# Mostly Dines Bjørner's RAISE-related Documents

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#### Abstract

This document is intended for the RAISE Web page established by Klaus Havelund.

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### 2 Other Documents with a Significant RAISE-orientation

#### 1 Bjørner Documents

#### Books Using and/or Teaching and/or Researching RAISE 1.1

- Domain Science & Engineering A Basis for Understand-[1] Dines Bjørner. ing Man-made Worlds. A Foundation for Software Development -Springer. The EATCS Series: Monographs in Theoretical Computer Science. 2021. http://www2.compute.dtu.dk/ dibj/2020/mono/mono-co.pdf.
- Domain Science & Engineering A Foundation for Software [2] Dines Bjørner. Technical University of Denmark, Development Dr.techn. thesis. December 1, 2020 https://orbit.dtu.dk/en/publications/domain-science-amp-engineering-a-foundation-for-software-developm and The Official Thesis DTU Document.
- [3] Dines Bjørner. Chinese: Software Engineering, Vol. 1: Abstraction and Modelling. Qinghua University Press. Translated by Dr Liu Bo Chao et al., 2010.
- [4] Dines Bjørner. Chinese: Software Engineering, Vol. 2: Specification of Systems and Languages. Qinghua University Press. Translated by Dr Liu Bo Chao et al., 2010.

[5] Dines Bjørner. Chinese: Software Engineering, Vol. 3: Domains, Requirements and Software Design. Qinghua University Press. Translated by Dr Liu Bo Chao et al., 2010.



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- [11] Dines Bjørner. Software Engineering, Vol. 2: Specification of Systems and Languages. Texts in Theoretical Computer Science, the EATCS Series. Springer, 2006. Chapters 12–14 are primarily authored by Christian Krog Madsen. See [8, 4].

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- [16] Dines Bjørner. Domain Engineering A Basis for Safety Critical Software. Invited Keynote, ASSC2014: Australian System Safety Conference, Melbourne, 26–28 May., Technical University of Denmark, Fredsvej 11, DK-2840 Holte, Denmark, December 2014. http://www.imm.dtu.dk/~dibj/2014/assc-april-bw.pdf.
- [17] Dines Bjørner. Domain Analysis: Endurants \_ An Analysis & De-Model. Shusaku scription Process In Iida and José Meseguer and Kazuhiro Ogata, editor, Specification, Algebra, andSoftware: Α Festschrift Symposium in Honor of Kokichi Futatsugi. Springer, May 2014.http://www.imm.dtu.dk/~dibj/2014/kanazawa/kanazawa-p.pdf.
- [18] Dines Bjørner. A Rôle for Mereology in Domain Science and Engineering. Synthese Library (eds. Claudio Calosi and Pierluigi Graziani). Springer, Amsterdam, The Netherlands, May 2014.
- [19] Dines Bjørner. Domain Science & Engineering From Computer Science to The Sciences of Informatics, Part I of II: The Engineering Part. Kibernetika i sistemny analiz, 2(4):100–116, May 2010.

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- [24] Dines Bjørner. From Domains to Requirements. In Montanari Festschrift, volume 5065 of Lecture Notes in Computer Science (eds. Pierpaolo Degano, Rocco De Nicola and José Meseguer), pages 1–30, Heidelberg, May 2008. Springer. http://www.imm.dtu.dk/~dibj/montanari.pdf.
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<sup>&</sup>lt;sup>1</sup>http://www.imm.dtu.dk/~dibj/fmuml.pdf

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#### 1.3 Reports Using and/or Teaching and/or Researching RAISE

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- [44] Dines Bjørner. From Domain Descriptions to Requirements Prescriptions A Different Approach to Requirements Engineering. Technical report, Technical University of Denmark, Fredsvej 11, DK-2840 Holte, Denmark, 2016. Extensive revision of [24]http://www2.compute.dtu.dk/~dibj/2015/faoc-req/faoc-req.pdf.
- [45] Dines Bjørner. Domain Facets: Analysis & Description. Technical report, Technical University of Denmark, Fredsvej 11, DK-2840 Holte, Denmark, May 2018. Extensive revision of [21]. http://www.imm.dtu.dk/~dibj/2016/facets/faoc-facets.pdf.
- [46] Dines Bjørner, Søren Prehn, and Chris W. George. Formal Models of Railway Systems: Domains. Technical report, Dept. of IT, Technical University of Denmark, Bldg. 344, DK-2800 Lyngby, Denmark, September 23 1999. Presented at the FME Rail Workshop on Formal Methods in Railway Systems, FM'99 World Congress on Formal Methods, Toulouse, France. Avaliable on CD ROM.
- [47] Dines Bjørner, Søren Prehn, and Chris W. George. Formal Models of Railway Systems: Requirements. Technical report, Dept. of IT, Technical University of Denmark, Bldg. 344, DK–2800 Lyngby, Denmark, September 23 1999. Presented at the FME Rail

Workshop on Formal Methods in Railway Systems, FM'99 World Congress on Formal Methods, Toulouse, France. Available on CD ROM.

### 1.4 Case Studies Using RAISE

A number of papers, cited above, [28, 29, 30, 35, 35, 40], and, notably from Anne Haxthausen's and Chris George's hand, not cited here, together illustrate the case study of **Railways**. They are not listed below.

The following publications cited above, [1, 2, 13, 15], each have series of examples that together amount to case studies of **Road Transport**.

The case studies listed in this bibliography are all results of experiments. These were carried out, over the years, to research method principles, techniques and tools for domain analysis and description – resulting, along the way in [1].

No attempt has been made to adhere dogmatically to "official" RSL syntax. (Such adherence, where possible, should, of course, be established for any "final" versions of these case studies.)

We list 15 [other] case studies here:

- [48, 2021] A Retailer Market: Domain Analysis & Description.
- [49, 2018] Container Terminals
- [50, 2017] A Space of Swarms of Drones
- [51, 2017] Urban Planning Processes
- [52, 2017] What are Documents?
- [53, 2016] Weather Information Systems: Towards a Domain Description
- [54, 2016] A Credit Card System
- [55, 2013] Pipelines a Domain
- [56, 2013] Documents a Domain Description
- [57, 2013] Road Transportation a Domain Description
- [58, 2010] On Development of Web-based Software
- [59, 2010] The Tokyo Stock Exchange Trading Rules
- [60, 2009] What is Logistics ? A Domain Analysis
- [61, 2009] A Domain Model of Oil Pipelines
- [62, 2007] A Container Line Industry Domain

- [48] Dines Bjørner. A Retailer Market: Domain Analysis & Description. Technical University of Denmark, Fredsvej 11, DK-2840 Holte, Denmark January 2021. http://www.imm.dtu.dk/~dibj/2021/retailer.pdf.
- [49] Dines Bjørner. Container Terminals. Technical report, Technical University of Denmark, Fredsvej 11, DK-2840 Holte, Denmark, September 2018. An incomplete draft report; currently 60+ pages.http://www.imm.dtu.dk/~dibj/2018/yangshan/maersk-pa.pdf.
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- [51] Dines Bjørner. Urban Planning Processes. Research Note, Technical University of Denmark, Fredsvej 11, DK-2840 Holte, Denmark, July 2017. http://www.imm.dtu.dk/~dibj/2017/up/urban-planning.pdf.
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- [54] Dines Bjørner. A Credit Card System: Uppsala Draft. Technical Report: Experimental Research, Technical University of Denmark, Fredsvej 11, DK-2840 Holte, Denmark, November 2016. http://www.imm.dtu.dk/~dibj/2016/credit/accs.pdf.
- [55] Dines Bjørner. Pipelines a Domain. Experimental Research Report 2013-2, DTU Compute and Fredsvej 11, DK-2840 Holte, Denmark, Spring 2013. http://www2.imm.dtu.dk/~dibj/pipe-p.pdf.
- [56] Dines Bjørner. Documents a Domain Description. Experimental Research Report 2013-3, DTU Compute and Fredsvej 11, DK-2840 Holte, Denmark, Spring 2013.
- [57] Dines Bjørner. Road Transportation a Domain Description. Experimental Research Report 2013-4, DTU Compute and Fredsvej 11, DK-2840 Holte, Denmark, Spring 2013. http://www2.imm.dtu.dk/~dibj/road-p.pdf.
- [58] Dines Bjørner. On Development of Web-based Software: A Divertimento of Ideas and Suggestions. Technical, Technical University of Vienna, August-October 2010. http://www.imm.dtu.dk/~dibj/wfdftp.pdf.
- R&D [59] Dines Bjørner. The Tokyo Stock Exchange Trading Rules. Experiment, Techn. Denmark, Fredsvej Univ. of 11, DK-2840 Holte, http://www2.imm.dtu.dk/~db/todai/tse-1.pdf, Denmark. 2010.http://www2.imm.dtu.dk/~db/todai/tse-2.pdf.

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- [61] Dines Bjørner. A Domain Model of Oil Pipelines. Techn. report, Incomplete Draft, Fredsvej 11, DK-2840 Holte, Denmark, June 2009.
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#### 1.5 **Compendia Teaching RAISE**

#### References

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- [64] Dines Bjørner. Domain Engineering. In *The 2007 Lipari PhD Summer School*, Eds. E. Börger and A. Ferro, pages 1-102. University of Catanaia, Sicily, Italy, 2007. http://www.imm.dtu.dk/~dibj/lipari-paper.pdf.

# 2 Other Documents with a Significant RAISE-orientation

We list papers relevant also to the RAISE/RSL topic.

- [65] Dines Bjørner and Klaus Havelund. 45 Years of Formal Methods. Technical report, Technical University of Denmark, Fredsvej 11, DK-2840 Holte, Denmark, September 2019. http://www2.compute.dtu.dk/ dibj/2019/45years/45years.pdf.
- [66] Dines Bjørner. Domain Science & Engineering A Review of 10 Years Work and a Laudatio. In NaiJun Zhan and Cliff B. Jones, editors, Symposium on Real-Time and Hybrid Systems – A Festschrift Symposium in Honour of Zhou ChaoChen, LNCS 11180, pp. 6184. Springer Nature Switzerland AG http://www.imm.dtu.dk/~dibj/2017/zcc/ZhouBjorner2017.pdf, June 2018.
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