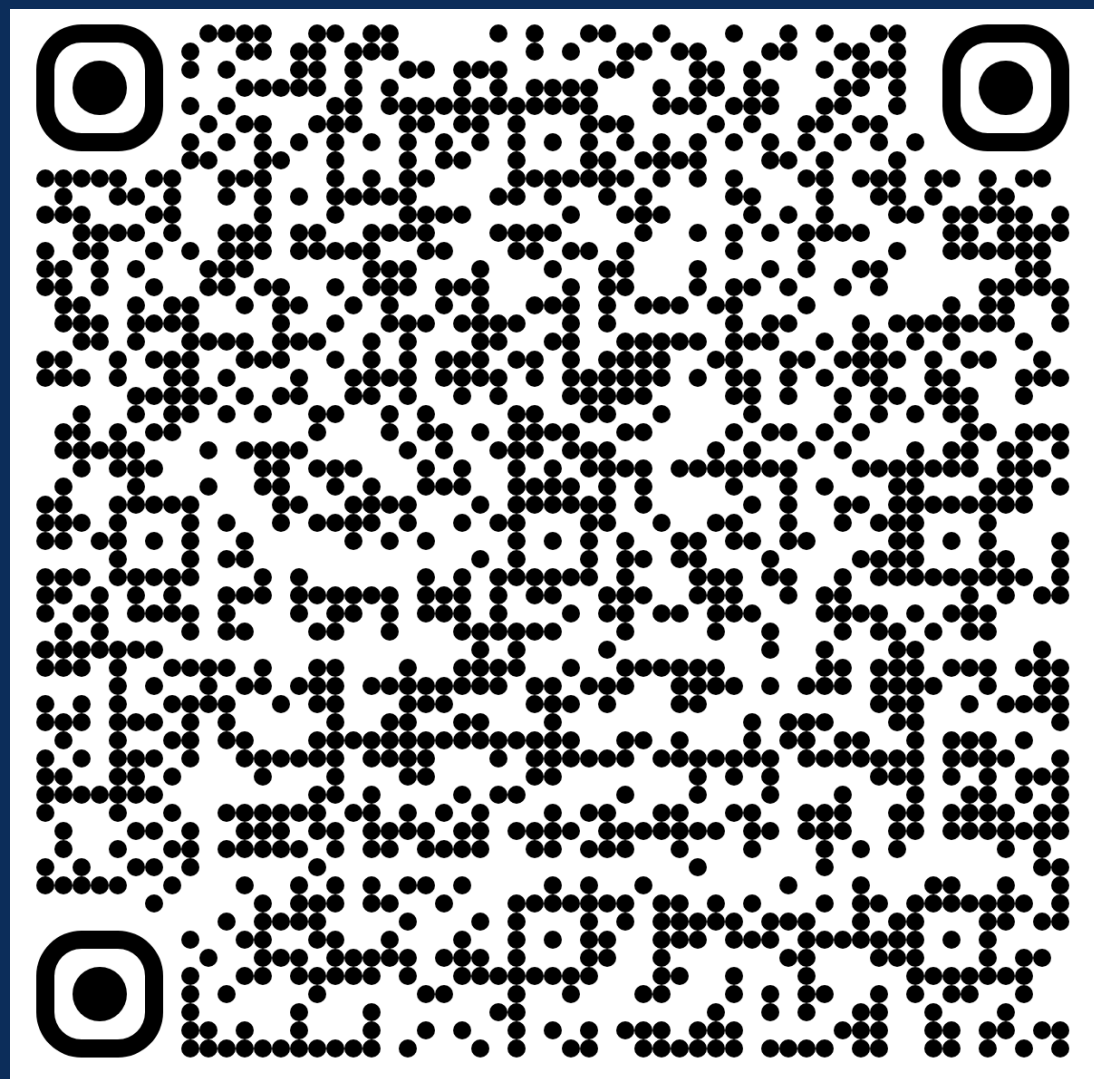


The Shared Language of Crowds:

A Crowd-Sourced Approach to Mapping RSE and SER Terminology



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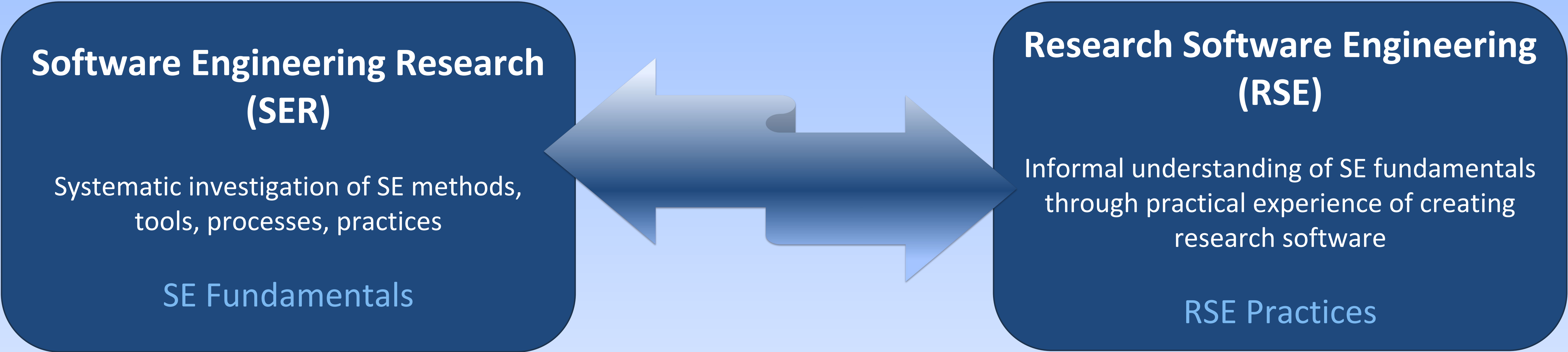
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Motivation & Goals

- Addressing inconsistent terminology for shared concepts.
- Establishing a shared understanding of SE fundamentals.
- Improving awareness and knowledge transfer across communities.

Initial Experience

- Pilot crowdsourcing sessions with mixed RSEs and SERs
- Participant-driven term selection and open discussions
- Insights on granularity and SWEBOK structure
- Identification of shared, differing, and overlapping concepts

- SWEBOK 4.0

Initial source for SE fundamentals
- Term Mapping

SER <-> RSE term + description
- Rating

Awareness, usage, impact (0–3)
- Crowd-Sourcing

Session, GitHub, discussion
- Editorial Review

Curators resolve disagreements

Collaboration Platform

Section	Heading	Page	Mapping
01	Software Requirements	1-1	
01.01	Software Requirements Fundamentals	1-2	
01.01.01	Definition of a Software Requirement	1-2	
01.01.02	Categories of Software Requirements	1-3	
05.02	Test Levels	5-6	
05.02.01	The Target of the Test	5-6	
05.02.01.01	Unit Testing	5-6	mapping
05.02.01.02	Integration Testing	5-7	mapping
05.02.01.03	System Testing	5-7	mapping
05.02.01.04	Acceptance Testing	5-7	mapping
05.02.02	Objectives of Testing	5-7	
05.02.02.01	Conformance Testing	5-7	
05.02.02.02	Compliance Testing	5-8	
05.02.02.03	Installation Testing	5-8	mapping
05.02.02.04	Alpha and Beta Testing	5-8	mapping
05.02.02.05	Regression Testing	5-8	mapping

Term: The oracle problem

Source: [SWEBOK section 05.01.02.07](#)

SE Fundamental	RSE Equivalent
• The oracle problem	• Checking with the science lead • Checking prior papers • Gold result
Fundamental description	RSE practice
An oracle can be any human or mechanical agent that decides whether the system under test behaved correctly. If the oracle cannot decide, the test output is classified as inconclusive.	RSEs are not generally aware of the the SER terminology, but do practice the oracle concept. Often through an appeal to expert knowledge or prior results.
SER potential (source) and opportunities	RSE awareness (source) and usage (sources)
3 (expert judgement)	1 (expert judgement)
RSEs "should" know the term 'the oracle problem' and should be thinking about it more specifically as they work. The oracle problem will be increasingly important/challenging in AI-related settings, for example. Strategies for dealing with inconclusive outcomes are also of increasing importance.	3 (expert judgement)

Envisioned Outcomes

- Aligned SE fundamentals that are similarly understood and valued by both communities;
- SE fundamentals unfamiliar to the RSE community, presenting opportunities for education, training, and outreach to promote adoption by the RSE community;
- SE fundamentals perceived as less useful by the RSE community, revealing opportunities for adaptation and refinement by the SER community to make SE fundamentals more suitable for RS contexts.