Run-Time Architecture

**Static Object Model**

“wordhoard” MySQL database. Contains static objects created by the build programs and read directly by WordHoard, plus dynamic user objects written by WordHoard Server and read by WordHoard.

**Dynamic Object Model**

“wordhoardserver” MySQL database. Contains user account objects. Read and written by the WordHoard server, which mediates access and applies authentication and authorization controls.

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**Server host**

**Network boundary**

**Client host**

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Java RMI protocol
MySQL protocol
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The User

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MySQL protocol
Build Programs

Raw data

XML source files

Build process
batch jobs

BuildCorpora
BuildAuthors
BuildWordClasses
BuildPos
BuildWork
BuildTranslations
BuildAnnotations

Static runtime
data and object
model

Static Object Model

MartinWordClasses
MartinPos
UpdateWorkFiles

Martin’s tagging data in
Access databases

NU developers only

CalculateCounts
AddWorkSets
Persistent Object Models

Managed by Hibernate/MySQL

**Primay Keys**

All persistent objects other than those persisted as Hibernate components or as serialized blobs have a unique primary key field of type Long named “id” which is not shown in the diagrams.

**Indexes**

Fields marked with a * are indexed.

Fields marked with *1 and *2 are multi-column indexes. For example, in the Word class, there is a two column index on (workPart, location).

The primary key field “id” is always indexed, as are all sets, lists and maps.
Corpora and Works (static)
Table of Contents Views (static)

TconView
- int viewType
- String radioButtonLabel
- List of work tags
- List of categories

TconCategory
- String title
- List of work tags
Words and Lines (static)

Word
- Spelling spelling
  - * Spelling spellingInsensitive
- String path
  - * String tag
  - *2 TextRange location
  - String puncBefore
  - String puncAfter
- String workTag
  - int workOrdinal
  - * long colocationOrdinal
- List of wordParts
  - * Prosodic prosodic
  - * MetricalShape metricalShape

Line
- * String tag
- int number
- String label
- String stanzaLabel
- * workPart
- TextRange location

... to corpora and works model
... to corpora and works model
... to morphological model
... to speeches and speakers model
Text (static)

Persisted as serialized blobs.

Persisted as Hibernate components when used in other parts of the model.
Speeches and Speakers (static)
Annotations (static)

```
Annotation

* category
  text

TextAnnotation

extends Annotation

TextRange target

AnnotationCategory

* workPart

String name

TextWrapper object

... to corpora
and works
model
```
Wrappers

Primitive and other “wrapped” types..

The objects below are all persisted as Hibernate components

- **TextWrapper**: (Persisted as a serialized blob)
- **MetricalShape**
  - String metricalShape
- **Spelling**
  - String string
  - byte charset
- **TaggingData**
  - long flags
- **Gender**
  - byte gender
- **Mortality**
  - byte mortality
- **Prosodic**
  - byte prosodic
- **MajorWordClass**
  - String majorWordClass
- **PubYearRange**
  - Integer startYear
  - Integer endYear
Accounts (dynamic)

Account

* String username
String password
String name
boolean nuAccount
boolean canManageAccounts
Sets (dynamic)

Sets are dynamic, but reside in the static object model. They are written by the server, which applies authentication and authorization controls. They are read directly by the client.
Queries (dynamic)

Queries are dynamic, but reside in the static object model. They are written by the server, which applies authentication and authorization controls. They are read directly by the client.

```
WHQuery

* String title
String description
String webPageURL
Date creationTime
Date modificationTime
* String owner
* boolean isPublic
* boolean isActive
* int queryType
String queryText
```
User Groups, Permissions and Annotations (dynamic)

These objects are dynamic, but reside in the static object model. They are written by the server, which applies authentication and authorization controls. They are read directly by the client.