GATE Teamware 1.3 User Guide

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Preface

Welcome to the User Guide for Version 1.3 of GATE Teamware.

Preview
This Document is a preview of Version 1.3, but it also applies to Version 1.2.

Release Date: April 2010.

www.fairviewresearch.com

Introduction

GATE Teamware is an online management system for manual and semi-automatic annotation of text collections. GATE Teamware is part of the GATE (General Architecture for Text Engineering) family of products developed by the GATE Team at the University of Sheffield's Natural Language Processing Center. Teamware is compatible with the popular GATE Developer text engineering framework.

GATE Teamware is designed to simplify the manual effort needed to develop high-quality, accurate annotations of text. Teamware annotation processes can be used as an input to the development of annotation algorithms, or as a manual editing step for previously annotated Documents. Teamware is also integral to "life cycle" systems in which continuous improvement of annotation, or changing annotation needs are required.

GATE Teamware's internal workflows are designed to streamline complex annotation tasks into easily manageable projects. Projects are based on reusable workflow templates, eliminating redundant set-up tasks. The various Roles necessary for creating high-quality annotations are segregated in the Teamware system in order to minimize the need for content experts and annotators to set up and manage projects.

Finally, as a self-contained online platform, GATE Teamware supports wide distribution of project tasks to anyone with Internet access, making it possible to conduct annotation projects with participants around the globe. GATE Teamware's real-time project tracking systems allow for instant adjustments in projects, and support commercial annotation teams with detailed annotator-by-annotator tracking and progress reports.

In this Guide

This guide supports Teamware users, managers and administrators. Teamware's workflow is centered around projects and user Roles. This guide will discuss the Teamware project management workflow, how to set up and manage projects, how to work with the various screens and interfaces, how to manage users and Roles, and other aspects of routine Teamware usage.

Additional Resources

This guide does not cover in detail the installation and maintenance of Teamware on Internet servers. Please refer to the separate Teamware Installation guide for this information.

This guide also does not cover the theory, practice and art of annotation itself. A separate "Introduction to Manual Annotation" is available as a primer on basic annotation practices, common types of annotation projects, and the various goals for manual annotation efforts.

In most annotation projects, the work of annotators is governed by strict rules in the form of project guidelines. These rules proscribe exactly what annotations should be created and under what circumstances, often with examples and procedures for handling exceptions and unanticipated problems (which are common in annotation projects). An example guideline and a blank guideline template form are provided as an appendix to this guide.

The GATE website at the University of Sheffield also has vast resources covering many aspects of annotation, text engineering and the GATE Developer framework. Users of this guide may find the answers to many questions at that site. (http://gate.ac.uk)

Requesting GATE Teamware

GATE Teamware is available as a distribution package directly from the GATE Team at the University of Sheffield. It is free for non-commercial, academic use.

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Quick Start Guide

This section provides a brief overview of accessing and getting started with an existing GATE Teamware system. For information on installing a new system, please see the *GATE Teamware Installation Guide*, available here [].

Prerequisites

Teamware management consoles, the annotation interface and resources (documents, projects, annotation service packages, and reports) all are accessed through a web browser. The following browsers are supported and have been tested for use with GATE Teamware:

- Internet Explorer
- Opera
- Chrome
- Safari

> You can *not* use Firefox as an Annotator. You *can* use it as a Manager.
> - The User Roles section (see page 9) has more information about Annotators and Managers.

Login

When you first access Teamware from your web browser you need to login with a User name and password.

If you forget your password, you can use the password hint option to have a password reminder sent to the email address associated with your Account.

Signup Button
You can also click the **Signup** button to create a new Annotator Account.

Logout Button
Click the **Logout** button on the bottom the page to log out.

Edit Profile

From the **Main Menu** click **Edit Profile** to change your password and update other User Account information.

This page also shows your current level of access to Teamware features. These features are associated with predefined User Roles. A Teamware administrator can assign Roles.

User Roles

There are several types of Users of Teamware, each with different Roles and objectives. This chapter presents a quick description of the most common Roles and functions.

- The User Accounts section (see page 35) has more information about assigning Roles to Users.

Predefined Roles

The following Roles are predefined in Teamware:

- Annotator
- Manager
- Administrator
- Super Administrator

Teamware predefined Roles can be assigned by the Administrator (see page 10). The Super Administrator (see page 11) can create new types of Roles that are unique from the predefined Roles.

For Annotators

The Annotator **Main Menu** shows links to the **Edit Profile** (see page 8) and **Annotation Editor** screens.

Starting the Annotation Editor

The Annotation Editor is the primary tool for the manual annotation process. The Annotation Editor section (see page 12) has detailed information about using the Editor. The information below explains how to start the Editor.

Downloading the Start Document

Starting the Annotation Editor will download the *viewDocument.html.jnlp* file, which is a Java webstart application file. Most browsers will open the file automatically, however Annotators may need to open it if the browser does not.

Granting Unrestricted Access

The browser may also request permission to access the Teamware Annotation Editor. Follow the instructions to grant this access.

Document Assignment

Annotators can not choose which Document to annotate. Instead, Teamware assigns Documents to Annotators from a pool of Documents. This assignment is based on predefined Project Rules.

- The Project Rules section (see page 46) has more information about the parameters that control Document assignment.

For Managers

Managers create and monitor Projects and Workflow Templates. They upload, download and review Document sets, called Corpora. They also access Project tracking screens and reports.

Projects

Projects allow Managers to create customized work flows, designate Corpora to process, and assign work to Annotators. Projects are created from Workflow (WF) Templates.

Managers can browse, create and delete Projects.

- The Using Projects section (see page 21) has more information.

WF Templates

Work Flow (WF) Templates are reusable settings for configuring Projects.

Managers can browse, create and delete WF Templates.

Schemata

Schemata provide a powerful and flexible method for defining and controlling Annotation procedures by pre-defining the Annotation Types that can be assigned to a range of text.

Schemata are selected within WF Templates.

- The Using Schemata section (see page 27) has more information.

Documents

Managers can browse, create and delete Corpora. They can also use these GATE tools: ANNIC Search, Annotation Differ and IAA Calculation.

- The Using Documents section (see page 30) has more information.

Project Tracking Screens and Reports

Teamware includes a number of screens to monitor Processes, Projects, Tasks, etc. so that Managers can quickly determine current status of the factory.

- The Processes section (see page 42) has more information.

Document Status Summary
This screen shows the progress of annotation processes, including the number of Documents annotated, and the number remaining.

Document Status Details
This screen shows annotation progress on a Document-by-document basis.

Annotator Record View
This screen shows individual Annotator performance.

Record Summary for All Annotators
This screen shows how workload is shared among the Annotators.

For Administrators

Administrators have almost total control of all Teamware operations, with the exception of a few operations reserved for the Super Administrator (see page 11).

Administrators handle User Accounts, create and configure Services, and monitor Workflow processes . Administrators also see the same screens as Managers, and can perform the same functions.

User Accounts

Teamware controls access to data using Accounts with Roles. Everyone logs in with a name and password. Every Account includes Roles that control what a User can do, and what information a User can see.

Administrators can create, delete and suspend Accounts, and can also use the Teamware Bulk Upload feature to quickly add Accounts from an Excel worksheet.

- The User Accounts section (see page 35) has more information about Accounts.

Services

Administrators can create automated annotation procedures with GATE Developer. These procedures can be "wrapped" into Services, which are treated as Modes in Teamware.

- The Services section (see page 40) has more information.

Processes

Administrators can monitor Processes and Tasks that are created by Teamware when Projects are run.

- The Processes section (see page 42) has more information.

Super Administrator

This section provides an overview of the Super Administrator Role.

- See the *Super Administrator Guide* for more information.

Assigning Privileges to Roles

The Super Administrator can configure, for each standard Role, the Teamware functions that can be performed.

For example, the Super Administrator can specify that Managers can access the IAA Calculations (see page 31)

Creating Custom Roles

Unique Teamware Roles can also be created by the Super Administrator.

For example, the Super Administrator can create a new Role called NewAnnotator, and delete the standard Role called Annotator.

Using the Annotation Editor

This chapter explains how to use the GATE Teamware Annotation Editor.

Editor Modes
The Editor can be used in two Modes:

- **Pool Mode** is designed for Annotators who get Documents from a pool of Documents.
- **Direct Mode** is designed for Managers and Administrators who need to access a particular Document directly.

Starting the Editor

Multiple Methods

You can start the Editor using one of these methods:

1. Clicking a link delivered in email.
2. If you are an Annotator you can click the **Annotator Editor** link on your Home screen to open the Editor in **Pool Mode**.
3. If you are a Manager or an Administrator you can open the Editor in **Direct Mode** when you list individual Documents.

Downloading the Start Document

When you start the Annotation Editor in both **Pool Mode** and **Direct Mode** (see page 12) your browser will download the *viewDocument.html.jnlp* Document. Most browsers will open the file automatically, however you may need to open it yourself if the browser does not.

Granting Unrestricted Access

When you start the Annotation Editor your browser may also ask you to allow access to the Teamware Annotation Editor. Follow the instructions to grant this access.

Overview of the Process

A general overview of the Annotation procedures is as follows:

Pool Mode

1. Click the **Get Task** button to load a Document.
2. Click the **Reject** button if you do not wish to annotate this Document.
3. Annotate the Document using the tools described below.
4. **Save** the Document to work on at a later date.
5. **Finish** the Document to complete annotation.
6. Click the **Get Task** button again to load the next Document.

Direct Mode

1. Click the **Get Task** button to load a Document.
2. Annotate the Document using the tools described below.
3. **Save** the Document to work on at a later date.
4. Exit the Annotation Editor to return to the Document list.

Layout of Annotation Editor

The figure below shows an example Annotation Editor layout:
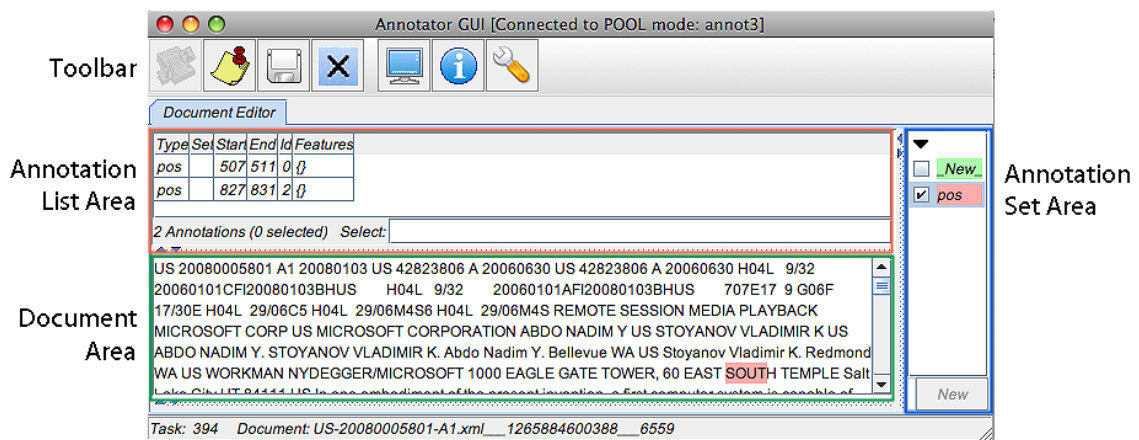
This example shows a typical layout in **Pool Mode**. Your layout may be different depending on Project Annotation Rules (see page 46).

The **Toolbar** buttons are on the top row. The **Toolbar** buttons that you see on the Annotation Editor depend on the **Mode** you are using as explained below:

Pool Mode Buttons

Loading a Document
In **Pool Mode** the **Get Task** button appears on the left to load Documents:

Annotating a Document
With a Document loaded the **Finish**, **Save** and **Reject** buttons appear for Annotation:

The three buttons on the right are always visible no matter what Mode you use. They are explained in the Other Features section (see page 20).

Direct Mode Buttons

Direct Mode (see page 12) allows you to open a single Document without clicking the **Get Task** button.

The first button on the left is the **Connect to Document Service** button. The Connect to Document Service feature is currently disabled.

The next button is the **Save** button. Make sure you save all your changes before exiting the Annotation Editor.
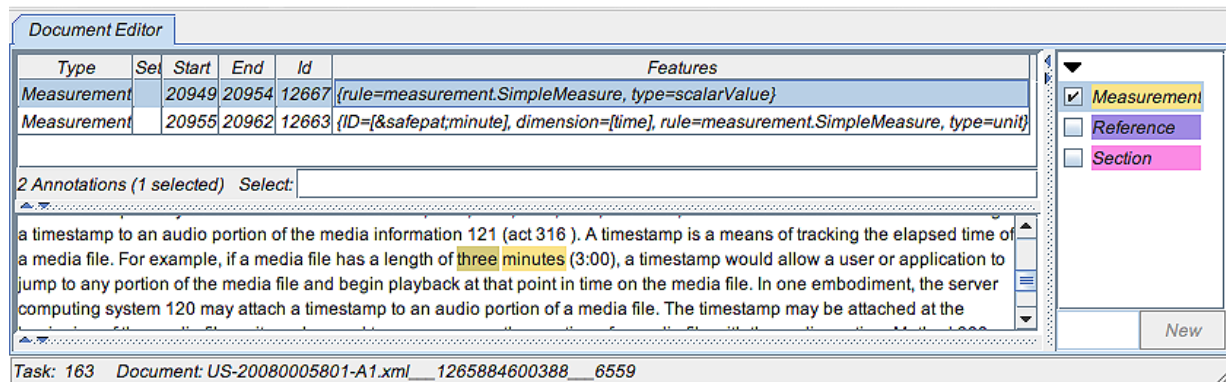
> If you have not saved your Document the Editor will ask you to save the Document to avoid losing Annotations.

> In **Direct Mode** (see page 12) you need to exit the Annotation Editor to open another Document.

Document Editor

The **Document Editor** appears below the **Toolbar** buttons:

There are three areas within the **Document Editor** which are described below:

- Annotation Set Column
- Annotation List Area
- Document Area

Annotation Set Column

The **Annotation Set** Column on the right side of the Editor appears in **Direct Mode** (see page 12).

In **Pool Mode** the Project Rules may allow this column to appear, or it may be blank in your display.
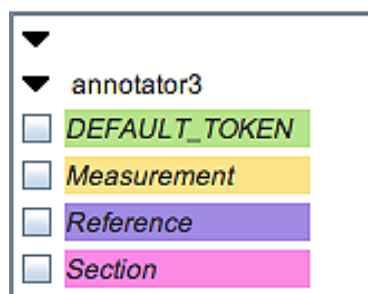
The example **Annotation Set** Column above shows two Annotator Sets delineated by arrows. The top set, which is blank, is always the default Annotation Set. In this example the second set is called *annotator3*. It contains four Annotation Types, each displayed with different background colours.

Annotation Sets and Types

- Annotation Sets are groups of Annotations.
- Annotation Types are categories of Annotations, such as "Name" or "Date".

Clicking the arrows on the left will expand and contract the branches of the tree structure.

Annotation List Area

The top of the Document Editor is the **Annotation List** area, which shows detailed information about all the Annotations currently in the Document:

Type	Set	Start	End	Id	Features
Measurement	annotator3	36163	36166	58920	{rule=measurement.SimpleMeasure, type=scalarValue}
Measurement	annotator3	36167	36168	58921	{ID=[&safepat;light], dimension=[speed], rule=measurement.SimpleMeasure, type=unit}
Measurement	annotator3	39924	39927	58916	{rule=measurement.SimpleMeasure, type=scalarValue}
Measurement	annotator3	39928	39929	58917	{ID=[&safepat;light], dimension=[speed], rule=measurement.SimpleMeasure, type=unit}
Measurement	annotator3	40088	40089	58918	{rule=measurement.SimpleMeasure, type=scalarValue}
Measurement	annotator3	40090	40094	58919	{ID=[&safepat;bit], dimension=[information], rule=measurement.SimpleMeasure, type=unit}

20 Annotations (0 selected)   Select:

Displaying Annotations in the Annotation List

When you select an Annotation Type from the **Annotation Set** column by checking the box, detailed information about all the current Annotations of that type are displayed in the **Annotation List** area.

Document Area

The **Document Area** on the bottom of the Document Editor displays the current Document.

Displaying Annotations in the Document Area

Clicking an Annotation Type (see page 14) from the **Annotation Set** column will display all of the current Annotations of that type in the Document area. In the example below the *Measurement* Annotation Type is selected:

Identifying Individual Annotations

To pinpoint a specific Annotation select an item in the **Annotation List** area to display the Annotation in the **Document** area. The Annotation will be both highlighted and blinking.

Sorting Columns

Click any of the headings in the **Annotation List** area to sort the cells in the column below. Click the heading again to reverse the sort order.

Searching for Annotations

Enter a query in the **Select** field on the bottom of the **Annotation List** area, and then type ENTER to search the list. The annotation with the closest match is highlighted in both the **Annotation List** area and the Document.

You can also search using the Search & Annotate Tool (see page 18).

Title Bars

The title bar at the bottom of the Annotation Editor shows the name of the current Document. The bar on the top of the Editor shows status messages, for example:
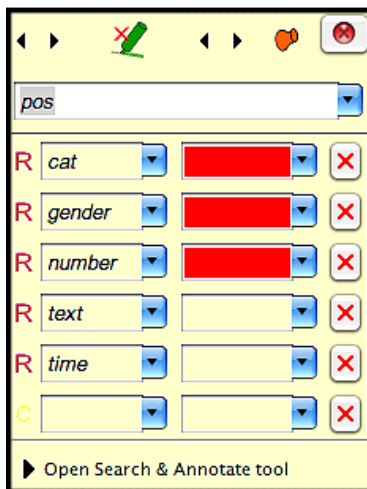
[Connected in Direct Mode]

Creating an Annotation

The Annotation Popup

To create a new annotation using the **Annotation Popup**:

- Select an Annotation Type (see page 14) in the **Annotation Set** column
- Select text in the Document.
- Then hover the mouse over the highlighted area until a **Annotation Popup** appears as shown below:

In the example above the selected Annotation Type *pos* includes several Subtypes that you need to enter.

The *R* in the left column indicates that these Subtypes are required.

> You cannot complete an Annotation until all required fields are entered.

The highlighted area in the Document blinks to indicate that you are currently annotating this text.

The buttons on the top of the Popup are explained below.

Pin Button
Click the **Pin** button to keep the **Annotation Popup** from disappearing. The popup will remain until you click the **X** in the upper right, or you click the **Pin** button again.

Selection Arrows
It can be difficult to precisely select characters in a Document, and also to exclude characters like whitespace. The arrow buttons on the top of the **Annotation Popup** can help. The arrows on the left will add or subtract one character from the left of your current selection. The arrows on the right will do the same for the right side of your selection.

Deselect Button
Click the button with the red **X** to erase the current selection in the Document.

Add New Annotation

If your Project Manager allows it, you can enter a new Annotation Type (see page 14) using the **Annotation Popup**. Select the _**New**_ option as shown below:
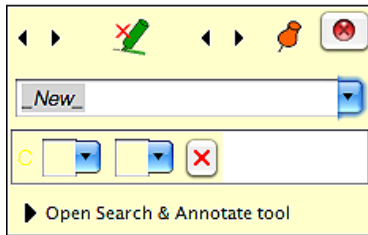
Enter a name for your Annotation Type, and any Subtypes.

In **Direct Mode** (see page 12) you can also enter an Annotation Set on the bottom of the **Annotation Set** column (see page 14), and click the **New** button as shown below:
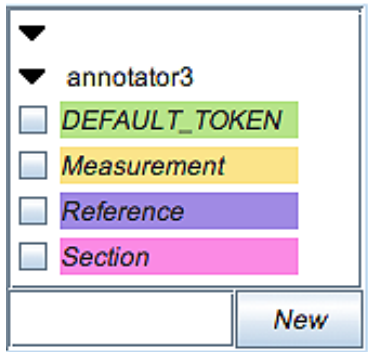
If the **New** button appears dimmed, your Project Rules do not allow you to create Annotation Sets (see page 14).
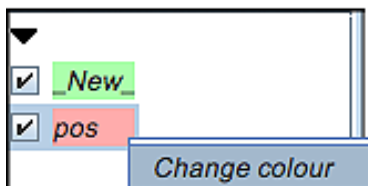
Annotation Type Colours

Colours are randomly assigned to each Annotation Type (see page 14).
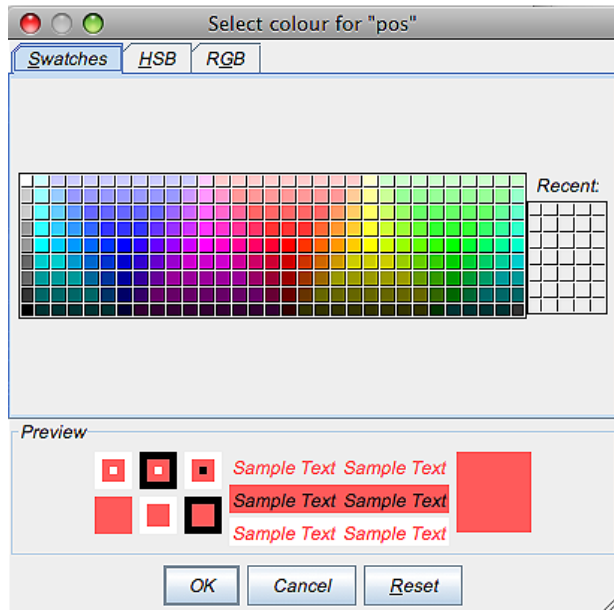
- *Annotation Sets* are groups of Annotations.
- *Annotation Types* are categories of Annotations, such as "Name" or "Date".

Changing Colours
Right-click a Annotation Type to change the colour:

You can change the current colour using a variety of selection options:

Saving Documents

You can save the current Document by clicking the **Save** button so that you can continue work at a later time. The current Document will re-open the next time that you start the Annotation Editor.

Finishing Documents

When you have finished annotating a Document click the **Finish** button. This indicates that the Document is ready for the next processing step. You can then Annotate another Document.

> If you have not saved your Document the Editor will ask you to save the Document to avoid losing Annotations.

> When you finish a Document you can not annotate it again unless you have a role with more privilege than the Annotator role.
>
> • The Edit Profile section (see page 8) has more information about Roles.

Rejecting Documents

If your Administrator allows its, you can click the **Reject Task** button if you do not want to Annotate a particular Document. If you do not see the **Reject Task** button, then the Project Rules do not allow this option.

• The Project Rules section (see page 46) has more information about rejecting Tasks.
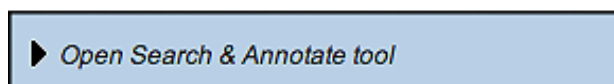
> Once an Annotator rejects a Document only Users with more privilege than the Annotator can access the Document.
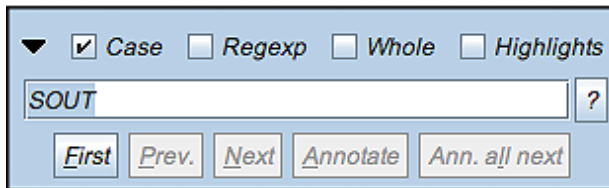>
> • The Edit Profile section (see page 8) has more information about Roles.

Search & Annotate Tool

Teamware includes a tool to locate annotation information quickly. To open it, click **Open Search & Annotate tool** on the bottom of the **Annotation Popup**:

The top row of the tool shows search options. The bottom buttons execute search and annotation commands.

Hover you mouse over a search expression on the top row to see more information about the expression:

Expression	Description
Case	Case sensitive search
Regexp	Regular expression search
Whole	Whole word search
Highlights	Restrict the search to only the highlighted text.

Use the buttons on the bottom as follows:

- Click the **First** button to find the first match.
- Click the **Next** button to find for the next match.
- Click the **Prev** button to locate the previous match.
- Click the **Annotate** button to create an Annotation of the selected text.

You can also click the **Ann. all next** button to automatically select and annotate all matches.

Search Expression Builder

Click the **Question Mark** button on the **Annotation Popup** to display the **GATE Search Expression Builder**.
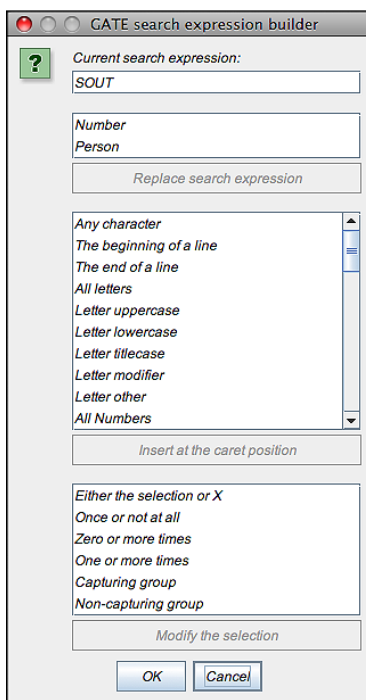
The GATE Search Expression Builder is a GATE-specific regular expression tool.

- For more information, see the *JAPE* section of the *Gate User Guide*.

Editing and Deleting Annotations

Annotations often need to be reviewed and modified for accuracy.

Annotations and Sets

Make sure you are working on the correct Set when you change Annotations:

- Its easy to inadvertently create a new Annotation Set.
- Its also easy to create Annotations in the wrong Set.

Other Features

The three buttons on the right side of the Annotation Editor provide additional features. They are, from left to right, **Show Application Log, Help,** and **Edit Settings**.

Show Application Log

The Annotator GUI Application Log is a list of the activity that occurs "behind the scenes". You only need to click the **Show Application Log** button if you experience problems.

Help

Click the **Help** button to display online help.

Edit Settings

Click the **Edit Settings** button to change the appearance of the Annotation Editor using the options below:

Look and Feel
The **Look and Feel** option will change the "skin" of the Editor. The available options are:

- Metal
- CDE/Motif
- Mac OS X

Font Options
You can change the type of fonts displayed by the Editor.

- The **Text components font** option controls the appearance of the **Annotation List Area**.
- The **Menu components font** option controls the appearance of the **Annotation Popup**.
- The **Other components font** option controls that appearace of the Editor labels like the **Document Editor** tab.

Projects

Projects allow you to create customized Work Flows, designate Corpora to Annotate, and assign work to Annotators.

Project Modes

Modes are the phases of a Project. There are three types:

- Pre-Processing
- Manual Annotation
- Post-Processing

These are explained in more detail below.

Using Pre-Packaged GASes in Modes

All Project Modes utilize Annotation Pipelines, installed in Teamware as a GAS (GATE Service). A GAS is a particular type of GATE Annotation Pipeline; the same Pipelines that you can create in the GATE Developer.

- The Services section (see page 40) has more information.

You can select from a number of Pre-Packaged GASes to perform functions; for example *Pre-Manual, Pre-Curation, Copy/Merge, OntoText-Specific, Alexandria-Specific*, etc.

Creating WF Templates

Work Flow (WF) Templates are reusable settings for configuring Projects. When you create a new Project that must specify a WF Template. The sole purpose WF Templates is to provide configuration parameters for creating new Projects.

Sharing and Modifying WF Templates

When creating new Projects, Managers and Administrators can use WF Templates that were created either by themselves, or by other Users.

> Once a WF Template is complete it can not be modified. You can only delete and re-create the Template.

The WF Template Wizard

Teamware includes a WF Template Wizard to help you quickly build custom templates. There are two methods to start the Wizard:

- From the Home screen select **Projects -> WF Templates -> My WF Templates**, and then click the **Create Workflow Template** button to display the **Workflow Template** screen.
- From the Home screen select **Projects -> New Project** to display the **Create New Project** screen. Select the **Blank** Template to display the **Workflow Template** screen.

After entering a name and description you can configure Modes.

Configuring Pre-Processing Mode

You can specify one or more Annotation Pipelines in Pre-Processing mode. These Pipelines, in the form of GASes, will run as soon as you start a Project.

You do not need to select a GAS if you do not require one for Manual Annotation.

- The Services section (see page 40) has more information about GASes.

The Project does not become available for Manual Annotation until all Pre-Processing Pipelines are complete.

Configuring Manual Annotation Mode

Manual Annotation Mode allows one or more Annotators to create, edit or remove Annotations.

This Mode configures the Project Rules.

Annotators per Document

Select the number of Annotators who must **Finish** this Document before the Document is complete.

- The Project Rules section (see page 46) has more information about the number of Annotators.

Cancel Task Allowed

The **Cancel Task Allowed** option controls whether annotators can reject Documents.

- If you select this option, the Annotation Editor displays the **Reject Task** button.

- If you clear this option, Annotators will not have the ability to reject Documents.

The Project Rules section (see page 46) has more information about cancelling Tasks.

Anonymous Annotation

This option creates generic Annotation Set names instead of using the User Account name. Generic names are assigned as annotator1, annotator2, etc.

- The Project Rules section (see page 46) has more information about Anonymous Annotation.

Annotation Schemas

You must select at least one Schema per Project.

- The Schemata section (see page 27) has more information about creating and using Schemata.

Add Schema&popup=true:

This option is currently disabled.

Pre-Manual Services

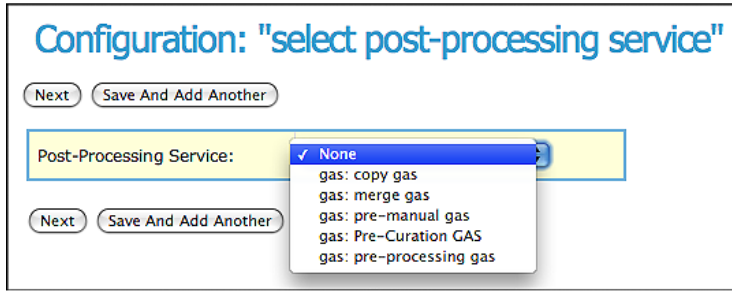Certain GASes are designed to specifically to prepare Documents for Manual Annotation.

> You must select at least one GAS for Manual Annotation. Any more are optional.

Configuring Post-Processing Mode

This Mode also runs multiple Automatic Annotation Pipelines.

You do not need to select a GAS if you do not require one for Post-Processing.
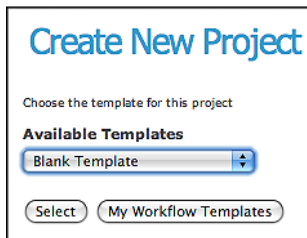
- The Services section (see page 40) has more information.

Curation Mode

Curation Mode uses a specialized GAS to enable the review and correction of Annotated Documents.

Creating New Projects

On the **Create New Project** screen select a WF Template, and then click **Select**:

The Project Data screen appears:
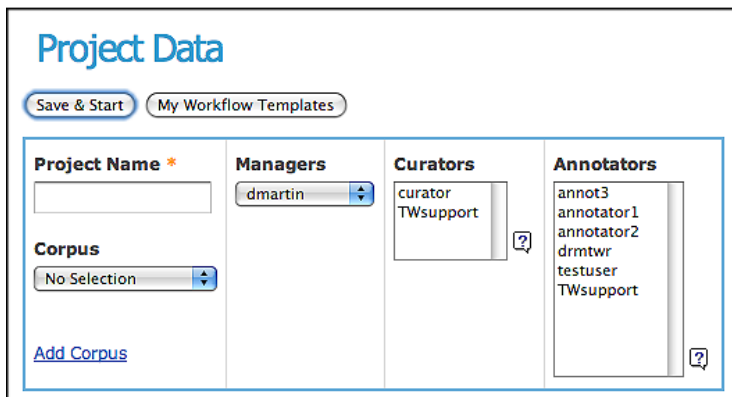
Corpus
After entering a **Project Name** select a Corpus.

- The Documents section (see page 30) has more information about Corpora.

Roles
Next assign the Roles to the Project. The User Roles Descriptions (see page 9) has detailed descriptions of the standard Roles.

Starting Projects

Click the **Save & Start** button to begin Project execution.

Teamware displays a list of the Projects that use the same WF Template:

Projects based on template "test2"

(New Project) (My Workflow Templates)

2 Projects found, displaying all Projects.

Name ⬍	Template	Corpus	Manager	Start	End	Status						Delete
test2	test2	Example_Corpus	dmartin	2010-03-10 21:18:41.0		started	▣	▣	▣	▣	☐	
test66	test2	NewCorpus	dmartin	2010-04-09 17:40:54.0		started	▣	▣	▣	▣	☐	

Project List Icons

List Processes

Click the **Processes** icon to display the **Process List**.

- The Process List section (see page 42) for more information.

Suspend Project

Click the **Suspend Project** icon to suspend the Project.

Resume Project

Click the **Resume Project** icon to resume a suspended Project.

Change Project Actors

Click the **Actors Icon** icon to display the **Change Project Actors** screen.

Change Project Actors

(Save) (Cancel)

Managers	Curators	Annotators
dmartin ⬍	curator TWsupport	annot3 annotator1 annotator2 drmtwr testuser TWsupport

- The User Roles Descriptions (see page 9) has more information about the Actors.

End Projects

Click the **End Project** icon to end the Project.

> A Project is not considered complete until a certain protocol is followed, for instance that a pre-defined number of Annotators have processed a Document .
>
> - The Project Rules section (see page 46) has more information.

Export Project Options: CSV and PDF

Click the **CSV Export Option** to download a comma-separated value file. This option produces a file that can be imported to spreadsheet programs like Excel.

Click the **PDF Export Option** to create an Adobe Portable Document Format file.

Schemata

Schema-Driven Editing

GATE Teamware uses an XML Schema definition language to configure the operation of the Annotation Editor. Schemata provide a powerful and flexible method for defining and controlling annotation procedures.

The Schema defines the Annotation Type (see page 14) as well as optional or required features.

Creating a New Annotation Schema

You need to create customized Schemata to identify Annotation Types. Each Type requires a corresponding Schema file.

Teamware Schemata conform to the World Wide Web Consortium (W3C) standard for XML Schemata. You can find more information here: W3C Schema.

W3C provides a tutorial to help you to get started: XML Schema Primer

Listing Schemata

To view the Schemata that currently exist, from the Home screen select **Resources -> Schema** to display the **Annotation Services** screen.

Annotation Schemas

(Upload Schema) (Back to Main Page)

22 schemas found, displaying all schemas.

Schema Name ⇕	Projects	☐ (Delete)
CNSentence.xml		☐
CN_Schema_Agent.xml		☐
CN_Schema_Applicant.xml		☐
CN_Schema_Province.xml		☐
CN_Schema_inventor.xml		☐

You can click the **Schema Name** to view the XML Schema code.

> You may need to use an option in your browser to view the XML code, for example a command like **View Source**.

Uploading Schemata

To upload a Schema click the **Upload Schema** button to display the **Upload an Annotation Schema File** screen.

Upload an Annotation Schema File

Note that File To Upload below should be an XML schema file. The maximum allowed size of an uploaded file is limited to 100 MB.

File to Upload *

[Choose File] no file selected

File to Upload

[Choose File] no file selected

File to Upload

[Choose File] no file selected

File to Upload

[Choose File] no file selected

File to Upload

[Choose File] no file selected

(Upload) (Cancel)

You can choose up to five Schema files to upload at a time by clicking the **Choose File** button. Click the **Upload** button to perform the upload process.

Example Schemata

There are a number of example Teamware Schemata available to use as templates. They are stored in the GATE directories *plugins/ANNIE/resources/creole/schema*, and listed below:

AddressSchema.xml
CorefSchema.xml
DateSchema.xml
EmailSchema.xml
EntityHeadSchema.xml
EntityMentionSchema.xml
EntitySchema.xml
FacilitySchema.xml
GpeSchema.xml
IdentifierSchema.xml
InternetSchema.xml
LocationSchema.xml
MoneySchema.xml
OrganizationSchema.xml
PercentSchema.xml
PersonSchema.xml
PhoneSchema.xml
PosSchema.xml
SentenceSchema.xml
StreetSchema.xml
SyntaxTreeNodeSchema.xml
TokenSchema.xml
UtteranceSchema.xml

Example Schema for a Date Annotation

The example below shows the format of a simple Date Annotation.

```
<?xml version="1.0"?>
    <schema
     xmlns="http://www.w3.org/2000/10/XMLSchema">
     <!-- XSchema deffinition for Date-->
    <element name="Date">
        <complexType>
        <attribute name="kind"  use="optional">
         <simpleType>
          <restriction base="string">
           <enumeration value="date"/>
           <enumeration value="time"/>
           <enumeration value="dateTime"/>
          </restriction>
         </simpleType>
        </attribute>
       </complexType>
     </element>
    </schema>
```

Create a new Annotation Type called "Date"

Define a Subtype called "kind". Specify that it is optional.

Define the acceptable values for Subtype "kind".

The Add a New Annotation section (see page 16) shows how the **Annotation Popup** displays Annotation Types and Subtypes.

Export Schema Options: CSV and PDF

Click the **CSV Export Option** to download a comma-separated value file. This option produces a file that can be imported to spreadsheet programs like Excel.
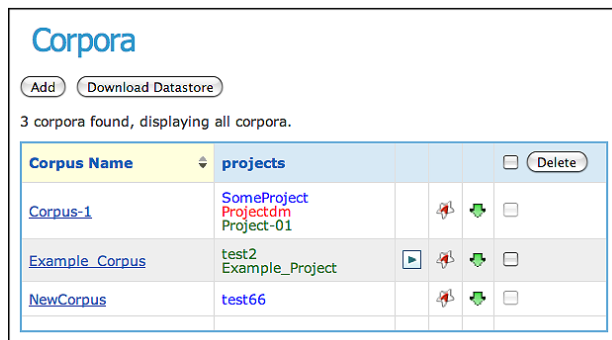
Click the **PDF Export Option** to create an Adobe Portable Document Format file.

Documents

Teamware includes a number of features for loading and tracking large Document sets, which are called Corpora.

Add Corpora

From the Home screen select **Resources -> Documents** to display the **Corpora** screen:
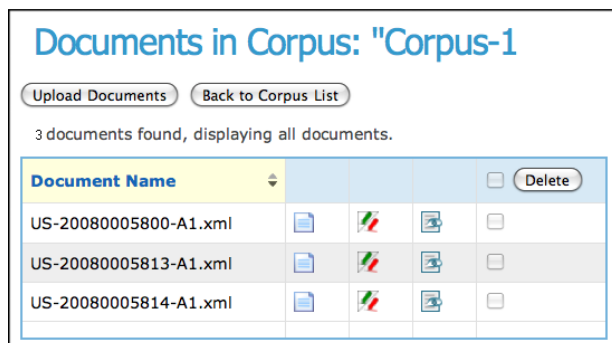

The screen lists all of the Corpora, and the Project that use each Corpora.

List Documents

Click the Corpus name to display a list of the Documents in the Corpus.

View Document

Click the **View Document** icon to use the Annotation Editor.

- The Using the Annotation Editor section (see page 12) has more information.

Annotation Differ

Annotation Differ helps to determine how multiple Annotators handle the same information, customisation and adaptation tasks. It compares the differences between Annotations from one Annotator compared to the Annotations from another Annotator.
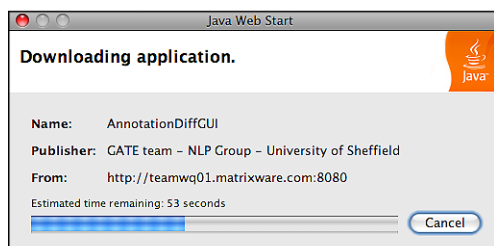
- All the Annotations in one Set are compared to another Set.
- Comparisons are made on a document-by-document basis.

 You can perform full Corpus Annotation Differ in GATE Developer.

Click the **Annotation Differ** icon to use the Annotation Differ tool.

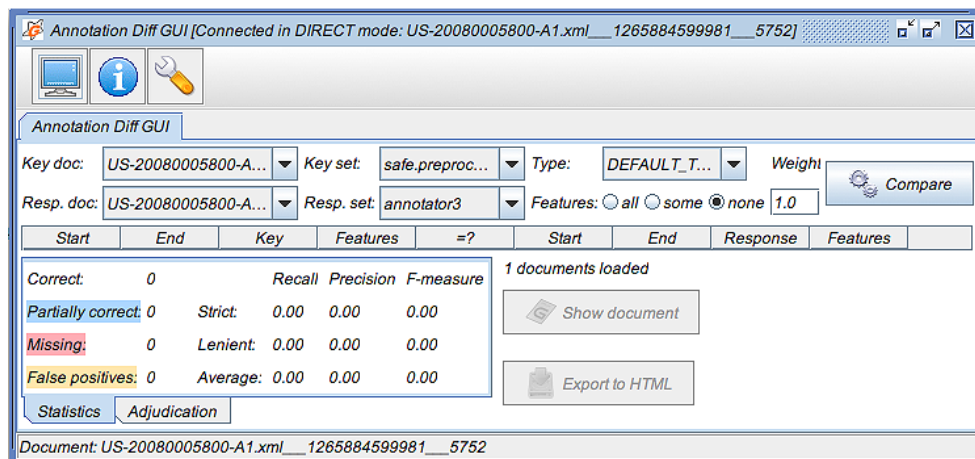Teamware downloads the AnnotationDiffGUI:

 The download could take several minutes depending on your Internet connection speed.

Granting Unrestricted Access
When you start the **Annotation Differ GUI** your browser may also ask you to allow access. Follow the instructions to grant this access.

Annotation Differ GUI
The **Annotation Differ GUI** appears:

The **Key Set** is the base Annotation Set. The **Response Set** is the Annotation Set for comparison. You can choose Sets to compare, however the **Key Document** and **Response Document** are selected for you.

IAA Calculation

IAA Calculation helps to determine how multiple Annotators handle the same information, customisation and adaptation tasks.

Click the **IAA Calculation** icon to use the **IAA Calculation** tool.
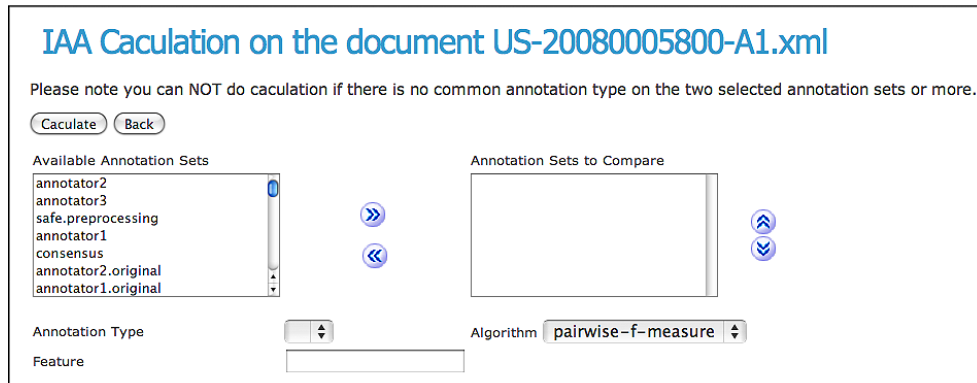
List Project Processes

In the **Corpora** screen (see page 30) click a Project to display the Processes in that Project.

- The Process List section (see page 42) has more information about this list.

New Project

If the **New Project** icon appears next to the **Corpus Name** you can click this icon to create a new Project using this Corpus.

- The Create New Project section (see page 24) has more information about new Projects.

ANNIC Search

ANNIC Search offers ANNIC-based JAPE rule authoring for customisation and adaptation tasks.

Overview

ANNIC (ANNotations-In-Context) is a full-featured annotation indexing and retrieval system. It is provided as part of an extension of the Serial Data-stores, called Searchable Serial Data-store (SSD).

Displaying the ANNIC Search Screen

Click the **ANNIC Search** icon to use the tool
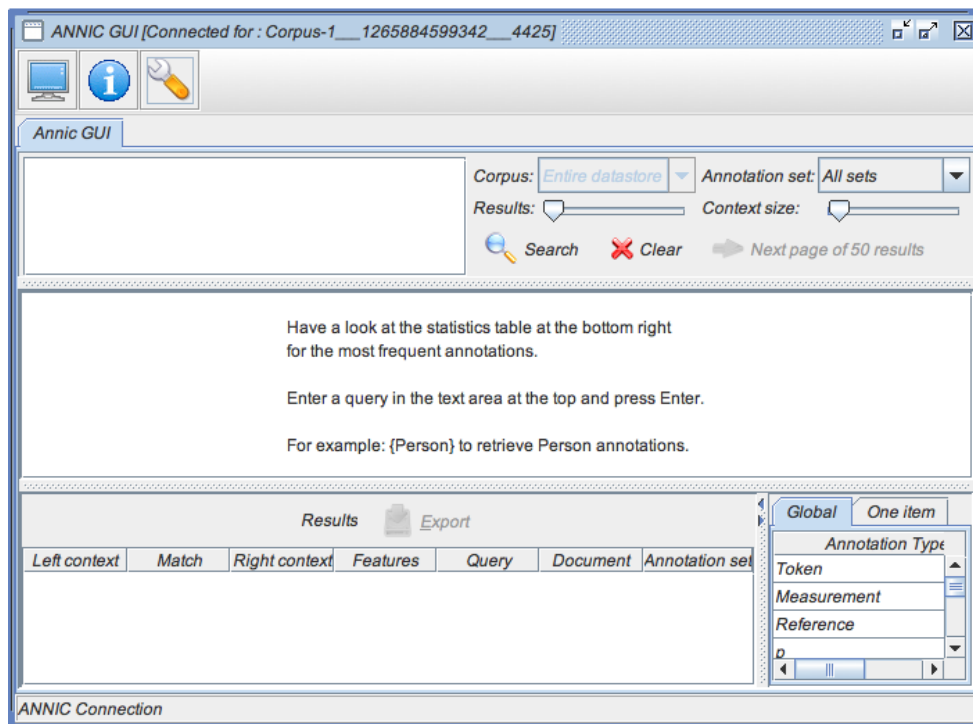
Teamware downloads the AnnicGUI:
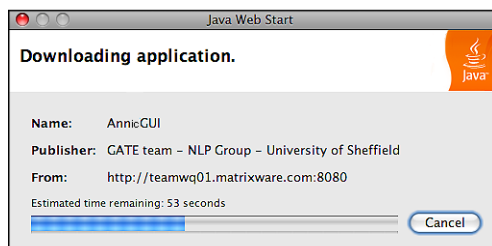
The download could take several minutes depending on your Internet connection speed.

Granting Unrestricted Access
When you start the **ANNIC Search GUI** your browser may also ask you to allow access. Follow the instructions to grant this access.

ANNIC Search GUI
The **ANNIC Search GUI** appears:

Download Corpus

Click the **Download Corpus** icon to download all of the Documents in this Corpus as a zip file.

The downloading and saving of the zip file to your system is processed through your browser.

Upload Documents

To upload Documents to Teamware, from the Home screen select **Resources -> Documents** to display the **Corpora** screen (see page 30). Then click the **Add** button to display the **Upload** screen:

When the upload is complete Teamware displays the results:

Corpus has been populated with new documents successfully.

Corpus Upload Result Information

Corpus Name Archive

Corpus Size 6
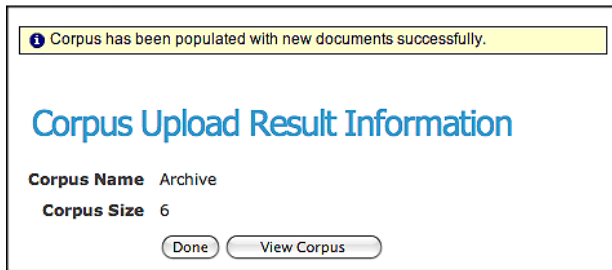
(Done) (View Corpus)

Click the **View Corpus** button to List Documents (see page 30).

Export Document Options: CSV and PDF

Click the **CSV Export Option** to download a comma-separated value file. This option produces a file that can be imported to spreadsheet programs like Excel.

Click the **PDF Export Option** to create an Adobe Portable Document Format file.

User Accounts

Teamware controls access to data using Accounts with Roles. Everyone logs in with a name and password. Every Account includes Roles that control what a User can do, and what information a User can see.

- The User Roles Descriptions section (see page 9) has more information.

Administrators can create, delete and suspend Accounts, and can also use the Teamware Bulk Upload feature to quickly add Accounts from an Excel worksheet.

Implementation Notes

An Account that does not have an Annotator Role can not perform Annotator functions, even if other Roles with more privileges are assigned to the Account.

An Account with the Administrator Role can perform all Manager functions.

List Current Users

To view the Current User Account, from the Home screen select **Admin -> Manage Users** to display the **Current Users** screen.

Current Users

(Add) (Bulk Upload) (Update) (Delete) (Back to Admin Menu)

35 users found, displaying all users.

Username	First Name	Last Name	E-Mail	Current Roles	Enabled	Delete
adm	Amin	Adm	agaton@dcs.st.uk	manager,admin	☑	☐
agan	Man	Aganovic	agaton@dcs.st.uk	curator,manager,annotator	☑	☐
anG	Agus	Robs	a.roberts@dcsac.uk	curator,manager,annotator,admin	☑	☐
borav	Brislav	Pop	borislav@sirma	curator,manager,annotator	☑	☐
Chra	Crista	Deim	cdeinum@lightleipg.com	curator,manager,annotator,admin	☑	☐
dmtin	Dve	Mar	dave.martin@twresearch.com	admin	☑	☐
jababente	Jde Ann	Benente	jabenabente@ousesoftware.com.ph	curator,annotator	☑	☐
Jbaroft	Jes	Bayrft	jbaycroft@fairesearch.com	curator,manager,annotator,admin	☑	☐

Create Account

From the **Current Users** screen click the **Add** button to create a new Account:

Bulk Upload

The Bulk Upload features allows you to create multiple Accounts quickly using an Excel worksheet.

From the **Current Users** screen click the **Bulk Upload** button to display the screen:

Excel Template

Click the end of the sentence **The template can be downloaded here** to obtain a copy of the blank Excel worksheet.

◇	A	B	C	D	E	F
1	Username	Password	First Name	Last Name	Email	Roles (comma separated names)
2						
3						
4						
5						
6						
7						

Fill in the worksheet, and then click the **Choose file** button to select the **File to Upload**.

Email Notification

You can send an email notification to the new Users and yourself after the Accounts have been created.

After selecting email options click the **Upload** button to begin the bulk upload process.

Disable Users

You can Disable Accounts if you wish to prevent a User from logging in to the system. Disabling retains the User information in Teamware.

Clear the **Enabled** box in the **Current Users** screen, and then click the **Update** button:

Enabled

☑

☑

☑

☑

List Active Users

To view the Active Users, from the Home screen select **Admin -> Active Users** to display the **Active Users** screen.

Active Users

The following is a list of users that have logged in and their sessions have not expired.

(Back to Admin Menu)

One user found.

| Username ⇕	Full Name
dmin	Datin ✉

One user found.

Clickstreams

A Clickstream is the recording of what a User clicks when using Teamware. When a User clicks anywhere in the application, the action is logged. Clickstream analysis is useful for a number of reasons. For more information, see Wikipedia.

To view the Clickstreams, from the Home screen select **Admin -> Clickstreams** to display the **All Clickstreams** screen.
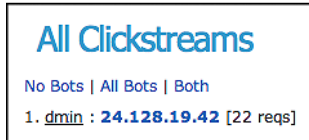
Bots

Bots are automated or semi-automated tools that run automated procedures on the Internet. Bots have the potential to disrupt Internet applications like Teamware. For more information, see Wikipedia.

You can choose whether to view **No Bots**, **All Bots**, or **Both**.

Super Administrator

The Super Administrator determines what User Roles can view Teamware screens.

For example, the Super Administrator can specify that Managers can access the IAA Calculations (see page 31)

See the *Installation Guide* for more information about SuperAdmin.

Roles Table

Documents

permission	annotator	curator	manager	admin	super admin
list corpora			X	X	X
create new corpus			X	X	X
edit corpus			X	X	X
delete corpus			X	X	X
download datastore			X	X	X

Services (GAS)

permission	annotator	curator	manager	admin	super admin
list services				X	X
create new service				X	X
edit service				X	X
delete service				X	X

Schemas

permission	annotator	curator	manager	admin	super admin
add schema			X	X	X
delete schema			X	X	X

WF Templates

permission	annotator	curator	manager	admin	super admin
list all templates				X	X
create new WF Template			X	X	X
delete any WF Template				X	X

Projects

permission	annotator	curator	manager	admin	super admin
list all projects				X	X
create new projects			X	X	X
delete any projects				X	X
change project "actors"				X	X

Users

permission	annotator	curator	manager	admin	super admin
create users				X	X
bulk upload users				X	X
update users				X	X
list active users				X	X
view clickstreams				X	X

Services

Projects utilize Annotation Pipelines, which are installed Teamware as a GAS (GATE Service). A GAS is a particular type of GATE Annotation Pipeline; the same Pipelines that you can create in the GATE Developer.

Managers and Administrators can view and edit existing GASes (GATE Services) as explained below.

Creating a GAS

Teamware includes a number of Pre-Packaged GASes to perform common functions; for example *Pre-Manual, Pre-Curation, Copy/Merge, OntoText-Specific, Alexandria-Specific*, etc.

You can also create your own customized GASes; instructions are found in the *Super Administrator Guide*.

Listing Annotation Services

To view the GASes that currently exist on your system, select **Resources -> Services** from the Home screen to display the **Annotation Services** screen.

Annotation Services

(Add) (Back)

10 annotation services found, displaying all annotation services.

Name	Description	URL		
AUR_Curation	Aureus Corpus curation	/ml-service/services/application	📝	✖
CN	CN Sentence	/ml-service/services/application	📝	✖
copy gas	copy Section, Reference, Measurement annotations from annotator1/2 annotation sets to consensus annotation set	http://safekeeper1.dcs.shef.ac.uk/lighthouse/copy-service/services/GATEService	📝	✖
Medline	GAS for preparing Medline abstracts	/ml-service/services/application	📝	✖
merge gas	copy annotator1/2 to annotator1/2.original as a backup, merge annotator1/2 annotations into consensus, delete annotator1/2 annotations that have been merged	http://safekeeper1.dcs.shef.ac.uk/lighthouse/merging-service/services/GATEService	📝	✖
OT-pre-manual-gas	Pre-manual gas that copies annotations from default AS	/ml-service/services/application	📝	✖
Pharma_Parameters	Correction of Pharma Parameters of exoPharma corpus	/ml-service/services/application	📝	✖
Pre-Curation GAS	Enables annotators to see all annotations in the "Processed" annotation set.	/ml-service/services/application	📝	✖
pre-manual gas	GAS for preparing manual annotation task	/ml-service/services/application	📝	✖
pre-processing gas	Pre-processing GAS for automatic annotation task	/preprocessing-service/services/GATEService	📝	✖

10 annotation services found, displaying all annotation services.

Edit Annotation Service

To edit an Annotation Service, from the **Annotation Services** screen click the **Edit** icon 📝 , or click the Annotation Service Name on the left column.

Export GATE Services Options: CSV and PDF

Click the **CSV Export Option** to download a comma-separated value file. This option produces a file that can be imported to spreadsheet programs like Excel.

Click the **PDF Export Option** to create an Adobe Portable Document Format file.

Processes

Processes

How Processes are Created

Each Mode in a Project (see page 21) becomes a Teamware Process when the Project starts (see page 24).

Each Process executes sequentially in the order in which the Mode is listed in the Project. Each Process must complete before the next Process begins.

When Projects start, the currently executing Mode is the current Process. You can see this by selecting **Projects -> All Projects -> View Processes** to create a Process List.

Process List

Processes in Project "test2"

(Back to Project)

One Project found.

Name	Template	Corpus	Manager	Start	End	Status		
manual anotation	test2	Example_Corpus	dmartin	2010-03-10 21:18:41.0		started		

Tasks

How Tasks are Created

When a Project is running all documents in the Corpora are treated as separate Tasks.

Task List

To display the **Task List** select the **Projects -> All Projects -> Processes screen** from the Home

screen, and then click the **List Task** button   .

Tasks

(Refresh) (Back)

3 Tasks found, displaying all Tasks.

Name	Project	Start	End	Status	Actor		
example_news.xml 1262916739981 5426	test2	2010-03-15 21:14:43.0	2010-03-15 22:09:24.0	Completed	drmtwr		
example_patent.xml 1262916740083 8722	test2	2010-03-15 22:09:37.0		Pending	drmtwr	▶	✖
welcome.html 1262916740199 1898	test2	2010-03-10 21:18:41.0		Pending			

Execute Task

Click the **Execute Task** icon   to run a Suspended Task, and to display the Task Detail screen:
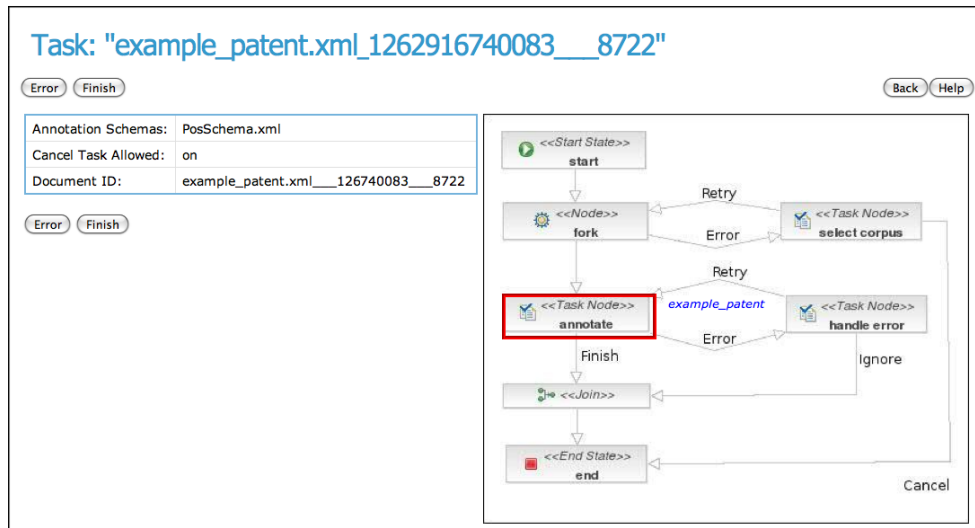
Tasks are Suspended when Projects are Suspended.

- The Suspend Project section (see page 25) has more information.

Reject Task

Click the **Reject Task** icon [icon] to Reject a Task. The **Group Tasks** screen appears:

Group Task
To display the **Group Tasks** screen, select **Projects -> Group Tasks** from the Home screen:

Process Monitoring

Click the **Process Monitor** icon [icon] to display the **Document Status Summary** screen.

- The Project Tracking section (see page 44) has more information about the Document Status Summary.
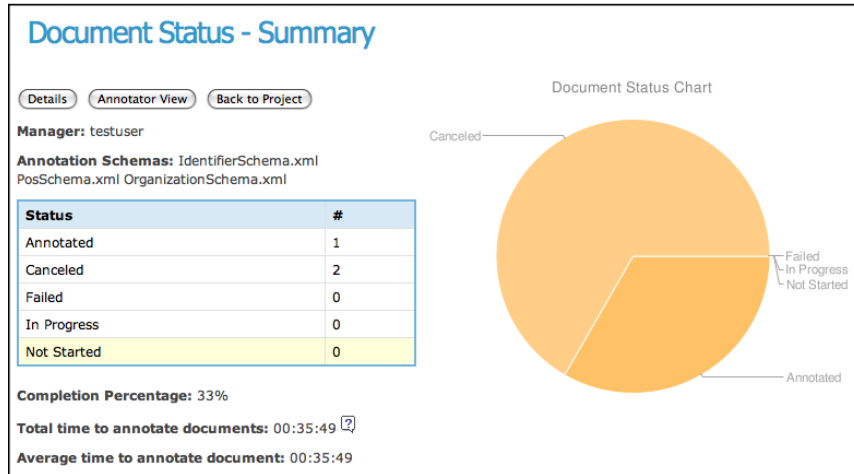
Reports

Teamware includes a number of reports to monitor Processes, Projects, Tasks, etc. so that you can quickly determine current status of the factory.

Project Tracking Screens and Reports

Document Status Summary

This screen shows the progress of Annotation Processes. To view the report, from the **Home** screen select **Projects -> All Projects -> Processes -> Process Monitoring**:

Document Status Details

This screen shows annotation progress on a document-by-document basis. To view the report from the **Document Status Summary** report click the **Details** button:
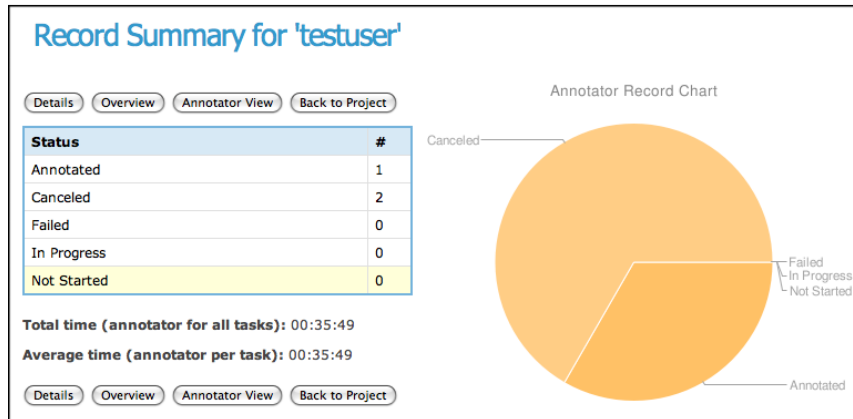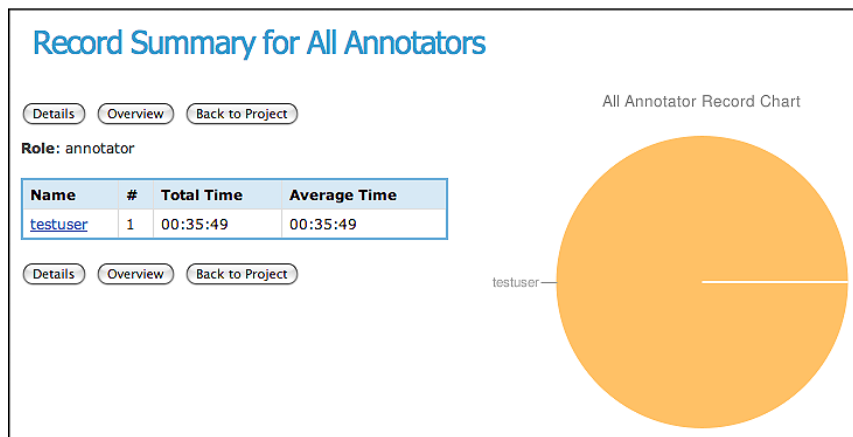

Annotator Record View

This screen shows Annotator performance. To view the report from the **Document Status Details** report click the Annotator name:

Record Summary for 'testuser'

Details | Overview | Annotator View | Back to Project

Status	#
Annotated	1
Canceled	2
Failed	0
In Progress	0
Not Started	0

Total time (annotator for all tasks): 00:35:49

Average time (annotator per task): 00:35:49

Details | Overview | Annotator View | Back to Project

Annotator Record Chart

Record Summary for All Annotators
This screen shows how workload is shared among Annotators. To view the report from the **Annotator Record View** screen click the **Annotator View** button.

Record Summary for All Annotators

Details | Overview | Back to Project

Role: annotator

Name	#	Total Time	Average Time
testuser	1	00:35:49	00:35:49

Details | Overview | Back to Project

All Annotator Record Chart

Canceling Tasks and Processes

Managers and Administrators can cancel Projects that are hung using the **End Project** icon (see page 25).

All Tasks and Processes in the Project are treated as if they were completed successfully.

Project Rules

This chapter explains how Teamware controls the process of annotating Documents. Teamware Projects includes Rules to ensure that proper protocol is followed. This section explains the Rules. The Projects section (see page 21) describes how to configure these Rules.

Annotator Sets

Set Creation

Teamware creates Sets for each User. The Annotation Editor controls how Sets are used as explained below:

Pool Mode
In **Pool Mode**, the Annotation Editor only displays the Set created for the User. The Annotator can not change or add to this set.

Direct Mode
In **Direct Mode**, the Annotation Editor displays the Set created for the User, however the User can create their own Sets, and change existing Sets.

Set Names

If you select Anonymous Annotation (see page 46) each Annotation Set is assigned a generic name: Annotator1, Annotator2, etc.

If you do not use **Anonymous Annotation**, each Annotation Set is assigned the name of the User Account.

Anonymous Annotation

Anonymous Annotation makes post-processing easier by simplifying the Annotator names. Instead of the User Account name, Teamware assigns generic names like annotator1, annotator2, etc.

Number of Annotators per Project

Specifying the number of Annotators ensures that each Document is reviewed by a minimum amount of people.

Random Document Assignment

If you have more than one Annotator assigned to a Project, Teamware will use the Random Document Assignment feature in Pool Mode (see page 12). The Annotation Editor, in Pool Mode, will randomly select Documents from the Pool of Documents when the Annotator clicks the **Get Next Task** button.

Allowing Annotators to Cancel Tasks

The **Cancel Task Allowed** (see page 23) option controls whether the Annotation Editor displays the **Reject Task** button. If you do not allow Annotators to cancel Tasks, then the **Reject Task** button appears dimmed in the Annotation Editor.

Project Completion Based on Annotation Completion

Teamware ensures that each Document is Annotated correctly, and that all Documents in a Project are Annotated completely.

A Project is not considered complete until the pre-determined number of Annotators have processed a Document. This number is defined in the WF Template.

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