

Efficiency of Bidirectional Transformations

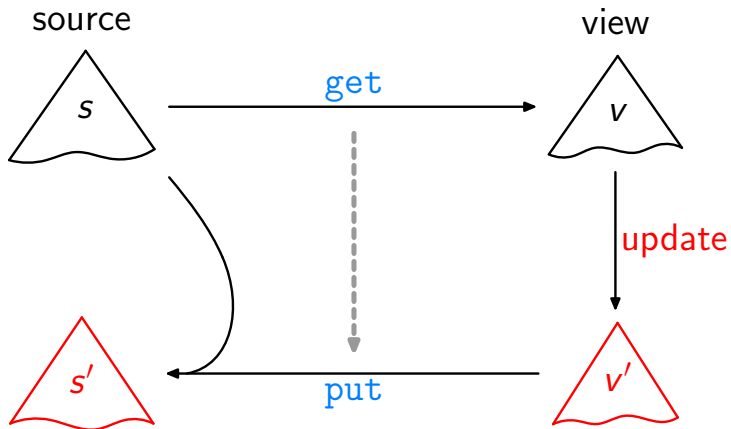
J. Voigtländer

University of Bonn

Dagstuhl Seminar “bx”

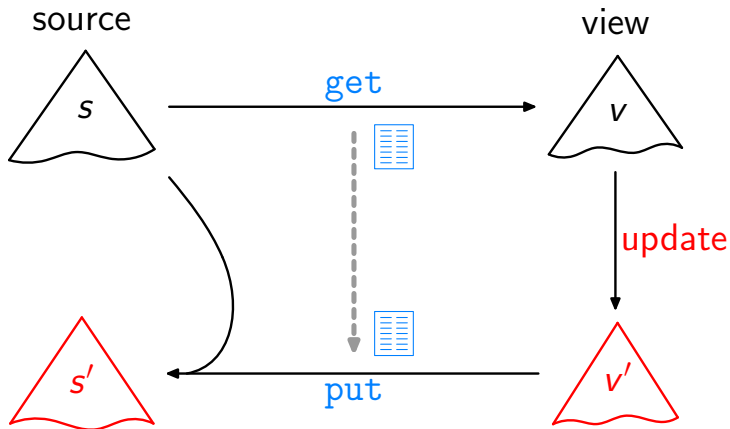
January 20th, 2011

Bidirectional Transformation



Bidirectionalization

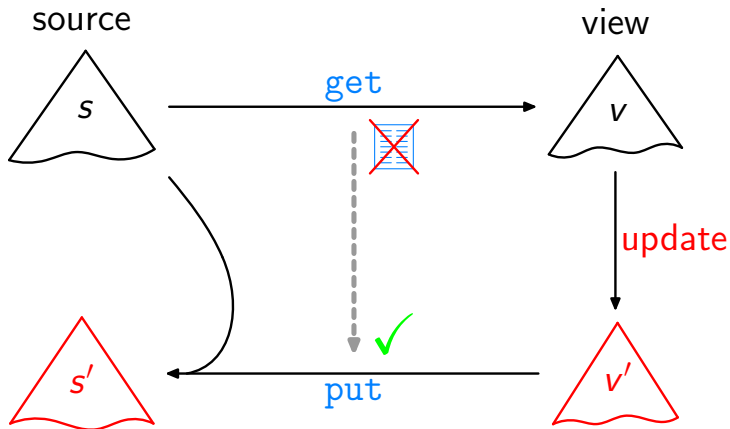
Bidirectional Transformation



Syntactic Bidirectionalization

[Matsuda et al., ICFP'07]

Bidirectional Transformation



Semantic Bidirectionalization

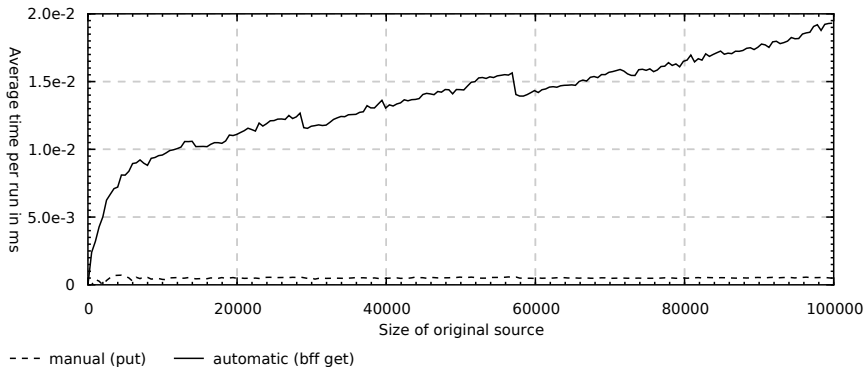
[V., POPL'09]

Semantic Bidirectionalization (Complete, for Lists)

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Some Experiments Done

Measurements "halve, normalized"



Many Questions

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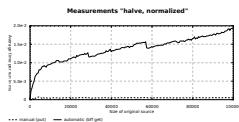
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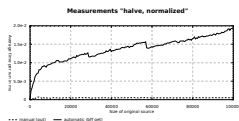
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What to Measure/Compare?



runtime of `put v' s`, variable $|s|$

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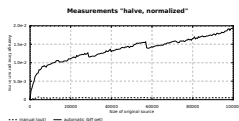


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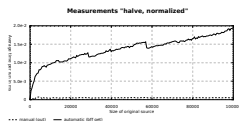


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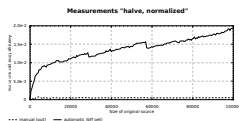


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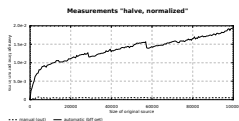


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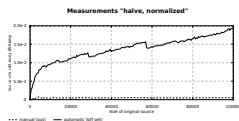


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- ▶ Technique XYZ:
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- ▶ Inlining `get`, plus equational reasoning?
- ▶ More standard program transformations?
- ▶ ???

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References



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