

PhD Committee Meeting #4

Dan Szymczak

Computing and Software Department
Faculty of Engineering
McMaster University

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Overview

1 Research Recap

2 Current Progress

3 Next Steps.

Research Topic Recap

Motivation

Recap

Progress

Next Steps

- Too much duplication!

Research Topic Recap

Motivation

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Progress

Next Steps

- Too much duplication!
- (Re-)Certification is expensive

Research Topic Recap

Motivation

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Next Steps

- Too much duplication!
- (Re-)Certification is expensive
- Inter-/intra-artifact consistency issues

Research Topic Recap

Motivation

Recap

Progress

Next Steps

- Too much duplication!
- (Re-)Certification is expensive
- Inter-/intra-artifact consistency issues
- Promote reusability

Research Topic Recap

Motivation

Recap

Progress

Next Steps

- Too much duplication!
- (Re-)Certification is expensive
- Inter-/intra-artifact consistency issues
- Promote reusability
- Design for change

Research Topic Recap

KBSE & The Drasil Framework

Recap

Progress

Next Steps

A Knowledge-Based Software Engineering Approach

- Too much duplication!
- (Re-)Certification is expensive
- Inter-/intra-artifact consistency issues
- Promote reusability
- Design for change

Research Topic Recap

KBSE & The Drasil Framework

Recap

Progress

Next Steps

A Knowledge-Based Software Engineering Approach

- **Single knowledge-base**
- (Re-)Certification is expensive
- Inter-/intra-artifact consistency issues
- Promote reusability
- Design for change

Research Topic Recap

KBSE & The Drasil Framework

Recap

Progress

Next Steps

A Knowledge-Based Software Engineering Approach

- Single knowledge-base
- **Generate artifacts**
- Inter-/intra-artifact consistency issues
- Promote reusability
- Design for change

Research Topic Recap

KBSE & The Drasil Framework

Recap

Progress

Next Steps

A Knowledge-Based Software Engineering Approach

- Single knowledge-base
- Generate artifacts
- **Guaranteed consistency**
- Promote reusability
- Design for change

Research Topic Recap

KBSE & The Drasil Framework

Recap

Progress

Next Steps

A Knowledge-Based Software Engineering Approach

- Single knowledge-base
- Generate artifacts
- Guaranteed consistency
- Reusable across projects
- Design for change

Research Topic Recap

KBSE & The Drasil Framework

Recap

Progress

Next Steps

A Knowledge-Based Software Engineering Approach

- Single knowledge-base
- Generate artifacts
- Guaranteed consistency
- Reusable across projects
- **Easy to mix and match**

Research Topic Recap

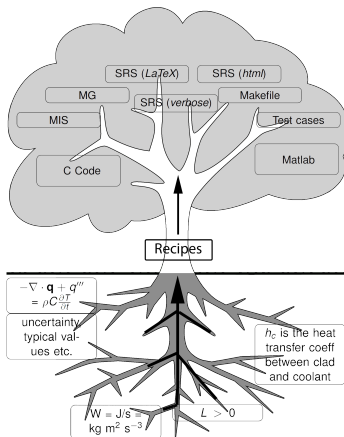
KBSE & The Drasil Framework

Drasil – Towards generating Software Families

Recap

Progress

Next Steps



Research Topic Recap

KBSE & The Drasil Framework

Recap

Progress

Next Steps

Drasil – Towards generating Software Families

- One “source”, multiple views
- Full traceability
- Consistent-by-construction artifacts

Research Topic Recap

KBSE & The Drasil Framework

Recap

Progress

Next Steps

Drasil composed of many Domain-Specific Languages (DSLs) including, but not limited to:

- Knowledge Capture
- Recipes (Document generation)
- Code Generation

Current Program Progress

A brief overview

Recap

Progress

Next Steps

- Completed all necessary graduate courses & comprehensive examinations
- Currently Writing:
 - Journal paper for ACM TOSEM
 - Thesis

Current Program Progress

A brief overview continued

Recap

Progress

Next Steps

Research Project: Drasil proof-of-concept “complete”

- Scoped-down due to nature of project
- Generating SRS for six case studies & code for one
- Still improving with the help of summer students

Since Last Time

General

Recap

Progress

Next Steps

Summer 2017: Supervised 5 research students

- Cleaned up case studies
- Helped improve Drasil

Submitted a paper for SE-CoDeSE'17: Rejected

Began work on a paper for FASE 2018 – Scrapped

Met with OPG in January: Positive feedback

Currently co-supervising 3 summer research students

Writing

Since Last Time

Drasil-Specific

- Total of 372 issues closed on the Drasil github
- Currently ~ 130 open issues guiding development
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Next Steps

Broad Strokes

What next?

- Comprehensive examination part two.
- Complete final graduate level course.
 - Looking for a category theory course, but open to suggestions.
- Complete thesis.

Thank You!