Pathogens in Chado

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WTSI Pathogen Genomics

- 50+ pathogen genomes,
- Both bacterial and eukaryotic,
- Many of them actively curated.
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Tools

• Curators use Artemis,
• Data available through new GeneDB website (to launch in the first half of 2009),
• Public read-only database (db.genedb.org).
Demo

(if the demo gods are willing)

Artemis

GeneDB
Hibernate mapping

- Hibernate is a popular Java ORM framework,
- We’ve developed a mapping for Chado.
Hibernate mapping

- Feature hierarchy represented using single-table inheritance,

```java
@Entity
@Inheritance(strategy = InheritanceType.SINGLE_TABLE)
@DiscriminatorColumn(name = "type_id")
@Table(name = "feature")
public abstract class Feature {
    ...
```
Hibernate mapping

- Feature hierarchy represented using single-table inheritance,

```java
@Entity
@FeatureType(cv="sequence", term="gene")
@Indexed
public class Gene extends AbstractGene {
    ...
```
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public class Gene extends AbstractGene {
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}
```

- A custom Hibernate Configuration class processes these FeatureType annotations and sets the discriminator value.
Hibernate mapping

• Feature classes have (at least some of) the methods you’d expect:
  ‣ AbstractGene#getTranscripts()
  ‣ Transcript#getGene()
  ‣ Transcript#getExons()

• Feature has generic convenience methods:
  ‣ Feature#getFeatureProp
    (String cvName, String termName)
Thanks