Usage Management of Personal Medical Records

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Outline

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Introduction

Areas of Study

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Some quick definitions:

- *PMR*: Personal medical record; in this case, this record is electronic
- *UM*: Usage management

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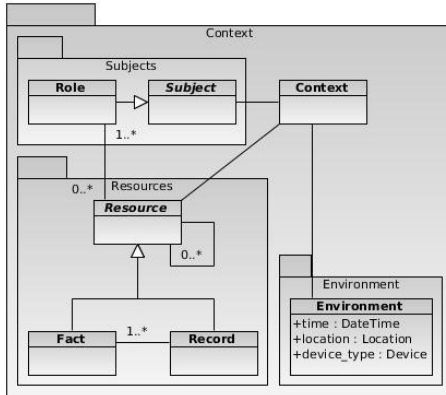- *Data Marketplace*

UM Primer - UM System

Three basic things:
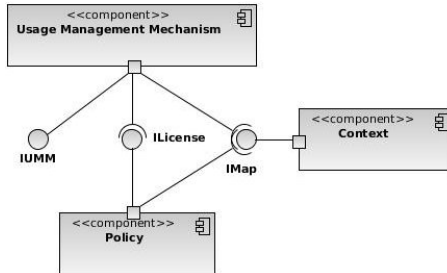
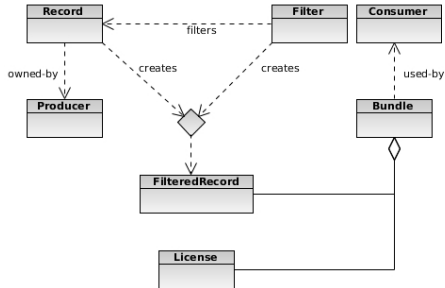- *Usage Management Mechanism*
- *Policy*
- *Context*

UM Primer - Ontology

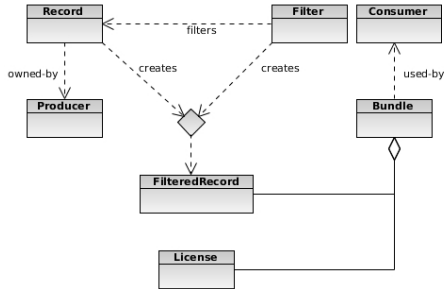Ontology of domain required to pull it all together

Data Marketplace - Ontology
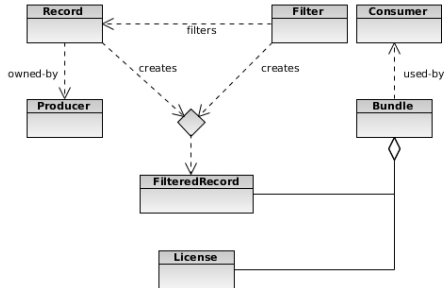
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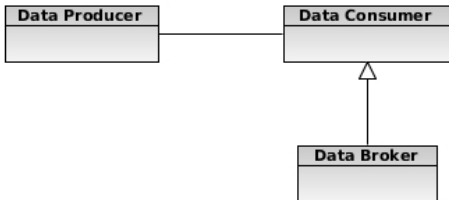# Data Marketplace - Ontology

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  - Static filtering of records pre-distribution is more efficient
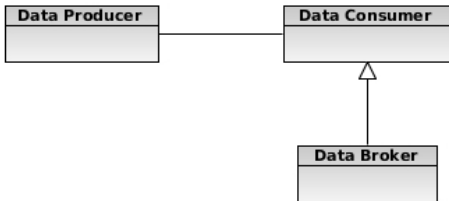
Data Marketplace - Ontology

- Use a combination of static and dynamic policy evaluation
  - Static filtering of records pre-distribution is more efficient
- Note relationships to previous domain ontology
  - Common elements include **Record** entities and specific roles

Data Marketplace - Roles

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In General:
- *Producers* produce data, *Consumers* directly consume or redistribute data

Data Marketplace - System Attributes

- *Editability* Certain fields of that record should be editable by the owner. Other fields must only be editable by specific medical providers.
- *Roles* Verifiable roles related to ownership of specific areas of a given record.
- *Auditability* Keeps a clear record of who edited what, what those specific changes were, how they were made, and when.
- *Security* Use of modern security systems as much as possible to provide additional control over assets.
- *Accessibility* Wide accessibility geographically, access to medical information from devices with a variety of form factors.
- *Performance* Core functionality must be high performance.
- *Flexibility* This system and the data it manages can be used in a wide variety of contexts.
- *Extensibility* It must provide programmatic interfaces.

Data Marketplace - Logical View
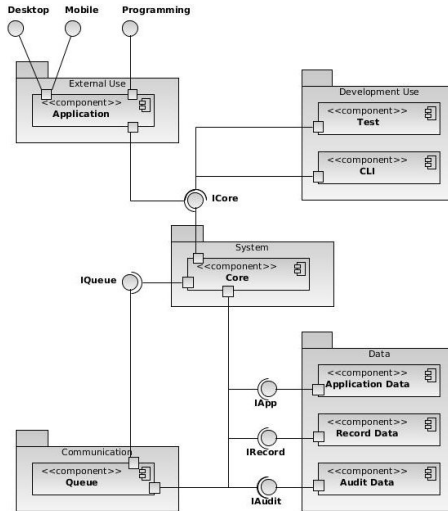
- PMRs need some kind of usage management