



User Guide
Javelin PDF reader for
Android tablet devices



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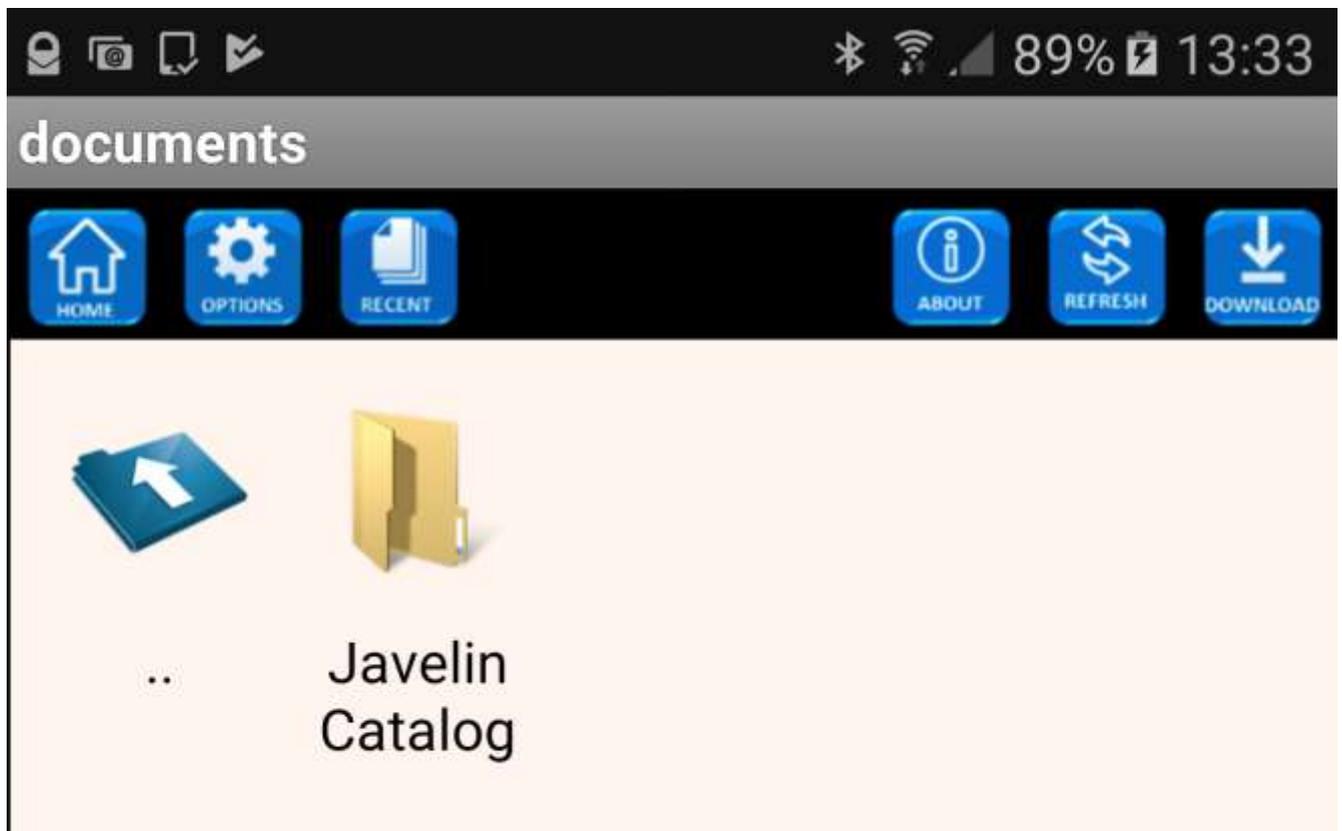
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Overview

This User Guide describes the Javelin PDF reader for Android tablet devices. For details of Javelin PDF readers for Windows PCs, Apple Mac OSX computers and Apple iPads please see our website, www.drumlinsecurity.com.

Javelin is designed for reading and marking up standard PDF files and secure PDF files. Secure PDF files have the file extension .DRMZ and are created using our free Windows-based software, itself called Drumlin. These files have permission controls and DRM protection via the Drumlin DRM in-network service. Secure PDFs require authorization before they can be viewed.

When you start the Javelin PDF reader app for Android you will see a picture similar to that shown below. Touch the **Javelin Catalog** folder image in order to see the available books and documents included in the default catalog. These include a secured PDF (Alice in Wonderland, Alice.drmz) and this document, the Javelin User Guide for Android. You can touch the REFRESH icon to download an updated version of this catalog which will then show additional documents and catalogs that are available.



As with other Android apps, Javelin stores files in folders or directories. In the example shown above, the blue icon takes you up a level in the directory hierarchy, whilst touching a folder icon (e.g. the Javelin Catalog folder) accesses that folder and its subfolders (or subdirectories).

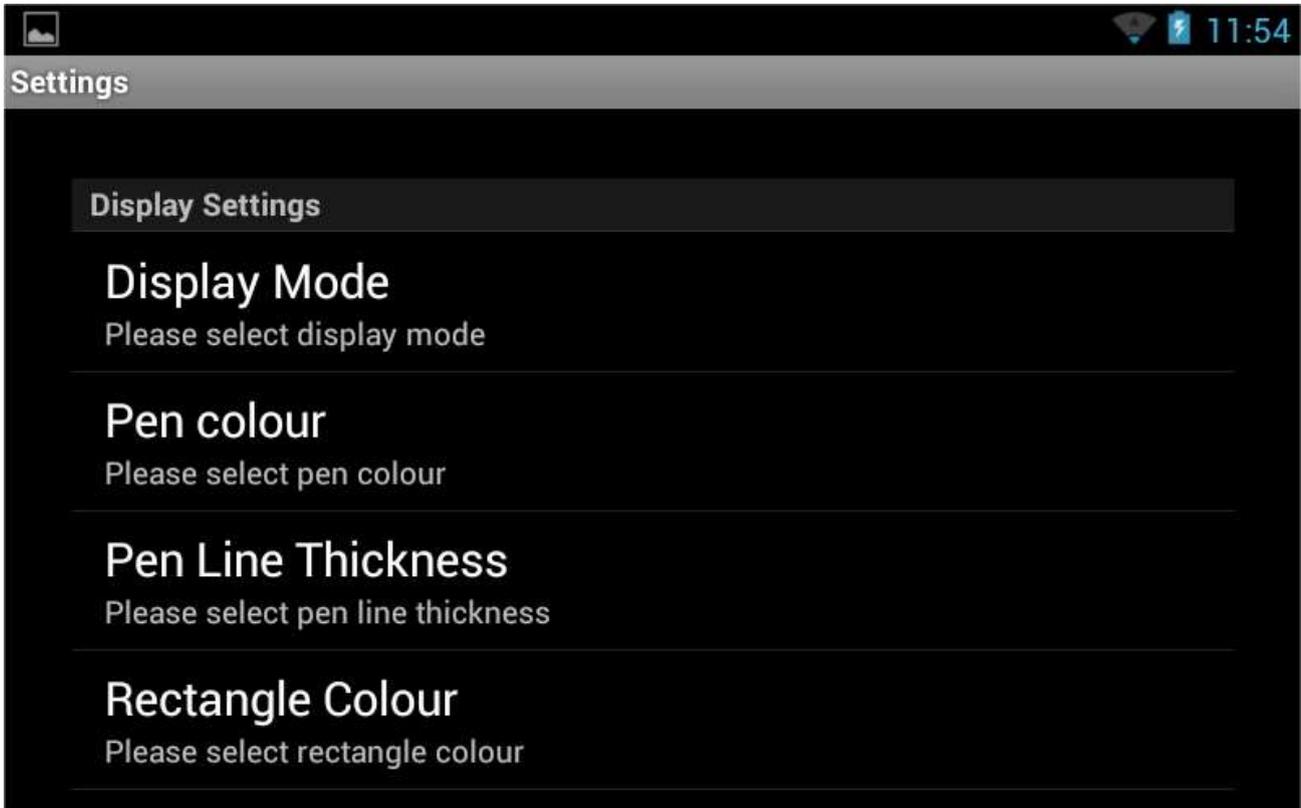
PDFs and secure PDFs (DRMZ files) can be copied directly to an Android device (e.g. via a USB connection to a PC - e.g. place the files into the Javelin folder, documents subfolder), or load files via Dropbox, or download files from the internet directly or use the download facility provided within Javelin (see above, download icon). Javelin for Android is declared to the operating system as the preferred software for opening DRMZ files and is always available for opening PDF files.

In many instances files will be downloaded automatically on request via Javelin's powerful "Catalog handling" facilities. Catalogs are either built-in or downloaded xml

files that contain details of sets of documents (e.g. PDF format books) that can be downloaded simply by touching the book cover. [Catalogs](#) are described in much more detail later in this document. Catalogs can also contain links to other catalogs (sub-catalogs) and can be created and edited by publishers or end users.

Support is provided for a wide range of PDF features, including internal and external hyperlinks, zooming, contents navigation (sometimes referred to as a navigation tree or outline), thumbnail page display and bookmarking. Markup and annotation are supported for standard PDFs and for secure PDFs. For more details on reading PDFs and secure PDFs using the Javelin for Android reader see the [Document reading](#) section.

At the left end of the main toolbar are three further icons: a Home icon, which returns you to this 'home' page; a recently viewed files icon, which lists such files which you can simply touch to open; and a cogwheel icon which provides access to a number of user-selectable "settings":



Display mode: Selects from a number of alternative page display modes - typically use vertical scroll mode for smaller devices and horizontal display mode for larger devices. Other modes, such as scroll mode, two page mode etc. may or may not be suitable for all applications, as they may result in pages that are difficult to read and/or navigate. The **Pen colour**, **Pen line thickness** and **rectangle colour** settings apply to [markup and annotation](#) - please see later in this document for more details.

Note that the main Android tablet features remain available along the top and bottom of the screen (e.g. download progress, settings, app access icons, WiFi status etc). This will vary for different versions of Android, but is broadly similar to the images below:



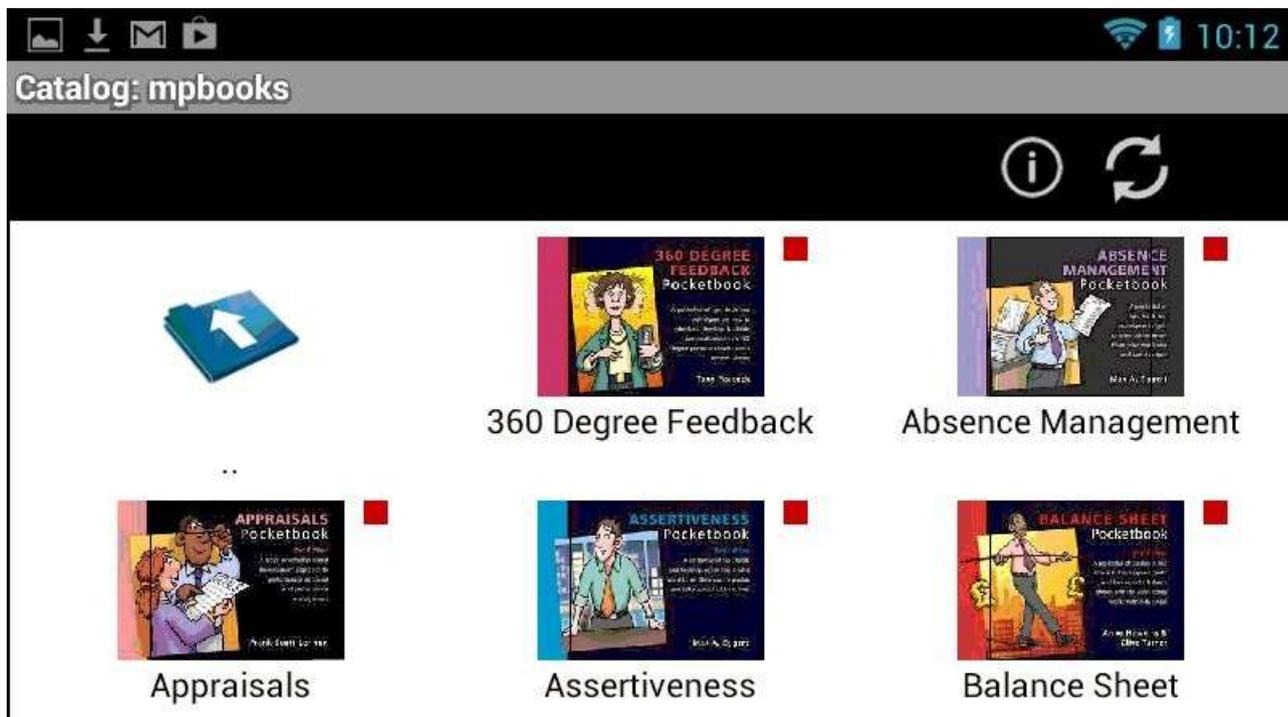
The curved back arrow at the bottom left is the main icon used to exit from a document and go back a level, typically back to the catalog currently selected. Once in a catalog

use the Home icon or blue disk icon to go to the home page or up a level in the directory/folder tree.

Typically just the folder named **Javelin catalog** will be provided, but other folders (catalogs) may be downloaded - for example, the mpbooks catalog file can be downloaded using the download icon from the web address (URL):

www.pdfz.org/mpbooks.xml

This is a publisher-specific catalog containing almost 100 book titles. Once downloaded the catalog can be opened by touching the catalog folder icon, and the titles that are available within the catalog will be displayed. Touch the refresh icon (mentioned earlier) to instruct the Android download manager to download all the cover images if these are not displayed. Because there are a very large number of these cover images users should wait a while for all the covers to be downloaded! The resulting screen will look similar to the one shown below.



A red block symbol ■ is shown next to each catalog entry initially. This means that the file itself has not yet been downloaded. Touch the cover to download the document - depending on the file size this may take anything from a few seconds to several minutes - you can check on progress via the Android download manager (see [Downloads](#) section for more details).

When the document download is complete the colored symbol will change to yellow ■. You can then touch the cover to open the document and it will immediately ask you for an authorization code - you need to be online via WiFi or mobile network connection at this point - enter the code you have been provided and press OK. If the code is entered correctly and is valid, the document will be opened for you to read.

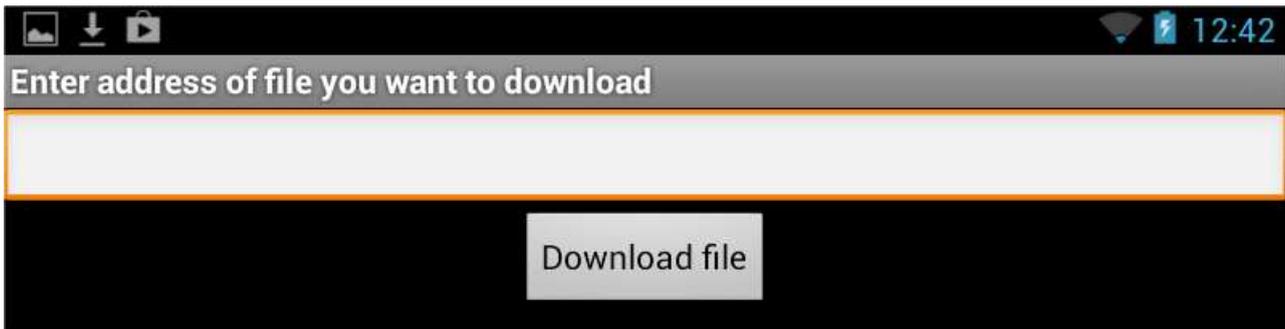
Authorized documents and standard PDF files that have been opened will have a green symbol ■ next to them.

Document downloading

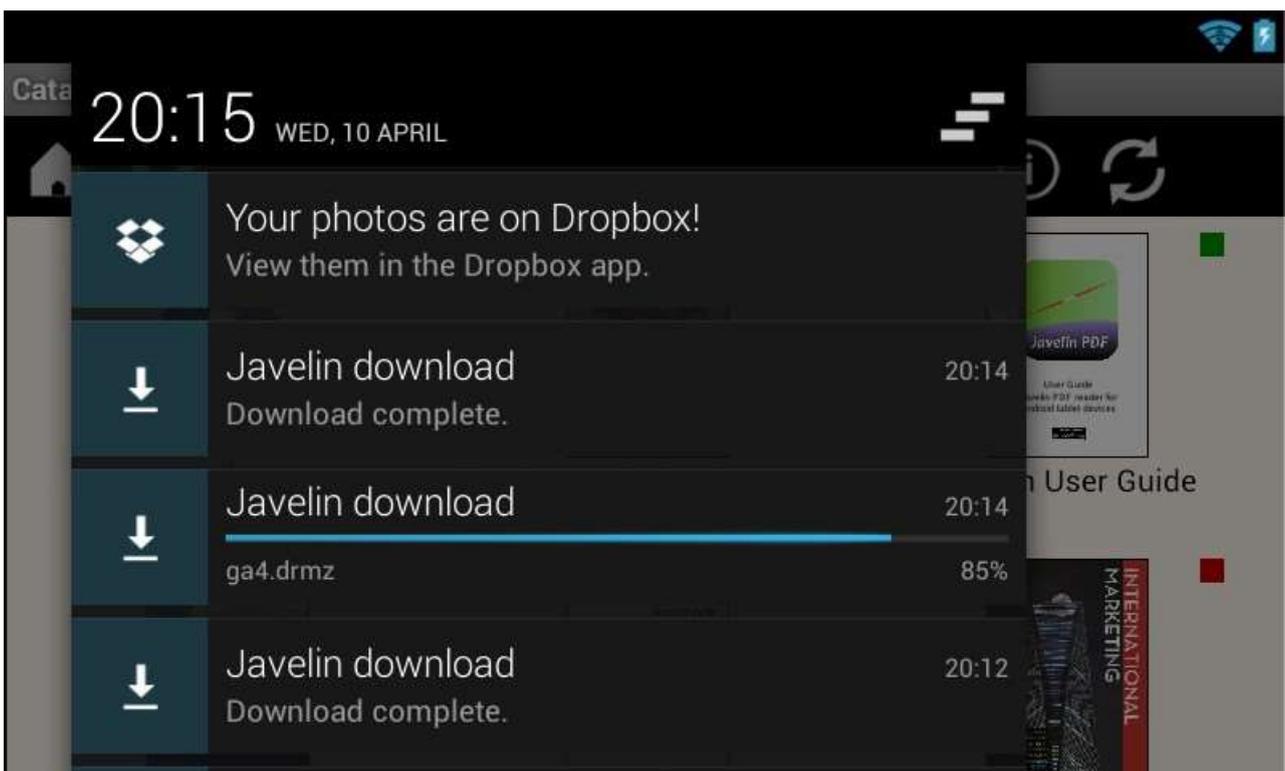
To download a file directly from the internet (rather than via a Catalog) select the download icon on the top right of the main screen toolbar, as shown below:



You will be prompted to enter a full internet address (a URL):



You do not need to include `http://`. Typically you will download catalogs (xml files) or individual secure PDFs, i.e. .DRMZ files. Whilst downloading is in progress the Android download manager will show the progress of the download - swipe down from the top left of the tablet screen to see the progress and completion of file downloads (see example, below). If you are downloading a catalog or refreshing a catalog a whole series of files (catalog plus cover images) may be downloaded, and then the screen display will be refreshed to show these files and cover images. Avoid repeatedly pressing the refresh icon as this will confuse the Android download manager. You can clear the download list, e.g. using the three white blobs icon on the right of the download manager display shown below (Android v4.2).



When downloading is complete, touch the document cover to open it. For secured PDFs (drmz files) you will be prompted to enter an authorization code. You must have a valid code for the publication in question, and you obtain this from the document publisher. For example, the code might be 123456789 or abcabcabc for sample or test files.

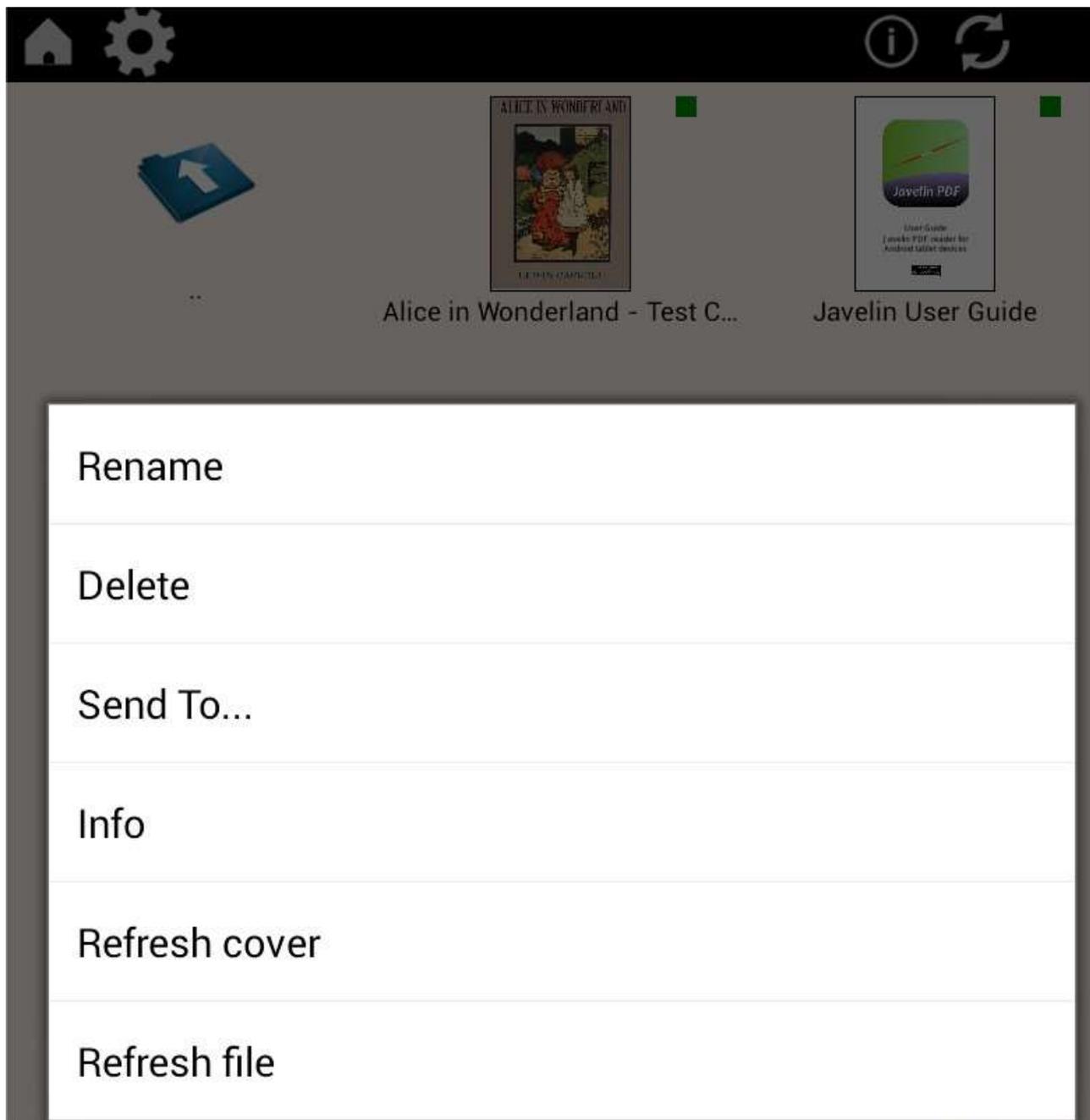
Touch the input field in order to enter the code and a keyboard will pop-up for you to enter the information. Press the OK button and then the code is checked on our server and if OK, the file will be loaded. Again please wait while this takes place as it may take a few seconds. The book or document is then available for you to read - you should not need to authorize the document again unless you delete it or you change to using another device such as an iPad or PC or Mac for this file.

Once downloaded and opened, the first page of the document is used as the cover image, unless a cover image has previously been provided or has been loaded using the Refresh Cover Image option.

Note that the download URL should not contain any spaces in the name, and for some websites will require the correct use of upper and lower case. As a general rule it is worth making sure the URL is correctly entered or you will receive an error message. To be certain you can check the URL by typing it into the address bar of a browser on your computer or Android device first. For complex filenames, and to ensure longer document names are displayed after download, use the Catalog mechanism, as this is simpler and much more flexible in terms of naming and associated information support.

In-context menus and document information

Javelin provides information on downloaded documents via the INFO option on the pop-up menu that is displayed when a document cover is 'long touched'. The options displayed have self explanatory functions, but are also summarized below.



Rename: Allows you to rename a file without altering its document information (including its unique ID in the case of secure files)

Delete: deletes the file permanently - touch the document cover again or use the download facility to re-get the file, but this may require re-authorization in the case of secure files

Send to... sends the file elsewhere, e.g. Gmail, Dropbox etc. For secure files sent to another device the file will need to be re-authorized in order to read it on that device

Info: The INFO option provides access to information relating to the document in question. It provides a series of tabs, depending on the item selected. An example is illustrated below:



Title	Alice's Adventures in Wonderland
Subject	English classics
Author	Lewis Carroll
Creator	TeX and all his friends
Producer	PDFFreeBooks.org
Name	/storage/emulated/0/javelin/documents/Javelin Catalog/ alice.drmz
Created	2008-05-07
Modified	2013-04-08

There are three possible sets of INFO provided:

- PDF info - the information directly provided via the PDF and its Properties, as illustrated above - the detailed contents will depend on how the file was created and which of the Properties fields have been populated;
- DRM info: information relating to the permission settings applied to the document, which are only included for secured PDFs (DRMZ files). This includes various counter and date field information; and
- Catalog information: this includes information included in the XML catalog file entry for this document in cases where the file has been downloaded via a catalog rather than via a direct download - e.g. full title and sub-title, description of the document, edition, publisher etc.

Finally the **Refresh cover** and **Refresh file** options retrieve information relating to the file from the server where they are held, assuming that the item in question was downloaded via a catalog link (which includes this information). Note that the Refresh catalog icon in the top right of each catalog is used to refresh an entire catalog and the covers of files held within that catalog. This function does not refresh the files themselves.

For files not downloaded via a catalog link an additional option is provided, Move to.. which allows you to move the file to a new folder (which you can specify). You can also move files using the built-in Android file manager, but we recommend you only do this with standard PDF files, not secure PDFs or catalog file entries.

PDF file formats and sizes

Although most end users and document publishers believe that a PDF file is just one specific file format, in fact that is a very long way from being the case. There is no single standard for all PDF files and in a sense every PDF is different. The differences are due to several factors: (i) the software used to create the PDF file; (ii) the settings or options used when the file is created; (iii) the PDF version created (typically this will be 1.4, 1.5, 1.6 or 1.7); (iv) the way character fonts are used (embedded or not); (v) the non-standard features implemented (e.g. embedded Javascript, form handling, embedded media files, Adobe-specific security); and of course, the content and characteristics of the source file itself.

This presents problems because essentially PDF files are not an agreed and open format but a substantial set of formats primarily designed by Adobe for their own use, with many Adobe-specific characteristics. Of course there are some standards for basic PDFs - in fact there are a lot of such standards, but that does not mean that every PDF complies with these standards or implements them in the same manner. The result is that you can only be sure a PDF file will display as you expect and hope by testing it on the PDF reader and target devices you would like to use. This applies for every PDF reader and platform, including Adobe software.

For Javelin readers each platform is slightly different - we try and ensure a PDF that is readable and usable on one platform will work in a similar manner on all platforms, but that is not always possible. In the case of the Android platform, most PDF files display OK and navigate without problems, but some require what is called “transparency flattening”. If a file you have displays incorrectly or has blank pages where text and images should appear, please contact us and we can advise on how to resolve this - essentially this issue can be solved using Adobe Acrobat, selecting the PDF Optimizer tool, and then choosing transparency flattening, optimization for web viewing and compatibility with PDF 1.4 or similar.

There are certain features of Adobe PDFs that Javelin readers do not support - these include form fields (form data entry and actions based on form elements, like buttons) - form fields are displayed for viewing and/or printing (where printing is enabled and allowed). Javelin also does not support embedded objects like video clips, 3D, Javascript etc.

File management

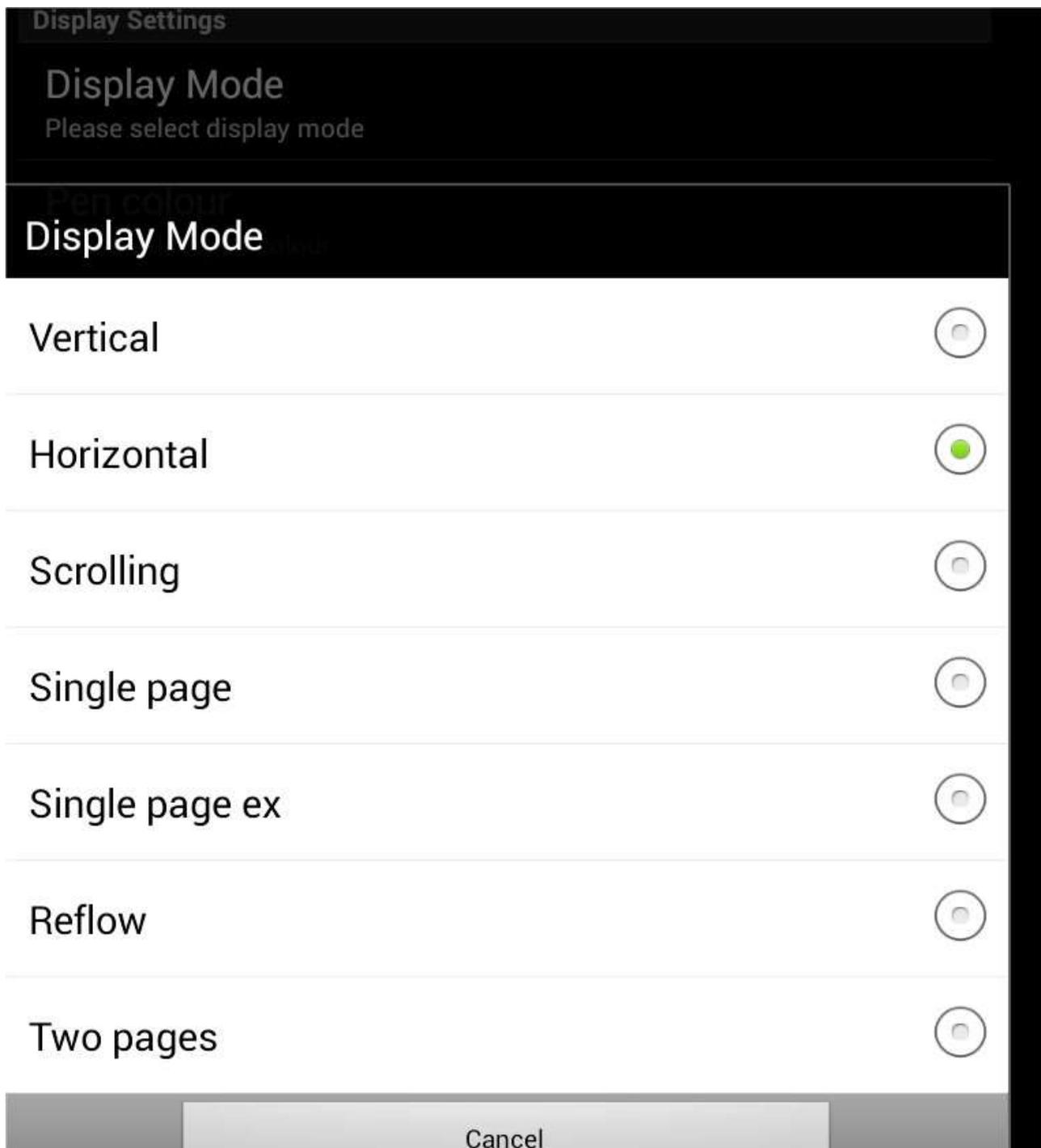
Android devices, unlike iPADS, are more like desktop computers in their file handling. Folders, or directories, can be accessed locally using free file manager apps like “ES File Explorer” (downloadable from the Google Play store), or directly from an attached PC or Mac.

In addition, when a catalog is downloaded using Javelin it creates a new folder with the catalog name as the folder name, and file contents based on the contents of the downloaded catalogs. Long touching a document cover within a catalog, or a catalog itself, will bring up a simple menu, as noted earlier. This includes basic file management functions.

Document reading

Javelin for Android provides fully functional PDF reading support. This applies to both standard PDF files and secured (DRMZ) files. Javelin remembers the last page accessed and will re-open a document at that page.

Scrolling can be horizontal, vertical, or a number of other variants, each of which can be selected via the Settings icon, Display mode option, on the Home page.



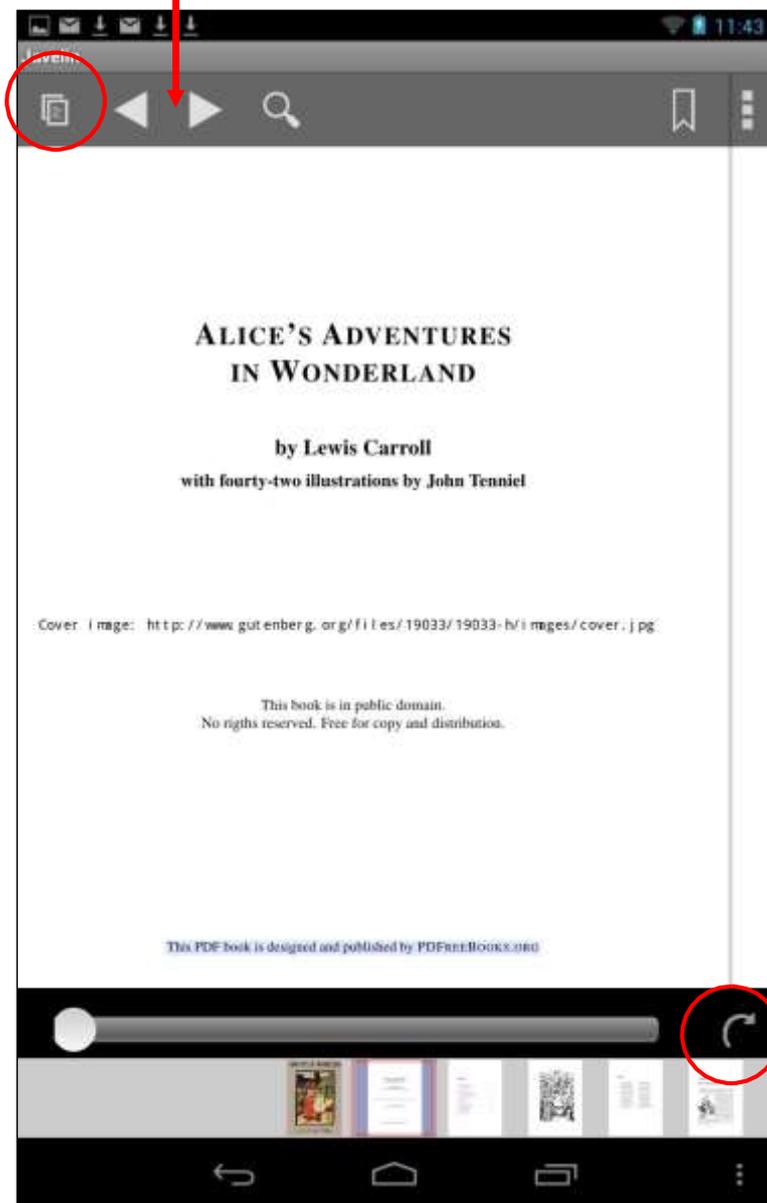
For smaller sized Android devices vertical scrolling is probably best. Swipe the screen to scroll up and down through the pages, or use the many navigation facilities provided (e.g. thumbnails, contents list, search facility etc). Pages can be zoomed in and out using the now standard two finger method or by double-tapping the screen for zoom in.

Devices may be rotated to show documents in landscape view - to lock the rotation use the feature built-into Android tablet devices via their Settings (Lock or unlock rotation).

In the screenshot below we show the top toolbar that is displayed when you touch the screen rather than swiping it. Top and bottom toolbars are then shown:

Contents or Outline: The leftmost icon in the top toolbar (circled below) provides a Contents or “outline” listing for the document, if one has been provided by the publisher. This list may be multi-level, allowing access to sections and subsections of the document, and if bookmarks have been created by you, then these can be accessed via this list facility also. Where navigation trees are multi-level, the next level (up or down) can be accessed by touching the > or < symbols in the tree structure shown on screen. Javelin for Android now keeps track of the last navigation action you have taken within a document, so it is easy to locate again if required.

Previous/Next arrows: the two white arrows provide access to the history of page selection, rather like a web browser. These are previous page accessed and next page in the list rather than previous and next page - the latter are obtained by swiping the screen or using the slider bar and mini-pages provided

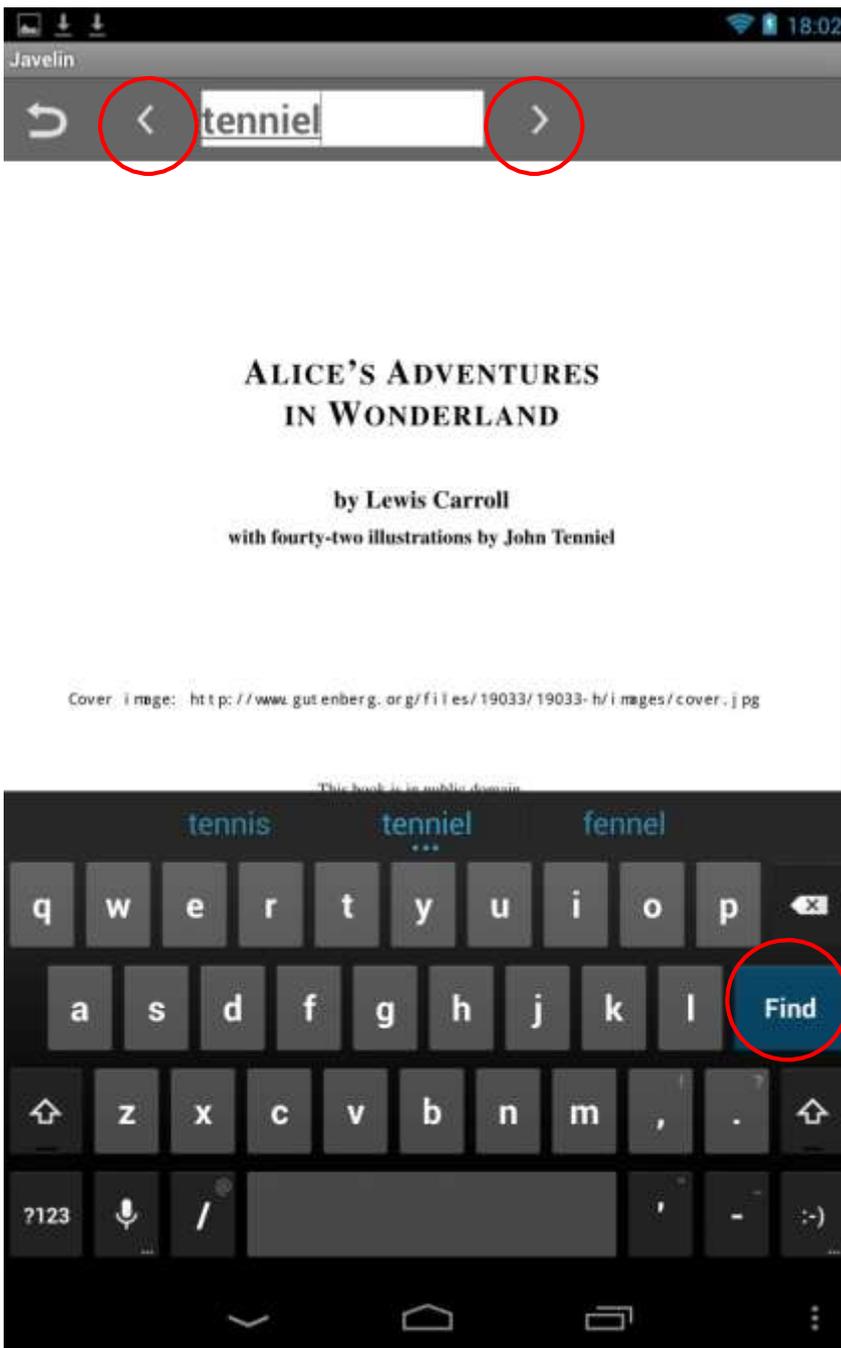


Go to page: Touch the Go to page icon, circled above right, to select a specific page to go to using the numeric keypad displayed.

Search: The search icon enables simple text search. When the icon is touched a new search toolbar is displayed.

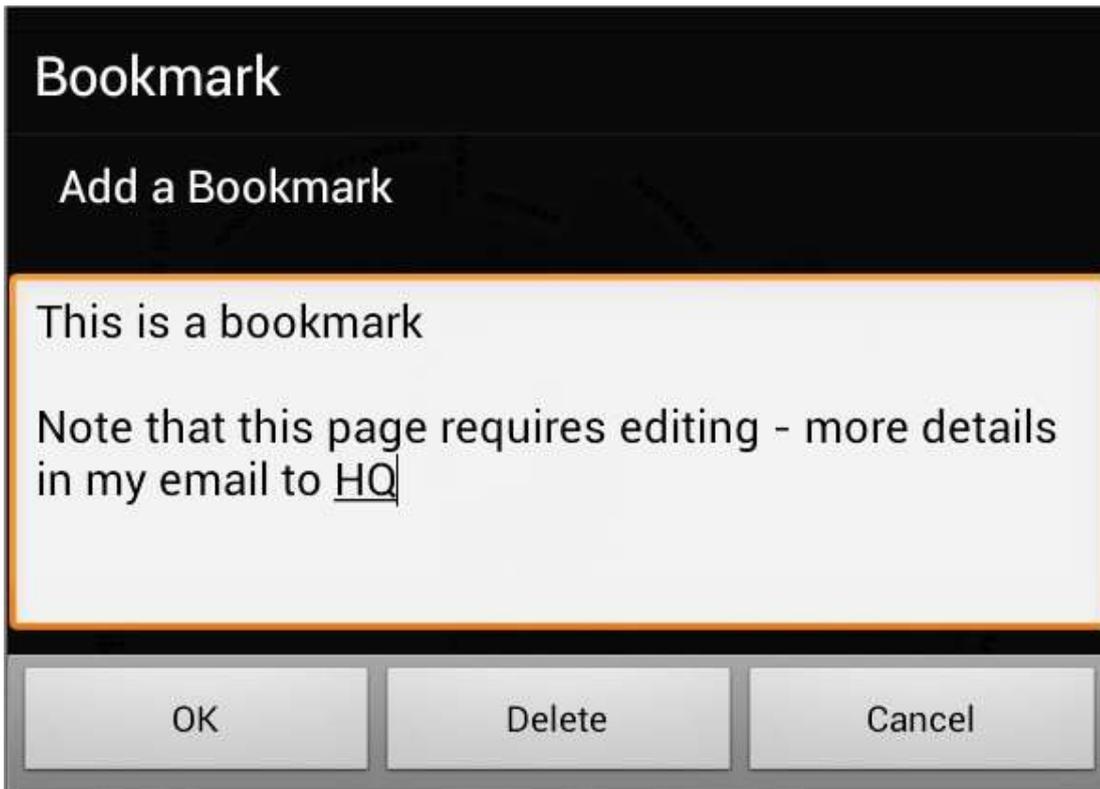


Touch the input field and a keyboard pops up for text entry as illustrated below. Enter the text string to find and then touch the FIND button or the forward or back arrows to search for the item required forward or back from the current location in the document. The page containing first hit found (if any) will be displayed, with the item highlighted. You may need to hide the keyboard in order to see the resulting hit. Using the < and > icons again will continue the search to the next/previous hit in that direction.



Note that for very large documents searching is relatively slow - users are recommended to select topics from the Contents facility in such cases or use the Go to page, slider bar and/or mini-pages view page selection facilities.

Bookmarks with notes: Any page can be bookmarked simply by touching the bookmark icon when on the page:



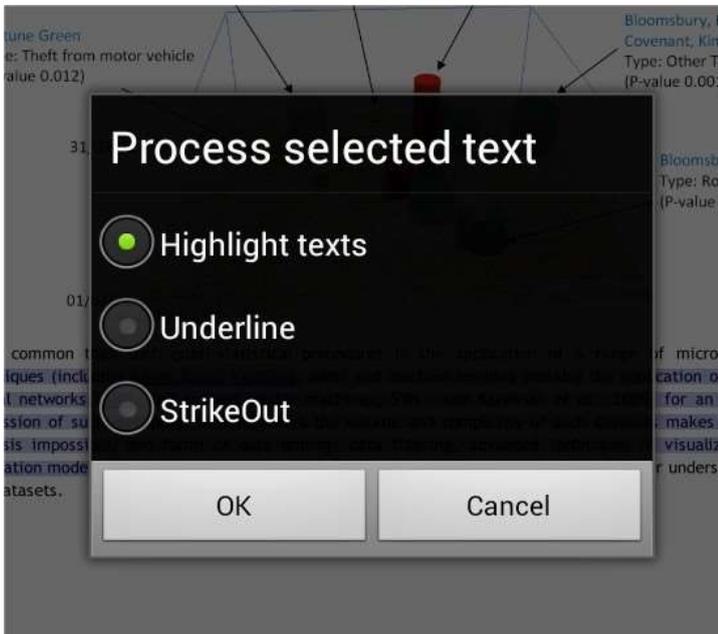
The user will be prompted for text to assign to the bookmark and then bookmarks that have been created and saved are available via the Contents icon - touch an entry in the list to go straight to it in the document. If the bookmark icon is touched on a page and it has been previously edited to include text, this text will be displayed as per the example shown above. Text entry includes simple text editing and the use of the CR/new line key to insert new lines.

Bookmarks can thus perform a dual function - identifying pages of interest and enabling notes to be associated with these pages for future reference. The bookmark data is held in a separate file on the Android permanent storage facilities.

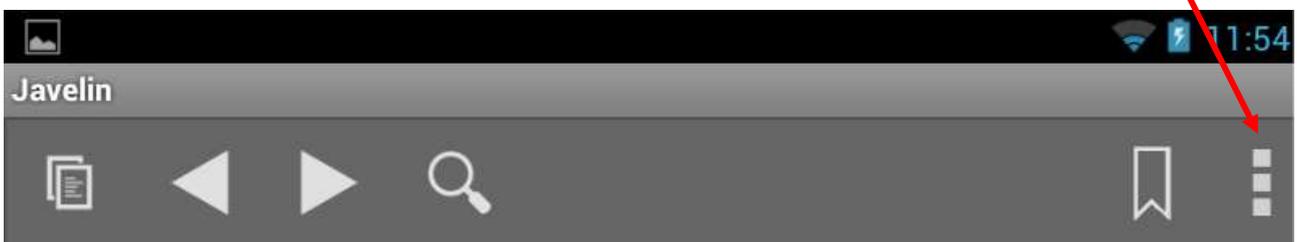
Document markup and annotation

Markup

For both secure PDFs (DRMZ files) and standard PDFs, areas of text can be long touched and then dragged to select the text and add markup. The facilities provided are shown below. After marking an area of text and exit-ing from a document you will be asked if you wish to save the changes, discard them or cancel.



Additional markup options are provided via the three dots icon on the standard top toolbar:



This enables you to add freehand line drawing and rectangular areas to the page. When touched a new menu bar is displayed with the extra features available, as shown below:

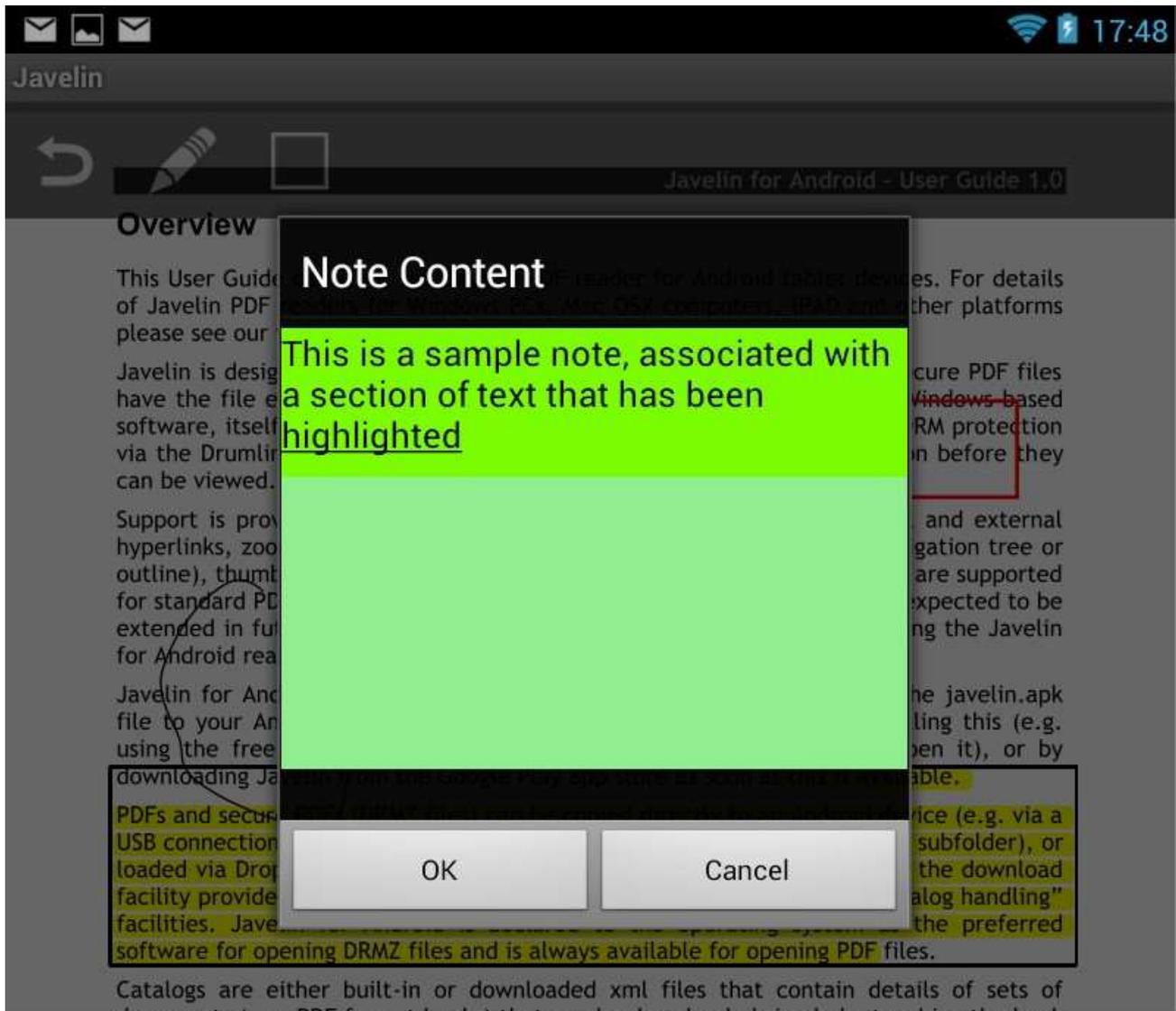


Select the facility you require and draw freehand lines/shapes/text or rectangles. You then have the option to save these (using a tick icon) or to delete them (a trash/dustbin icon). Exit the annotation (drawing) facility using the curly arrow (exit) icon at the left of the toolbar.

Annotations

All forms of markup - highlighting, freehand or rectangle drawing can be selected once they have been created, simply by touching them and a black line appears around them.

This enables such entries to augmented with text annotation (notes) or deleted. An example is shown below, where the yellow highlighted text has been selected for the addition of comments. This approach to annotation is slightly different from that used in some other products, such as Adobe Reader, but has two important benefits: first, notes can be linked to any form of markup rather than just a single 'note' object, and second, unlike in Adobe reader, notes are tracked and listed in the Contents or Outlines facility that is provided for each document (see below).



When the Contents or Outline icon (top left of toolbar) is touched, a contents tree is displayed if one is available. In addition the list of bookmarks can be selected or the list of notes selected (see below). When a note item is touched Javelin will display the page that includes the marked up text or region - touch the markup to open and/or edit the note.



Catalogs

A Catalog is an xml structured text file containing details of documents that can be downloaded simply by touching the cover of the document that the end user wishes to access. Full details regarding the creation of catalogs, including adding cover images and multi-level catalogs, is available on our website [Knowledgebase](#).

A Catalog can contain:

- The catalog name and where to locate it (its URL)
- A list of documents that are available for download, defined within the XML structure explained below. Elements that may be provided for each document include: its location for downloading (its URL); the URL of a thumbnail image (cover image) for that file; details about the document or item (name, long description, date of publication etc)
- Another catalog name and its URL - this enables catalogs to be nested within other catalogs and facilitates longer (descriptive) catalog names
- A catalog can also be provided as a zip file. In this case the catalog is similar to a standard XML catalog but can include a set of document cover images, thereby enabling both the catalog and covers to be downloaded in one go

A copy of the basic default catalog is shown below. Publishers can produce their own xml catalogs and download or copy these to Javelin, and then test downloading their own PDFs and secured PDFs (DRMZ files). If the publisher wishes the PDF to be secured (i.e. converted to a drmz file) they need to contact Drumlin Security for this facility or use the Drumlin software available as a free download from the Drumlin Security website. They will also need to contact Drumlin Security in order to obtain the authorization codes that are required for each file.

Catalogs (standard xml versions) only display covers AFTER downloading, assuming cover images have been made available. If covers are not displayed, press the catalog refresh icon to obtain them. Catalogs that are in the new zip file format should include the covers as part of the zip file, and in this case both catalog and covers are downloaded. Note that this feature requires the user to have the latest version of the Javelin app to ensure the catalog download is correctly processed. If in doubt, existing customers should be asked to update their copy of Javelin before refreshing an existing catalog that has been updated to include zip elements and/or before downloading a new zip-format catalog. Zip format catalogs can be included within the xml specification of a standard catalog, so can be included as sub-catalogs if required.

Note that text within bracketed fields should not contain “&” characters, and for some fields inclusion of full stop (period) character, angle brackets <, > etc. Catalogs may be updated at any time using the Refresh icon.

A sample catalog XML file is included below. This can be created and edited using a standard or advanced text editor - for example, we use and recommend Notepad++, which is an excellent free text editor for the PC platform:

<http://notepad-plus-plus.org/>

Catalog files, once created, can be converted into a secured form if so required. This is achieved using a utility program available from Drumlin Security Ltd, which simply converts an XML file to an XMLZ file. The latter is provided if a publisher wishes to hide the contents of their catalog from open viewing.

SAMPLE STANDARD FORMAT CATALOG XML FILE

```

<?xml version="1.0" encoding="UTF-8"?>
<JavelinCatalog>
<CatalogURL>http://www.drumlinsecurity.co.uk/ipad/catalog.xml</CatalogURL>
<Document>
  <Name>Alice in Wonderland - Test Code: abcabcabc</Name>
  <URL>http://www.drumlinsecurity.co.uk/ipad/alice.drmz</URL>
  <ThumbURL>alice.png</ThumbURL>
  <Subtitle>Sample secure PDF document - Cover image courtesy the Gutenberg Project, Images
section</Subtitle>
  <ISBN></ISBN>
  <PublisherName>Macmillan (in 1866)</PublisherName>
  <PublisherURL></PublisherURL>
  <Authors>Lewis Carroll (Charles Lutwidge Dodgson)</Authors>
  <AuthorURL></AuthorURL>
  <Language>English</Language>
  <Edition>1</Edition>
  <Description>The famous 19th century tale of Alice's adventures underground. Illustrated by John
Tenniel. The PDF file in this copy was designed and published by PDFFreeBooks.org.</Description>
  <Review></Review>
  <PrintLength>78</PrintLength>
  <PublicationDate>1865-01-01</PublicationDate>
  <Price>Free</Price>
  <CurrencyCode></CurrencyCode>
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  <Name>Javelin User Guide</Name>
  <URL>http://www.drumlinsecurity.co.uk/ipad/userguide.pdf</URL>
  <ThumbURL></ThumbURL>
  <Subtitle></Subtitle>
  <ISBN></ISBN>
  <PublisherName>Drumlin Security Ltd</PublisherName>
  <PublisherURL>http://www.drumlinsecurity.co.uk/ipad.html</PublisherURL>
  <Authors></Authors>
  <AuthorURL></AuthorURL>
  <Language>English</Language>
  <Edition></Edition>
  <Description></Description>
  <Review></Review>
  <PrintLength></PrintLength>
  <PublicationDate>2012-01-01</PublicationDate>
  <Price></Price>
  <CurrencyCode></CurrencyCode>
</Document>
</JavelinCatalog>

```

In addition to <Document> sections that point to PDF and DRMZ files, you can now include within the same structure an entry of the form: <URL>URL of another catalog, with .xml extension</URL>. When the original catalog is parsed after being downloaded, it recognizes the .xml extension and will use the cover image to provide access to the second level catalog. When the cover is touched this second level catalog is downloaded and will contain its own set of PDFs and secured PDFs. Thus catalogs can be nested, e.g.:

MyCatalog

Science Fiction

Fantasy

Classics

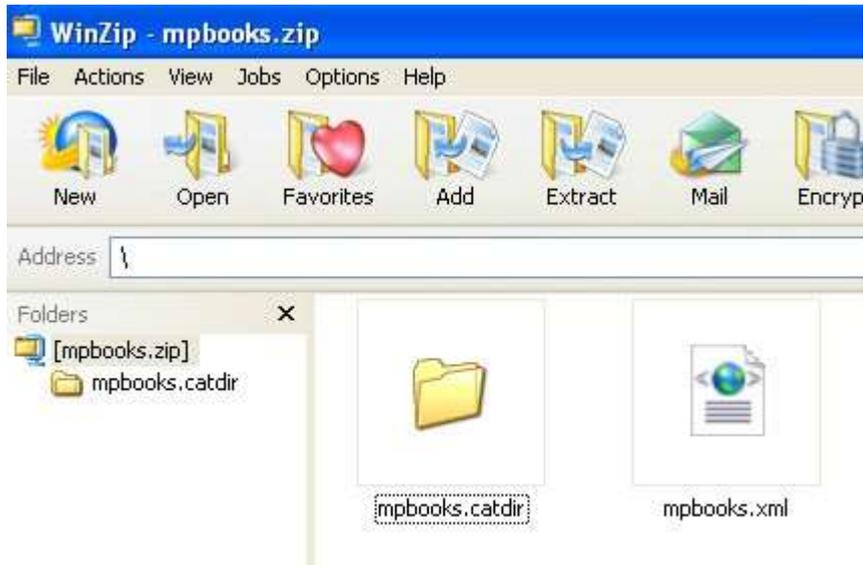
Biography etc

SAMPLE ZIP FORMAT CATALOG XML FILE

A sample zip format catalog file, with almost 100 entries and covers, can be downloaded from:

<http://www.pdfz.org/mpbooks.zip>

When downloaded and opened it can be seen that the zip file contains a standard xml catalog file, plus a subdirectory with the same name plus the extension .catdir – this subdirectory contains all the cover images as .png files.



Note that a standard xml catalog can include .zip as well as .xml files as downloadable items, enabling both standard and zip-format catalog files to be included as sub-catalogs within a main catalog.

Additional information

Language variants

Javelin for Android utilizes the language settings facility within Android in order to switch between different language variants of the software. Currently all language variants will display in English, except for German which will display help and error messages in German. Other language variants will be added over time, as per Javelin for Windows.

System requirements

Javelin for Android is designed for use on larger format tablet devices, running Android version 4.1 (Jelly Bean) or higher. Javelin for Android will run on earlier versions of the operating system (from 2.3, Gingerbread, upwards) but this is not recommended.

Documents themselves occupying space on the permanent storage of the Android device, either as standard PDF files or as secured PDF files (DRMZ files). In general secured DRMZ files are the same size (in Mb) as the standard PDF from which they are generated. Publishers should test their files on a range of Android devices and if necessary use filesize reduction techniques or split the files in order to ensure performance on a wide range of Android devices. Please ask us for advice if you are unsure about these questions.

Further information sources

Additional information relating to the Javelin mobile and desktop apps can be obtained by contacting Drumlin Security Ltd. Special branded apps that incorporate functionality similar to Javelin can be developed on a bespoke basis. The Taxbooks app, available as a free download from the iPad App Store is a good example of this. Information regarding Javelin on other platforms is provided on our website, www.drumlinsecurity.com

The secured PDF files used in the Javelin app are created using the free Windows-based software program called Drumlin, available from the Drumlin Security website. Standard PDF files are converted to a new file format with file extension .DRMZ - this file format can be read on other platforms such as Windows and Mac OSX using Javelin readers for these platforms. For more details please see the Drumlin Security website:

www.drumlinsecurity.com