

Software/Tool Comparison Worksheet

Criteria	Evaluation
Name	Morphbank V3
Website/Contact	http://www.morphbank.net Institute for Digital Information and Scientific Communication (iDigInfo) Florida State University 216 Louis Shores Building PO Box 3062100 Tallahassee, Florida 32306-2100 Helpdesk: 850-644-6366 (Eastern Time) Director: Gregory Riccardi, griccardi@fsu.edu
Description	A comprehensive web-based image repository and image management system for natural history museum collections as well as for researchers using images in their biodiversity informatics research. The primary focus of the software is the ingestion of images and related data from any organism in the tree of life. Images may be of living organisms, vouchered organisms, or even illustrations. Contributors use restful web services to link online keys to Morphbank images as well as to published papers.
System Requirements: Computer hardware Operating system Supplementary software	System Requirements: http://www.morphbank.net/About/Manual/systemRequire.php Windows® Operating System <ul style="list-style-type: none"> • Computer: PC with at least a Pentium-class or equivalent processor. <ul style="list-style-type: none"> ○ Microsoft® Windows® XP, or NT 4.0 ○ Minimum of 128 MB (RAM) memory minimum (512 or higher recommended). ○ Minimum of 70 MB of available hard disk space. The actual amount of disk space required is dependent upon how your machine is configured to store temporary internet files. ○ Recommend a high speed internet connection. • Monitor: SVGA color monitor; minimum 1024x768x600 screen resolution or higher recommended; minimum of 256 colors • Printer: Not required • Additional Software <ul style="list-style-type: none"> ○ Web Browser: Mozilla Firefox™ version 2 or higher or Microsoft Internet Explorer (MSIE), version 7 or higher ○ Settings: Morphbank employs the use of pop-up screens to display various data screens. Pop-ups and cookies must be enabled for this site. Also, Java™ and Javascript™ must be enabled in order to gain full functionality. The newest versions of this software can be downloaded at http://java.com/ and http://javascript.com/ ○ Adobe® Reader®: Version 7.0 or higher. The Reader can be

	<p>downloaded at http://www.adobe.com/.</p> <ul style="list-style-type: none"> ○ Media Player: Windows[®] <p>Macintosh[®] OS X Operating System</p> <ul style="list-style-type: none"> • Computer: an Apple[®] Macintosh or compatible capable of running Macintosh OS X operating system 10.3 or newer <ul style="list-style-type: none"> ○ Mac OS X 10.3 or newer ○ Memory: Minimum required by the operating system ○ Hard Disk with 40-50 MB available disk space. ○ Recommend a high speed internet connection • Monitor: SV-GA capable 13" or larger, Macintosh compatible Screen Resolution: 1024x768 or higher recommended; minimum 256 color depth recommended. • Printer: Not required • Additional Software <ul style="list-style-type: none"> ○ Web Browser: Safari[®] (OS X Default), or a Mac OS X compatible version of Netscape[®] Navigator or Communicator, or Mozilla Firefox[™]. ○ Adobe[®] Reader[®]: Version 7.0 or higher. The Reader can be downloaded at http://www.adobe.com/ ○ Settings: Morphbank employs the use of pop-up screens to display various data screens. Pop-ups and cookies must be enabled for this site. Also, Java[™] and Javascript[™] must be enabled in order to gain full functionality. The newest versions of this software can be downloaded at http://java.com/ and http://javascript.com/ ○ Mac Media Player version 10.0
Additional hardware required	None

Features

Account Creation: Acquiring an account is easy and is automated. See <http://www.morphbank.net/Admin/User/new>

Security Model: Access to objects uploaded to Morphbank is easy to manage via Morphbank Groups. Morphbank contributors have their own unique id and an accompanying group id. Contributors control membership in their own group and determine roles for other group members as well as control when the public can view their uploaded images. A new group or groups can be added at any time and users may belong to one or many groups. For more on the security model of Morphbank see:

<http://www.morphbank.net/About/Manual/userPrivileges.php>

Students welcome: Morphbank welcomes graduate and undergraduate students working with their professors / advisors on research projects involving images and related data.

Ease of use: Easy Keyword searching (boolean and) of all objects in Morphbank.

URLs: Stable persistent URLs assigned to Morphbank objects to use in publications or linking out and back to other related objects (GenBank, BOLD, journals, EoL, GBIF, VertNet, ...)

Upload Methods: 4 upload methods. See more at:

<http://www.morphbank.net/About/HowToContribute/>

1. Upload via the web interface for users wishing to submit a few images at a time, periodically.
2. For users without their own database, having objects with no unique identifiers assigned by them, an Excel Workbook designed to organize contributor data in the Morphbank data model is used. This method is suitable for occasional datasets where hundreds of images or more are being submitted. The drop-downs in this workbook are highly customizable for each user – emphasizing terms they need for their particular organismal group. The fields in the workbook are the ones found in Morphbank and many map to the Darwin Core standard.
3. For users with existing datasets having objects with assigned identifiers, Morphbank provides a customizable Excel workbook that allows contributors to supply all the data they have to Morphbank. In other words, with this upload model, any data can be shared with others and displayed with each object in Morphbank. Data in this workbook is converted to Morphbank XML schema before ingestion.
4. Specify developed a plug-in that exports data out of Specify into XML for upload to Morphbank.

Data Validation Tools: Before uploading any Excel Workbooks to Morphbank, users are required to utilize the *data validation tool* to help them proof and edit their data before ingestion. Clear messages are returned regarding any data questions and how to fix them before sending workbooks for upload.

	<p>http://services.morphbank.net/mb3/validateXls.jsp</p> <p>Name Query: For users wanting a powerful way to check what taxon names are (or are not) in Morphbank, a query can be constructed and return resulting .csv files containing lists of names found as well as names not found. See http://www.morphbank.net/Help/nameMatch/</p> <p>Taxon Names. For those needing many new taxon names inserted into the database, Morphbank provides a simple 1 page Excel worksheet to populate. Names are then inserted via a php script.</p> <p>Web Services: http://services.morphbank.net/mb3/ makes it possible for anyone to query the Morphbank database. In essence, it is analogous to a Keyword search query in the My Manager interface of Morphbank. The <i>services</i> page lets users construct the query of their choice, selecting what to look for and in what format the output appears. For example, any time after submitting data and images to Morphbank, a Morphbank Contributor can use the services.morphbank.net/mb3/ interface to return Morphbank Ids for building links. For more about this service see the application programming interface (API) which describes how the query is put together and reveals what search combinations are possible. For help with services, see the manual at: http://www.morphbank.net/About/Manual/services.php</p> <p>Online user manual at http://www.morphbank.net/About/Manual/</p> <p>User Services Helpdesk via http://www.morphbank.net/Help/feedback/ and 850-644-6366 normal business hours Eastern Time, USA.</p>
Longevity	Morphbank v3 released in March 2010, following a number of previous versions dating to 1998.
Initial cost	None
Maintenance cost	There are no annual maintenance costs to use Morphbank or the companion software that it requires.
Ease of setup/installation prerequisite skills	No set-up required. Morphbank is web-based.
Continuing IT support required?	NA
Special skills required for maintenance	NA
Challenges	NA