

Planmeca mRomexis™

user's manual

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- installation, calibration, modification and repairs are carried out by qualified authorised personnel
- electrical installations are carried out according to the appropriate requirements such as IEC 60364
- equipment is used according to the operating instructions.

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1 INTRODUCTION

The Planmeca mRomexis is a mobile imaging application intended for displaying and visualizing dental and medical 2D and 3D images from imaging devices, such as radiographs, CBCT images and photographs. You can also capture 2D photos and 2D x-ray images and record voice annotations using the application.

This manual describes how to use the software.

NOTE

Planmeca mRomexis software is not intended for diagnostic purposes.

The Planmeca mRomexis application has been designed to provide similar user experience on both supported platforms, the tablet and desktop browser. Therefore nearly all the navigation methods are the same and the user should have little difficulty switching between different platform versions. Some features however are only available in the mobile application. All version differences are clearly marked in this documentation.

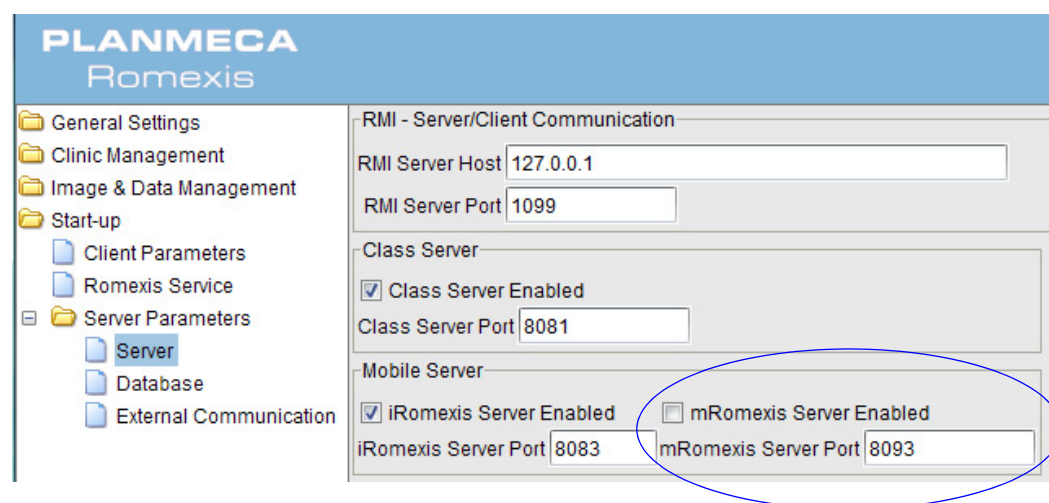
The web version follows the guidelines of the landscape oriented tablet version, unless otherwise stated.

2 GETTING STARTED

2.1 Configuring Planmeca mRomexis server

Configure your Planmeca Romexis server to listen to Planmeca mRomexis (port 8093 by default) in the Configuration application by checking the option *mRomexis Server Enabled*.

Also configure your firewall to allow access the following executable:
C:\Program Files\Planmeca\Romexis\server\RomexisService64.exe.



2.2 Installing Apache Tomcat server for mRomexis desktop browser use

In order to use mRomexis in desktop browser make sure to select *Apache Tomcat server for mRomexis* installation component during installation.

Windows

1. Reboot computer after Planmeca Romexis installation.
2. Install Tomcat service by running **install_mRomexis_service.bat** as administrator from `<installdir>\Planmeca\Romexis\apache-tomcat` folder
3. Set *Apache Tomcat 8.0 mRomexis* service to start automatically from Windows services control and start it if not already started.
4. Go to `http://RomexisServerIP:8080/mromexis/` (replace RomexisServerIP by the actual Romexis server IP address) in browser to open mRomexis.

OS X

1. Install mRomexis Tomcat daemon by running **loadMRomexisDaemon.sh** as administrator from `/Applications/Romexis/apache-tomcat`.
2. Go to `http://RomexisServerIP:8080/mromexis/` (replace RomexisServerIP by the actual Romexis server IP address) in browser to open mRomexis.

2.3 Configuring Planmeca mRomexis settings

Open Planmeca mRomexis.

There are two top-level selection menus in Planmeca mRomexis:

- **Patients** for viewing patient images
- **Settings** for setting up server connections



In the *Settings* menu you can enter and configure Planmeca Romexis server and Cloud server settings.

2.3.1 Adding new Planmeca Romexis server

Tap or click **Add new server**.

When multiple servers have been configured, the active server can be selected by checking its name entry.

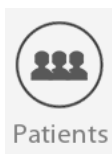
The screenshot shows the PLANMECA mRomexis interface. On the left is a sidebar with the PLANMECA mRomexis logo and two icons: 'Patients' (a group of people) and 'Settings' (a gear). The main area is titled 'ROMEXIS SERVERS' and contains a list of servers. The first server, 'Romexis server', is selected, indicated by a checkmark in a circle and an information icon. The second server, 'Old server', is not selected. Below the list is a button with a plus sign and the text 'Add new server', which is circled. Below the servers list is the 'CLOUD SERVERS' section, which contains one server, 'Planmeca Romexis Cloud', which is also selected. Below that is the 'OTHER SETTINGS' section, which includes a 'Delete all local Patient data' button and a 'Delete All' button. At the bottom is the 'GENERAL INFORMATION' section, which includes 'Terms and Conditions' and 'Version information' (1.2.0), with a 'View' button.

Enter the server address, login name and login password.

The connection can be tested using the **Test Connection** button.

Tap or click **Save and Close**.

The screenshot shows the 'ADD NEW PLANMECA ROMEXIS CONFIGURATION' form. The form has four input fields: 'Server name' with the value 'New server', 'Server address' with the value '123.45.678.9', 'Login name' with the value 'admin', and 'Login password' with the value '*****'. Below the fields are three buttons: 'Test Connection' (circled), 'Save and Close' (circled), and 'Cancel'. The left sidebar is the same as in the previous screenshot, showing the PLANMECA mRomexis logo and 'Patients' and 'Settings' icons.

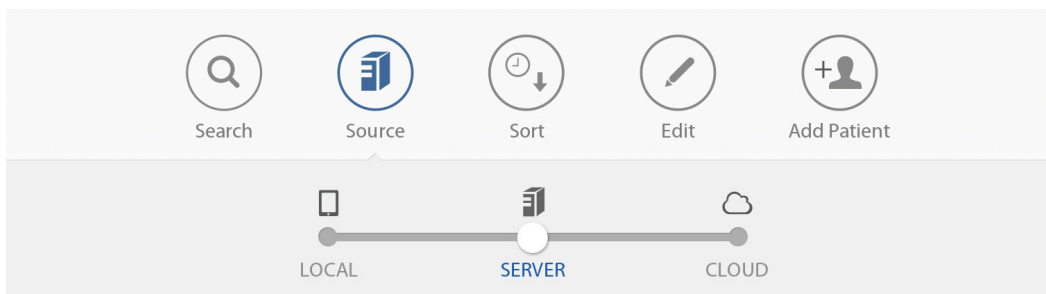


Go to **Patients** menu.

Select **Source** and then **Server**.

NOTE

Other sources than server can only be chosen in mobile devices.



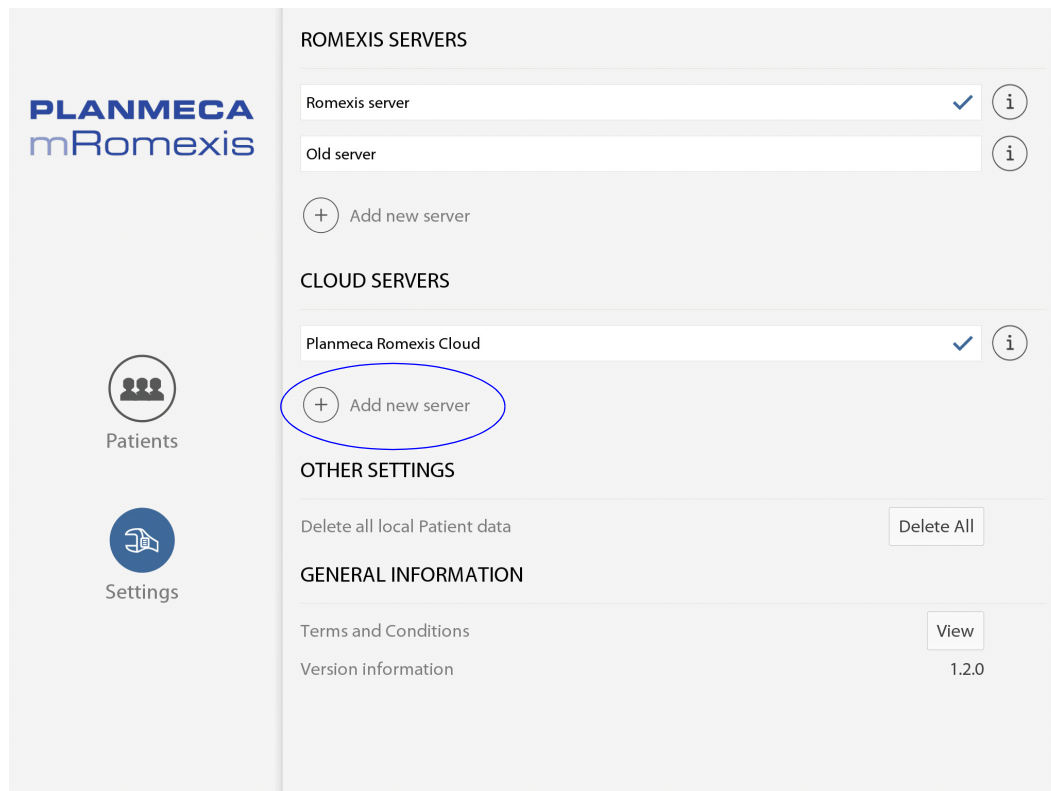
You can now start browsing patient images from the server.

2.3.2 Adding new Planmeca Romexis Cloud configuration

NOTE

These settings are applicable only for mobile devices.

Tap or click the **Add new server** button under Cloud servers.



Enter server name and address, login name and password.

The connection can be tested using **Test Connection** button.

To receive cases from Planmeca Romexis Cloud private keys must be downloaded. Note that you must be connected to a Planmeca Romexis server to transfer your private key from its database.

Tap or click **Download private key**.

Tap or click **Save and Close**.

PLANMECA
mRomexis

Patients

Settings

ADD NEW CLOUD CONFIGURATION

Server name
John's Cloud

Server address
https://eu.online.planmeca.com

Login name
john.doe@planmeca.com

Login password

Test Connection

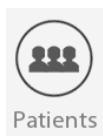
Download private key

Save and Close

Cancel

Don't have an account yet?

3 VIEWING PATIENTS



To access the *Patients* view tap the **Patients** button.

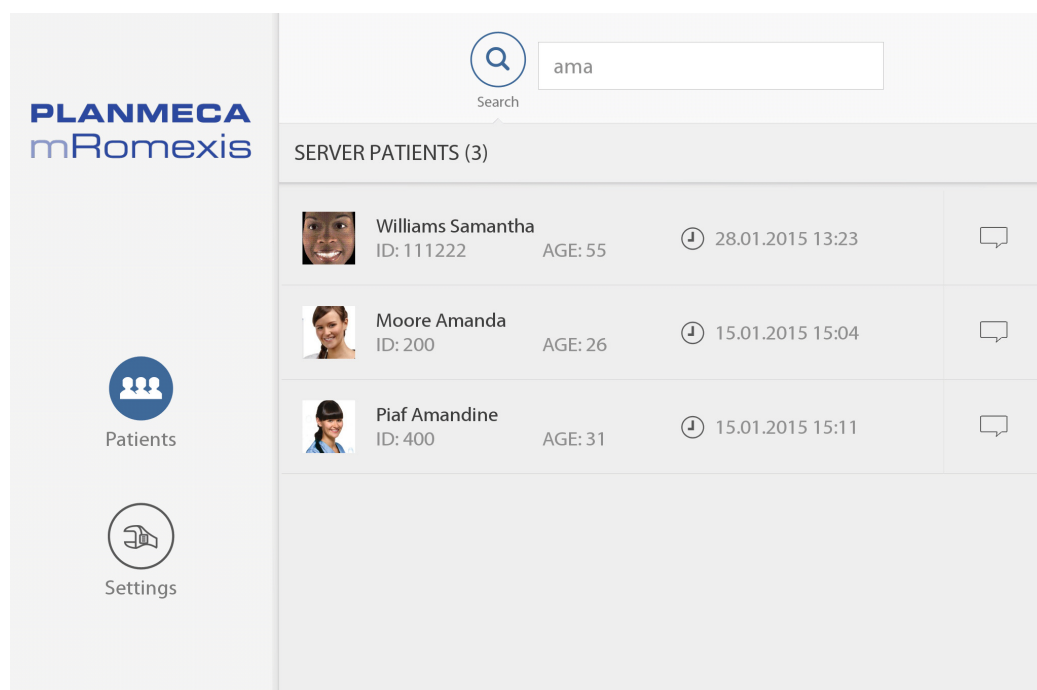
3.1 Searching patients



Tap or click the **Search** button on top of the window.

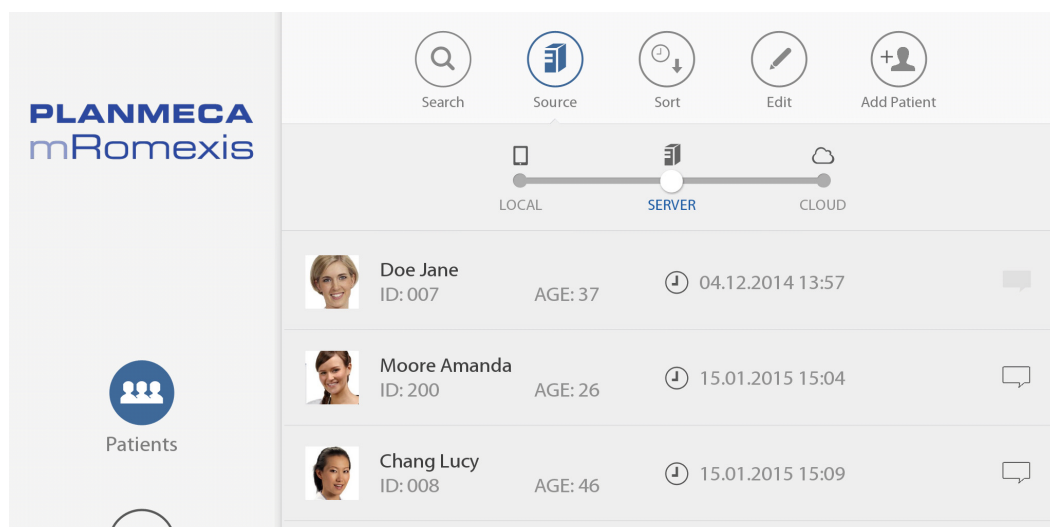
Enter your search criteria in the *Search* field.

The application starts the search automatically.

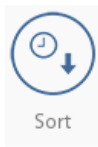


If the selected source for patient data is Romexis server and the server version is 4.5 or newer, patients will be loaded in batches of maximum 40 patients at a time. The next batch of patients will be automatically added, if needed, to the list when browsing it forward.

To exit the Search view and display the other buttons re-tap or re-click the **Search** button.



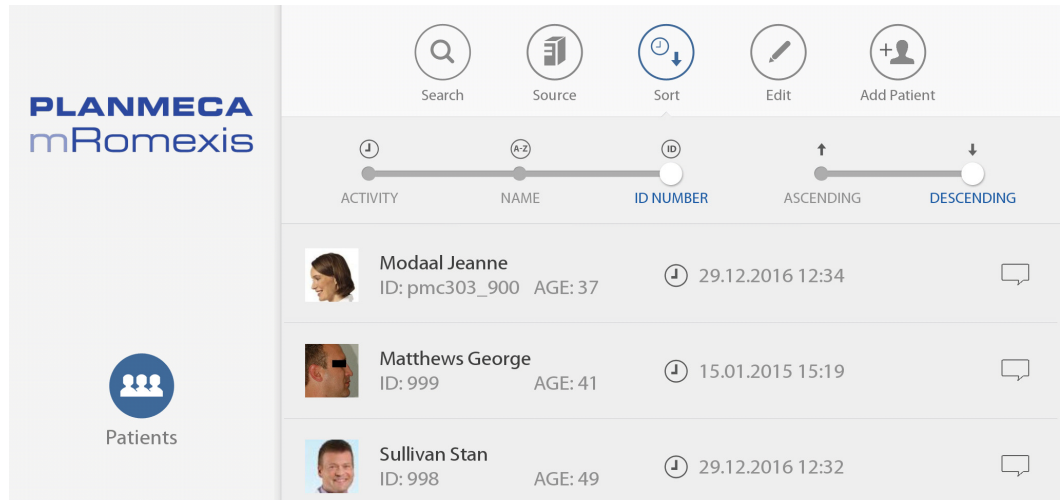
3.2 Sorting patients



The patients can be sorted by:

- activity
- name of the patient
- ID number of the patient

In addition the patients can be further sorted in ascending or descending order.



3.3 Selecting source



In the *Source* view you can select the source from where the images are viewed.

Tap the **Source** button

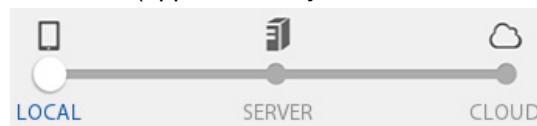
Choose the source from where the images are viewed.

- Local (applicable only for mobile devices)
- Server

NOTE

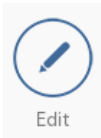
If Romexis server version is 4.5 or newer, a maximum of 40 patients are loaded to the list at a time, and the list is automatically updated when scrolling down.

- Cloud (applicable only for mobile devices)



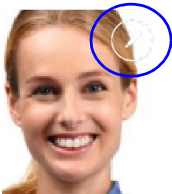
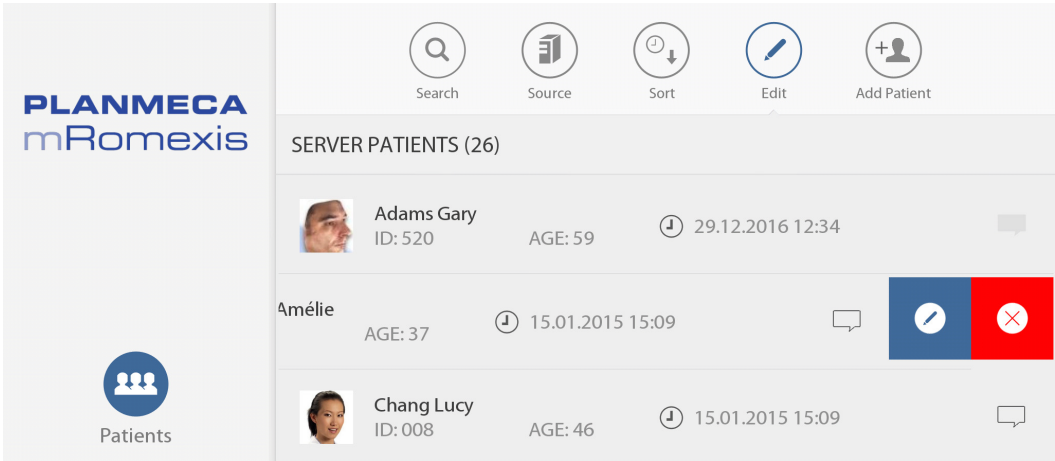
3.4 Editing patients

NOTE
Patients can be edited when using mobile application and when the selected source is *Server*.

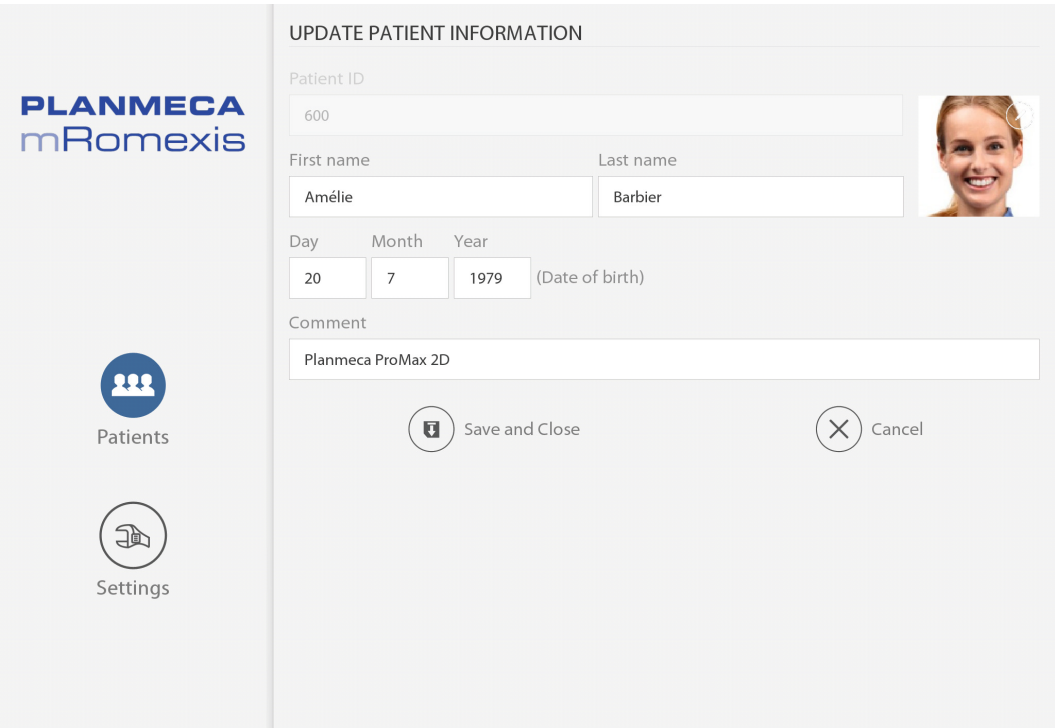


Select **Edit**.
Swipe to the left on top of patient's name.

Click or tap on the blue edit button to access the patient file to be edited.



To edit text tap on the text fields.
To edit the image tap on the image editing icon in the corner of the image.
The tablet camera is activated allowing you to capture a new ID image.
Only patients saved to Planmeca Romexis server can be edited. The edited information is updated to the database on Planmeca Romexis server.

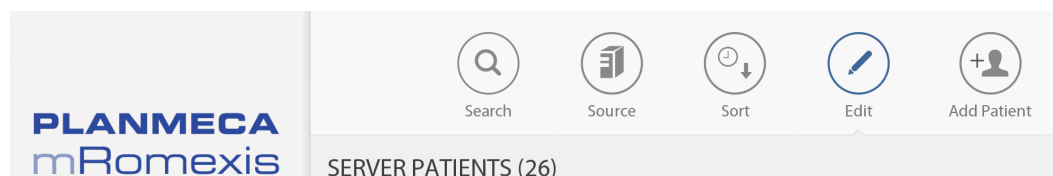


3.5 Adding patients

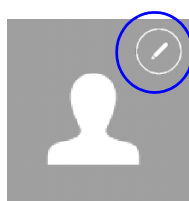
NOTE

Patients can be added when using mobile application and when the selected source is *Server*.

Select **Add Patient**.



Enter patient information.



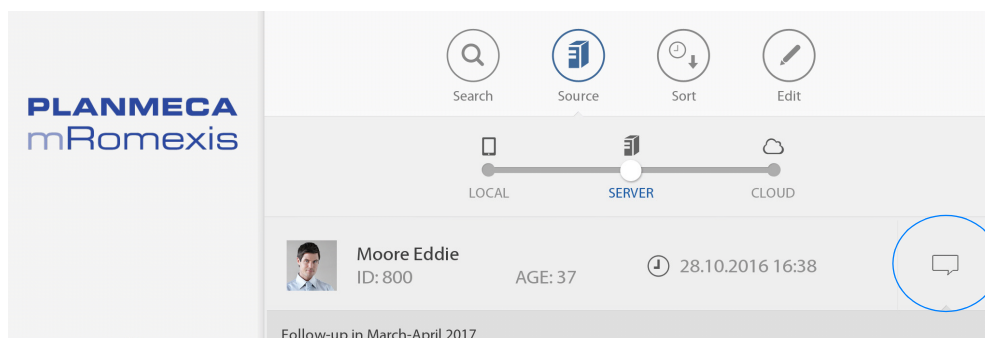
To capture an identification photo tap on the editing icon in the corner of the image thumbnail.

When finished click **Save and Close**

The patient is added to the patient list of Planmeca Romexis server.

3.6 Viewing comments

Tap or click the balloon icon next to the patient to view the patient comment.



3.7 Deleting and inactivating patients

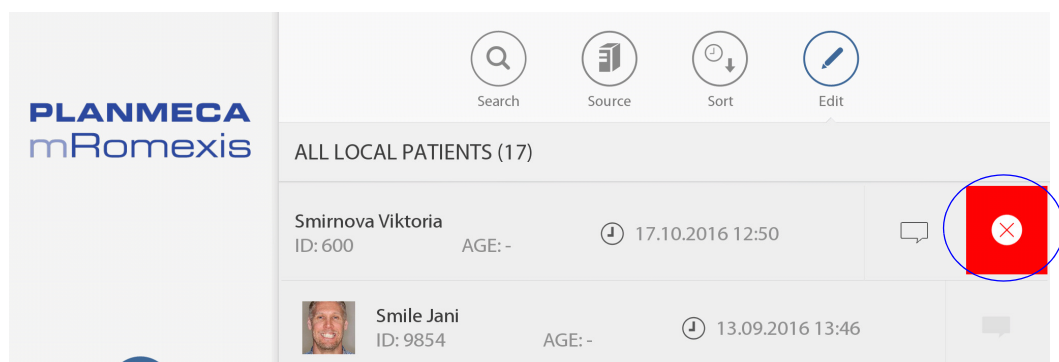
NOTE

Only patients stored locally on mobile devices and patients retrieved from Planmeca Romexis server can be deleted.

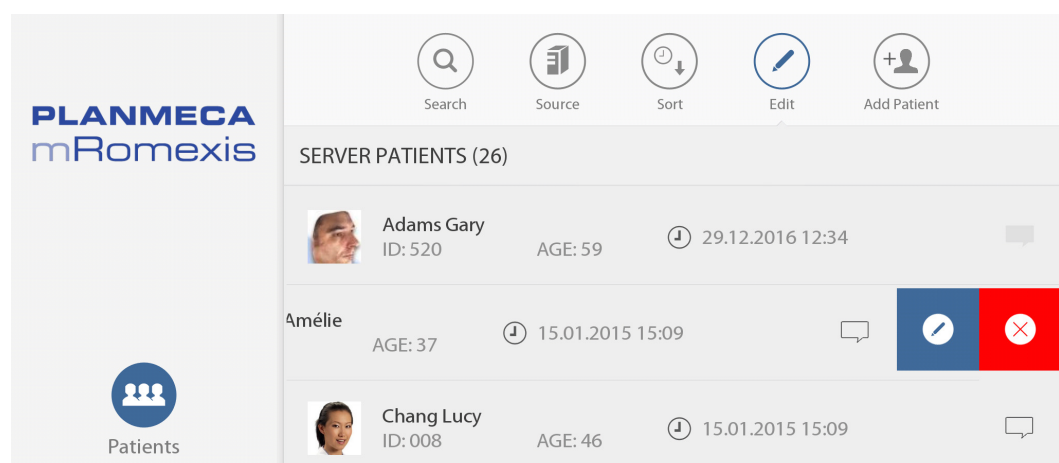
Tap or click on the **Edit** button.



To delete locally stored patients swipe to the left on top of the patient line and tap or click on the appearing **Delete** button.



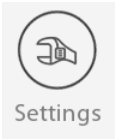
When selecting **Delete** for a patient retrieved from Planmeca Romexis server, the patient will be inactivated from the Planmeca Romexis database.



3.8 Delete all local patient data

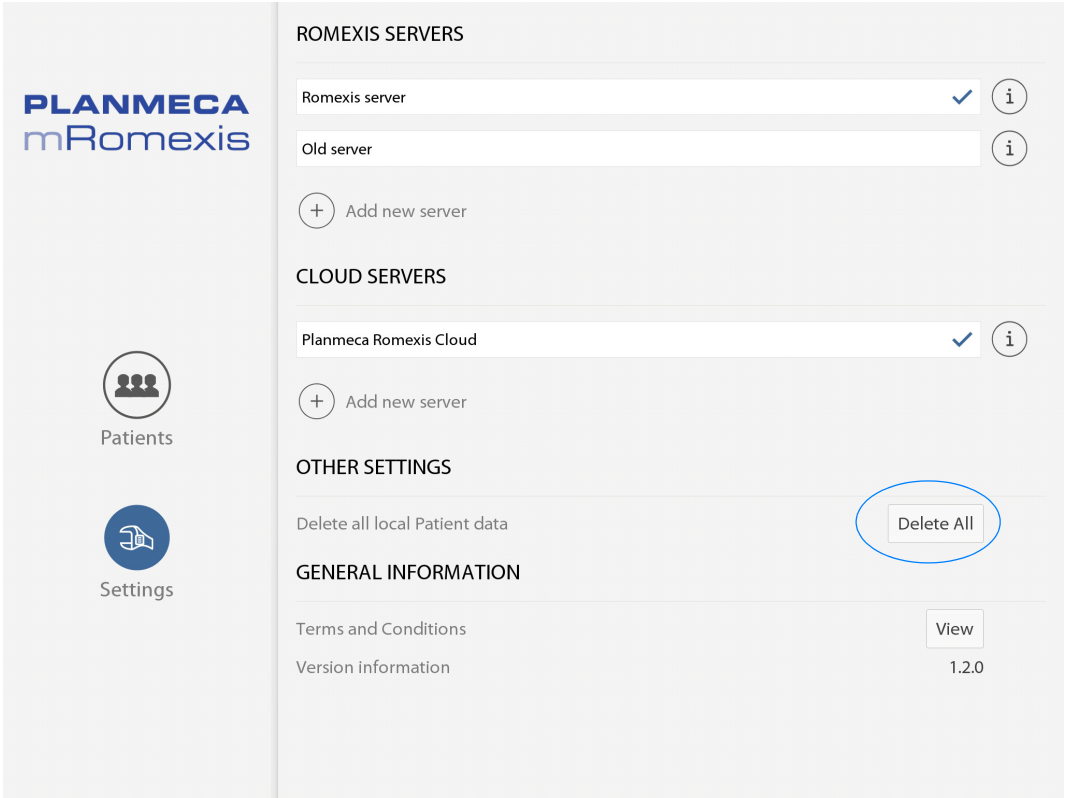
NOTE

Applicable only for mobile devices.



Go to *Settings*.

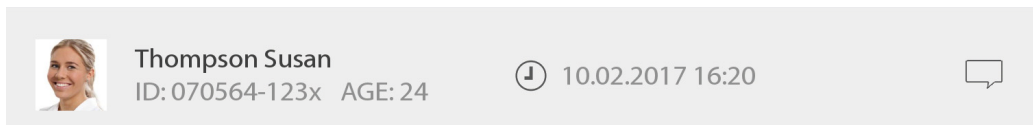
Tap or click the **Delete All** button to delete all locally stored patient data.



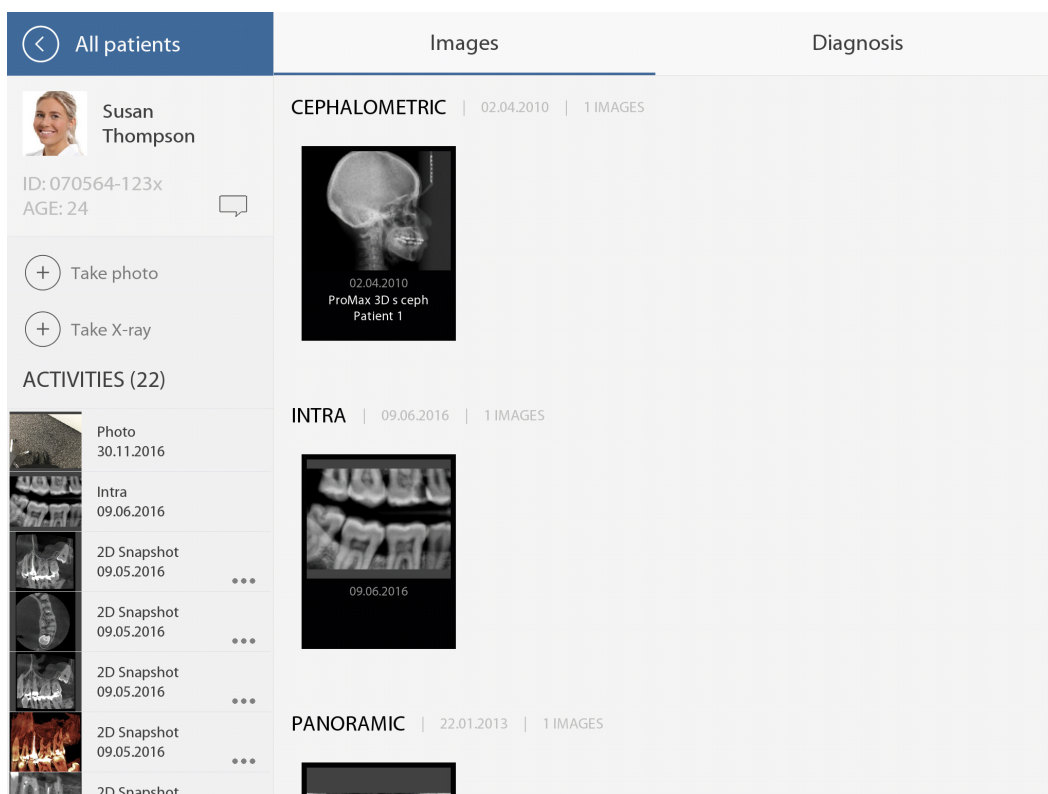
4 OPENING PATIENT FILES

4.1 Viewing images

Tap or click on the patient to open the patient file.



The patient file and the list of all images appears.



The images are grouped according to image types. The different image types are the following:

- panoramic
- intraoral
- cephalometric
- photo
- 2D snapshot
- 3D volume
- 3D surface

If the image category does not contain any images the category is not shown.

The following symbols are used to indicate that image:



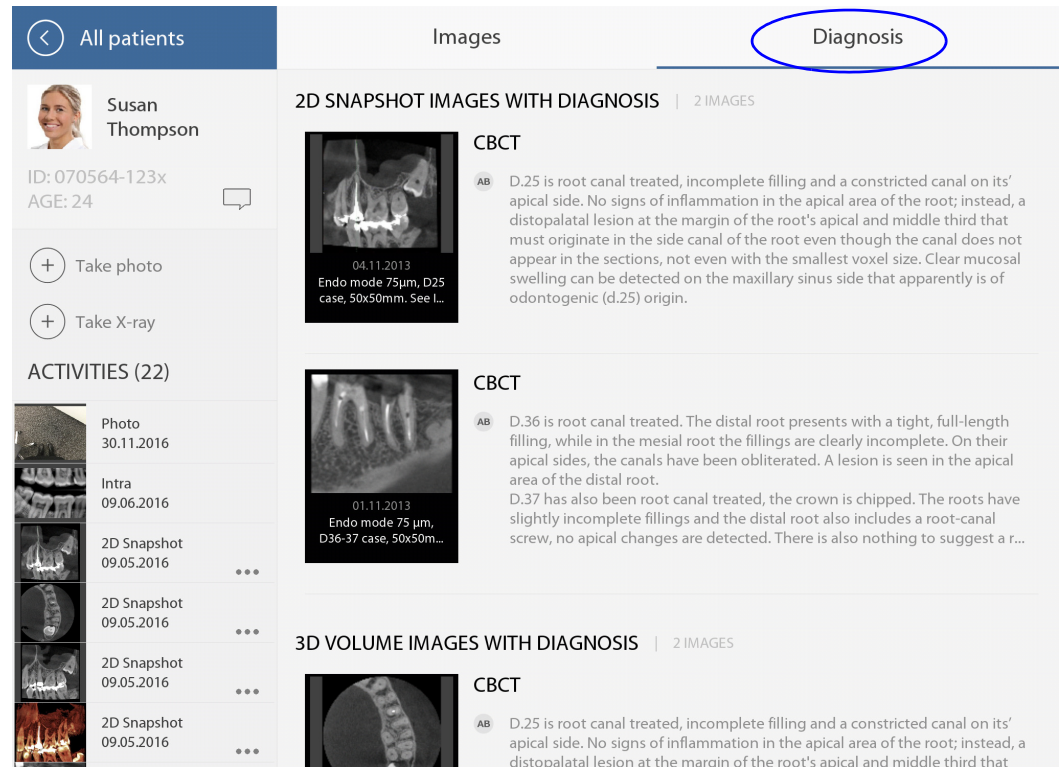
belongs to a stack



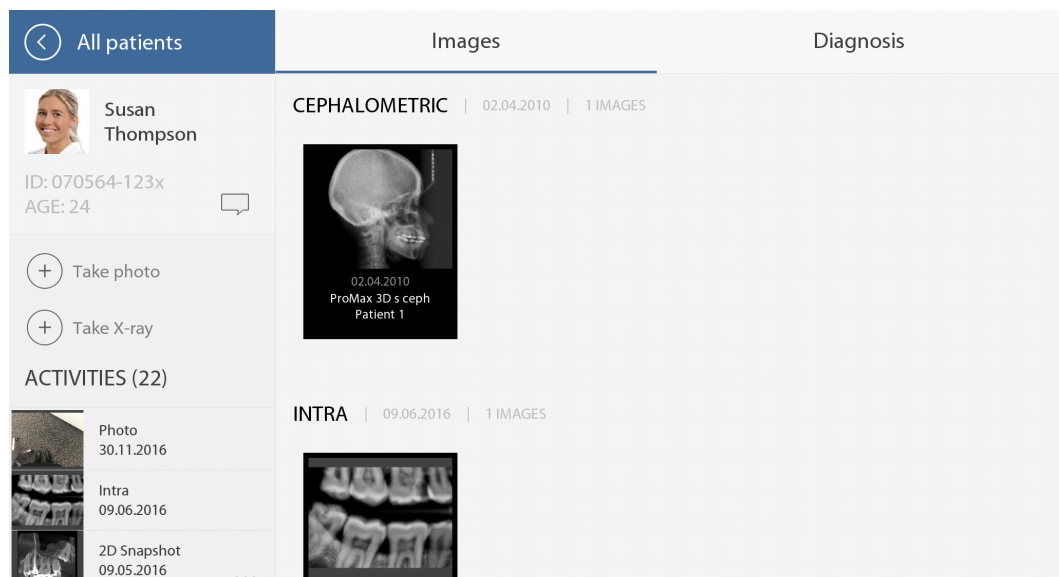
is part of a study



contains a diagnosis related to the patient's images and can be viewed in the *Diagnosis* tab as illustrated below



Tap the thumbnail of an image to open it.

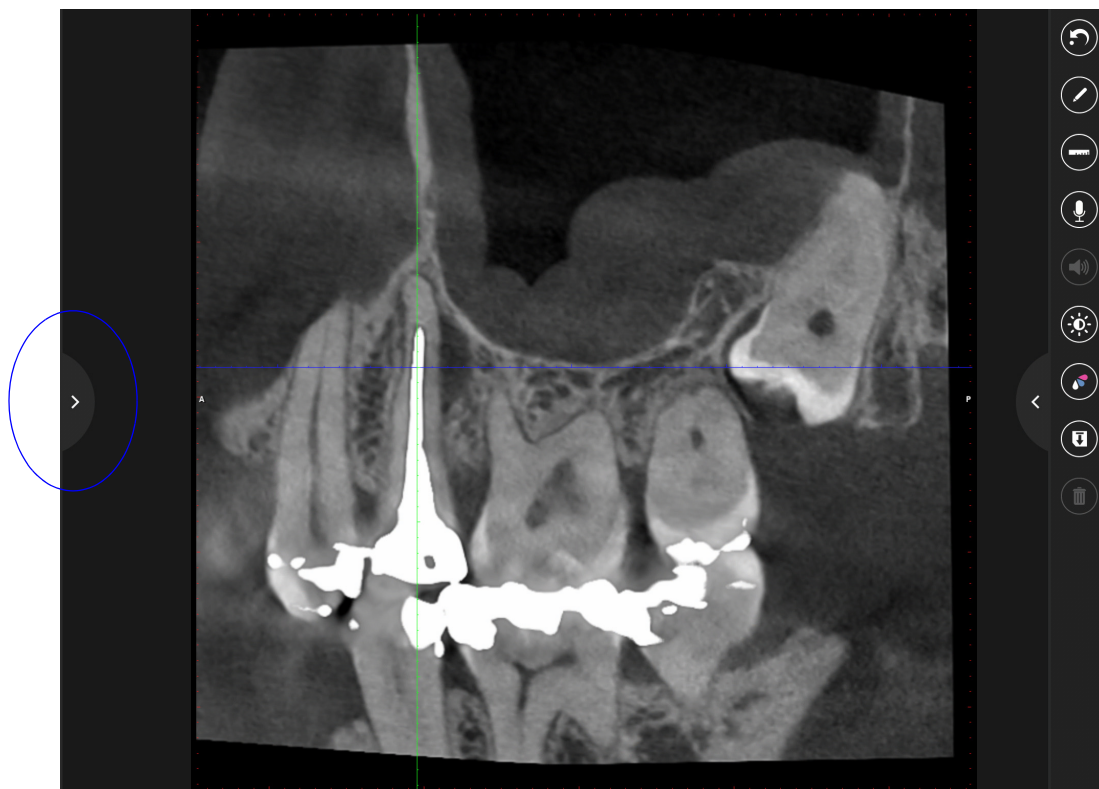


The image opens in full-screen either in landscape or portrait mode depending on the device's orientation.

NOTE

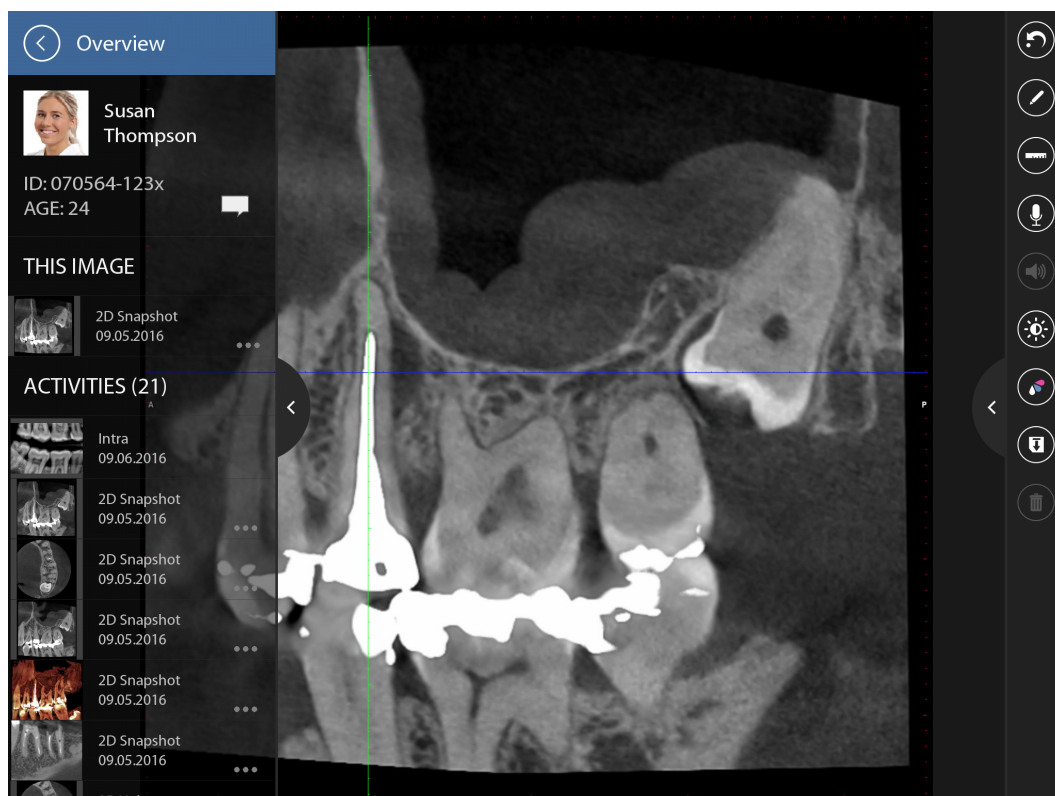
Only 3D images stored on the server can be viewed. The 3D images are not stored locally.

To view other patient images tap the arrow and select the image to open from the list.



The patient information is shown on top of the toolbar.

The information related to the current image is shown in *This image* field.



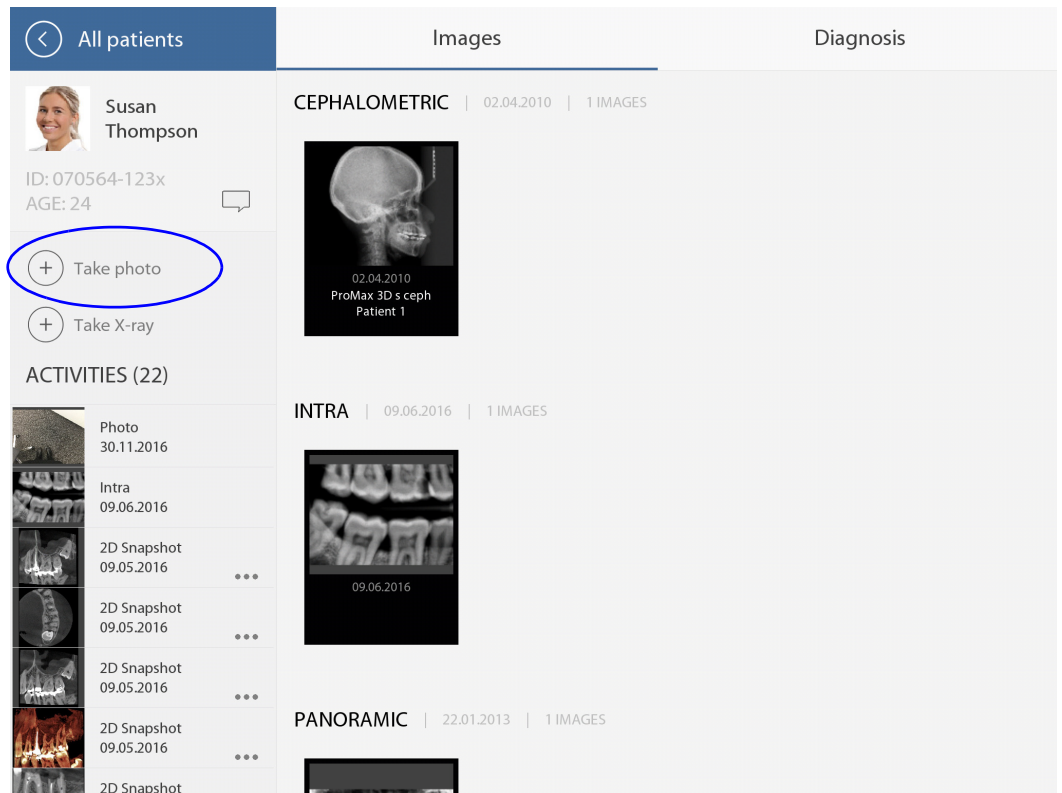
The activities list shows the last updated images for this patient.

To return to the patient file tap or click the **Overview** button.

4.2 Taking 2D photos

When patients are opened on a mobile device using *Server* as patient source, 2D photos can be taken with the mobile device camera and directly added to these patients' images.

To open the mobile device camera tap or click **Take photo**.



You can choose to use that photo or to retake it. The photo is automatically added to the patient's images in *Photo* category.

The photo also appears in the Planmeca Romexis 2D imaging and Smile Design modules.

NOTE

The Romexis server version has to be 4.5 or newer.

4.3 Taking x-rays

NOTE

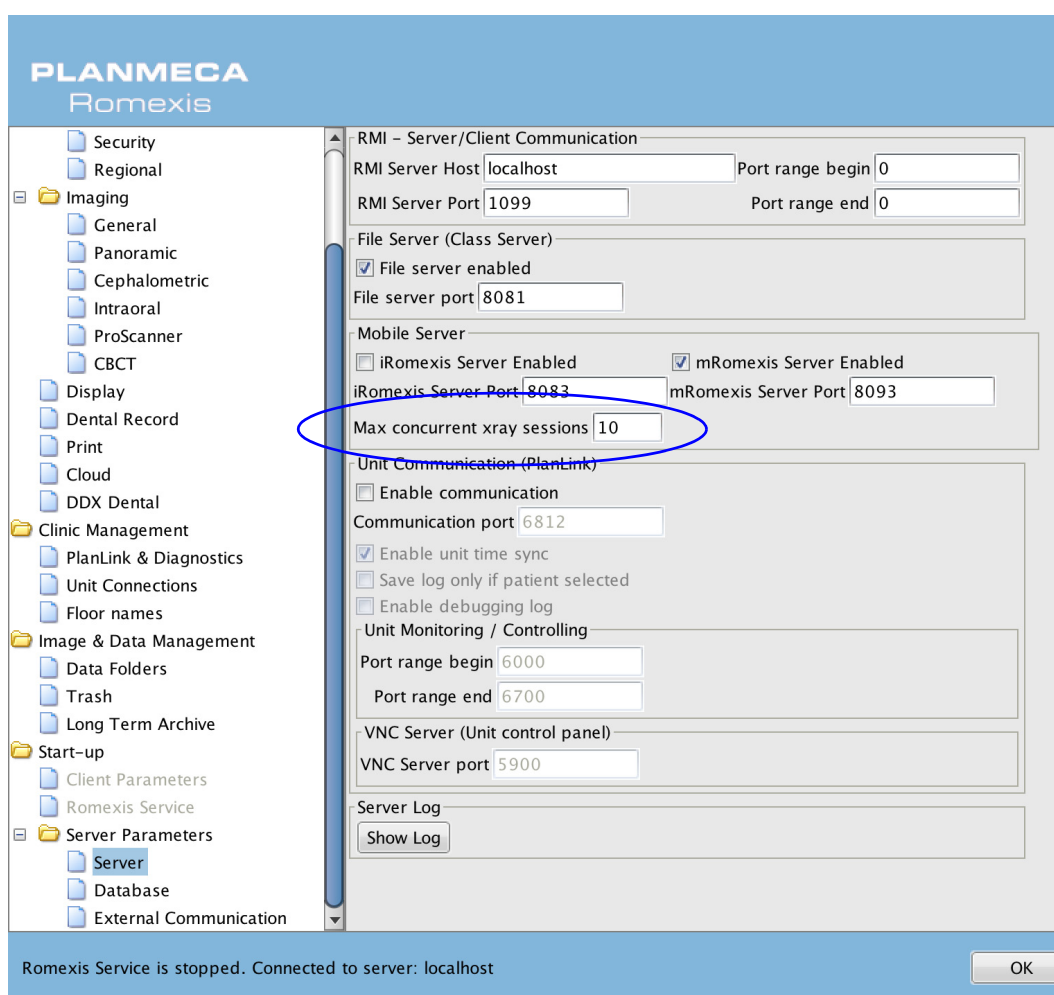
X-rays can be taken for patients retrieved from Planmeca Romexis server when using Planmeca Romexis server version 4.5.1 or newer.

Before starting ensure that 2D x-ray image capturing works from Planmeca Romexis desktop software and that Planmeca Romexis client and DIDAPI software have been installed on the server computer.

NOTE

To take x-ray images with Planmeca ProSensor imaging device that uses USB connection, the device needs to be directly connected to the server computer. For Planmeca ProSensor using Ethernet connection there is no such limitation.

You can set the maximum number of concurrent image capturing processes initiated from Planmeca mRomexis applications by entering the number in the respective field.



Select **Take x-ray** in the patient file to start the 2D x-ray image capturing process.

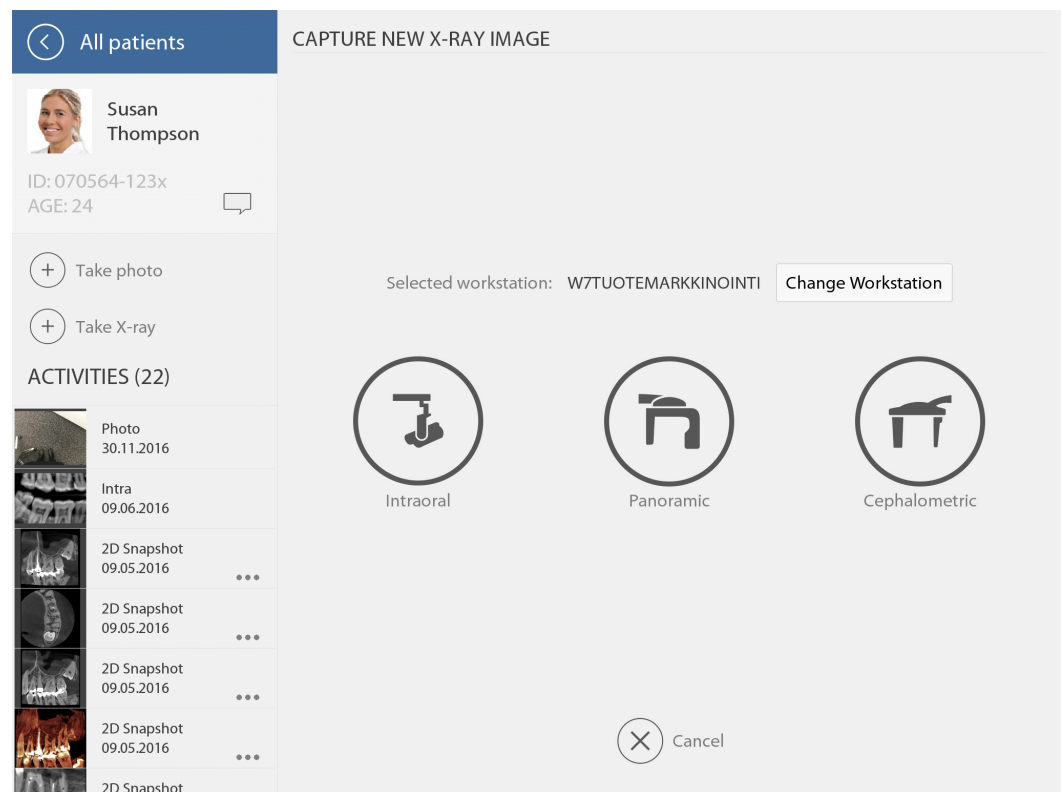


The selected workstation is the Planmeca Romexis client installation on which the imaging device that is to be used is configured.

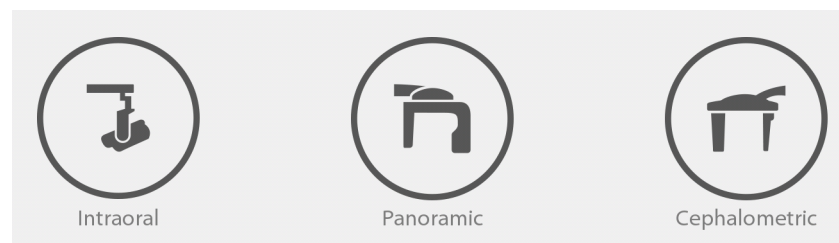
If necessary you can change the workstation by selecting **Change Workstation**.



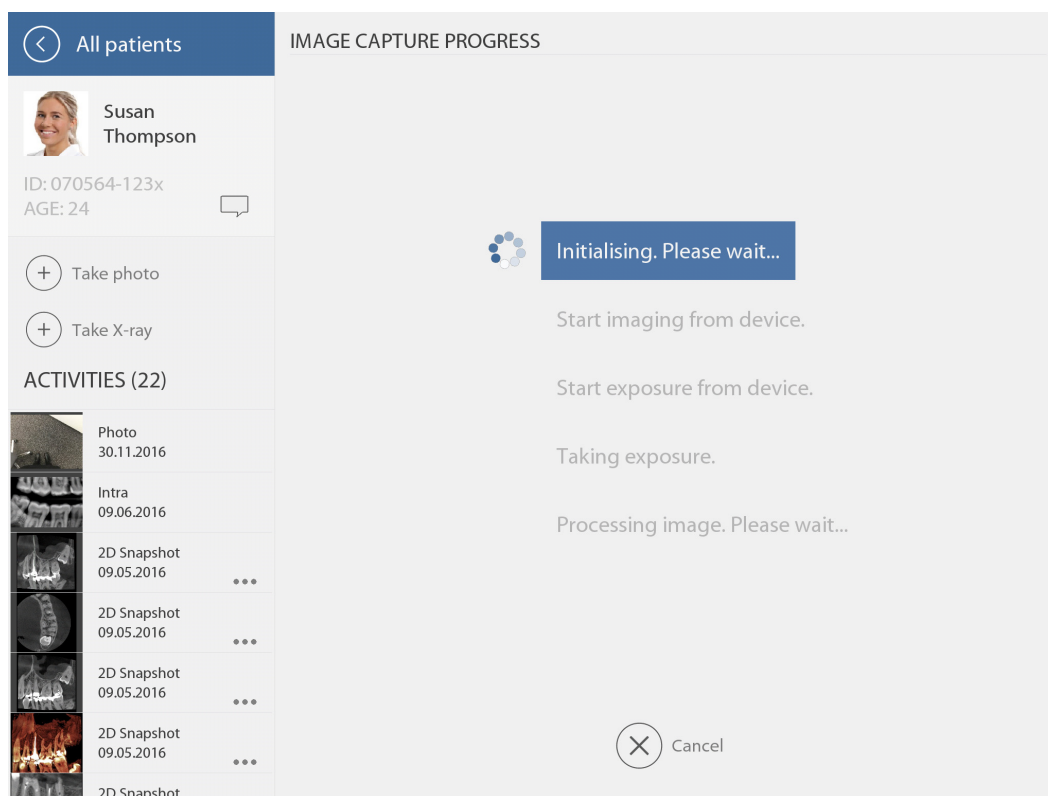
The list of workstations shows all Planmeca Romexis clients that are connected to the Planmeca Romexis server that is configured and currently selected in the *Settings*.



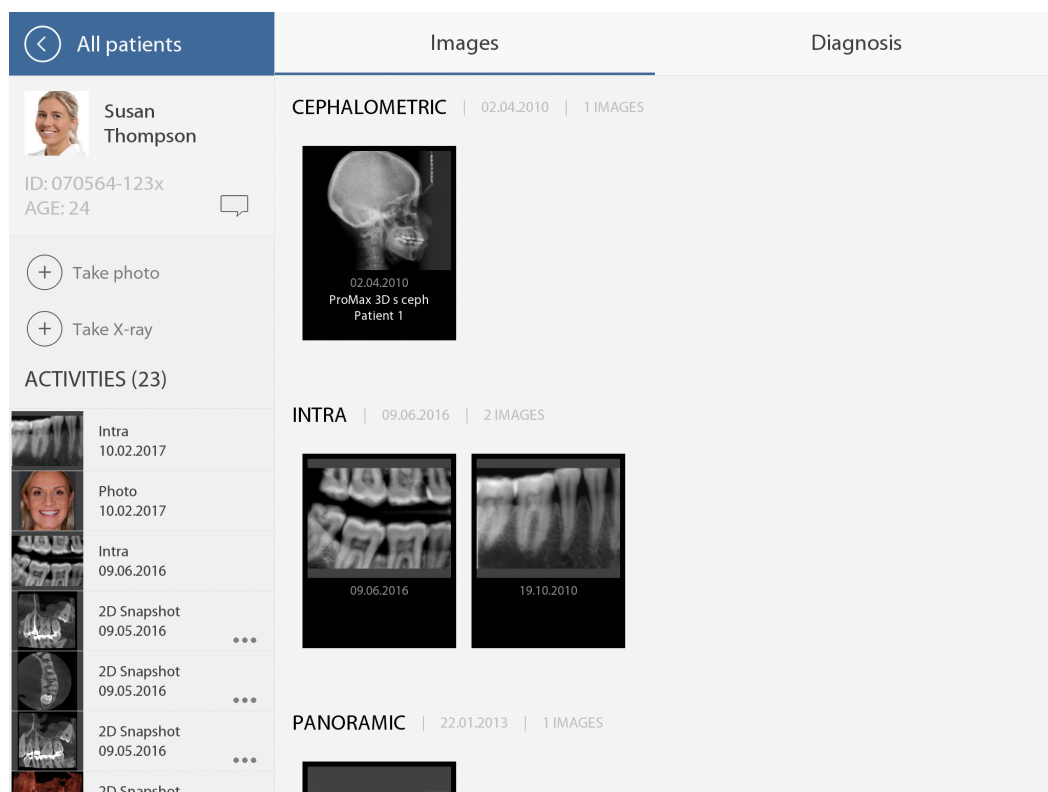
Select the imaging type by tapping on the respective icon.



Follow through the image capturing process, positioning the patient, preparing the device, and making the x-ray exposure when prompted.

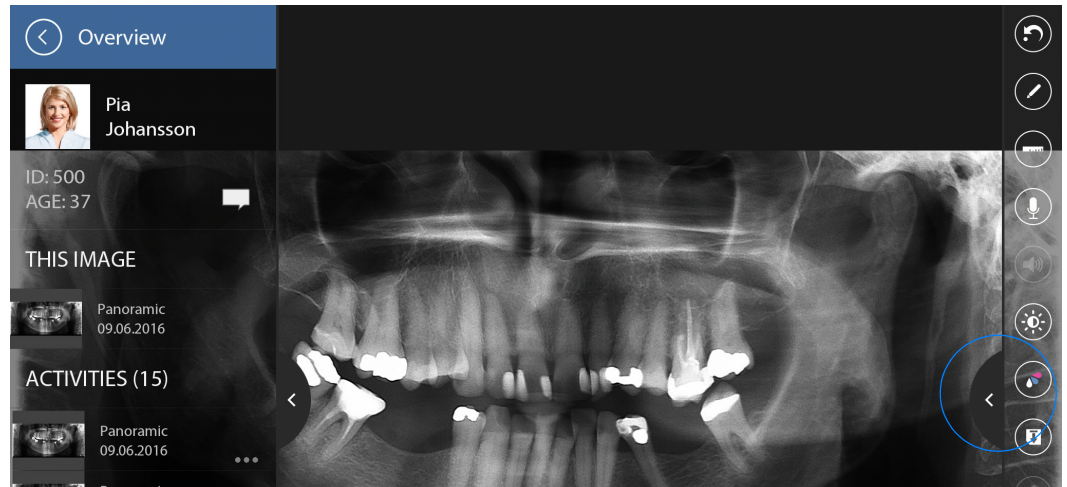


In case of single image capturing, the image is automatically opened full-screen. The image gets added to the images of the patient file, appearing on both mRomexis and the 2D module of Romexis desktop software.



5 VIEWING 2D IMAGES

Tap or click on the arrow on the right side of the screen to open the side control panel.



The menu with the following functions opens.

Reset

Resets the image to original state

Annotate

Opens a text box for adding annotations on the image

Measure

Opens a ruler for making measurements

Voice recorder

Records a voice annotation to the image.

Play audio recording

Plays back the voice annotation added to the image.

Brightness & Contrast

Opens the brightness & contrast adjustment tool

Pseudo color

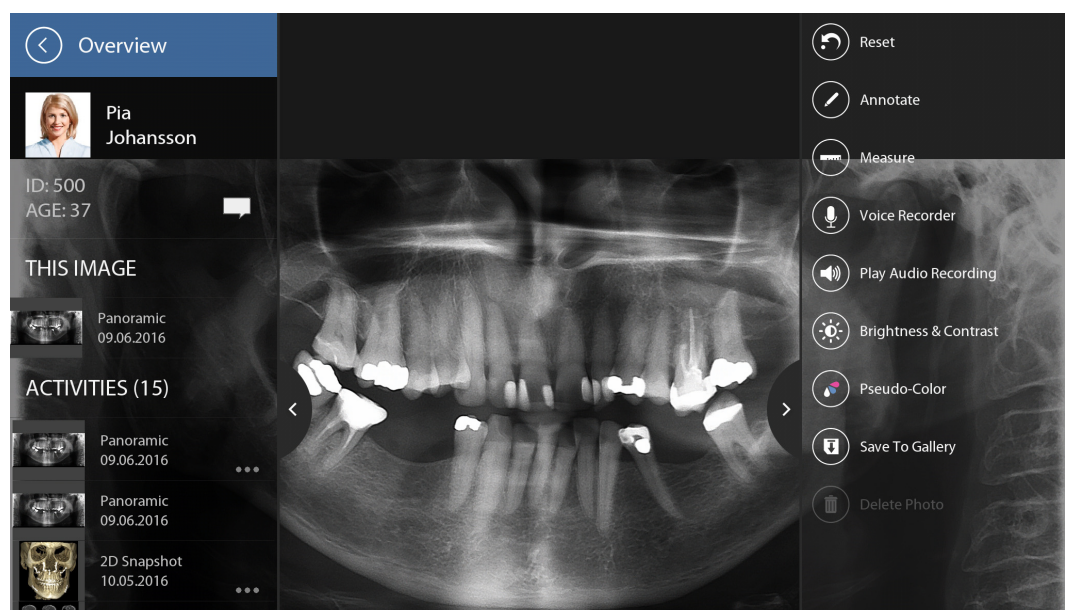
Displays the image in pseudo colors.

Save to gallery

Saves image to gallery
(Applicable only for mobile devices)

Inactivate image

Works only for images retrieved from Planmeca Romexis server. Inactivates the image from the database.



5.1 Adding annotations



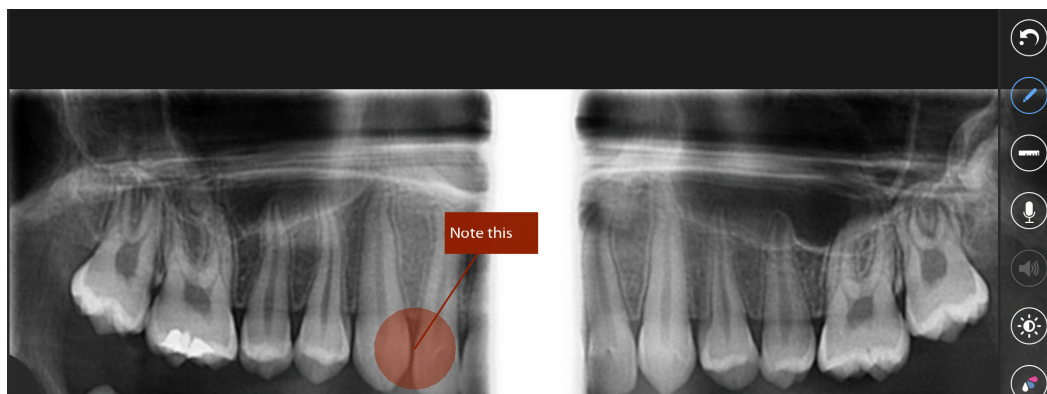
To open a text-box for adding an annotation to the image tap or click this button.

Tap on the box to add a note. The added annotations show as small dots which can be moved on the image by dragging.

To edit an annotation tap or click the text box.

To move the text box drag it on the image.

To delete annotation drag it down to the coloured bar at the bottom of the screen.



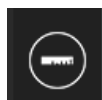
To show/hide annotations select/unselect the annotation button.

Multiple annotations can be added.

NOTE

The annotations are not saved once you close the image. To save a view of the image with annotations select **Save to gallery**, see section 5.6 "Saving to gallery" on page 23 for more information.

5.2 Adding measurements



To open the measurement tool tap or click this button.

Draw a measurement line.



To move either end of the measurement line individually place your finger on the end of the line and drag it where needed. The measurement value automatically changes according to the new position(s).

To delete a measurement drag it down to the coloured bar at the bottom of the screen.

NOTE

The measurements are not saved once you close the image. To save a view of the image with measurements select **Save to gallery**, see section 5.6 "Saving to gallery" on page 23 for more information.

5.3 Recording and playing voice annotations with voice recorder

NOTE

Voice recorder is available only for Planmeca Romexis server version 4.5 or newer (patient source is "Server") with 2D images.

With voice recorder you can record your own voice annotation to the image by speaking during recording. For the recording to work you need a microphone connection with the tablet.

5.3.1 Recording voice annotations



To start a recording click this button. To stop the recording re-click it.

During recording you can move, rotate or zoom in/out the image using the two finger gestures. Note that these gestures are not recorded.

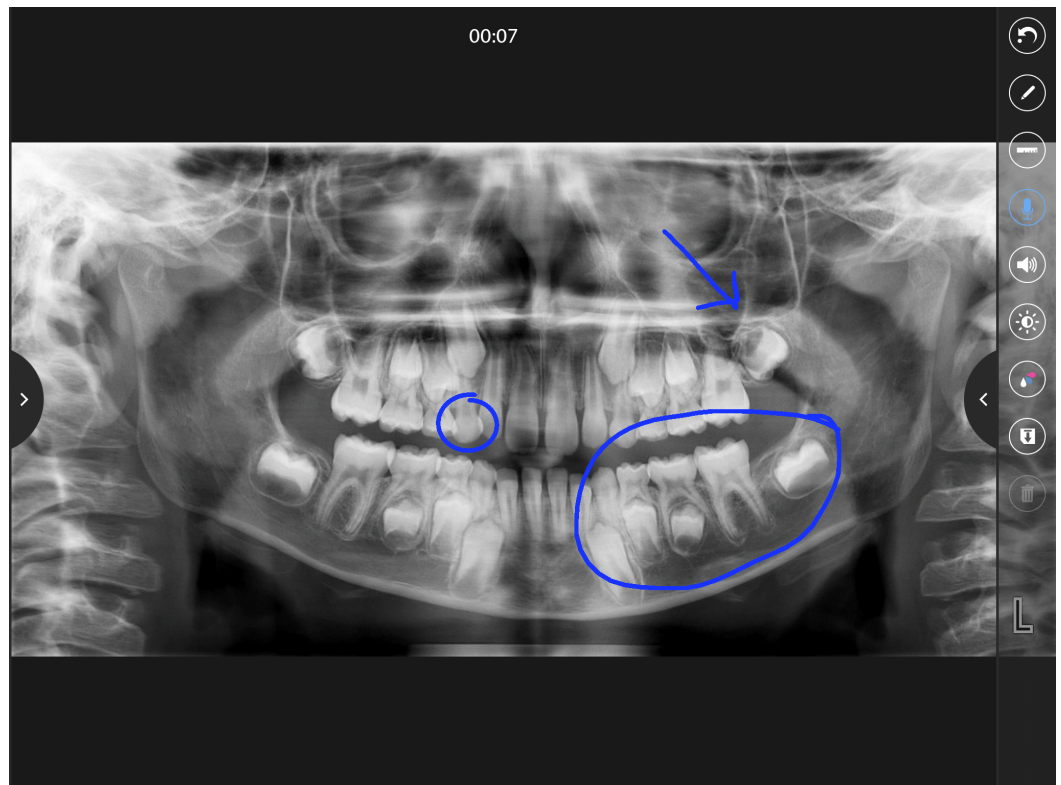
During recording you can also add annotations to the image. Touching the image once adds a small blue circle to the image. By dragging your finger on the image you can draw desired shapes on the image.

The drawn annotations are temporary and stay on the image for 7 seconds. When playing the recording the annotations are shown in the order in which they were added to the image.

Each image can contain one recording at a time. To overwrite the existing recording and start anew one tap the recording button and accept the overwrite prompt.

5.3.2 Playing back voice annotations

While playing the recording you can manipulate the image as desired.



5.4 Adjusting brightness and contrast

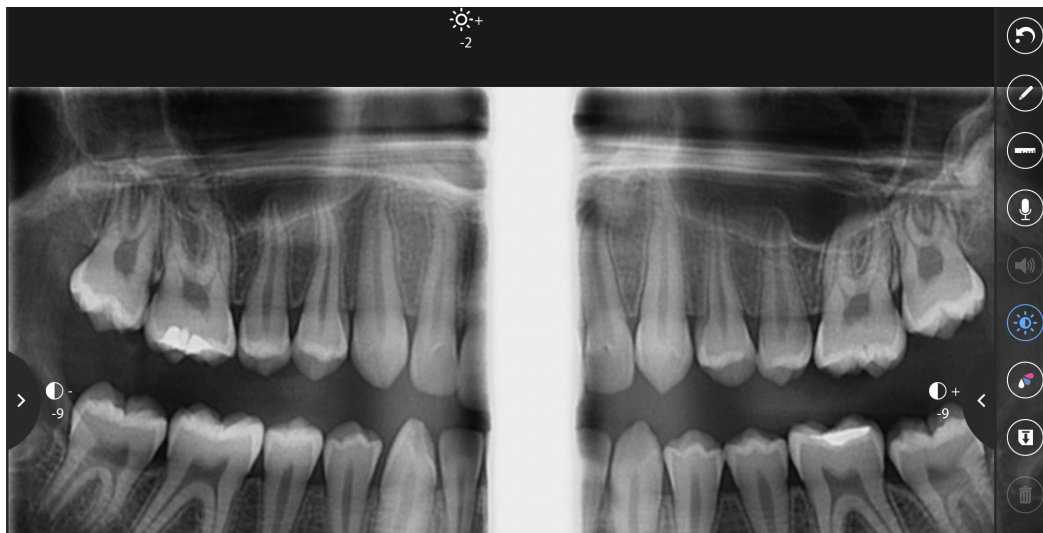


To open the brightness and contrast tool tap or click this button.

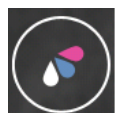
The brightness and contrast adjustment indicators appear on the top and the bottom and on the left and right side of the window.

To adjust the brightness of the image drag your finger or mouse up and down on the image.

To adjust the contrast of the image drag your finger or mouse left and right on the image.

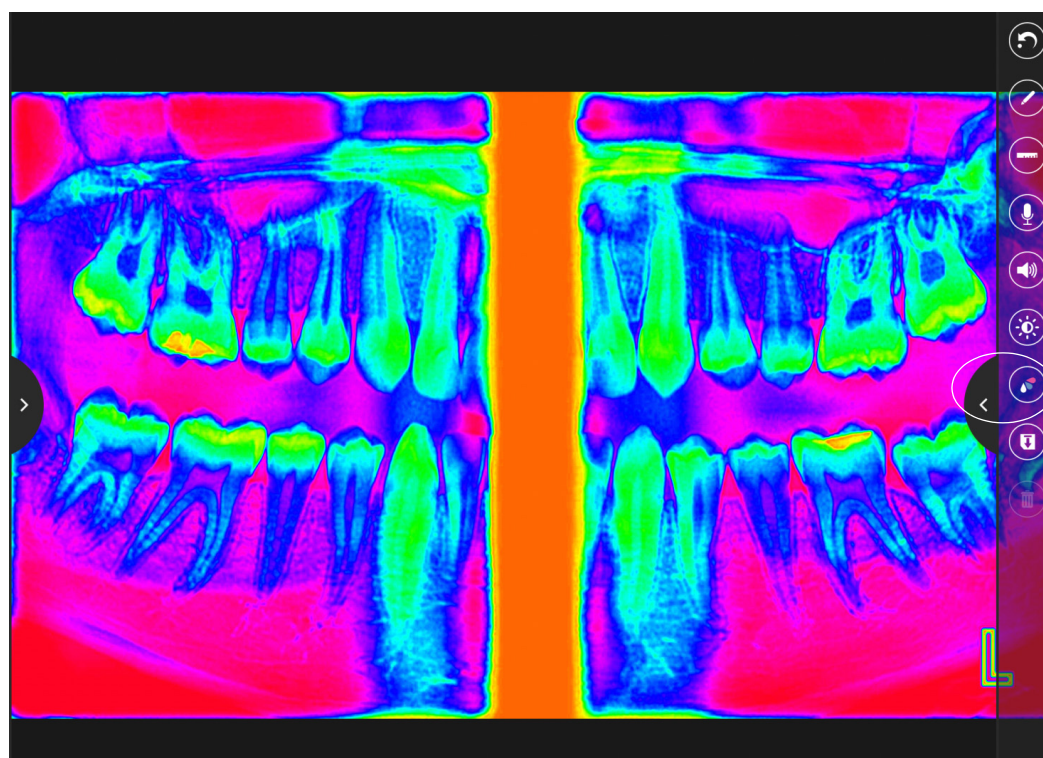


5.5 Viewing images in pseudo-colours



To open the pseudo-colours tool tap or click this button.

The image displays in pseudo colours, which may help to distinguish areas of interest in the image.

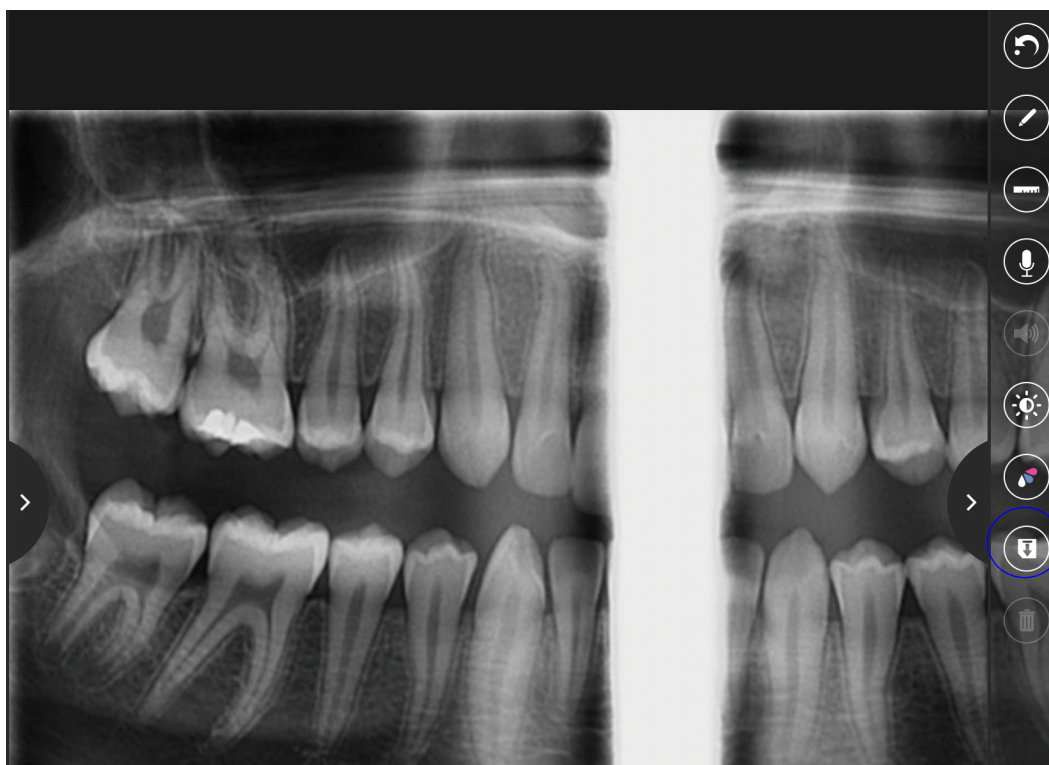


5.6 Saving to gallery

The screen shot of images can be saved locally on tablets.



Tap the **Save to gallery** icon on the right side of the window to save the image to device memory.



5.7 Manipulating 2D images

5.7.1 In desktop browser version

- Move by holding down the left mouse button while dragging
- Rotate by holding down the right mouse button while dragging
- Zoom in and out by scrolling the mouse wheel

5.7.2 In mobile tablet version

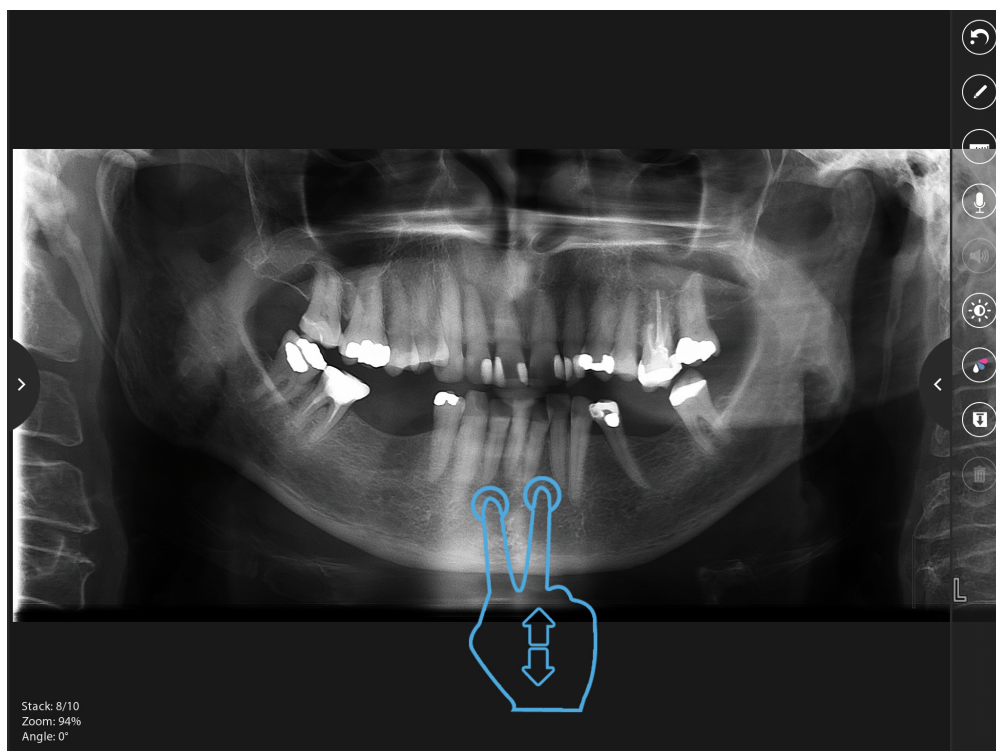
- Move by dragging with one finger
- Turn and rotate by grabbing with two fingers. The image rotates around the centre point between the two fingers.
- Zoom in and out by moving two fingers closer to and further away from each other on the screen (the image is zoomed based on the centre point between the fingers).

NOTE

You can move the image with two fingers at the same time while zooming.

Viewing SmartPan images

In case of examining image stacks such as SmartPan images, browse between the layers by dragging up or down the screen with two fingers.

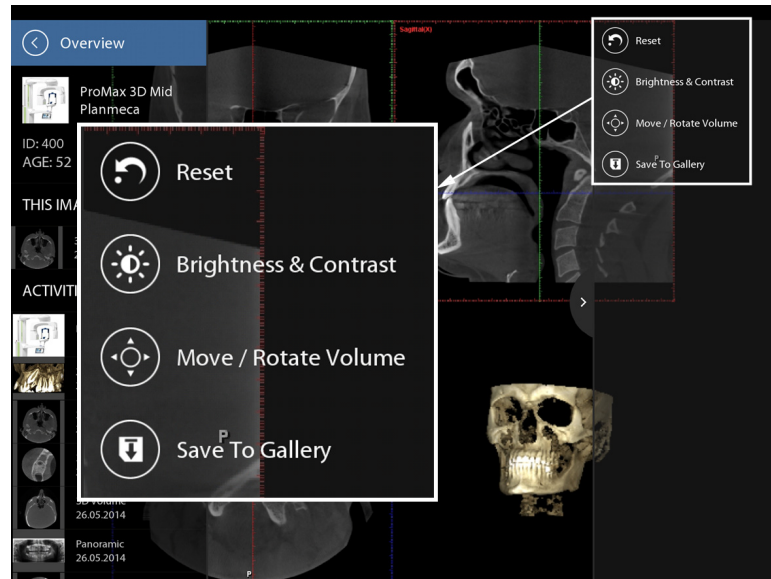


The current stack (8/10) is shown on the lower left corner of the image.



6 VIEWING 3D IMAGES

Tap or click on the arrow on the right side of the screen to open the side control panel.



The menu with the following functions opens.



- 1 Resets the image to original state
- 2 Opens the brightness & contrast adjustment tool
- 3 Move / rotate volume mode toggle button
- 4 Saves image to Gallery
(Applicable only for mobile devices)

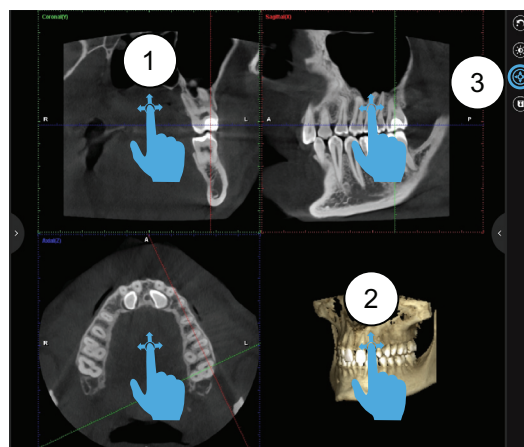
There are two modes for moving images; the volume mode and the axis mode. The behaviour is different depending on the mode selected.

6.1 Volume moving mode

When the *Volume* mode is on the volume icon is highlighted.

Move the volume by dragging the finger on the volume. (1)

Note that in the 3x3 view the one finger drag trackball rotates the 3D model around its origin. (2)



One finger
drag



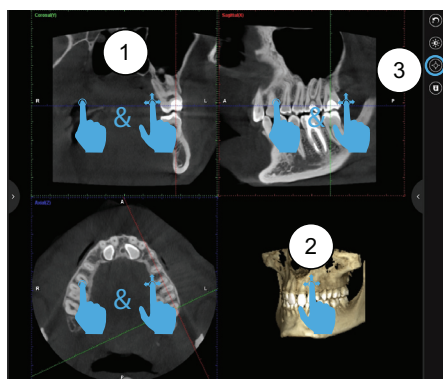
Left mouse
button drag

6.2 Axis moving mode

To enable the *Axis* moving mode turn off the volume mode by de-selecting the volume tool. (3) The axis moving mode is enabled by default.

To move the origin of the axes drag your finger or tap anywhere on the window (1).

In the 3x3 view dragging with one finger with trackball rotates the 3D model around its origin. (2)



One finger
tap
or drag



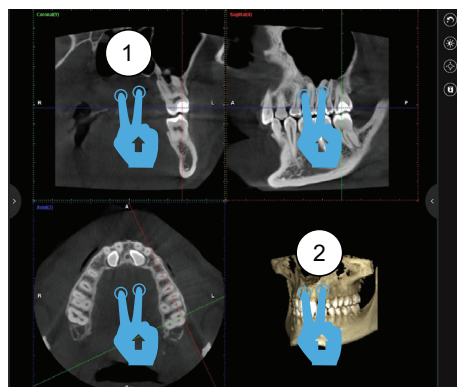
Left mouse
button drag



6.3 Moving in slices

To move in the slices drag two fingers up or down. (1)

The 3D model is sliced perpendicular to what the user is seeing. The slicing is maintained even when rotating the model. (2)



Two-finger
drag up
and down



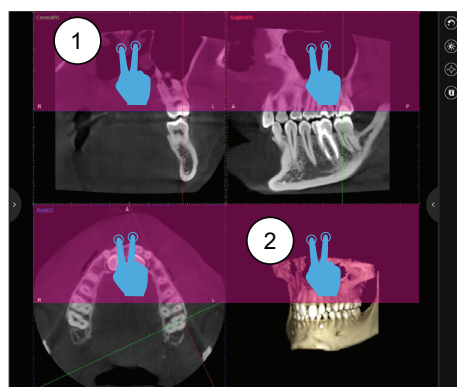
Both mouse
buttons and
up and down



6.4 Moving up or down slice by slice

To move up in the slices one step at a time two-finger tap or click both mouse buttons at the upper half of the view-port. (1)

To move down in the slices tap or click at the lower half of the view-port. (2)



Two-finger
tap



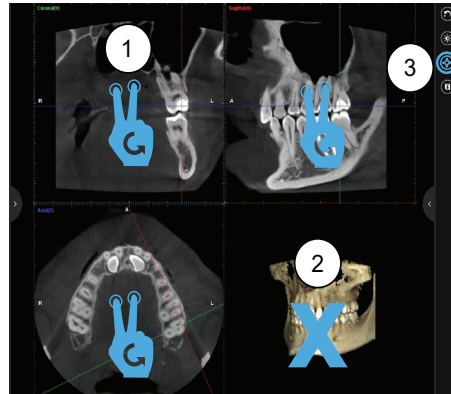
Both mouse
buttons
click

6.5 Rotate - volume mode

To turn on the volume mode select the Volume mode. (3)

To rotate the volume, turn two fingers or hold down the right mouse button while dragging up and down. (1)

It is not possible to rotate in the 3x3 view. (2)



Two-finger
turn



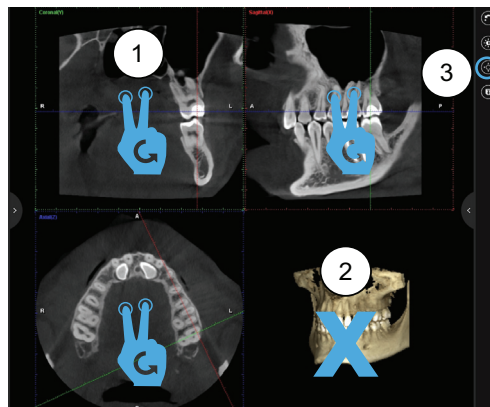
Right mouse
button and
up/down

6.6 Rotate - axis mode

To turn on the Axis mode deselect the Volume mode. (3)

To rotate the origin turn two fingers or hold down the right mouse button and drag up and down.(1)

It is not possible to rotate the volume in the 3x3 view. (2)



Two-finger
turn

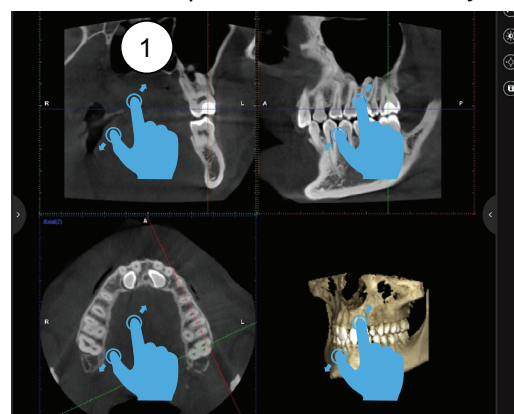


Right mouse
button and
up/down

6.7 Zoom in

To zoom in the image either spread two fingers (1) or turn the mouse wheel away from yourself.

On some track-pads this is also done by scrolling with two fingers.



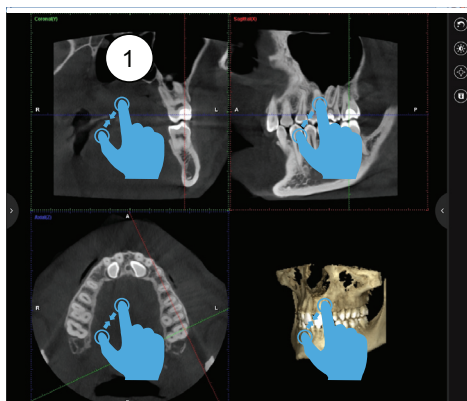
Two-finger
spread



Mouse
wheel
away
from user

6.8 Zoom out

To zoom out the image either pinch two fingers or turn mouse wheel towards yourself. (1)
On some track-pads this can also be done by scrolling with two fingers.



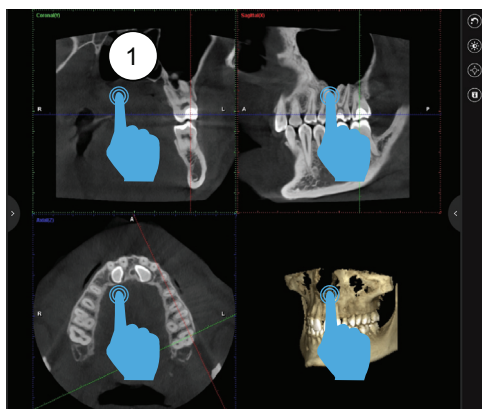
Two-finger
pinch



Mouse
wheel
towards
user

6.9 Maximize or minimize views

Double-tap or double left-click on any view-port to maximize it. (1)
To get back to the MPR view double tap/click again.



Double
tap

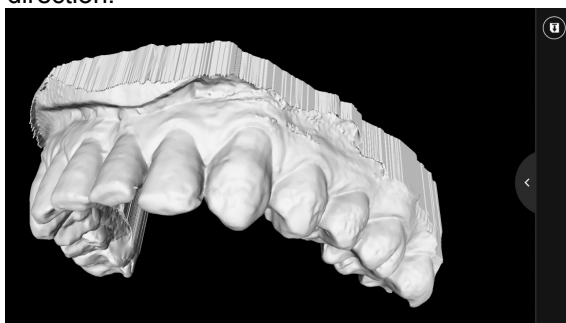


Double
left-click

6.10 Moving 3D surface models

Drag the models by using your fingers while zooming.

Turn the models using a two-finger gesture around an axis perpendicular to the viewing direction.



6.11 Save to gallery

See section 5.6 "Saving to gallery" on page 23.

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