

Directembedding

Concealing the Deep Embedding of DSLs

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Overview

- 1 Motivation
- 2 Directembedding
- 3 Case study: slick-direct

Motivation

Mission statement

Enable wider adoption of embedded DSLs

The Struggle

Deeply embedded vs. Shallowly embedded

	Author	User
Deep		
Shallow		

Overview

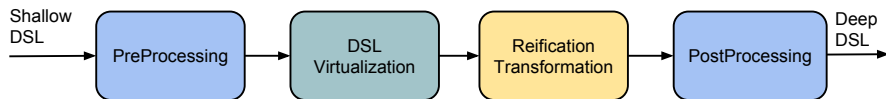
1 Motivation

2 Directembedding

- Architecture
- Language virtualization
- Type overriding
- Improved error messages
- Configuration

3 Case study: slick-direct

Pipeline



Overview

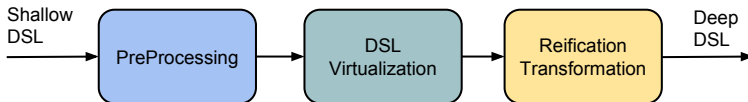
- 1 Motivation
- 2 Directembedding
- 3 Case study: slick-direct**
 - Lifted embedding
 - Direct embedding

Directembedding transformation

Pipeline

Shallow query

```
query {  
  Query[User].filter(_.name == "Olafur")  
}
```

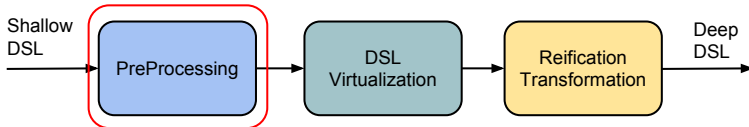


Directembedding transformation

Pipeline

PreProcessing

```
query {  
  Query[User].filter(_.name == "Olafur")  
}
```

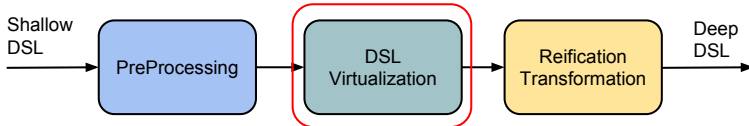


Directembedding transformation

Pipeline

DSL Virtualization

```
query {  
  Query[User].filter(_.name == "Olafur")  
}
```



Directembedding transformation

Pipeline

Reification Transformation

```
query {  
  Query[User].filter(_.name == "Olafur")  
}
```

