Sub Rosa® for Android

User Guide

Version 5.1

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Description

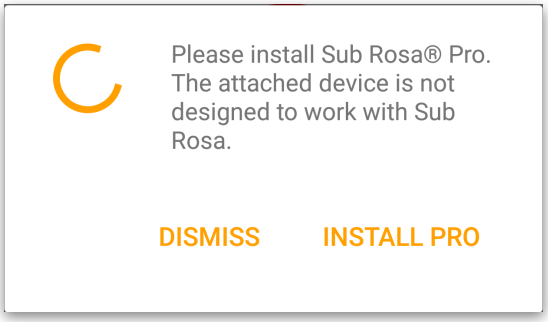
Sub Rosa is a mobile web browser that enables smart card authentication to web sites that require client certificates when using a CAC or PIV card. Sub Rosa does not require any certificates to be installed onto Android devices and reads the certificates directly from the card.

Licensing

A Sub Rosa license is bundled at no additional cost with the Android PKard Readers including micro-USB and USB-C dongles, case for the Samsung Galaxy S7 and case for the Samsung Galaxy S9. This is a one time fee that includes free updates and support.

Download and Install

Search the Google Play Store for Sub Rosa. This app is a free download to users who are using a Thursby Software Systems PKard Reader; connecting an unsupported reader will display a prompt stating as such and will direct you to purchase Sub Rosa Pro.



Using Sub Rosa

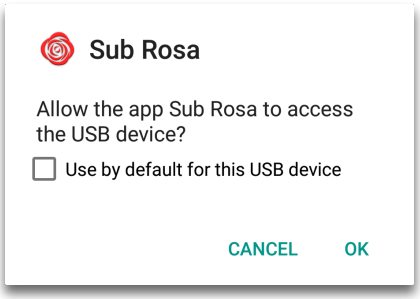
To use Sub Rosa, open the app, and connect the reader. You should see a prompt asking you to allow Sub Rosa to use the reader in which you will tap “OK”[1]; you may select “Use by default…” if you wish.

Once the reader has been connected, insert your card into the reader chip in and face out, and you should see several “Key found” messages indicating that we have found the certificates on your card. You can use the address bar to type in the desired URL, use one of the preloaded bookmarks, or scan a QR code. When authentication is needed, you may be prompted to select a certificate[2] then enter the card’s PIN number[3].

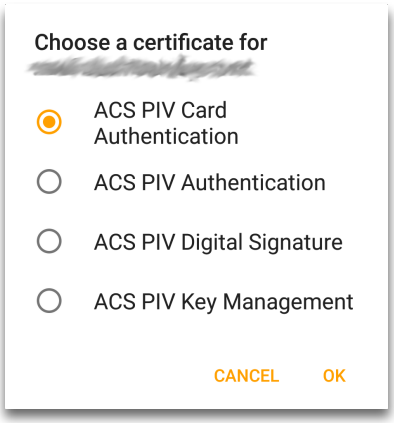
Note: The certificate you select is dependent on the website’s requirements.

SAMSUNG
44% 11:44 AM
enter an address or s
Thursby Software Systems
Sub Rosa™
Washington,
George

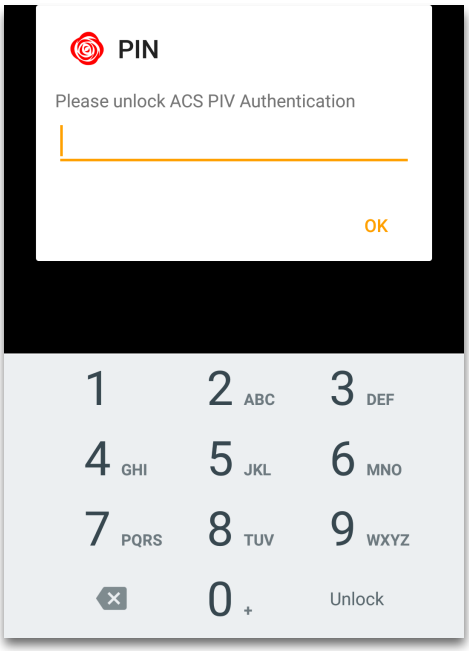
1.


Sub Rosa
Allow the app Sub Rosa to access the USB device?
Use by default for this USB device
CANCEL
OK

2.

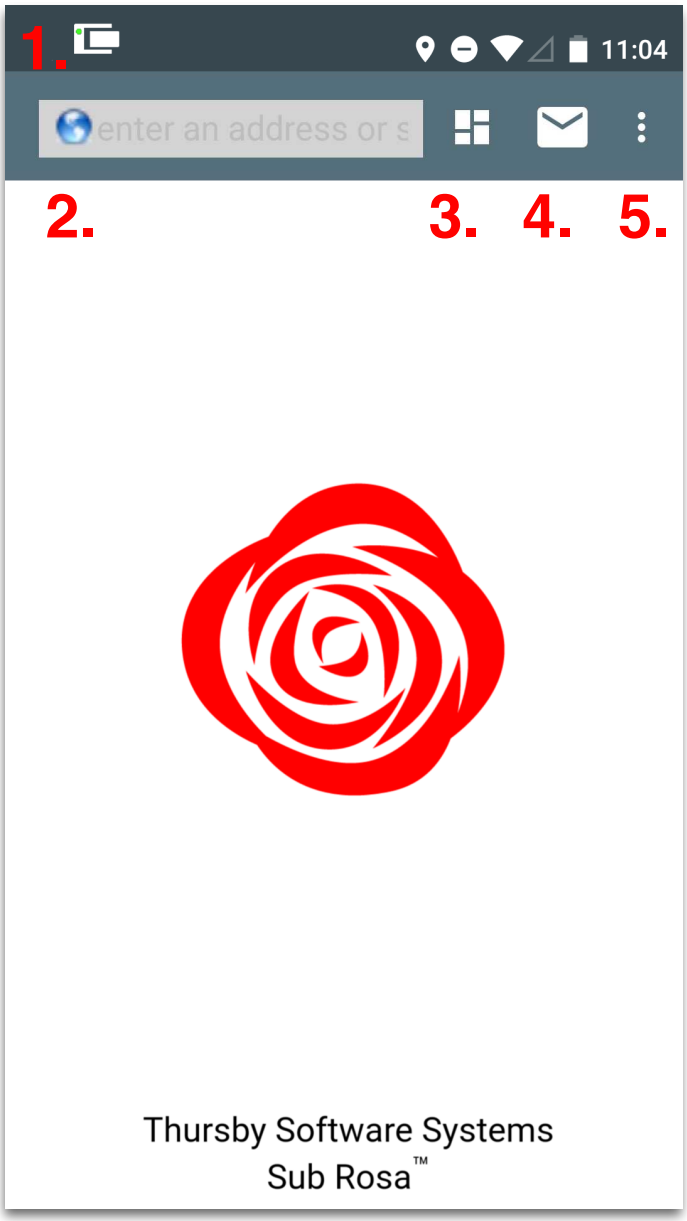

Choose a certificate for
ACS PIV Card Authentication
ACS PIV Authentication
ACS PIV Digital Signature
ACS PIV Key Management
CANCEL
OK

3.


PIN
Please unlock ACS PIV Authentication
OK
1
2 ABC
3 DEF
4 GHI
5 JKL
6 MNO
7 PQRS
8 TUV
9 WXYZ
0 +
Unlock

Sub Rosa User Interface

Detailed below are descriptions of each button or icon you will find within the app:



1. Card Slot Status

The card slot status is a visual indicator in the notification bar that the hardware is functioning properly.

No icon indicates that a reader is not connected or couldn't be found.

The card reader is ready, but no card has been inserted.

The card reader is ready, and the card has finished initializing.

The card reader is ready, and the card is ready to use.

The card reader is ready, but the card is powered off.

There was a problem initializing the reader.

There was a problem initializing the card, or the card is not supported.

2. Address Bar

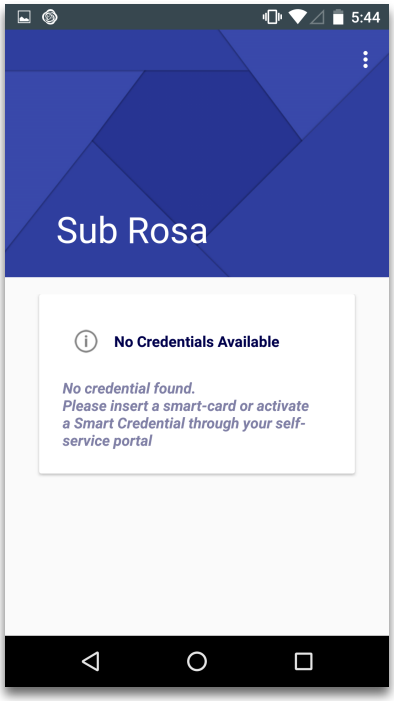
The address bar works just like any other browser's address bar. You are not limited to which websites you can get to unless the site is using an outdated SSL certificate or requires software that isn't supported by Android; e.g. Java, or Active X.

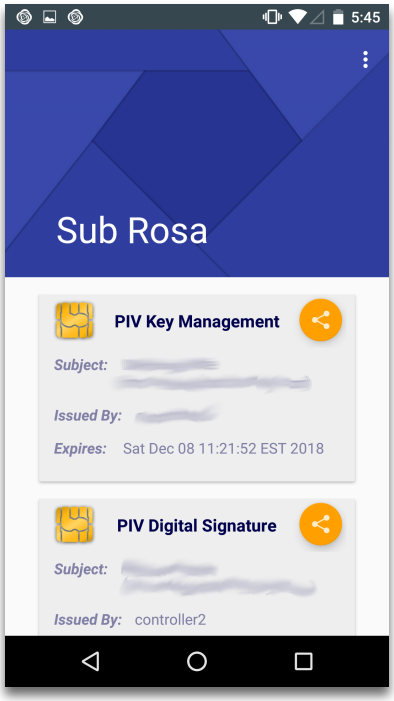
3. Tool Bar

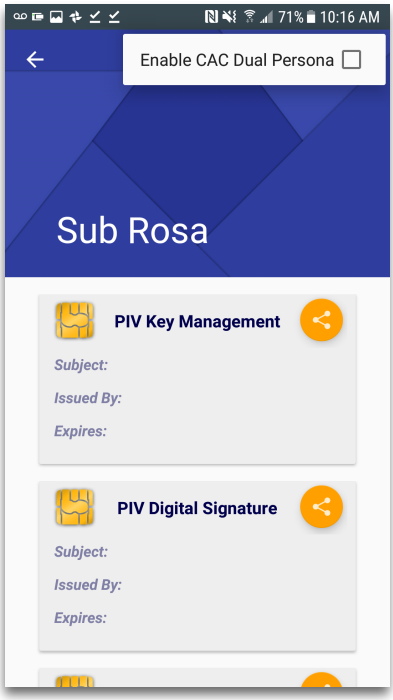
This button will display the page navigation buttons such as back, forward, refresh, and stop. The key icon will take you to the User Keychain where you can view the certificates on your smart card.

3.1 User Keychain

The User Keychain will display the certificates on your card when the card is in the reader. This is a useful tool that can help you determine if your certificates are available. The menu in the User Keychain allows you to enable Dual Persona if you are required to use your PIV cert on your CAC. These settings typically do not need to be modified unless suggested by a Thursby Support Specialist.

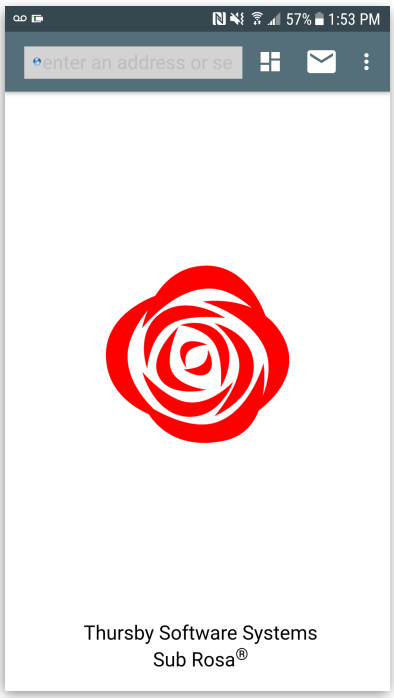


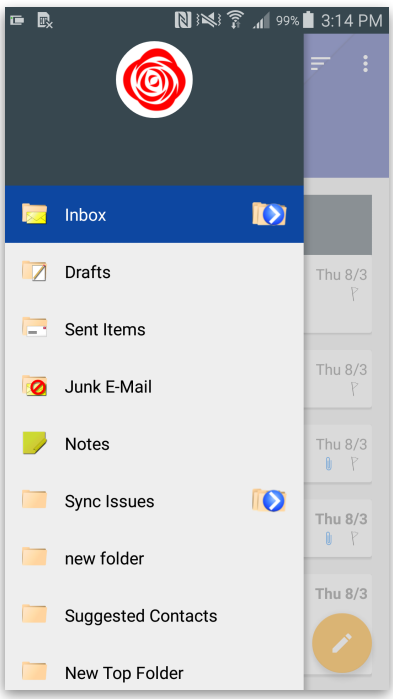


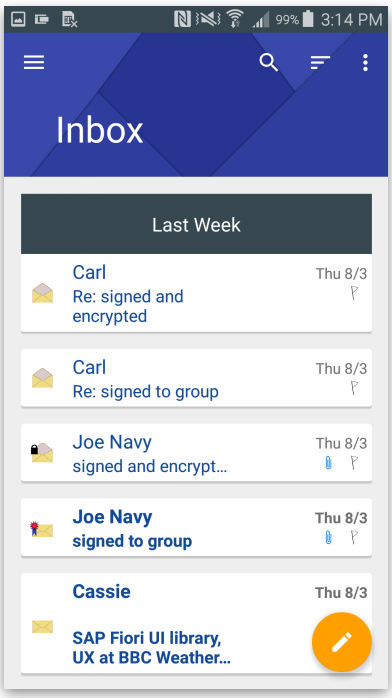


4. Enhanced OWA Client

This feature is designed to open your Microsoft Exchange email in a view that is similar to an email client. This feature also includes the ability to sign, encrypt, and decrypt emails (S/MIME) that was once limited to only Internet Explorer on Windows. After you have logged into your email, a new button will appear in the toolbar at the top of your screen that will look like an envelope. This button acts as a shortcut which will take you back to your webmail without needing to type the address again.







4.1 Mailbox Folders

When viewing your mailbox, you will see the different folders that you can find in an email client. Once a folder is selected, Sub Rosa pulls messages from the server and displays them as a list. When you get to the bottom of the list you can swipe up to prompt Sub Rosa to get more messages from the server.

Folders that contain a icon have sub folders within them. Tapping this button will drill down into the folder structure and display the additional folders that reside within the parent folder.

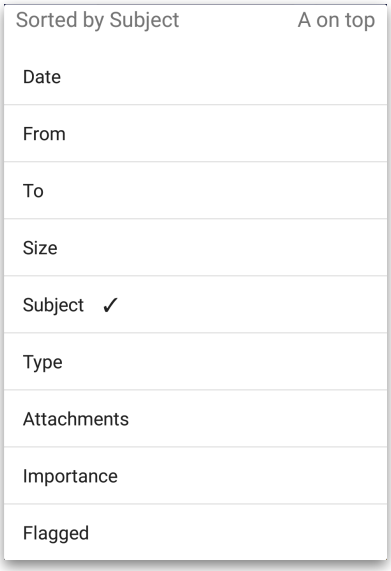
Folders with numbers next to the name indicate that there are unread messages in the folder. Tapping the folder name will display all emails within the folder. When viewing sub folders, you can go back to the parent folder by tapping the folder's name in the upper left corner.

4.2 Menu buttons

Our Enhanced OWA Client has a few buttons at the top of the screen. The hamburger button on the far left will take you back to the screen to view the other folders in your mailbox. The magnifying glass opens a search bar where you can search your entire mailbox for an email. The cascading button is the Sort button which allows you to change how the emails are sorted in the folder. The last button is a 3-dot button. This button allows you to enable Conversation Mode, clear any cached encryption certificates, and another button that will take you back to the browser.

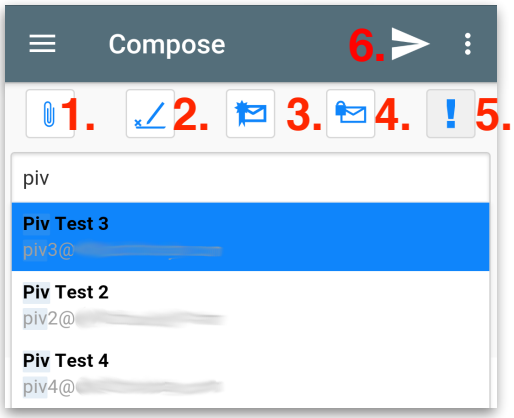
4.3 Sort

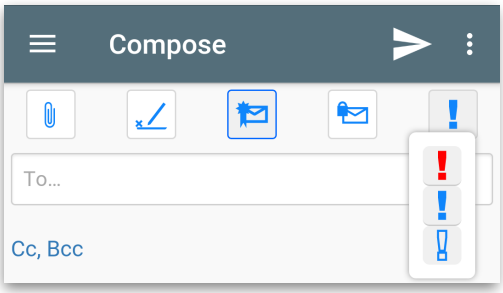
You can sort the folders by Date, Subject, From, etc. To do this tap the Sort button and select how you would like the folder reorganized. In the upper right corner of the sort menu is another option to change what is on top.



4.4 Compose a new message

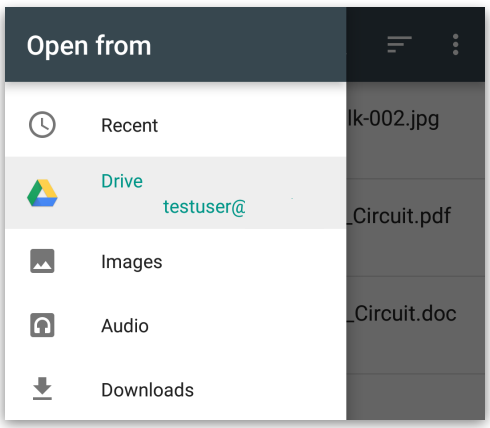
To create a new message, tap the compose button. You should now see a screen where you can type in the desired email addresses, subject, and body of the email. When you enter the email address, we will search available address books (GAL) for the email address. When you see the correct email address, tap the address to select it. At the top of the compose window are a few buttons: Attachments[1], E-Mail Signature[2], Digital Signature[3], Encrypt[4], and Importance[5]. When you choose to sign or encrypt an email, the button's background will change a darker gray and the outline of the icon will be blue. Tapping the importance button will give you the option to change the importance of the email. When you are ready to send the email, tap the paper airplane icon[6] in the upper right corner.





4.5 Message Attachments

To attach an item to the email, tap the paperclip icon, then a list of folders and cloud sources will appear, such as Google Drive and your Downloads folder on the device. When viewing an item that was attached to an email you received, the OWA Client will temporarily store this item in an Attachments folder. When you are finished with the attachment and exit the folder, this item is deleted. In order to prevent secure information from leaving our email client, Sub Rosa's Enhanced OWA Client prohibits attachments from being opened outside our secure sandbox.



4.6 Drafts

If you wish to save an email to your drafts folder, tap your device's back button. A dialog will appear asking if you wish to save the email you were composing to the Drafts folder. Tapping "No" will delete the message, tapping "Yes'" will save the email to Drafts.

4.7 S/MIME

The Enhanced OWA Client includes S/MIME support which means encrypted emails can be decrypted, you can encrypt emails going out, and you can sign emails. Signing and decrypting an email should prompt you for your PIN, where encrypting will not. When viewing an encrypted email, an icon with a lock will be in the header of the email indicating the email was encrypted; signed email will have an icon with a pen.

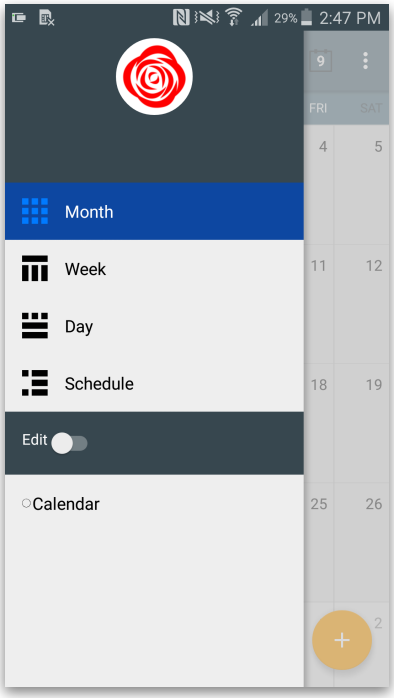
4.8 Delegated or Shared Mailboxes

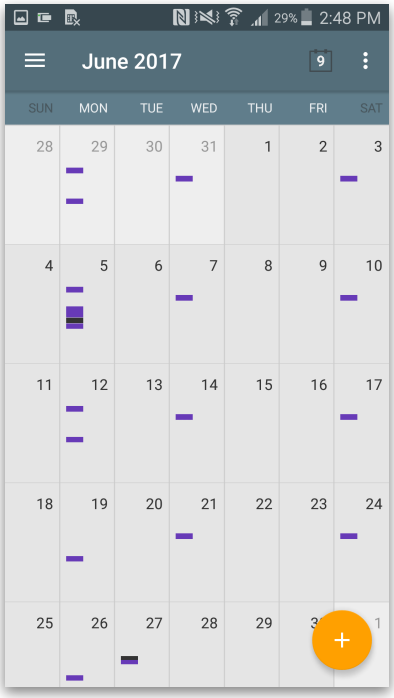
To connect to your shared or delegated mailbox, tap "Delegated Mailboxes", then enter the email address of the mailbox you can access and select it.

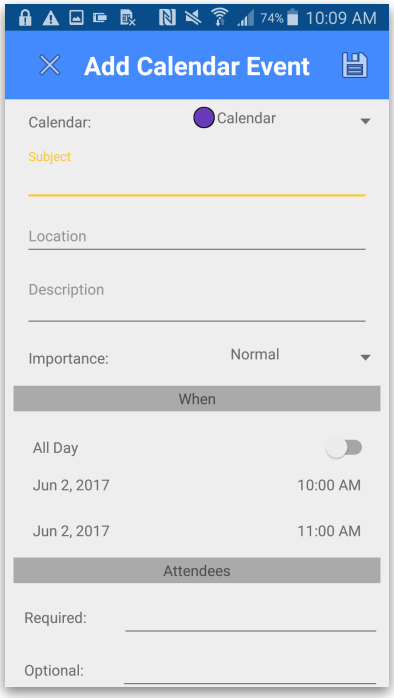
4.9 Calendaring

Enhanced OWA Client includes an intuitive calendar that is capable of pulling your past and current appointments and events. The user is able to create new personal events or new appointments with invitees. Like the native calendar app on your phone, you have the ability to change your view to Schedule, Day, Week, or Month view. You can edit or delete the events and appointments of which you are the owner.

When you first open the calendar, the left side panel is exposed to show you the different views available, and your calendars. To dismiss the side panel, tap the exposed calendar on the right, or swipe the side panel to the left. The default view that is opened is the Month view. If you change views between sessions, the last view you used will be the one that is displayed.







4.10 Creating and Editing A New Calendar Item

To create an event, tap the gold + in the lower right corner of the app window, or double tap the day you wish to add an event. The “Add Calendar Event” window has the same fields you would find in most Calendar apps. When you are adding an Attendee, Sub Rosa will query the GAL for the user’s email address and display it for you to select. Once you have finished creating the event, tap Save. Any attendees will be emailed with the option to accept, decline, or tentatively attend the event.

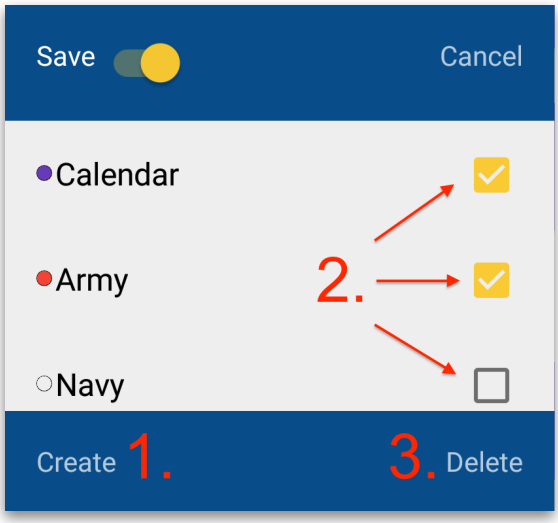
You can edit any calendar items you are the creator of by going to the day of the event, tapping on the event you wish to modify, then tap the edit icon in the upper left corner. Once you have made your changes, tap the Save icon in the upper right corner.

Emails that contain an event sent from OWA or Outlook contain buttons which allow the user to Accept, Decline, or mark that they may attend the meeting.

4.11 Additional Calendars

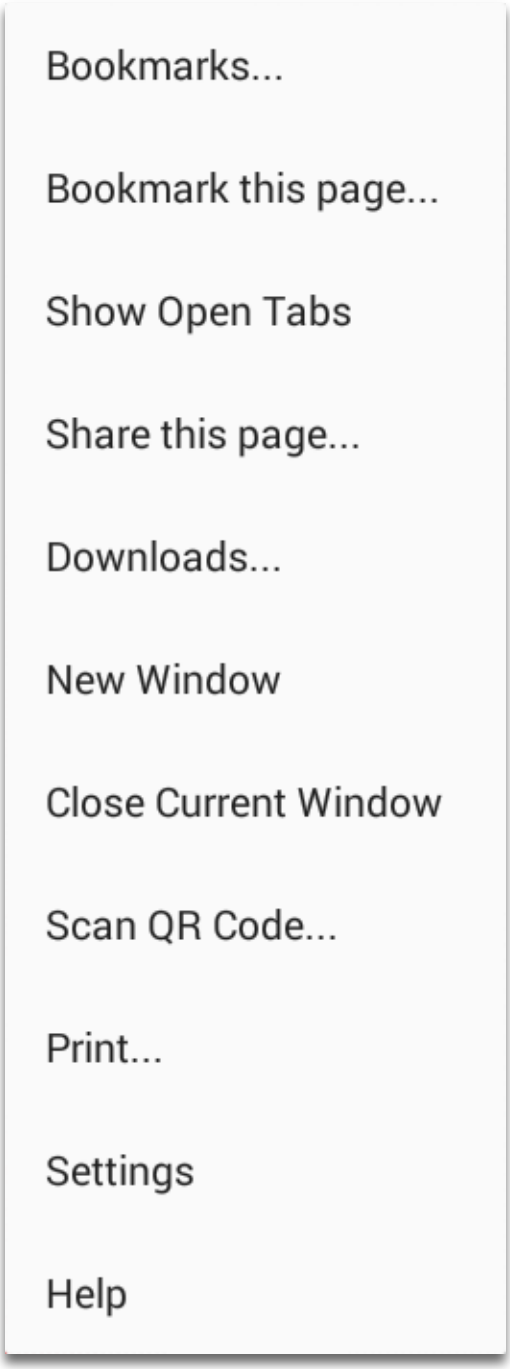
To create a new calendar, swipe open the side panel, tap the Edit switch, tap “Create”[1.], name your Calendar, tap “Create”, then tap the box next to the name to place a check in it; calendars with a check will be displayed, hidden calendars do not have a check[2.]. To delete calendars, swipe open the side panel, tap the Edit switch, place a check in the calendar of which you’d like to delete[3.], tap Delete, and confirm.

Once you are finished in the Edit menu, tap the Save switch to save any of your changes.



5. 3-Dot Menu

Tapping this button will display a menu that will allow access to additional items.



Bookmarks… will open the bookmarks folder. Any bookmarks saved by the user can be found here as well as some predetermined bookmarks that we install.

Bookmark this page… will create a new bookmark for the active window.

Show Open Tabs will take you to the open tabbed windows screen.

Share this page… opens up a new email for you to send a link to the page you are viewing.

Downloads… opens our downloads folder where you can view any items you have downloaded in our browser. Closing the app will clear downloads.

New Window opens a new window.

Close Current Window closes the active window.

Scan QR Code… opens our QR scanner for you to scan a QR Code.

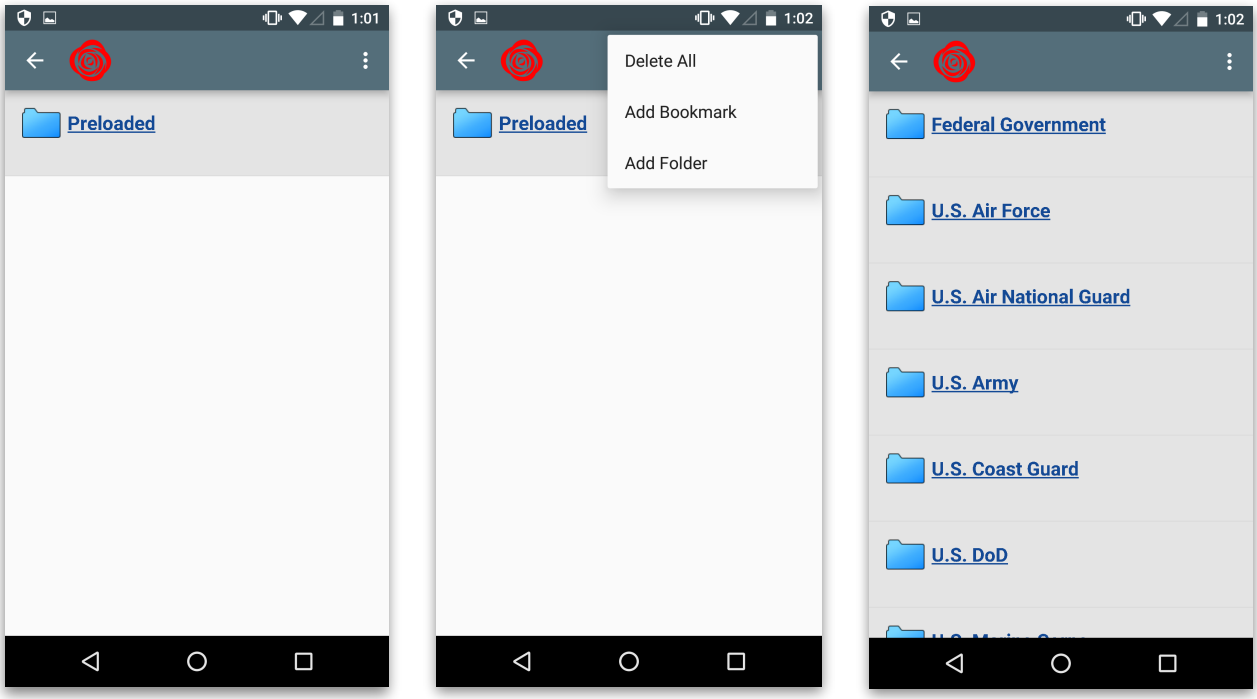
Print… allows you to print the page you are viewing.

Settings opens the Settings menu.

Help opens our Help menu where you can send Thursby Support an email or Diagnostic logs upon request.

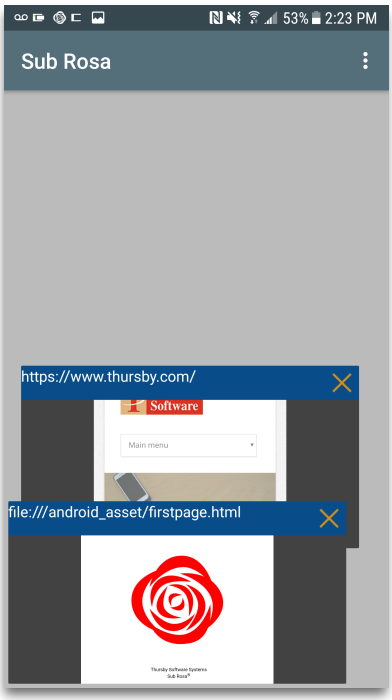
5.1 Bookmarks

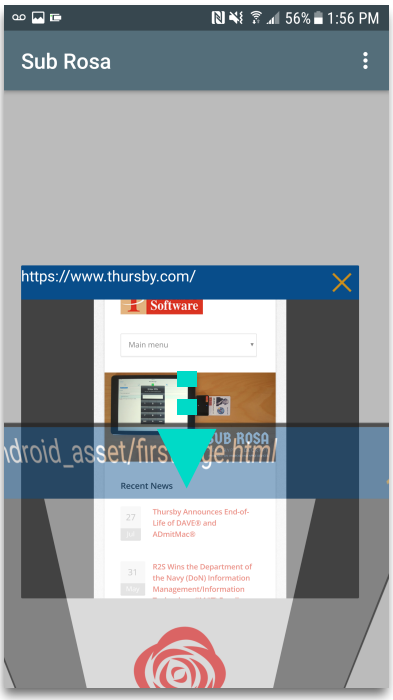
Any newly created bookmarks will default to our bookmarks folder. To save a bookmark in a custom folder, open bookmarks, go into the folder, then tap the menu button and tap “Add bookmark”. Sub Rosa comes with some predetermined bookmarks of popular DoD websites. These too can be modified or deleted; you are not required to use these bookmarks.



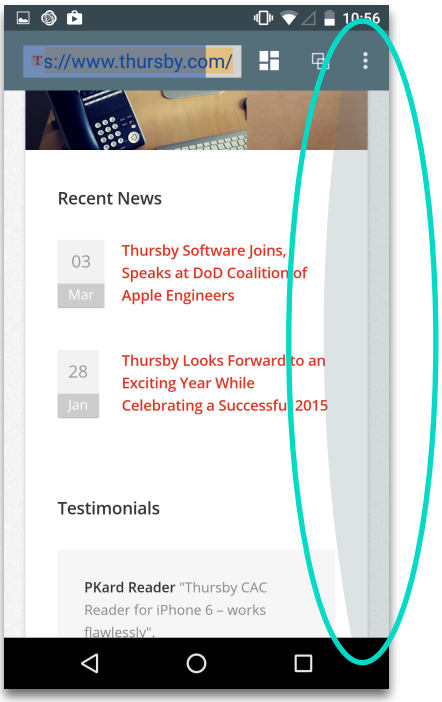
5.2 Show Open Tabs

Selecting Show Open Tabs will take you to a screen that will display all of the available windows. To select a different window, swipe the front window in a downward direction. This will move the first window to the back of the list and bring the next one forward. Another way to change the active window is by swiping from the edge of the



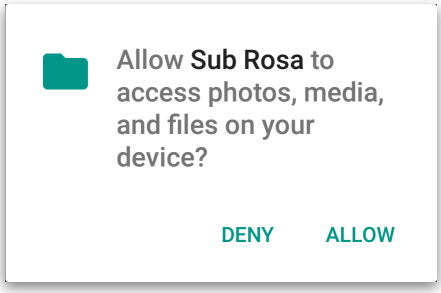


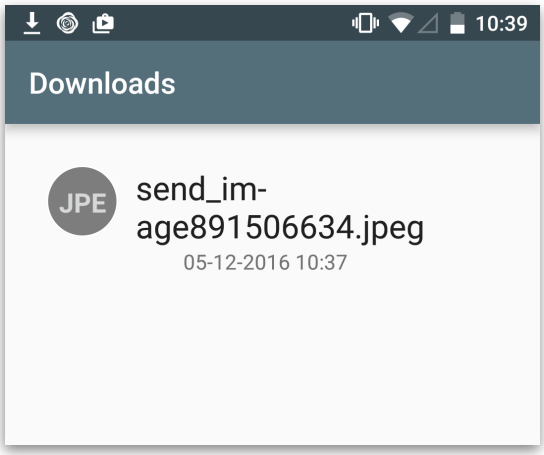
screen. As you drag your finger from the edge to the center, the windows will dim and a new one will appear. If you wish to go back to the previous window, swipe in the opposite direction. When you have reached the end of the open windows list you will see the over scroll graphic.



5.3 Downloads

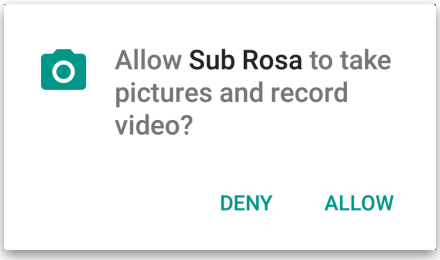
Items that you download while using our browser will be saved in our Downloads folder. The first time you access the folder, you may see a security prompt asking for permission to access photos and media on your device.

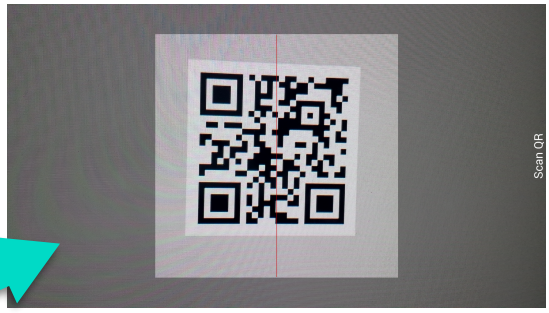




5.4 Scan QR Code

Often, companies will have a QR code that links to their website, which can be convenient to use on mobile devices. Sub Rosa includes a QR scanner for this purpose. The first time you try to use the QR Scanner you should see a prompt asking for permission to use your camera. Tapping allow will allow the scanner to use your camera, tapping deny will disable this feature.

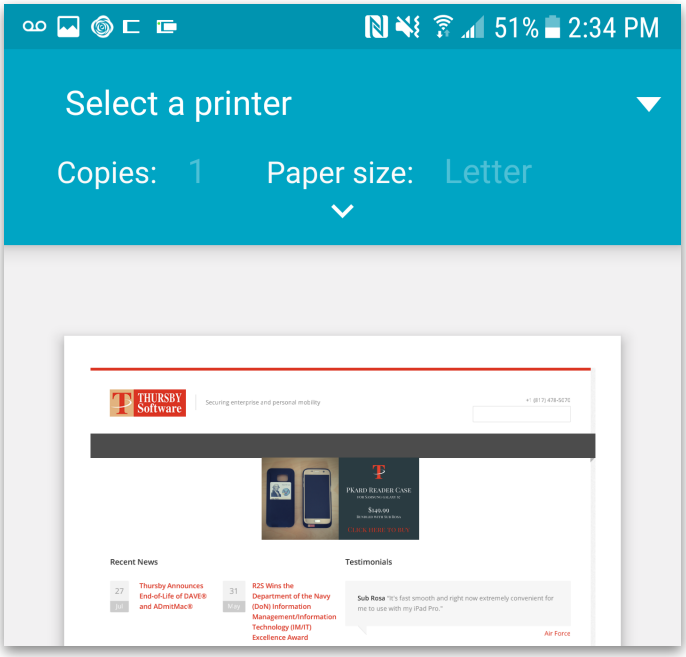




Try it here!

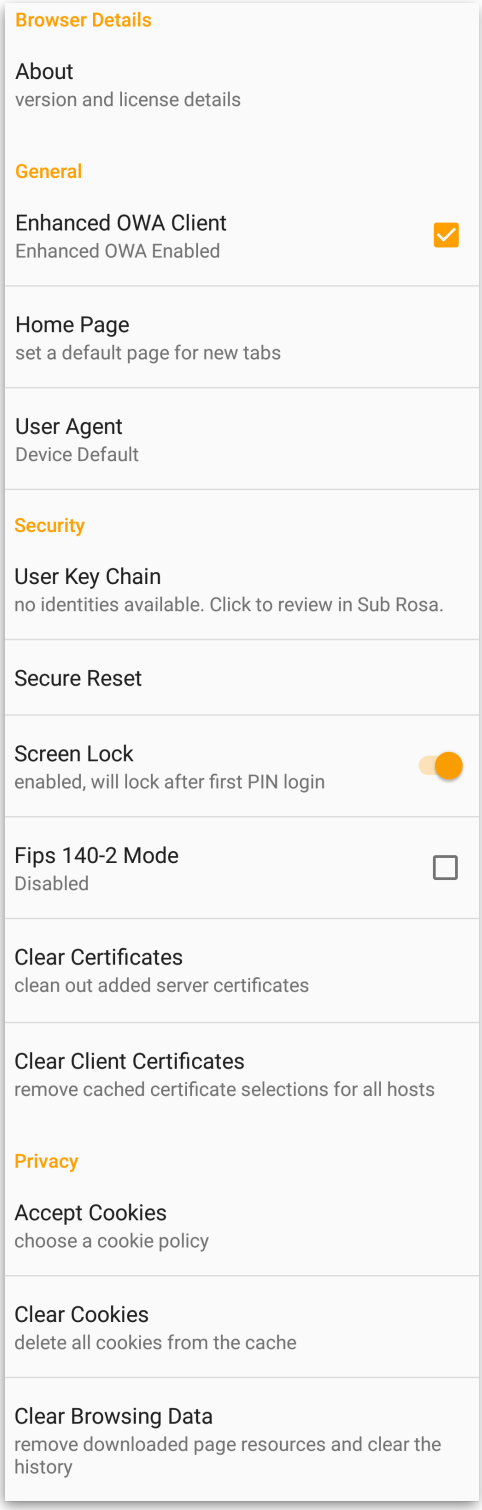
5.5 Printing

Sub Rosa is capable of printing to any printers you have configured on your device, or to cloud services such as Google Drive. You will need to make sure the printing service, printer driver, or cloud service is setup on your device.



5.6 Settings

The Settings menu contains a variety of information and options that you can enable or disable.



About displays the software version and legal agreements.

Enhanced OWA Client enables or disables our Enhanced OWA Client view.

Home Page allows you to configure a new default home page.

User Agent configures the user agent that is sent to web servers. Changing the user agent allows Sub Rosa to emulate other web browsers.

User Key Chain will take you to the user keychain so you can view your certificates.

Secure Reset removes any browser and certificate cache as well as closes any open windows.

Screen Lock enables or disables the Sub Rosa lock screen that appears when you exit the app or when your card is removed.

FIPS 140-2 Mode forces FIPS140-2 level of encryption when connecting to web servers. Sub Rosa will fail to connect if the server does not meet this specification.

Clear Certificates clears any manually trusted web site certificates.

Clear Client Certificates clears any cached client certificate preferences.

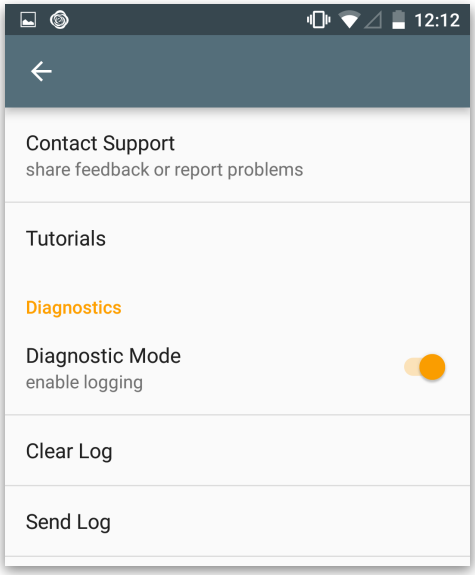
Accept Cookies allows you to change how cookies are managed within the app.

Clear Cookies clears any cached website cookies.

Clear Browsing Data removes downloaded page resources and clears the history.

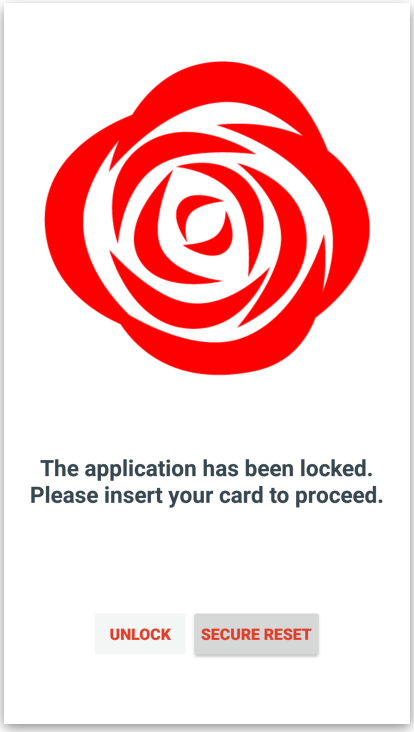
5.7 Help

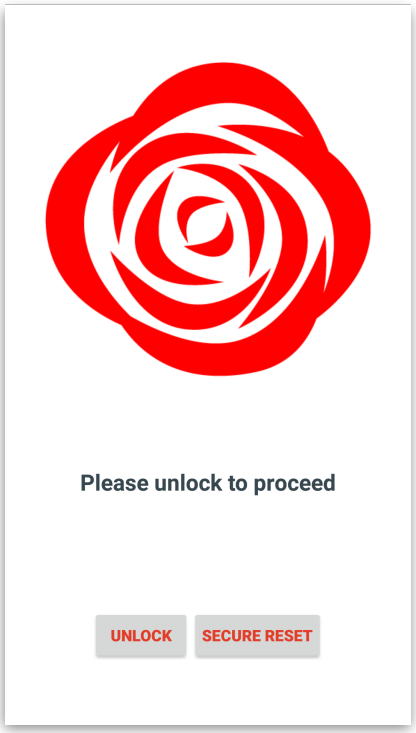
The Help menu has buttons you may use to contact Thursby Support, tutorials on our website that contain videos on how to use the product, and product documentation. You will also be directed to this menu when a diagnostic log is needed.



Lock Screen

Sub Rosa has a lock screen to prevent any unauthorized users from viewing your secure information. Anytime the card is removed from the reader, the reader is removed, or the app has been in the background, we will display a lock screen which requires your CAC to unlock. To unlock, connect your reader, insert your card, and the lock screen will tell you to tap unlock. Tapping unlock will present you with a PIN prompt, enter your CAC PIN, and the app will take you to where you left off.





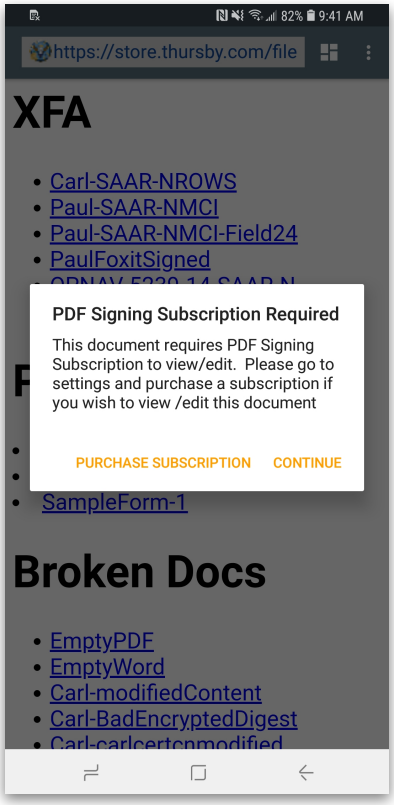
PDF Signing Introduction

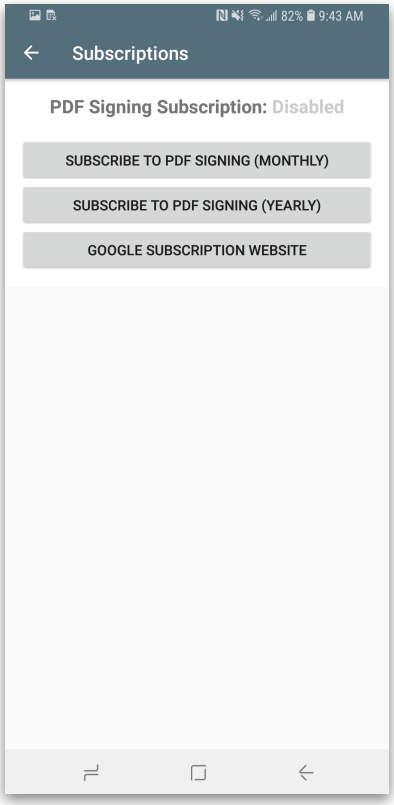
Sub Rosa has the ability to not only view, but sign PDFs using a digital certificate upon subscribing to the service. You can still view documents without the subscription, and you will be prompted to subscribe the first time you open a PDF, but subscribing is not required. PDFs that are downloaded using Sub Rosa, or opened within Sub Rosa's Enhanced OWA Client can be signed, saved to the Sub Rosa folder in the Files app, and emailed.

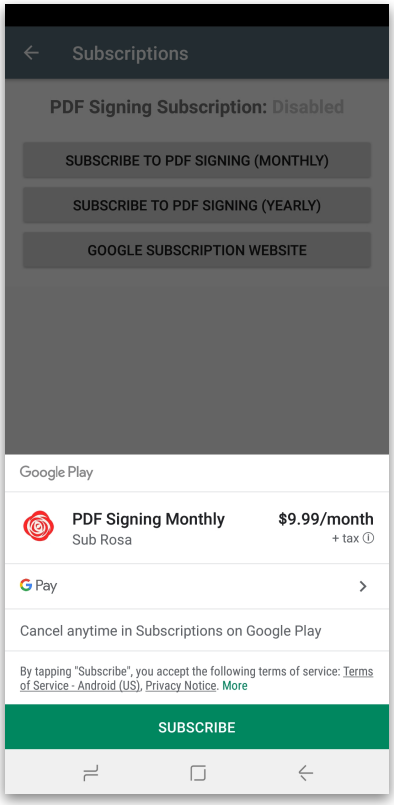
Subscribing

There are two methods by which you can subscribe to the PDF Signing feature. When you open a PDF, such as loading this User Guide in Sub Rosa, you will see a prompt about the PDF Signing subscription and you are given the option at this time to subscribe [1]; dismissing the dialog won't prevent you from viewing normal PDFs.

If later you choose to add the PDF Signing feature in Sub Rosa, tap the 3-Dot button and open Settings from the main Sub Rosa window, scroll to the very bottom and tap Subscriptions, and then select your subscription [2].



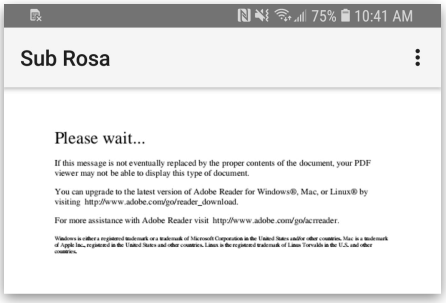




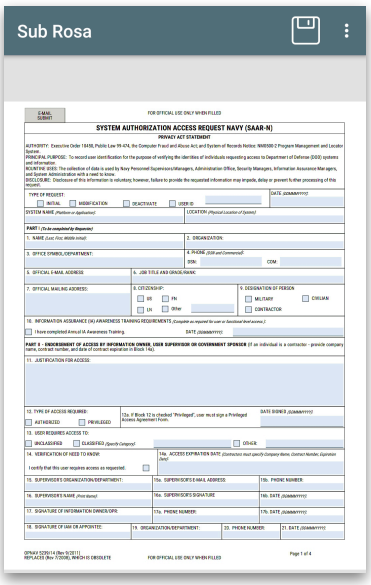
You may cancel your subscription at any time by going into your devices Settings menu, search for Subscriptions, tap Sub Rosa, and then tap Cancel Subscription. You will continue to be able to use the PDF Signing feature until the subscription expires.

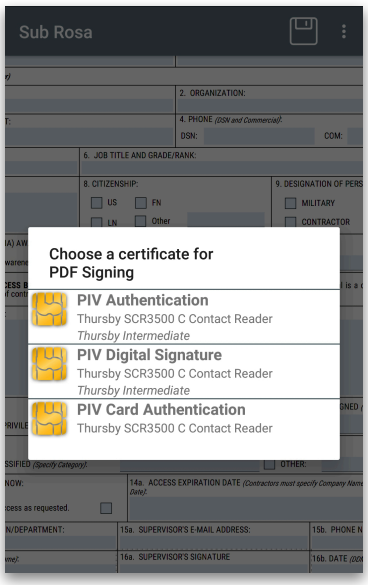
Signing a PDF

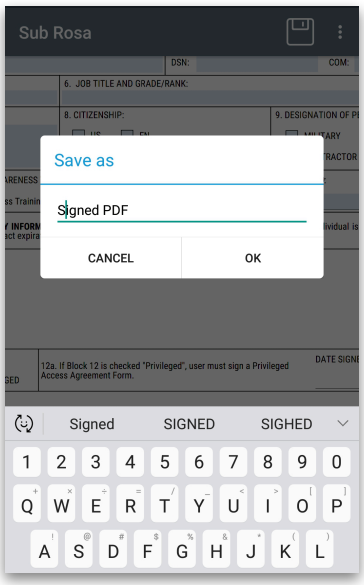
PDF's on the surface may all look the same, but some contain a format called XFA, or XML Forms Architecture, that can only be viewed by specific PDF viewers. By default, Sub Rosa uses Android's PDF viewer for all PDF's. When you view a PDF that has XFA formatting, you will be see a page that says "Please wait…" and the page will never change. This is a known limitation of Android's PDF viewer and you will need to purchase the PDF Signing subscription in order to view and modify these kinds of documents.



Signing a PDF with a digital certificate is a simple process. Once you have the document opened, find the field that requires your signature [1], tap the field to bring the certificate selection window and select your certificate then enter your PIN if prompted [2]. Tap the save icon, name the PDF to Save the PDF to a location on your device [3].



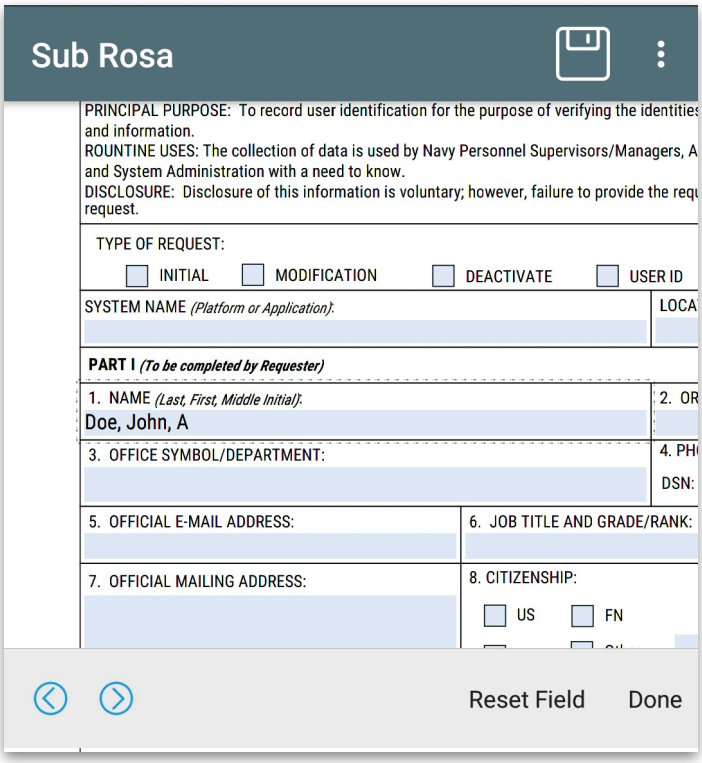




PDF Signing and Editing isn't limited to PDFs that you download using the browser. If you are emailed a PDF you can open the PDF attachment, sign and edit the PDF, and email it back using the same steps you would take as if you had downloaded it using a browser.

PDF Editing

To edit a PDF, tap on the field you wish to edit and the keyboard will display for you to make your changes. Above the keyboard you will find two arrow buttons to help you navigate the document, Reset will clear the contents of the field you're currently editing, and Done will dismiss the keyboard. You should also see a dotted line around the field you are editing.



Troubleshooting

- When you connect the reader to your device a light should appear on the reader, and a dialog from Sub Rosa should appear asking for permission to use the app. If you do not see this light, and you do not see the permission prompt, then there may be a discrepancy in whether the phone or tablet supports USB Host Mode or On-The-Go (OTG). There are some applications in the Play Store that may assist in helping you find this information, such as USB Host Diagnostics, but it is recommended that you reach out to the device manufacturer. For a list of devices, and their known compatibility, please visit the FAQ page on Thursby's website: http://www.thursby.com/support/faq/compatible-phones-and-tablets

- When you insert your card into the reader a light will activate and flash when the card is active.

- Sub Rosa is a mobile web browser and requires your device to be connected to the internet. If you are unsure that your device is connected to the Internet, open your device's default web browser, and try going to www.thursby.com. If you are able to see this website, then you should be able to log into Sub Rosa.

- If you believe you have chosen the wrong certificate, tap Secure Reset within Settings or at the Lock Screen to clear all cached certificate choices.

- Incorrectly entering your PIN number too many times will lock your CAC and display "This credential is now locked". You will need to go to your nearest CAC office in order to get your CAC unlocked.

- You may see the error "Unable to negotiate a secure connection" when attempting to log into a website. If after several attempts you still get this message, close the app by tapping your recent apps button on your device and swipe the app off of the screen. Once the app is closed, open Sub Rosa and try the website again.

- If a website is loading incorrectly or is failing to log you in, closing the app or using Secure Reset will remove any cached data from the browser and should correct the problem you are having. Either one of these actions will fix a majority of problems you may see or experience when using the application.

- "I am unable to send an encrypted email". Sending an encrypted email requires the recipient's signing certificate to be available. If the recipient is in the GAL, then Sub Rosa should be able to look up this certificate. If the recipient has sent you a signed email, and you've opened it within Sub Rosa, or are replying to the email, then Sub Rosa should be able to use the cert. If you continue to have trouble sending an encrypted email, try sending an encrypted email using OWA on a Windows computer with Internet Explorer.

- "When should I be prompted to type in my PIN?" When you first log into the app you will see a PIN prompt. This PIN entry will unlock the card and you won't see another authenticate PIN prompt until the card has left the reader and returned. This action happens if you physically remove the card or card reader, if you force close the app, or if you use Sub Rosa App Reset. You will also see a PIN prompt **every time** you sign an email. You will not, however, see a PIN prompt if you **only** encrypt an email, this action does not require a PIN. Decrypting an email will prompt you to type in your PIN number.

- Some users have a Dual Persona CAC and are required to use their PIV Authentication certificate with certain websites. By default, we have Dual Persona disabled, but this can be enabled in the User Key Chain. Open Sub Rosa, tap the Toolbox button, then tap the Key icon to open the Keychain, then tap the 3-Dot menu and tap "Enable CAC Dual Persona".

Requirements

- Thursby Software Systems, LLC PKard® Reader hardware.
- Android OS 6.0 and newer.
  - Rooted devices are not supported.
- Enhanced OWA Client requires Exchange 2010, Exchange 2013, and Office 365.
- CAC, CIV, PIV, or PIV-I card.

Further Information and Support

- **Web** http://www.thursby.com/products/sub-rosa-android
- **Forum** http://www.thursby.com/forum
- **Email** sales@thursby.com or support@thursby.com
- **Phone** +1 (817) 478-5070