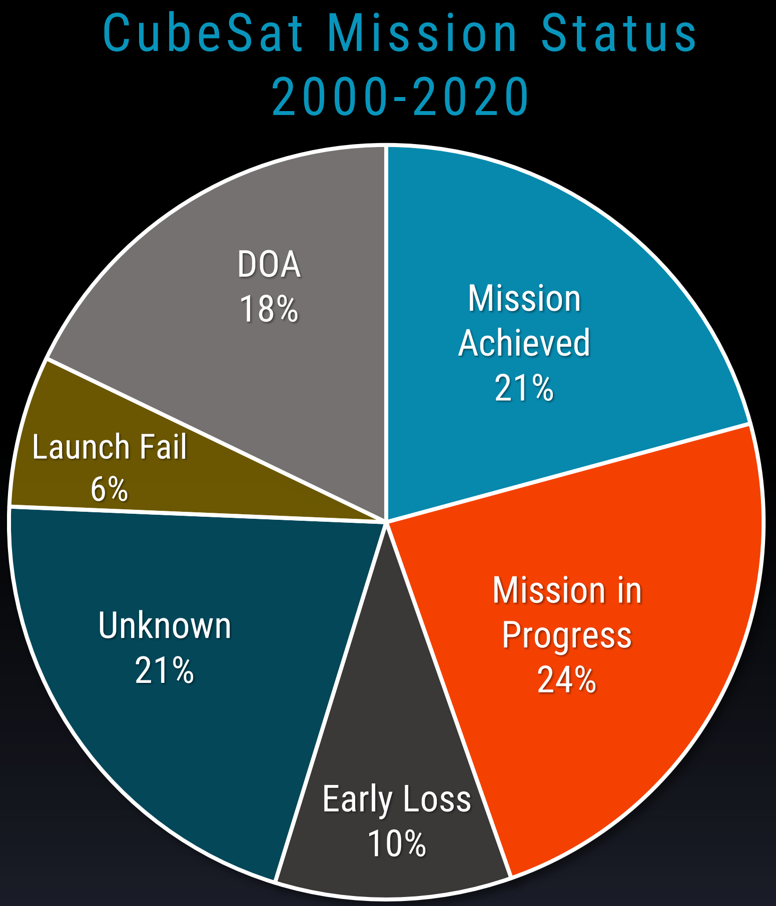


Small Satellite Reliability Initiative (SSRI)

Small Spacecraft Systems Virtual Institute (S3VI)

The Problems

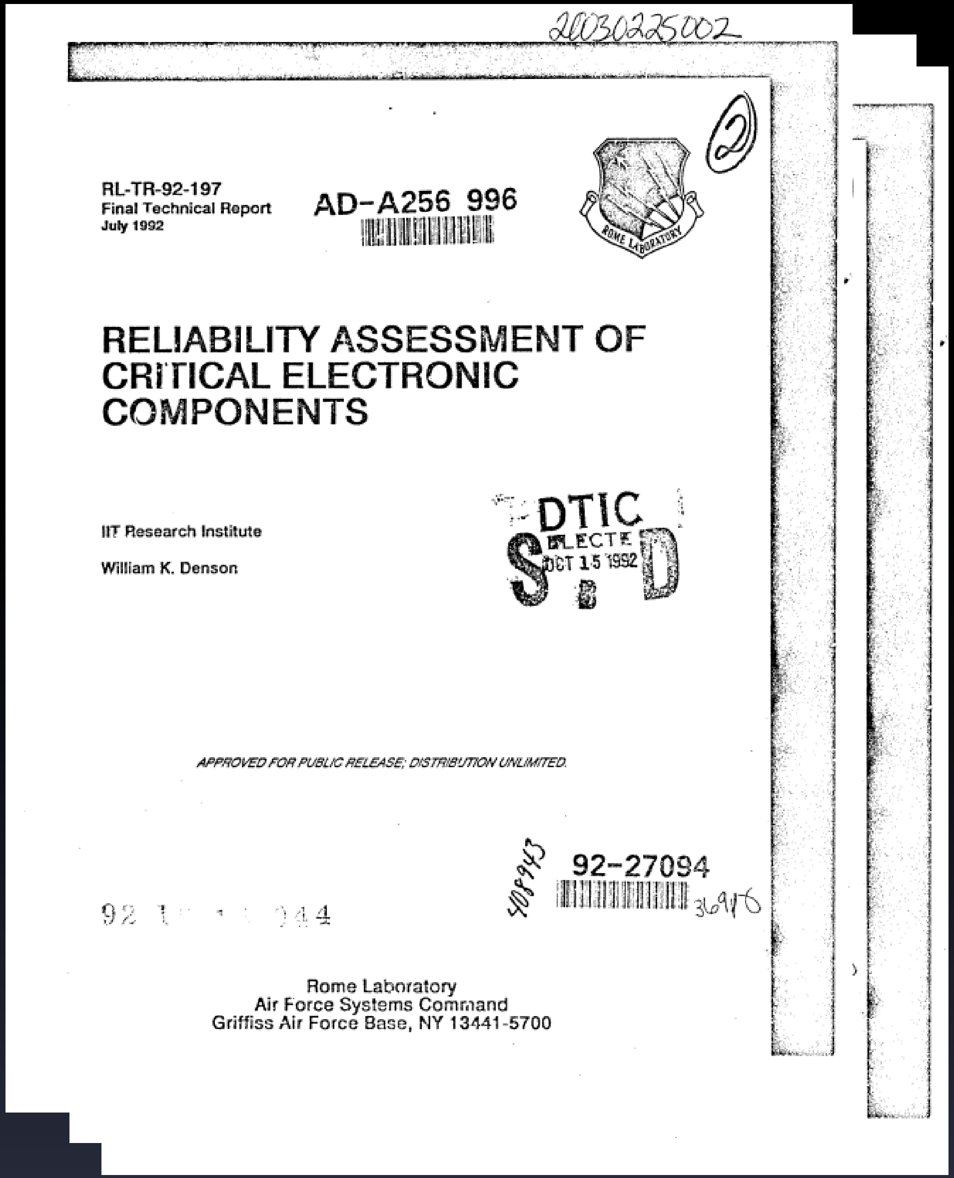
- Too many small satellite missions fail
- No quality, public forum for knowledge sharing



Data from M. Swartwout
https://sites.google.com/a/slu.edu/swartwout/home/cubesat-database

The Problems

- Too many small satellite missions fail
- No quality, public forum for knowledge sharing
- Slow and expensive methods of communicating best practices
- Constant change and innovation to keep up with


20030225002

RL-TR-92-197
Final Technical Report
July 1992

AD-A256 996

RELIABILITY ASSESSMENT OF CRITICAL ELECTRONIC COMPONENTS

IIT Research Institute

William K. Denson

DTIC ELECTE OCT 15 1992

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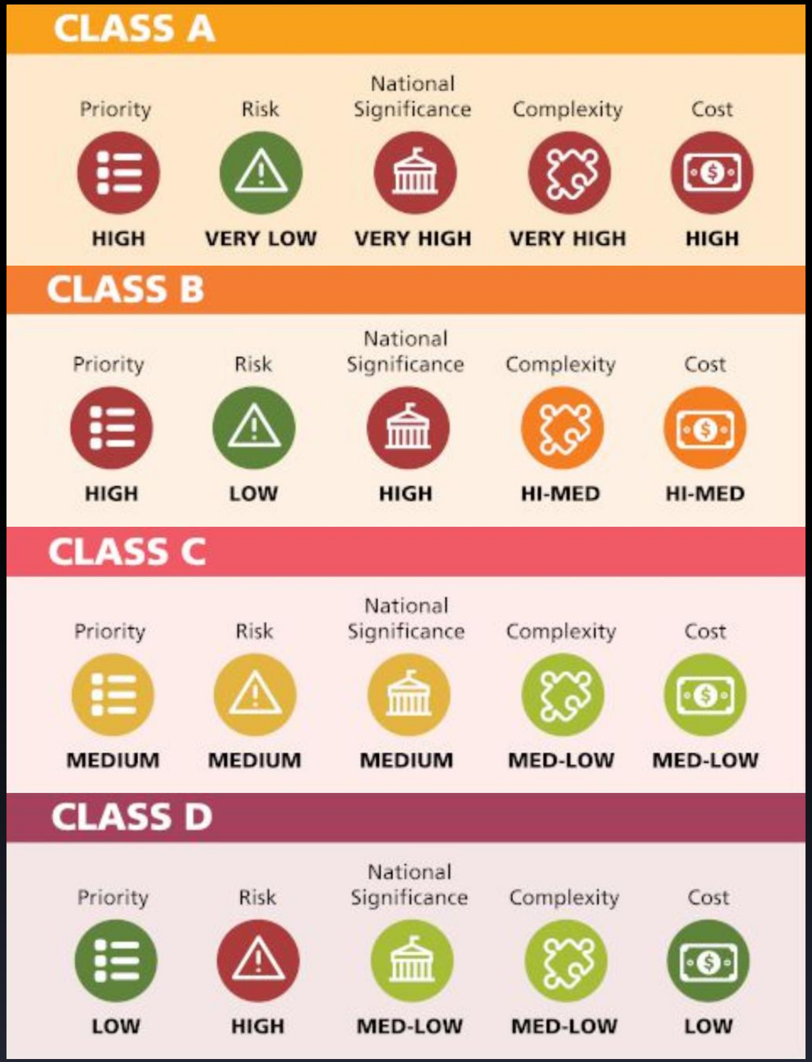
92-27094

Rome Laboratory
Air Force Systems Command
Griffiss Air Force Base, NY 13441-5700

Our Approach

- Web-based tool
- Avoid prescriptive solutions



https://psyche.asu.edu/

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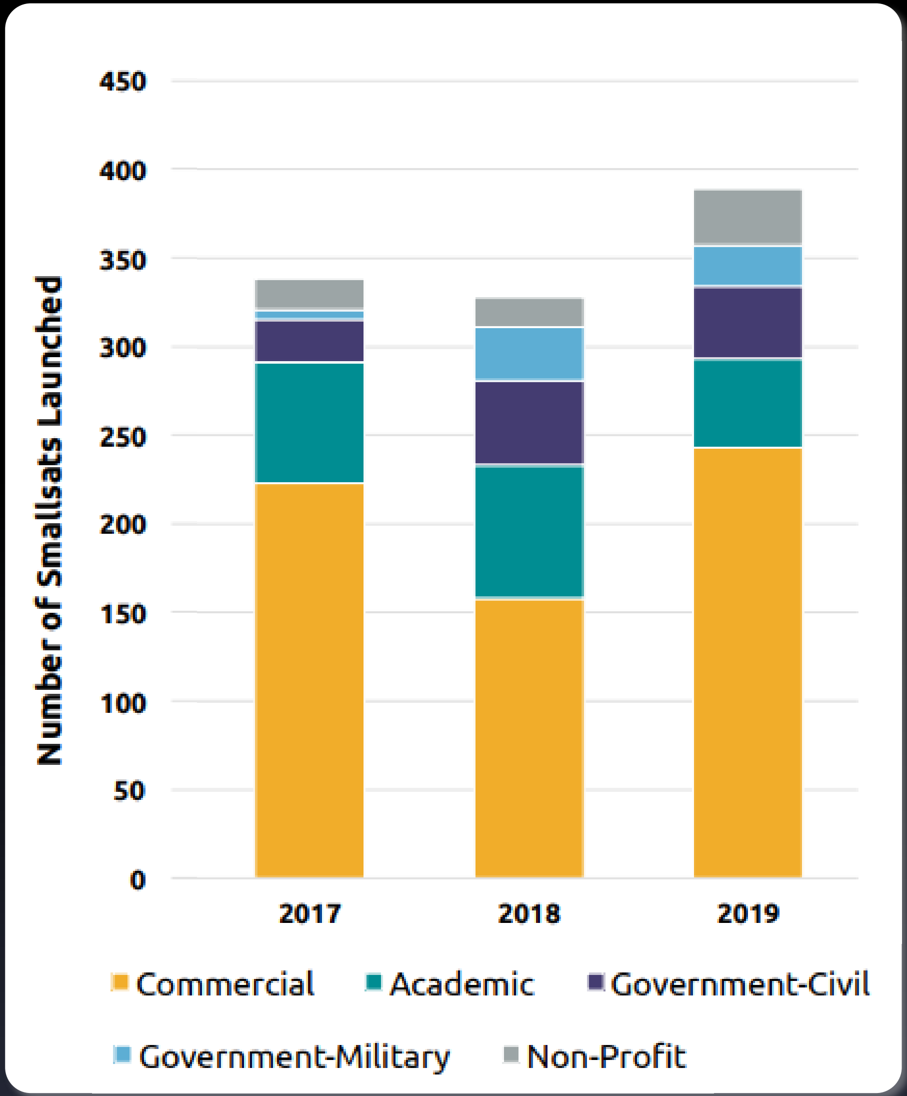

https://www.brycetech.com/reports

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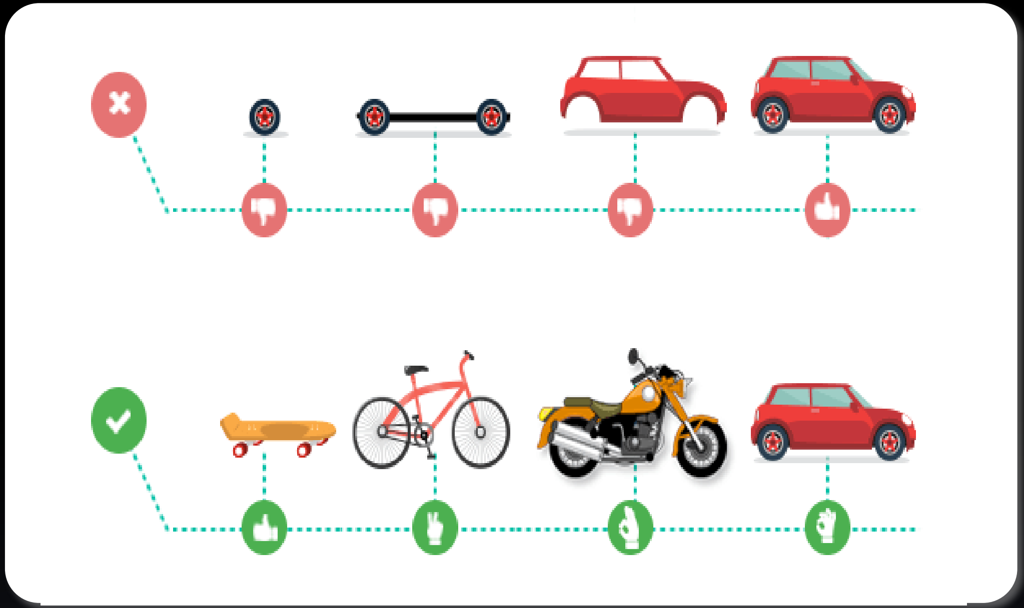
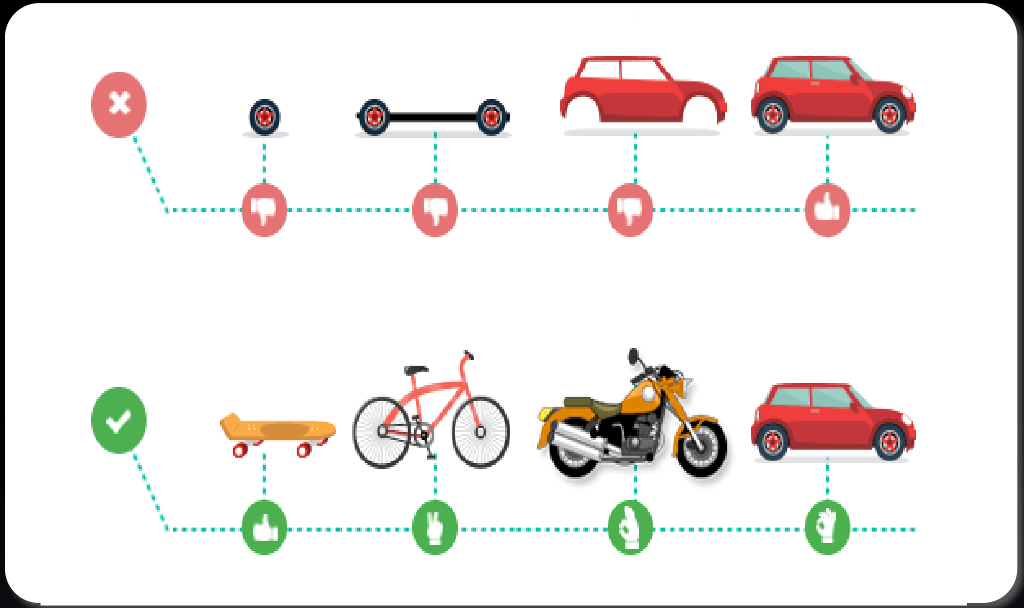


https://guide.quickscrum.com/minimum-viable-product/

Our Approach

- Web-based tool
- Avoid prescriptive solutions
- Target a wide audience
- Fast, lean development
- Adaptable, extendable



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The Solution: Wikipedia for SmallSats

Strengths of Wikipedia

- Free, publicly available tool
- Go-to starting place for information on a broad range of topics
- Open, collaborative development (crowdsourcing) for continuous growth and improvement

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How is the SSRI Knowledge Base Different?

- Primarily providing users with existing, third-party content
- Final moderation by the SSRI, not the user community

Structure

Resource Library

- Third-party content
  - Articles, books, software tools, white papers, standards, and websites
- Access to resource
- SmallSat context
- Ratings

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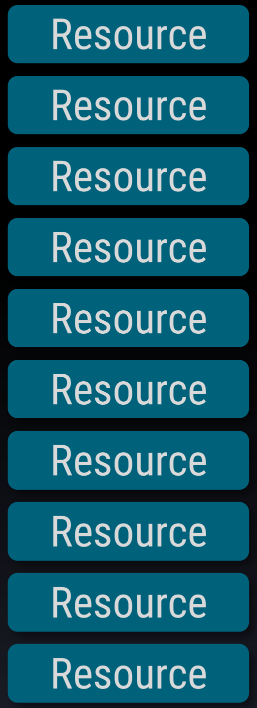
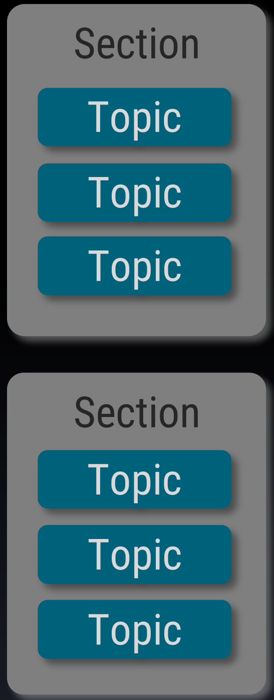


Mission Confidence Framework



- Order, structure, context
- Best practices & lessons learned
- User interfaces for submitting feedback and recommendations

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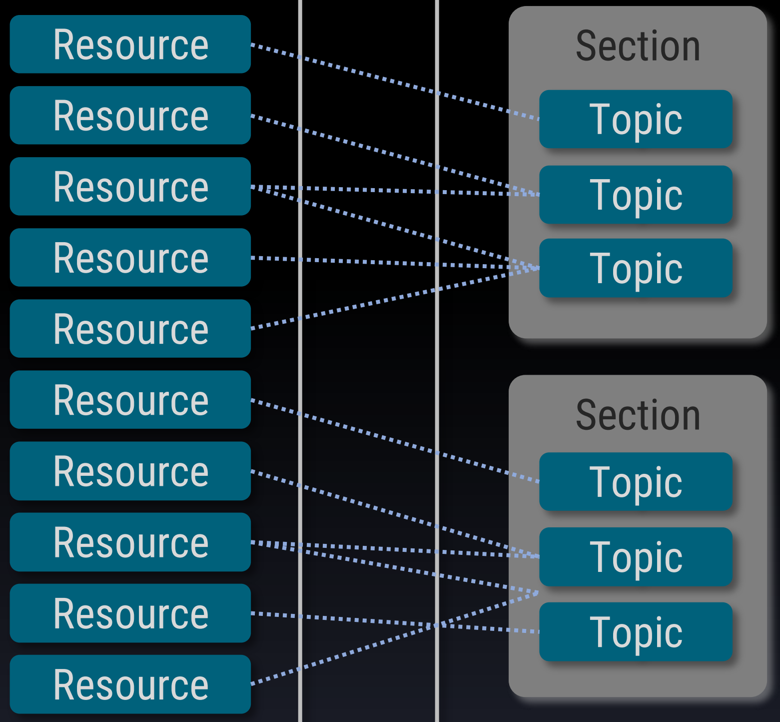

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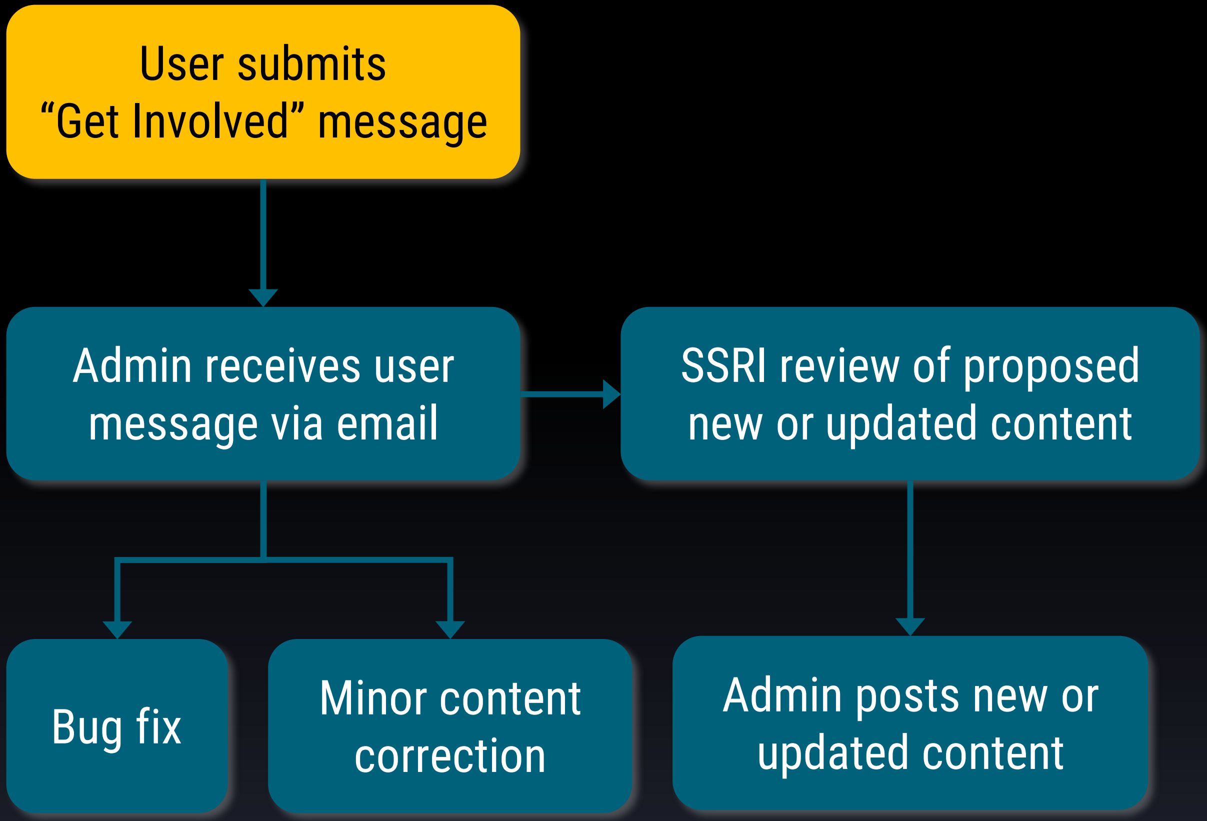
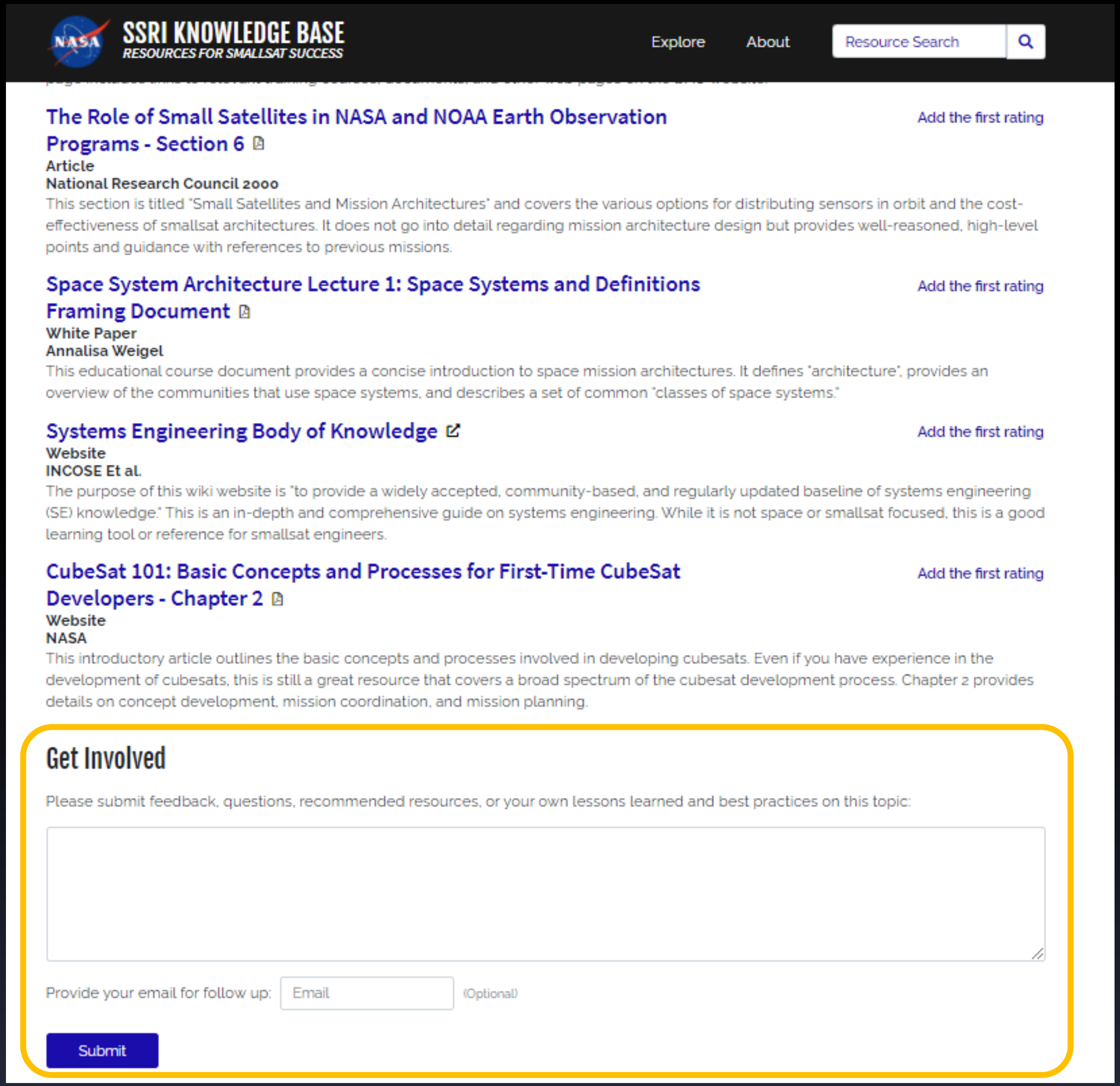
Administration





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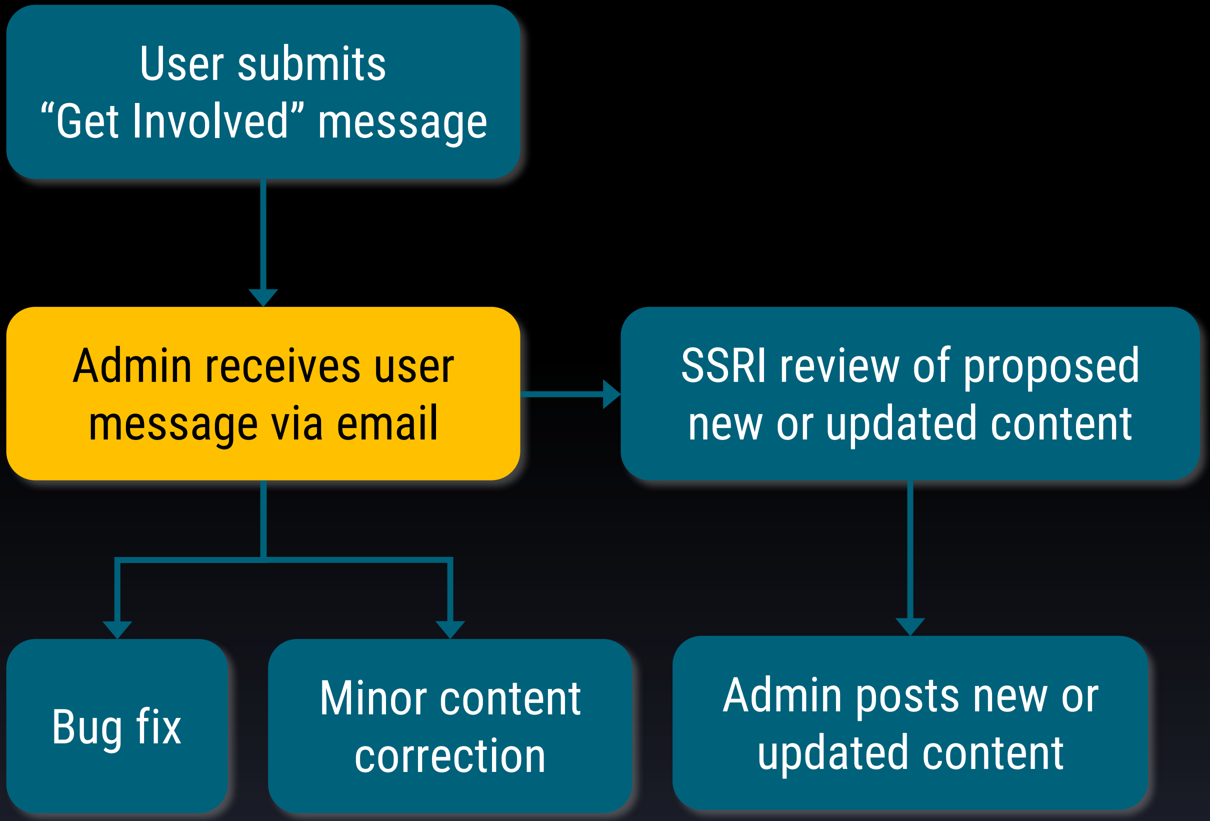

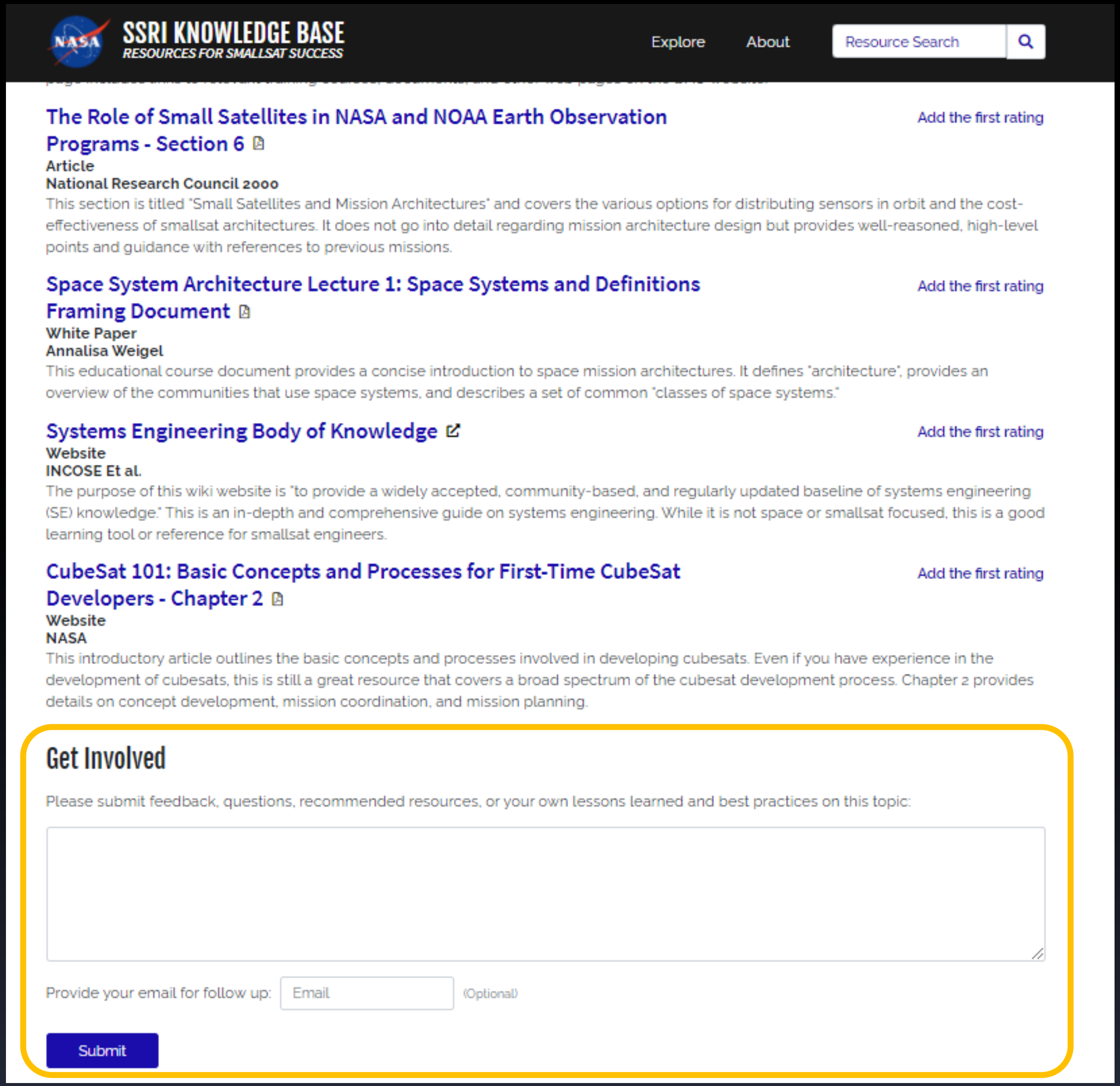

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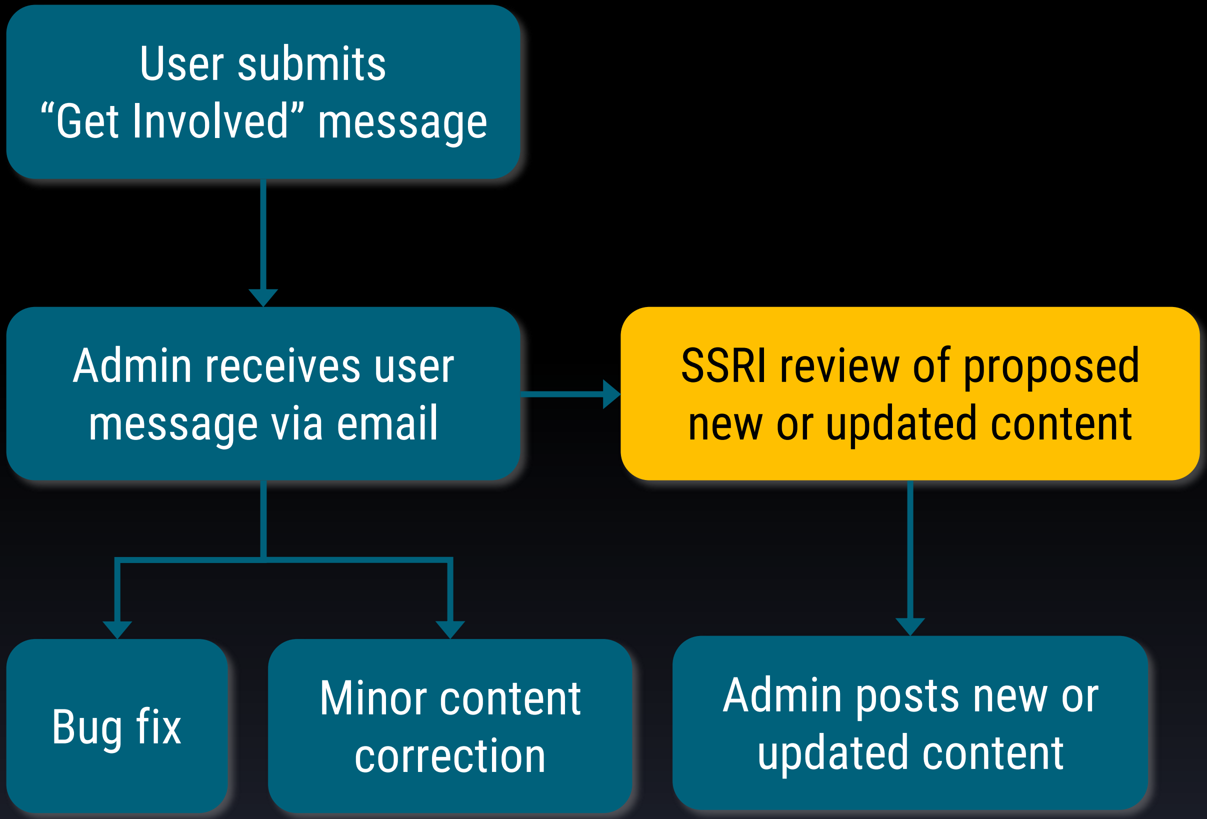

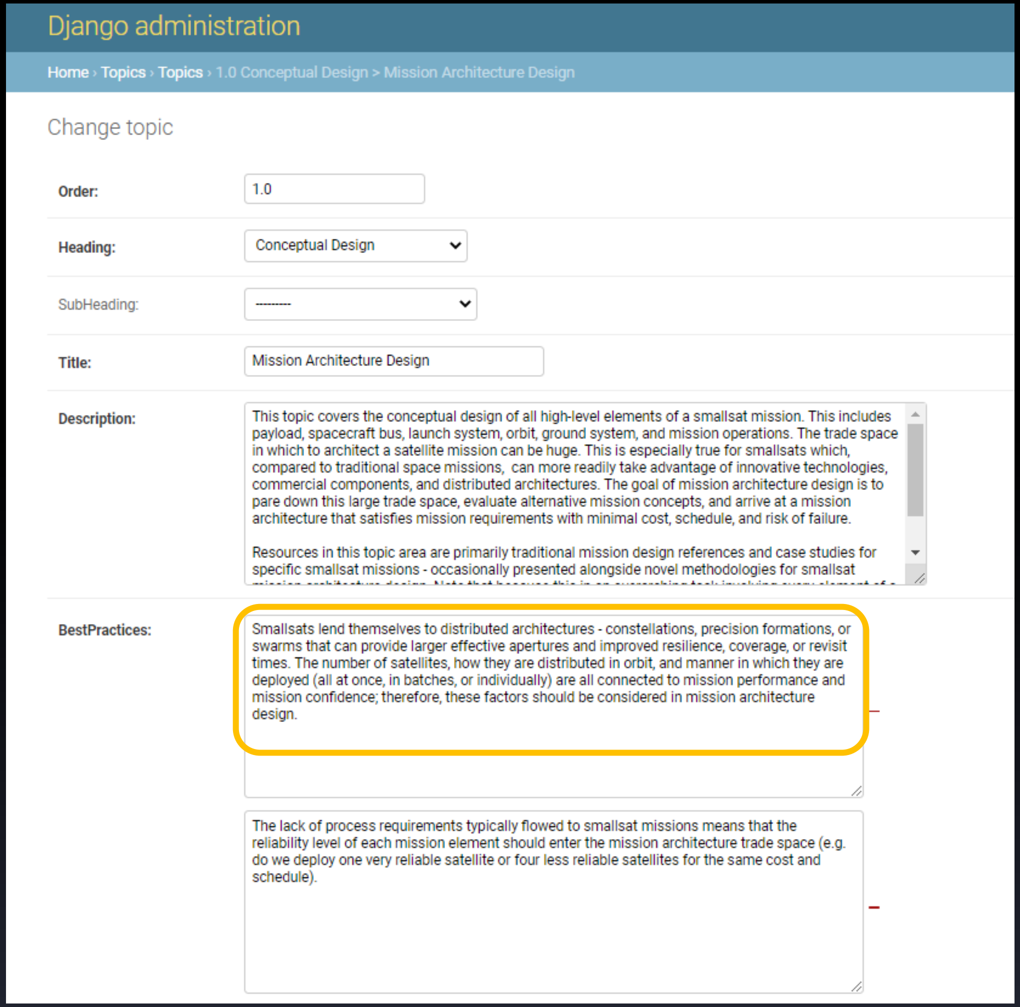

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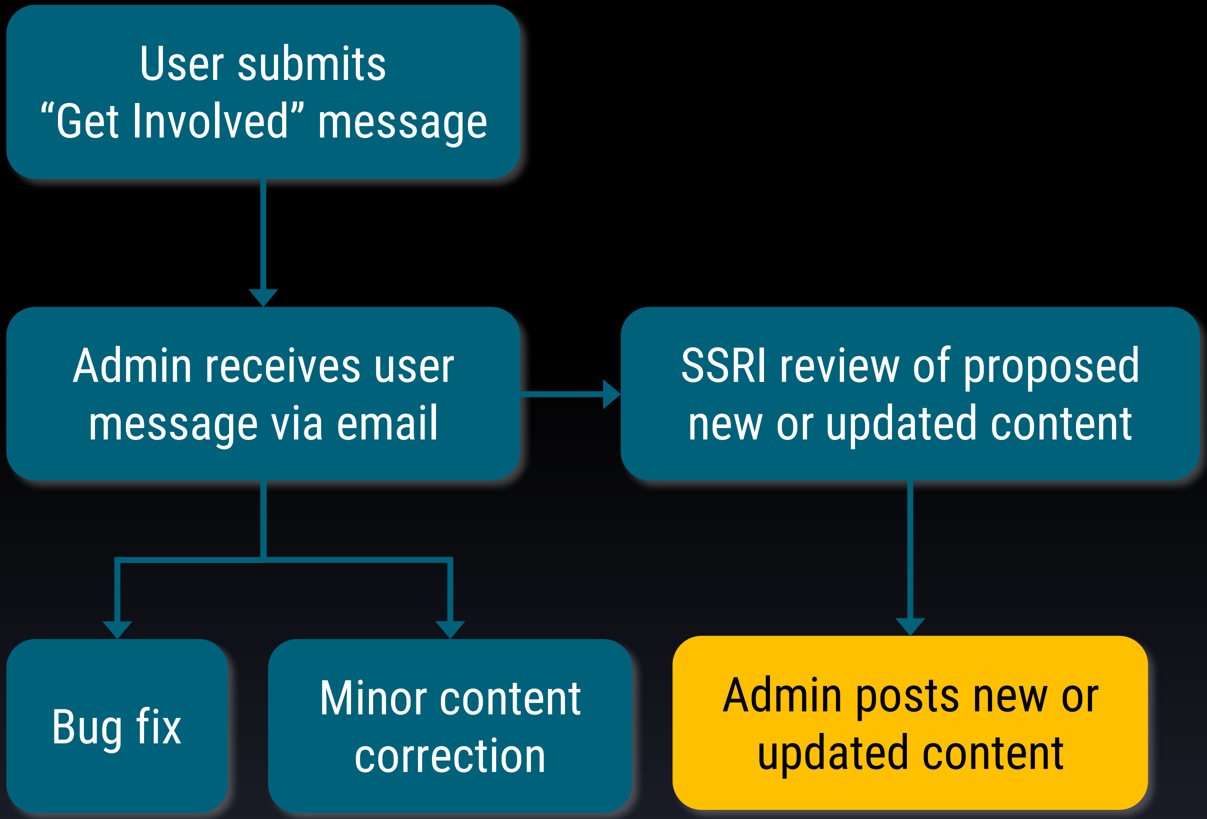

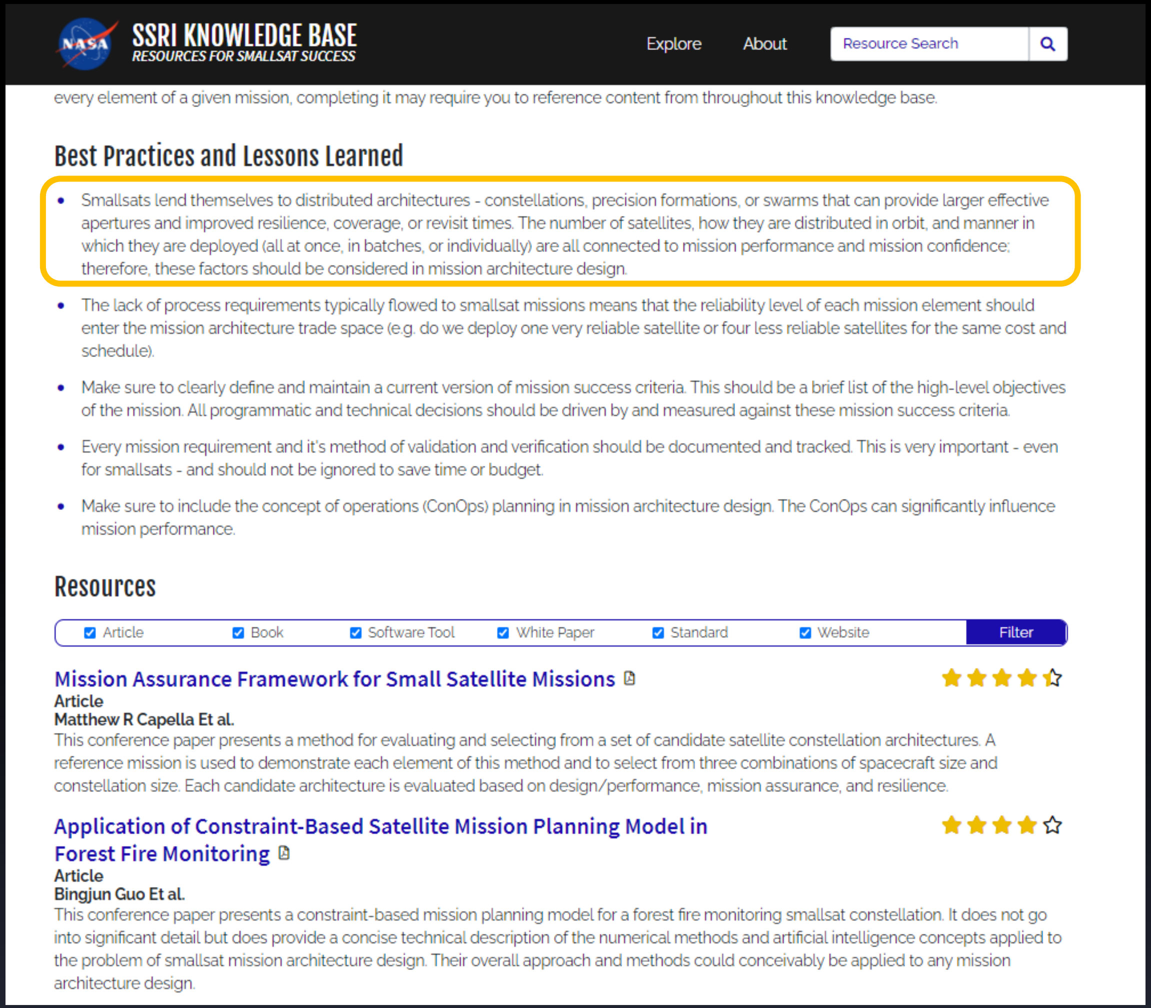

Demonstration

Sedaro Technologies

Join our virtual side-meeting!

Try out the SSRI Knowledge Base at:

https://s3vi.ndc.nasa.gov/ssri-kb/

Have questions? Want to get involved?

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