

Software/Tool Comparison Worksheet

Criteria	Evaluation
Name	Specify 6 (current version 6.4.08)
Website/Contact	http://specifysoftware.org Specify Software Project Biodiversity Institute University of Kansas 1345 Jayhawk Boulevard Lawrence, KS USA 66045 Helpdesk: 785-864-4400 (Central Time)
Description	<p>A comprehensive specimen data management system for biological collections. The primary focus of the software is the ingestion of specimen (collection object) data from a variety of collection types, including but probably not limited to the disciplines of botany, entomology, herpetology, ichthyology, lichenology, malacology, mammalogy, mycology, ornithology, and paleontology. A single installation of the software can be configured to handle collection data from all of these disciplines across a single museum.</p>
Computer hardware Operating system Supplementary software	<p>MAC OS X Intel Core 2 Duo processor (shipped mid-2006) or later Mac OS X Leopard version 10.5.4 or later 2 GB RAM preferred, 1 GB RAM minimum Java SE Run-time Environment ("JRE") 1.6 (=6.0) or later. Java comes pre-installed with Mac OS X. MySQL 5.1 or later ~125 MB disk space for Specify installation ~250 MB disk space for MySQL installation ~1 MB for 500 Collection Object Records (~1 GB for 500,000 records) 1440x900 or 1280x1024 screen resolution preferred, 1024x768 minimum</p> <p>Windows (XP, Vista and 7) Most any processor purchased in the last two years Windows XP Service Pack 3 or Windows Vista Service Pack 1, Windows 7 2 GB RAM preferred, 1 GB RAM minimum Java SE Run-time Environment ("JRE") 1.6 (=6.0) or later MySQL 5.1 or later ~175 MB disk space for Specify installation ~150 MB disk space for MySQL installation ~100 MB disk space for Java installation ~1 MB for 500 Collection Object records (~1 GB for 500,000 records) 1280x1024 screen resolution preferred, 1024x768 minimum</p>

	<p>Linux</p> <p>Most any processor purchased in the last three years Tested and supported on Ubuntu and Fedora 2 GB RAM preferred, 1 GB RAM minimum Java SE Run-time Environment ("JRE") 1.6 (=6.0) or later MySQL 5.1 or later ~150 MB disk space for Specify installation ~100 MB disk space for MySQL installation ~100 MB disk space for Java installation ~1 MB for 500 Collection Object records (~1 GB for 500,000 records) 1440x900 or 1280x1024 screen resolution preferred, 1024x768 minimum</p> <p>Specify 6 stores its data in a MySQL database and requires the installation of MySQL server on all three of the above platforms, and the installation of Java 1.6 or later on the Windows and Linux platforms.</p>
<p>Additional hardware required</p>	<p>None</p>
<p>Features</p>	<p>An attractive, customizable interface, adaptable to a variety of disciplines and collection types.</p> <p>Remote installation, allowing multiple clients to access a central, server-installed database.</p> <p>Automatic updates.</p> <p>Provides for managing multiple users with varying levels of access.</p> <p>Provides for managing multiple collections in a single installation.</p> <p>Provides for importing or building taxon, agent, and collecting event authority files that can be used for populating data entry pick lists.</p> <p>Includes customizable forms and reports.</p> <p>An integrated Workbench application facilitates entering, uploading, and cleaning data before being cataloged into Specify, offering the following activities:</p> <ul style="list-style-type: none"> • Importing from CSV or MS Excel files, • Linking an image or other attachment to a record, • Viewing and editing in either grid (datasheet) or form view, • Visualizing georeferenced object information, • Converting/standardizing latitude and longitude formats, • Georeferencing, • Exporting and reimporting datasets without remapping.

	<p>A suite of related stand-alone applications is included:</p> <ul style="list-style-type: none"> • Data Exporter to build, update, and export data files for use by third parties (such as Darwin Core files for distribution to GBIF), • Import File Splitter to split large MS Excel files into multiple files of 4,000 records each for import via the Workbench, • Specify Backup and Restore to allow IT personnel to backup and restore a Specify database to a MySQL location on a server or local disk, • Specify Database Security Wizard to verify the IT and Master credentials, and repair or reset Master user privileges, • Specify iReport utilizes the power of iReport 3.0 for use with Specify queries, • Specify Setup Wizard for creating a new Specify database, including the insertion of a schema within MySQL, the creation of an administrative level Specify user, and the initialization of the database structure. <p>Includes plug-in support for GeoLocate, a desktop and online georeferencing application.</p> <p>Includes plug-in support for Lifemapper, a biodiversity geospatial data modeling, visualization, and analysis platform.</p> <p>Includes plug-in support for species distribution maps via GBIF.</p> <p>Supports a large user base, currently reported by the Specify project to include about 400 installations.</p> <p>Provides online forums that allow users to post comments and questions.</p> <p>An extensive help document (~400 pages) is available for download through the Specify website, along with other documentation and videos. Familiarity with the help documentation is strongly recommended prior to installing Specify.</p> <p>A downloadable installation guide for implementing the Specify Setup Wizard is available on the Specify website. It is strongly recommended that users study this guide carefully prior to attempting installation.</p> <p>Help desk support (785-864-4400).</p>
<p>Longevity</p>	<p>Specify 6 was released in 2008, following a number of previous versions dating to 2000.</p>

Initial cost	None
Maintenance cost	There are no annual maintenance costs to use Specify or the companion software that it requires. However, server-based installations usually require IT support for server maintenance and operation, which may result in a cost issue at some institutions.
Ease of setup/installation prerequisite skills	<p>There are three installation protocols for Specify 6: an EZDB installation, a workstation installation, and a server-based installation.</p> <p>The full workstation installation requires users to download and install Java 1.6 or later, and be able to install and setup a MySQL server on the Specify workstation. The latter requires understanding of MySQL and server configuration and may require IT intervention.</p> <p>Server installation will likely require IT support.</p>
Continuing IT support required?	<p>The installation of the EZDB version can normally be managed by the end-user.</p> <p>Full installation on a single, non-server workstation may require skill with MySQL and/or occasional troubleshooting from IT staff schooled in MySQL.</p> <p>Server-based installations often require minimal but continuing IT support for server maintenance and operation.</p>
Special skills required for maintenance	<p>Once installed and connected to the MySQL database, maintenance of the Specify client is minimal. Automatic updates are presented at startup and should be allowed to progress as encountered.</p> <p>There should be little need for maintenance of the MySQL database, which may require IT support, especially if installed to a remote, IT-managed server.</p>
Challenges	<p>Typical users may sometimes have difficulty installing and setting up the non-EZDB workstation version due to the need to install and develop at least a rudimentary understanding of MySQL prior to installing the Specify client software.</p> <p>The Specify Wizard installation documentation can be difficult to follow. Although many settings can be re-configured post installation, some cannot. The full effect of decisions required during installation is not always clear. It is important to study the Setup Wizard document carefully to ensure an adequate understanding of the product before beginning the installation process, and to seek advice from other Specify users or the Specify Help Desk as needed.</p> <p>Installation of MySQL or of the Specify database to a remote MySQL server will likely require IT support, appropriate credentials on the server, and/or access to the underlying MySQL database, especially</p>

for moving existing Specify databases, building a Specify database within MySQL, or importing very large pre-configured taxon or other tables.

Migrating data from the EZDB version to a full MySQL installation is not straight forward. For most installations, the long view suggests selecting a workstation version over the EZDB version.

Updates, especially those that require structural changes to the Specify MySQL schema, sometimes require an IT root user to login before the update can continue. Depending upon institutional parameters and MySQL configuration, this may require the physical presence of an IT staff member for updates to remote servers, which can delay the installation of updates. Requesting a root user account specific to the remote MySQL Specify database can mitigate this issue.

As with many sophisticated software packages, effective use of Specify may require a steep initial learning curve, especially for users who wish to customize the installation. Given the complexity of most biological collections databases, this steep learning curve should not be a reason to abandon this or any other sophisticated software package.

Discipline-specific taxon tables are not available for all disciplines.

Importing datasets via the Workbench is limited to a maximum of 4,000 records per import. This can be problematic, especially when importing large taxon or agent datasets. The stand-alone application Import File Splitter packaged with Specify, splits large spreadsheets into multiple files, which partially addresses this issue.

Users who desire to display database statistics on the Specify Welcome screen should ensure that CatalogedDate is populated as new CollectonObject records are created.

Specify 6 installations are not yet accessible via the internet through the Specify 6 client software (though skilled web database designers can build custom web-based interfaces that allow such access).