

# A Domain Specific Language for Usage Management

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University of New Mexico

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NEW MEXICO

# Outline

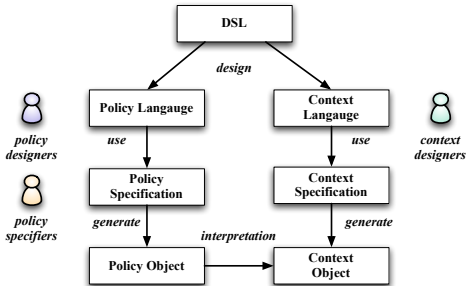
- 1 Introduction
- 2 Design
- 3 Implementation
- 4 Application

# Introduction

Intro content

# Design — Notional Use

Notional Use:

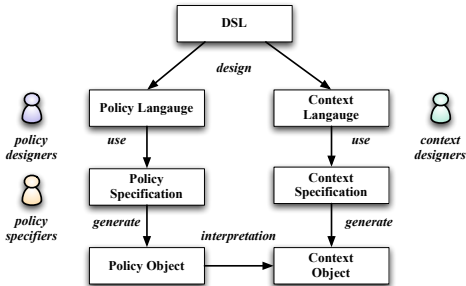


- *DSL* — Domain specific language
- *Policy Language* — Language elements specific to *policy*

- *Context Language* — Language elements specific to *context*
- *Policy Specification* — Actual specification of policy
- *Context Specification* — Specification of context requirements
- *Policy Object* — An object embodying policy created from the DSL
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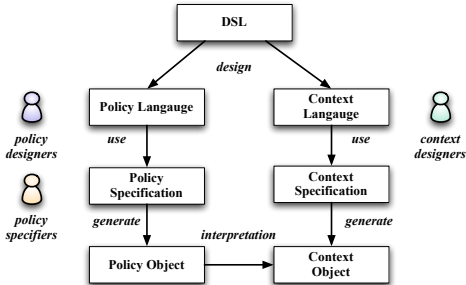


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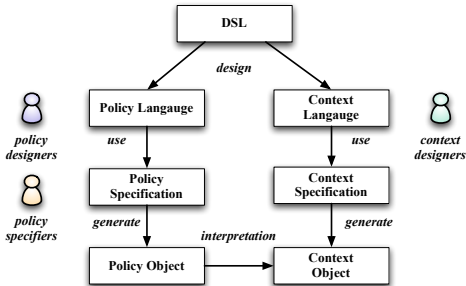


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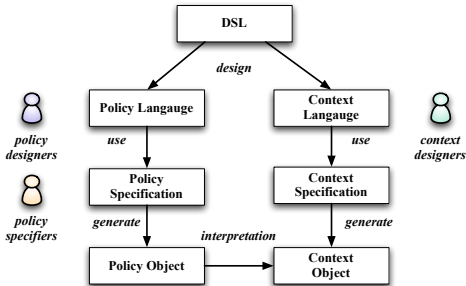


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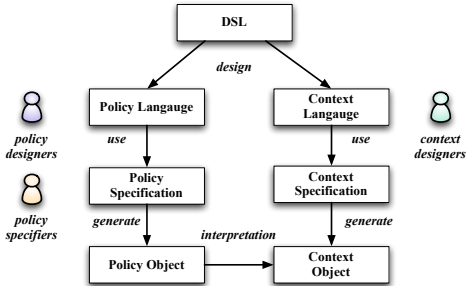
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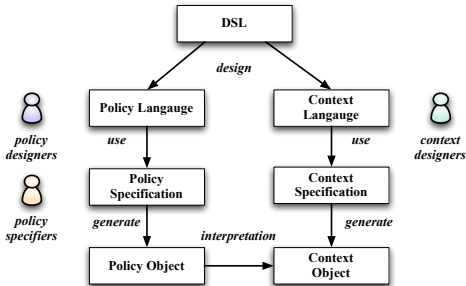


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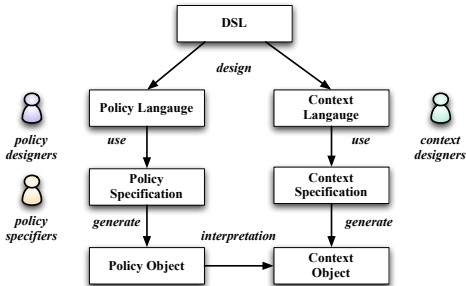


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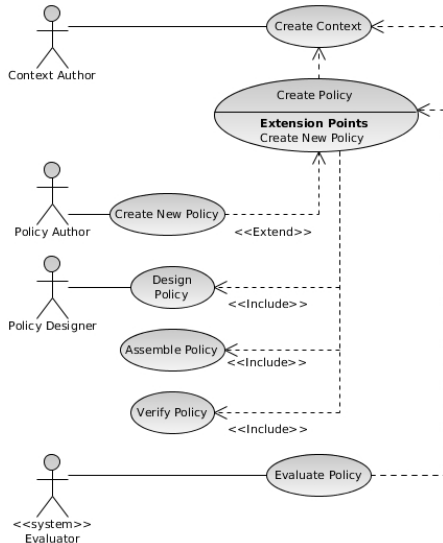


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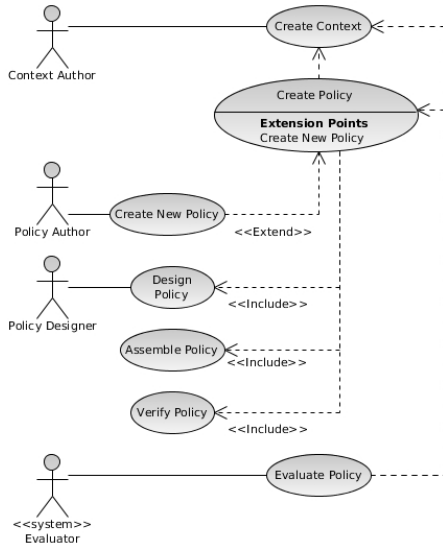
## Use Cases:



- *Create Context* —
- *Create Policy* —
- *Evaluate Policy* —

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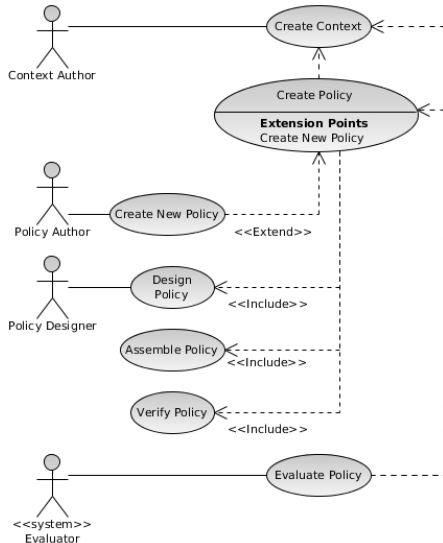
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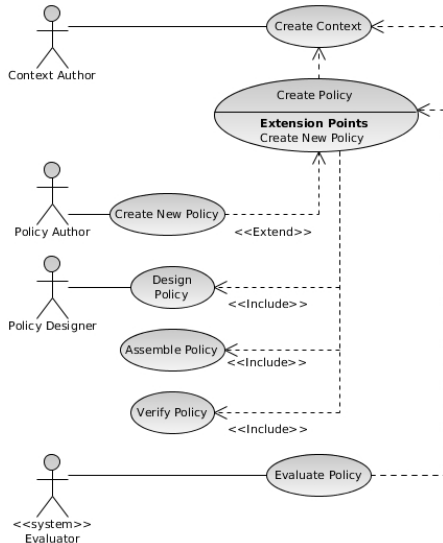
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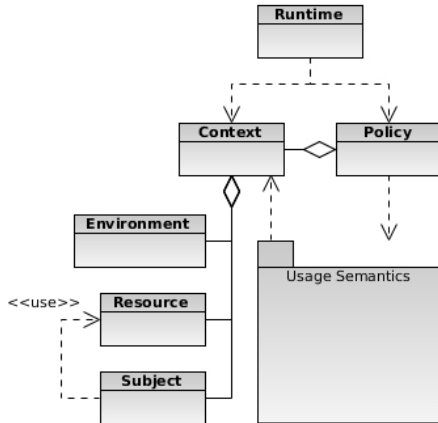
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# Design — Domain Model

Domain Model:



The *Runtime* accesses and activates a *policy* and manages a *context* to which the policy is given a reference.

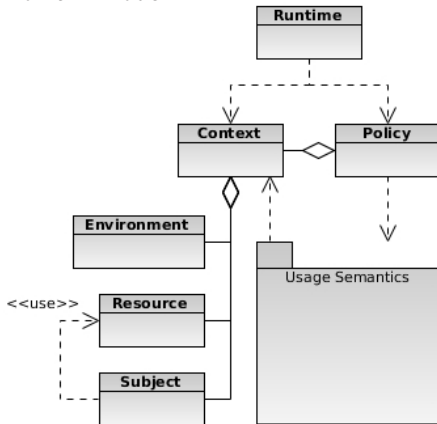
The *context* has access to information about the *environment*, *resource* managed, and the *subject* using the *resource*.

Interactions are described by specific *usage semantics* embodied in the *policy*.



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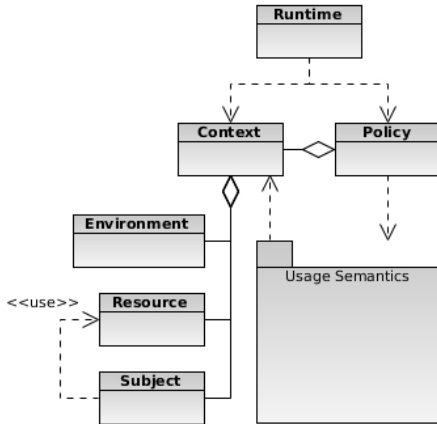
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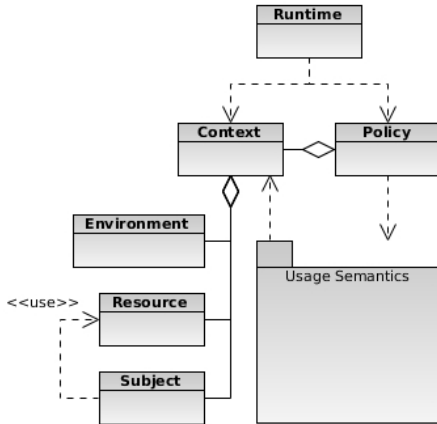
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# Design — Usage Semantics

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# Sample — Thing