



VISIBLE PATIENT

Visible Patient Planning iOS User documentation



VISIBLE PATIENT **PLANNING iOS**

Version: 2.3.4

June 2020

Unique device identifier (UDI)

+B373VPPI2340/\$\$72.3.4.



Software instructions for use (in English and other available languages) can be downloaded at <https://www.visiblepatient.com/en/go/planning-ios-user-manual>. Hard copy of instructions for use can be requested at contact@visiblepatient.com at no additional cost and delivered to the customer within 7 working days.

Indications for use

Visible Patient Planning iOS is intended as a medical imaging system that allows the review, analysis, communication, and interchange of medical data. It is also intended as software for preoperative surgical planning, postoperative control and as software for the intraoperative display of the aforementioned medical data.

This product is not intended for use with or for the primary diagnostic interpretation of mammography images.

The software includes basic tools to manage medical data, including 3D visualization, reading of medical documents, measurements, secured transferring, storing, etc.

It also includes advanced tools to visualize and analyze organ segments which are an approximation of vascular/airway territories for liver, lungs and kidneys.

The software is designed to be used by trained professionals (including physicians, surgeons and technicians) and is intended to assist the clinician who is solely responsible for making all final patient management decisions.

R Prescription use only

Authorizations



Visible Patient Planning iOS is a medical device software which is **CE**

marked. It can therefore be used in clinical routine and/or for patient care in member states of the European Union where national regulations are respected (complete list of countries available here: <https://www.visiblepatient.com/en/go/planning-ios-countries>).

Use of this software is not allowed in countries not mentioned in the list above.

In these countries, the software is considered as a prototype software and thus its use is restricted to communication with the patient, demonstration, research, or educational purposes. Any other use is strictly prohibited, particularly clinical use for diagnostic interpretation or treatment planning on human beings.



Visible Patient

8 rue Gustave Adolphe Hirn
67000 STRASBOURG
FRANCE

Contact

Email: support@visiblepatient.com

Phone: +33 (0)3 68 66 81 81

Website: www.visiblepatient.com

Contents

1	Indications for use.....	6
2	Contraindication	6
3	Warnings	6
3.1	General warning.....	6
3.2	Warning about secure IT environment.....	6
3.3	Warning about access to patient data	7
3.4	Warning about the display of 3D patient data	7
3.5	Warning about anatomical structure volume	7
3.6	Warning about vascular and respiratory territory computation.....	7
4	Technological characteristics	8
4.1	System requirements and characteristics	8
4.1.1	Minimum configuration	8
4.1.2	Recommended configuration	8
4.2	Application overview	8
4.3	Application modules	8
4.3.1	Recovery and display of the list of cases	9
4.3.2	Previsualization of a case and series download	9
4.3.3	Visualization of a model series	9
4.3.4	Visualization of a clip series	10
4.3.5	Visualization of a PDF series	10
4.3.6	User account management.....	10
4.3.7	Application settings.....	10
4.3.8	Regulatory information.....	10
4.3.9	Help	10
4.3.10	Visible Patient links	10
5	Installation instructions	11
6	Instructions for use	12
6.1	How to register a Visible Patient account.....	12
6.2	How to recover and display your list of cases	13
6.3	How to filter and sort your list of cases	14
6.4	How to access data of a case	15
6.5	How to visualize a model series.....	16

6.5.1	Opening a model series	16
6.5.2	Basic interactions	16
6.5.3	Tools	17
6.5.4	Other actions.....	18
6.6	How to visualize a PDF series.....	19
6.6.1	Opening a PDF series	19
6.6.2	Basic interactions	19
6.7	How to visualize a clip series	20
6.7.1	Opening a clip series	20
6.7.2	Basic interactions	20
6.7.3	Tools	20
6.7.4	Display of resection volumes	22
6.7.5	Resection volume computation.....	22
6.7.6	Estimate of vascular and respiratory territories.....	23
6.7.7	Other actions.....	24
6.8	How to update a case	24
6.9	How to delete downloaded series	25
6.10	How to delete registered accounts.....	27
6.11	How to access application parameters.....	29
6.12	How to access regulatory information	30
6.13	How to access help information	31
6.14	How to open a Visible Patient link	32
7	Maintenance	33
7.1	Application update.....	33
8	Problem solving.....	33
8.1	General problems	33
8.1.1	I cannot register my account	33
8.1.2	I am unable to recover my list of cases	34
8.1.3	I am unable to download the series associated to cases	34
8.1.4	I am unable to open a series.....	35
8.1.5	I am unable to open a Visible Patient link	35
8.2	3D visualization problems.....	36
8.2.1	I am unable to interact with the model	36
8.2.2	I am unable to mask an anatomical structure	36
8.2.3	I am unable to visualize volumes associated to clip data	36

1 Indications for use

Visible Patient Planning iOS is intended as a medical imaging system that allows the review, analysis, communication, and interchange of medical data. It is also intended as software for preoperative surgical planning, postoperative control and as software for the intraoperative display of the aforementioned medical data.

This product is not intended for use with or for the primary diagnostic interpretation of mammography images.

The software includes basic tools to manage medical data, including 3D visualization, reading of medical documents, measurements, secured transferring, storing, etc.

It also includes advanced tools to visualize and analyze organ segments which are an approximation of vascular/airway territories for liver, lungs and kidneys.

The software is designed to be used by trained professionals (including physicians, surgeons and technicians) and is intended to assist the clinician who is solely responsible for making all final patient management decisions.

2 Contraindication

There is no known contraindication.

3 Warnings

3.1 General warning

Warning: the software is designed to be used by trained professionals (including physicians, surgeons and technicians) and is intended to assist the clinician who is solely responsible for making all final patient management decisions.

Never use VP Planning iOS without the advice of a trained health professional.

3.2 Warning about secure IT environment

Warning: Visible Patient demands that the application is installed on a secure device, complying with the rules and regulations of your country.

Never use VP Planning iOS on a device that does not comply with the security policy provided with the application. Failure to comply with security measures may lead to a malfunction of the device, loss of data (medical or personal), damage to their integrity, or exposure to security threats from the computer network. **This can therefore cause minor harm to the patient.**

3.3 Warning about access to patient data

Warning: recovering, updating and accessing medical data is done manually by the user. Always make sure you have the latest revision of a case before accessing medical data. Also make sure to consult the data corresponding to the desired patients.

Never use data that has not been updated or that does not correspond to your patient. Such use may cause minor harm to the patient such as increased surgery duration or useless incisions in tissues during surgery because of incorrect information.

3.4 Warning about the display of 3D patient data

Warning: rendering of transparent structures of a 3D model may evolve in case of update of the operating system or software problem.

Always make sure you have an updated version of the application and the operating system. The use of obsolete software versions may cause minor harm to the patient such as increased surgery duration or useless incisions in tissues during surgery because of incorrect information

3.5 Warning about anatomical structure volume

In the VP Planning iOS application, the volume of anatomical structures is available here:

- in the manager of anatomical structures (or « Organ manager »)
- when selecting an anatomical structure via the selection tool (model series)
- when displaying volumes associated to clip applying simulation (clip series)

Warning: these volumes are computed from medical images. Therefore, accuracy of volumes depends on native image quality (voxel size of the image).

For more information, please refer to the selection on vascular and respiratory territory assessment (see 6.7.6).

3.6 Warning about vascular and respiratory territory computation

Warning: visualization of clip data and associated interactions allowing to simulate clip applying rely on the reconstruction of air space and vascular territories. These territories are computed from certain information visible in the medical image. Therefore, this territory reconstruction is an approximation of reality.

4 Technological characteristics

4.1 System requirements and characteristics

The VP Planning iOS application is designed to run on standard commercially available mobile devices (Apple iPhone or iPad) and through the installed operating system (iOS or iPadOS).

4.1.1 Minimum configuration

- Operating system: iOS 11.0
- Storage: 300 Mo
- Memory: 1 Gb RAM
- Internet: high-speed internet connection

4.1.2 Recommended configuration

- Operating system: iOS 13.3 or iPadOS 13.3
- Storage: 1 Go
- Memory: 2 Gb RAM
- Internet: high-speed internet connection

4.2 Application overview

The VP Planning iOS application is composed of modules dedicated to management and analysis of medical data. It offers a flexible visualization solution to help trained health professionals (including physicians, surgeons and technicians) in assessing patient anatomy and pathology in order to plan therapy or surgery. This software provides tools allowing to display 3D models created by Visible Patient. These models can be displayed according to preferences of health professionals thanks to standard visualization options.

4.3 Application modules

The modules of the VP Planning iOS application can be clustered in four categories:

- Data management
- Data display
- Application configuration
- Help and regulatory information

Category	Functionality
Data management	Recovery and display of the list of cases
Data management	Previsualization of a case and series download
Data display	Visualization of a model series

Data display	Visualization of a clip series
Data display	Visualization of a PDF series
Application configuration	User account management
Application configuration	Application settings
Help and regulatory information	Regulatory information
Help and regulatory information	Help
Data management	Visible Patient links

4.3.1 Recovery and display of the list of cases

The aim of this module is to recover and display the list of cases. The list of cases is recovered from Visible Patient's secure servers. Cases are displayed in the form of cells containing patient identification information (name, identifier, group, date and icon). Cells contain also an icon showing the status of the case (new, open, available locally, updated, unavailable).

Triggering a synchronization makes it possible to recover the new cases and modifications available on the server. The date of the last synchronization is displayed at the top of the case view.

Filtering and sorting tools make locating and opening cases easier.

4.3.2 Previsualization of a case and series download

The aim of this module is to display information relating to a case (name, identifier, group, date, icon and summary). It also allows to download and access the various series.

4.3.3 Visualization of a model series

This module allows to display and interact with a model series. Implemented interactions include rotation, translation and zoom.

Various tools (selection, masking, focus) are available in order to interact with the model. It is also possible to change orientation, list anatomical structures, cancel or replay actions, change colors of the scene, disable interactions and make a screenshot of the scene.

A dedicated view listing the various interactions and available tools is accessible in the hamburger button of the view.

4.3.4 Visualization of a clip series

This module allows to display and interact with clip data. Implemented interactions are the same as in model data visualization.

Beside masking and focus tools which are common to model data visualization, the module includes a tool to simulate clip applying. By tapping a network section of the target organ, it is possible to display and select a simulation of the vascular or respiratory segments supplied by this section. It is possible to deselect a segment by tapping it.

A dedicated view allows to display simulated volumes of resected and remaining parts corresponding to the selection of anatomical segments.

The other tools allowing to control the scene are common to model data visualization.

4.3.5 Visualization of a PDF series

This module allows to display PDF data (modelling report) and to interact conventionally with it (scrolling and zoom).

4.3.6 User account management

This module allows to manage Visible Patient accounts registered in the application. It allows to register new accounts and to select an active account (account for which cases are displayed in the list of cases).

The module also allows to delete data associated to an account.

4.3.7 Application settings

This module allows to access and modify application settings. Moreover, it allows to access the application log and to delete downloaded data.

4.3.8 Regulatory information

This module allows to display all regulatory information (marking, contact, indications for use, approvals, security policy and information on Visible Patient).

4.3.9 Help

This module allows to display information relating to the instruction manual.

4.3.10 Visible Patient links

This module allows to open Visible Patient links within the application. There are two types of links:

- Links allowing to access a case
- Links allowing to facilitate account registration thanks to a prefilling system of the form.

5 Installation instructions

The VP Planning iOS application is installed via the [App Store](#) application available on iOS and iPadOS.

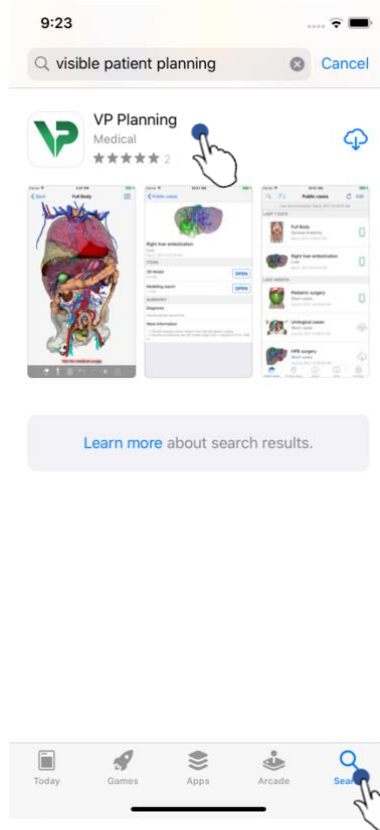


Figure 1: Searching for the application

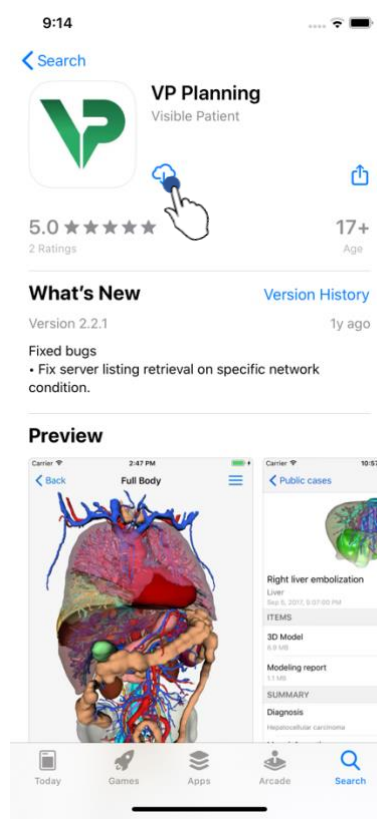


Figure 2: Application download

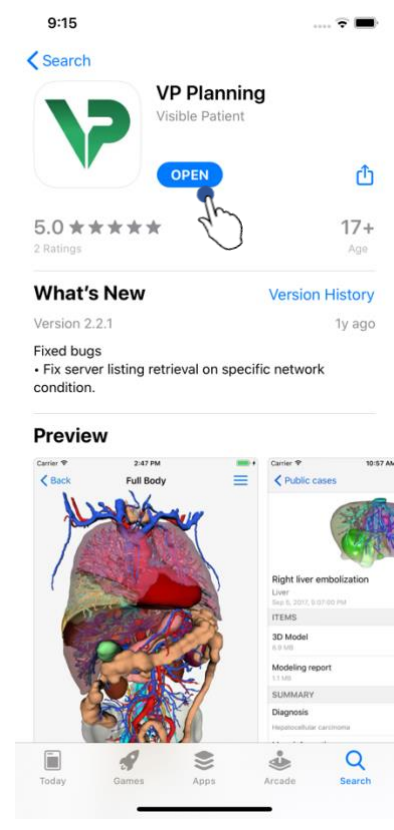


Figure 3: Open the application

Once the App Store application is open, search for the “VP Planning” application and open the application view (Figure 1). Then, tap the download icon (Figure 2) and wait for the application to be recovered. Once downloaded, tap the button allowing to open the application (Figure 3).

6 Instructions for use

6.1 How to register a Visible Patient account

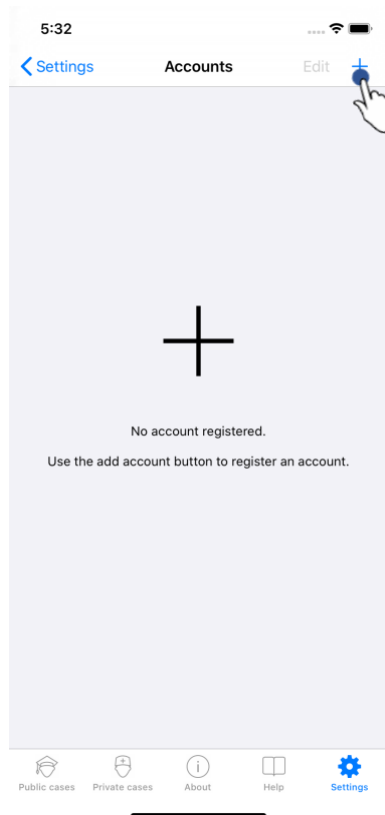


Figure 4: List of accounts (empty)

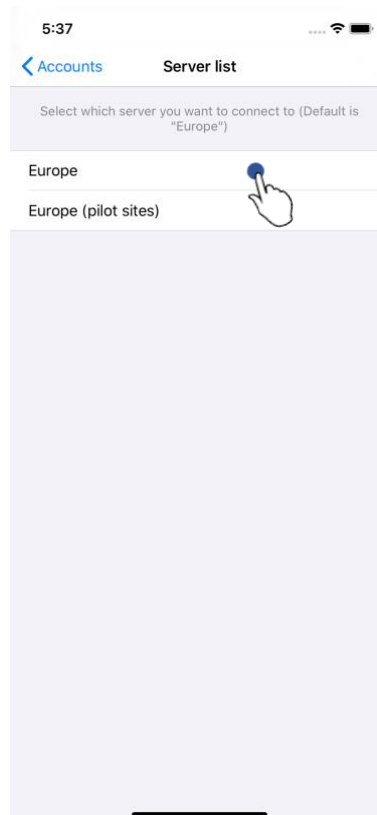


Figure 5: List of servers

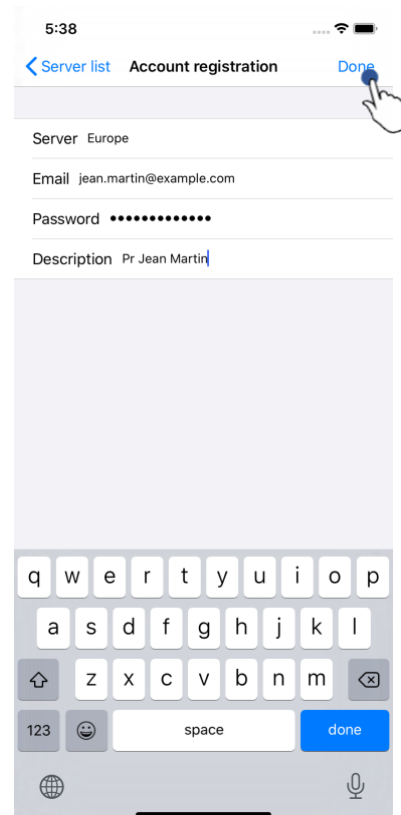


Figure 6: Account registration

To register a Visible Patient account within the application, go to the **Configuration – Account** view. Once on the account view, tap the action allowing to add an account (Figure 4). This action will launch the display of the list of servers. Select the server on which you have an account (Figure 5). After filling in the requested fields (Email, Password and Description), tap the registration action (Figure 6) to validate the action.

6.2 How to recover and display your list of cases

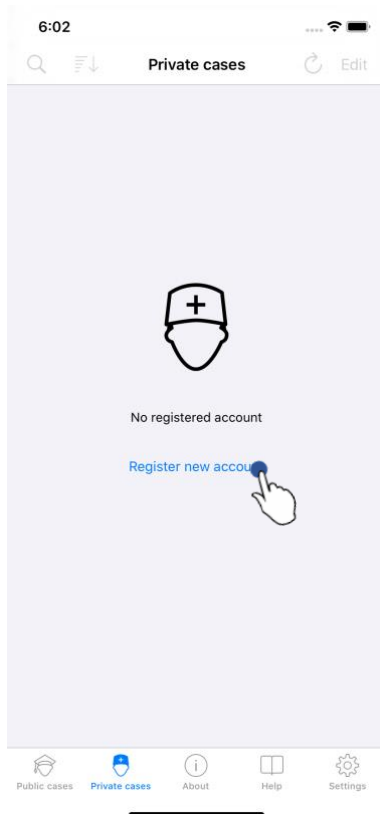


Figure 7: No registered account

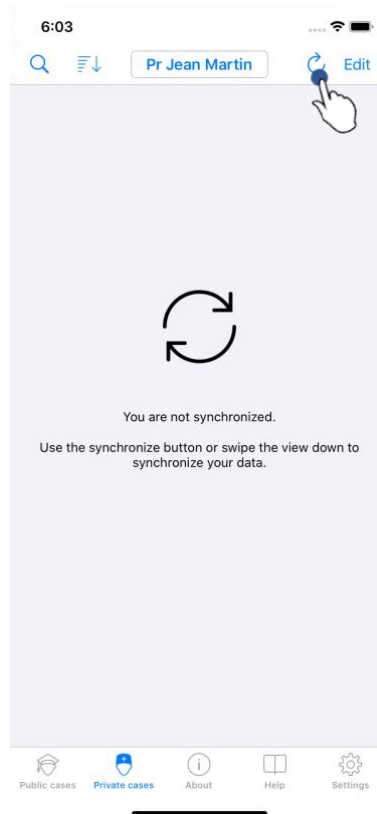


Figure 8: No synchronization

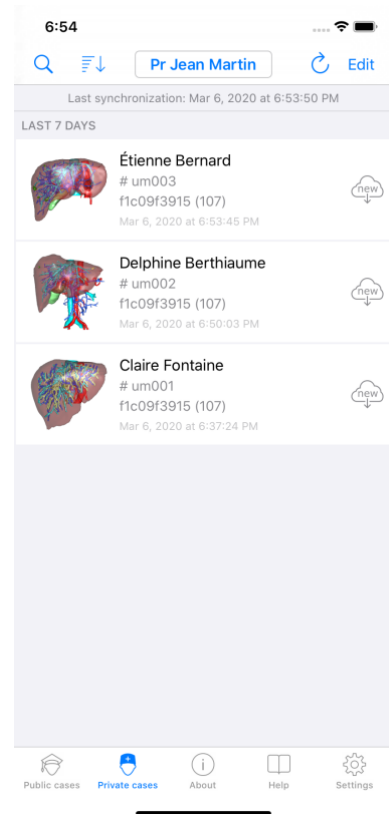


Figure 9: Synchronized view

To recover and display your list of cases, go to the **Private cases** view (Figure 7). After registering your account (see 6.1), the view is in a non-synchronized state (Figure 8). Execute a synchronization by using the dedicated button or dragging the view down. The updated list of cases is then displayed and the synchronization date is updated at the top of the view (Figure 9).

6.3 How to filter and sort your list of cases

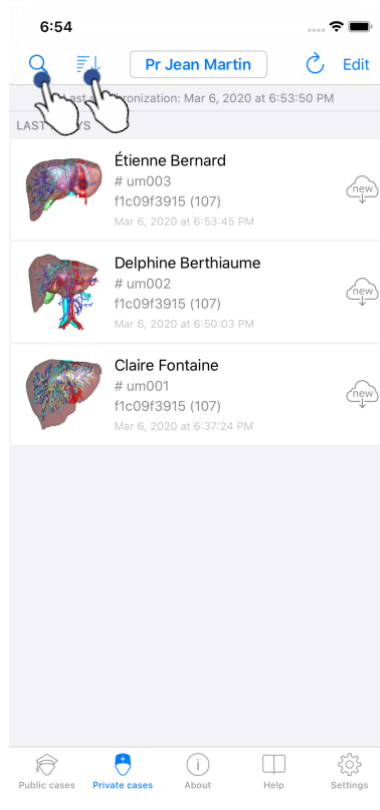


Figure 10: Filtering and sorting activation

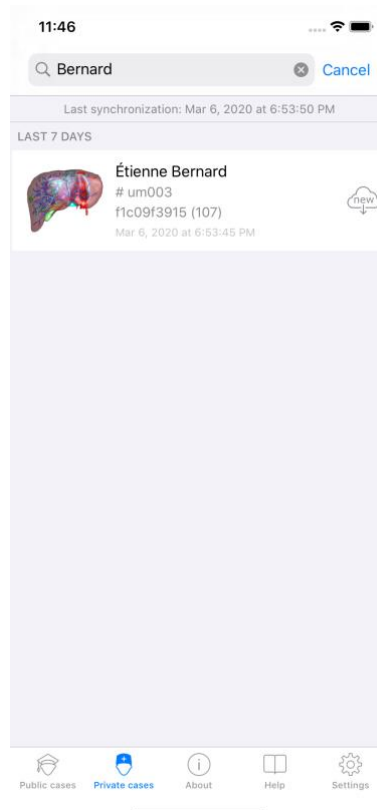


Figure 11: Filtering cases

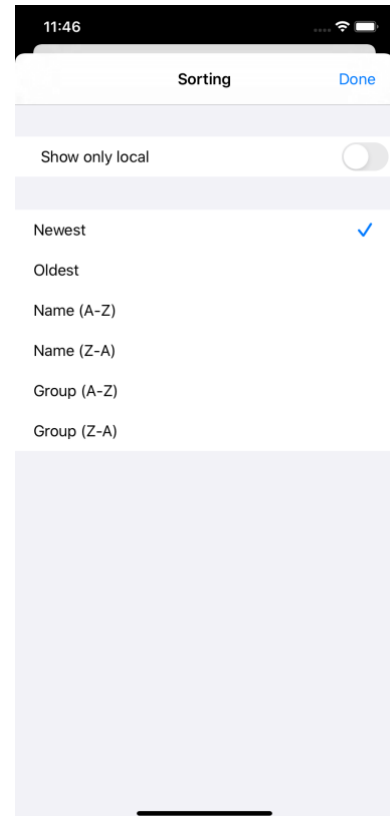


Figure 12: Sorting cases

To activate the filtering of cases, tap the filtering tool (magnifying glass) located at the top of the list of cases (Figure 10). A search field to apply a filter to the list of local cases is then displayed in the navigation bar (Figure 11).

To modify the sorting of cases, tap the sorting tool located at the top of the list of cases (Figure 10). The sorting selection view is then displayed. To modify the selected sorting, tap the sorting name you want to apply (Figure 12). An option allowing to list only cases containing downloaded series is also available at the top of the view.

6.4 How to access data of a case

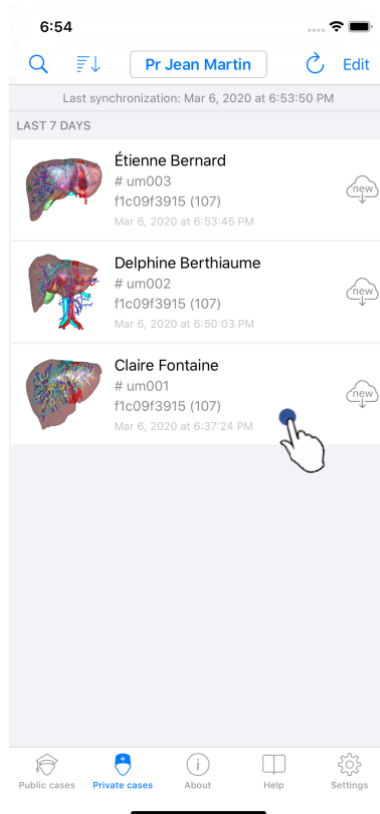


Figure 13: Case selection

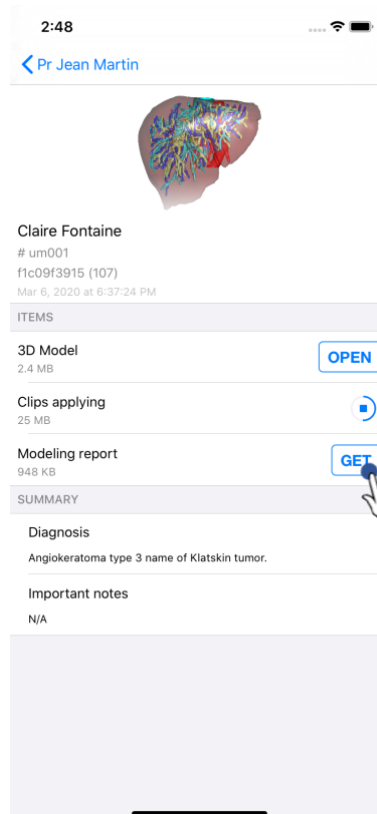


Figure 14: Series download

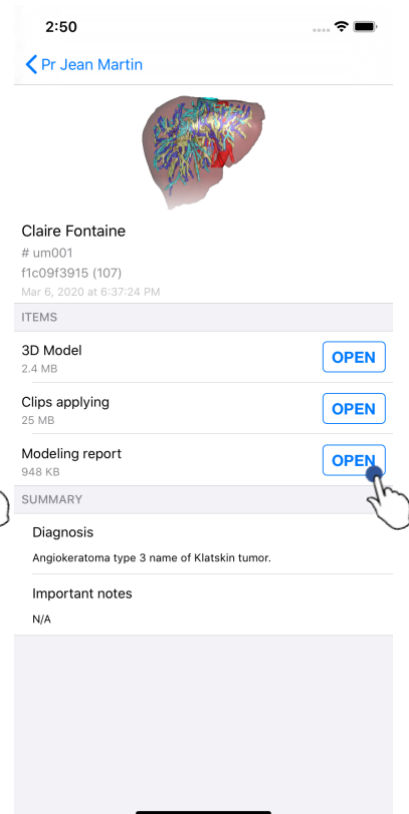


Figure 15: Opening a series

To access data of a case, select the desired case in the list of available cases (Figure 13). When on the previsualization view of the case (Figure 14), download the series by tapping the **Get** button. Once the data has been downloaded, you can access it by tapping the **Open** button (Figure 15).

6.5 How to visualize a model series

6.5.1 Opening a model series

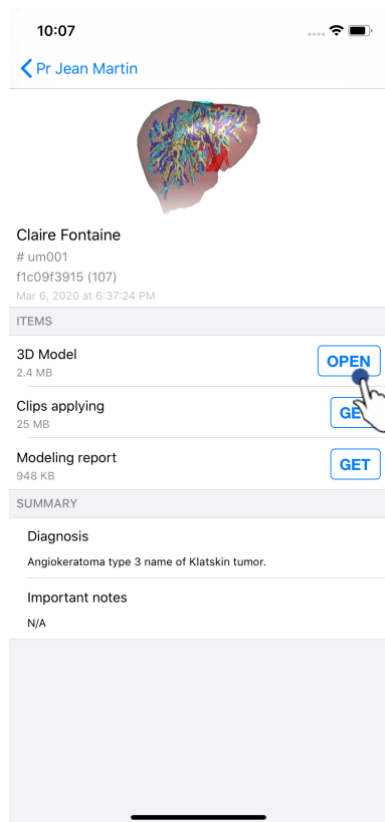


Figure 16: Opening a model series

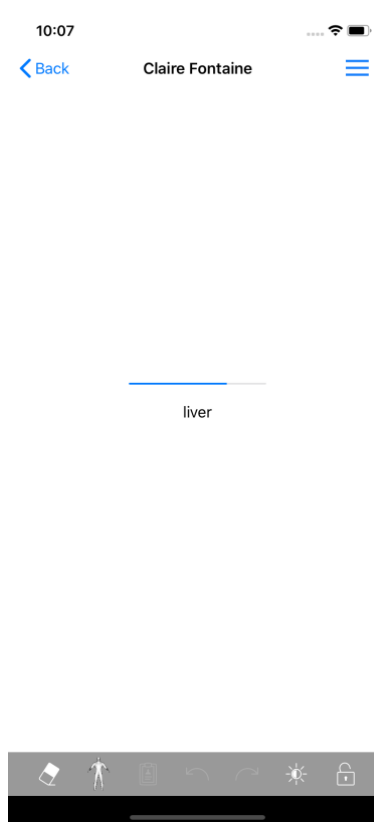


Figure 17: Loading of a model series

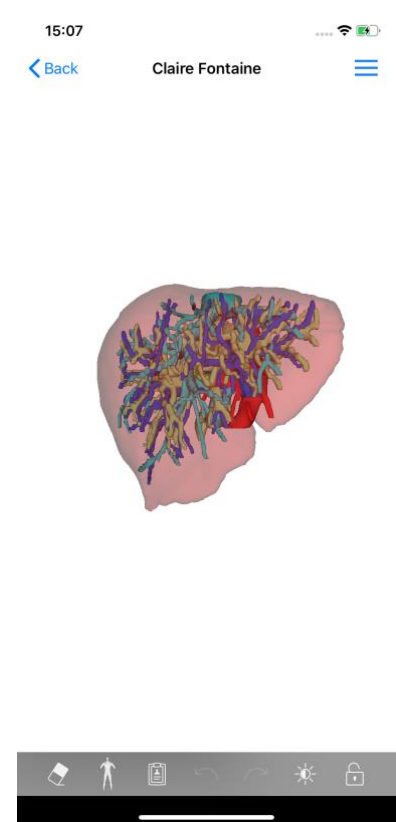
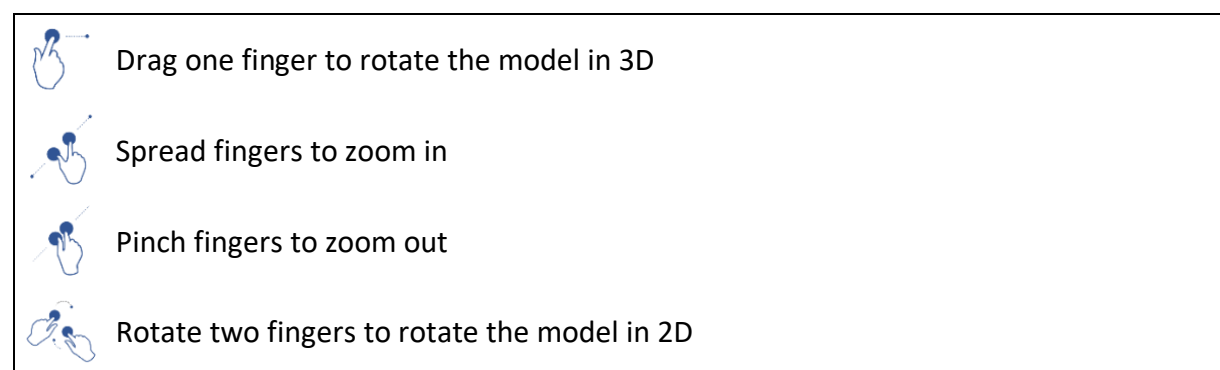


Figure 18: Display of a model series

When the data has been downloaded (see 6.4), tap the **Open** button corresponding to the model series (Figure 16). A progress bar allows to see the progress of data loading (Figure 17). When the data has been loaded, the 3D model is displayed (Figure 18).

6.5.2 Basic interactions

When the model series has been loaded, various basic interactions are available in order to interact with the model:



6.5.3 Tools

The toolbar at the bottom of the view offers a set of actions. By tapping the selected tool (Figure 19), the list of available tools is displayed. By selecting the desired tool in that list, the selected tool becomes active. Interactions with the model are then expanded:

**Selection tool**

Use the selection tool to display information about this anatomical structure



Tap an anatomical structure to retrieve its name and volume



Tap the background of the view to unselect the anatomical structure

**Hiding tool**

Use the masking tool to modify opacity of an anatomical structure



Tap an anatomical structure to hide it



Double tap an anatomical structure to change its opacity

**Focusing tool**

Use the focusing tool to focus on a specific element in the scene



Tap an anatomical structure to focus on a point in the scene



Double tap an anatomical structure to focus on the structure

6.5.4 Other actions

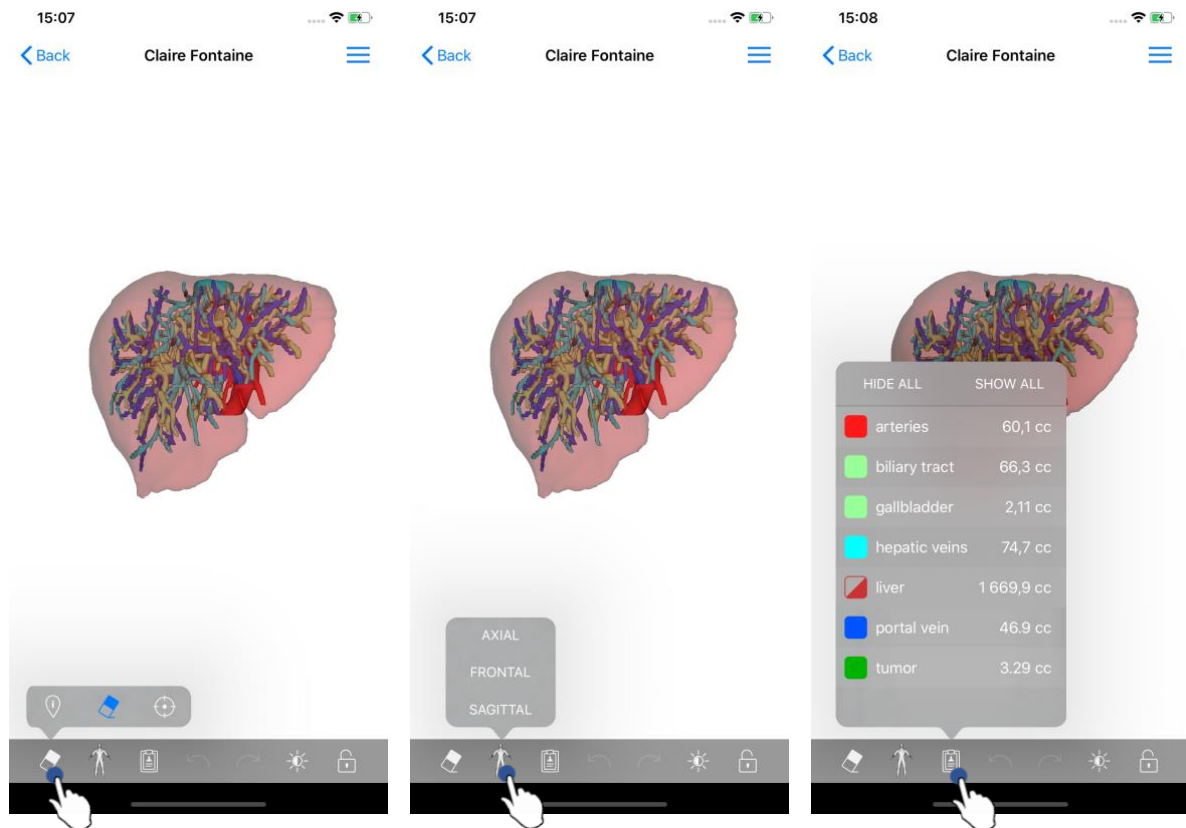


Figure 19: Selection of the visualization tool of the model

Figure 20: Selection of model orientation

Figure 21: Display of anatomical structures of the model

By tapping the marker showing model orientation (Figure 20), it is possible to select in which orientation to display the model (axial, frontal or sagittal).

By tapping the structure management tool (Figure 21), the list of anatomical structures is displayed. This list includes names, colors, opacity and volumes of structures displayed in the scene. By tapping the name of a structure, its opacity is modified. Buttons allowing to display or mask the entire structures are also located at the top of the list.

Buttons (arrows) to cancel and restore an action are also available. The impacted actions only concern the selection and change of structure opacity.

The next button (contrast) allows to modify the background color of the scene.

The last button (padlock) freezes interactions with the scene.

Finally, the hamburger button located in the top right hand corner of the view allows to make a screenshot of the scene and to display a tutorial containing the list of available interactions.

6.6 How to visualize a PDF series

6.6.1 Opening a PDF series

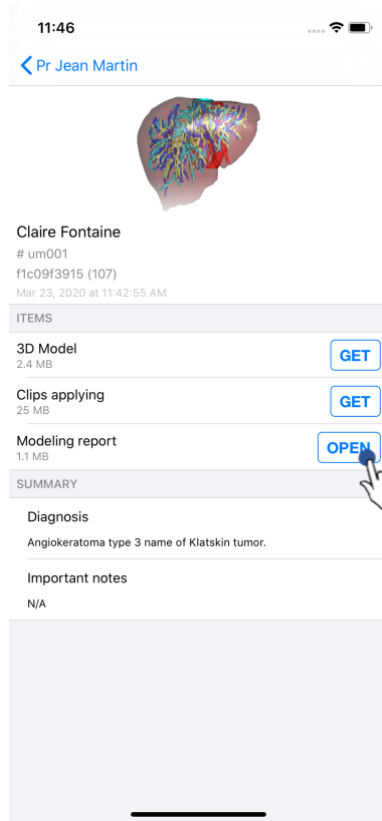


Figure 22: Opening of a PDF series

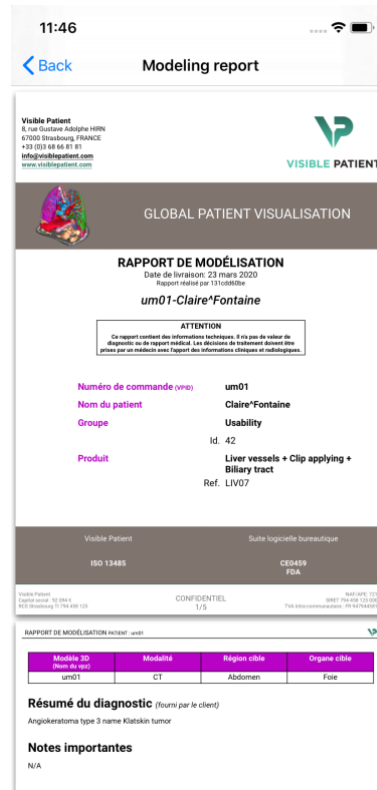


Figure 23: Display of a PDF series

When the data has been downloaded (see 6.4), tap the **Open** button corresponding to the PDF series (Figure 22). When the data has been downloaded, the PDF is displayed (Figure 23).

6.6.2 Basic interactions

It is possible to interact with PDF data as follows:

- Swipe vertically to scroll the document
- Spread or pinch two fingers to control the zoom of the document
- Swipe two fingers in the same direction to move the document

6.7 How to visualize a clip series

6.7.1 Opening a clip series

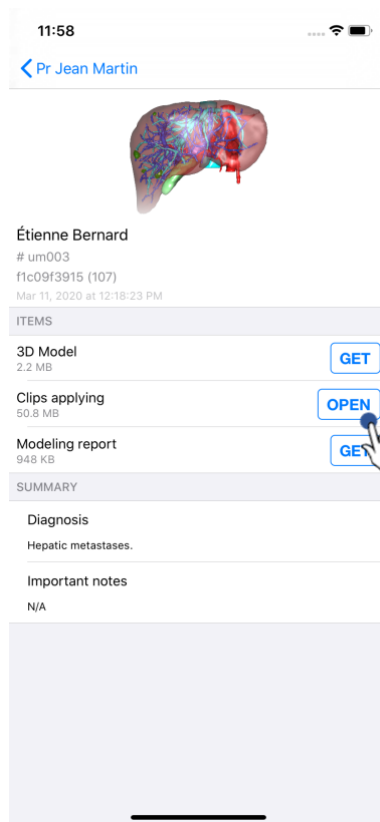


Figure 24: Opening clip data

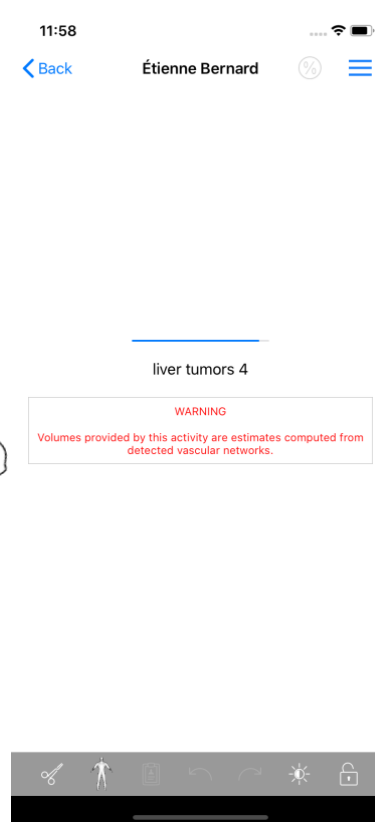


Figure 25: Loading clip data

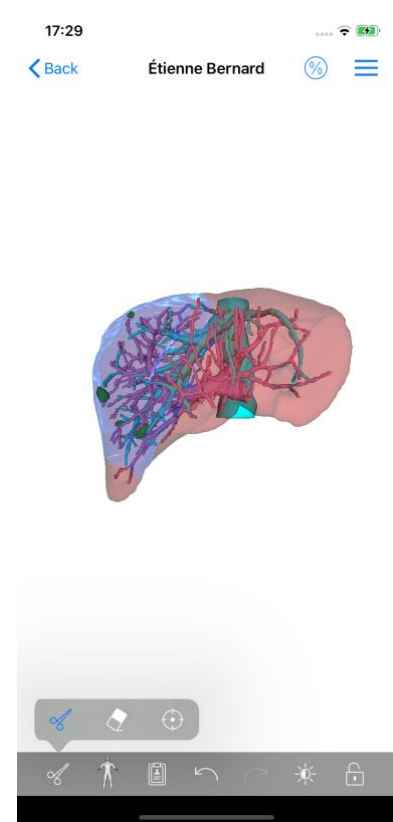


Figure 26: Displaying clip data

When the data has been downloaded (see 6.4), tap the **Open** button corresponding to the clip series (Figure 24). A progress bar allows to see the progress of data loading (Figure 25). When the data has been loaded, the 3D model is displayed (Figure 26).

6.7.2 Basic interactions

When the clip series has been loaded, the same basic interactions as for the model series are available (see 6.5.2).

6.7.3 Tools

Beside masking and focus tools (see 6.5.2), the clipping tool is available:

Clipping tool

Use the clipping tool to select resected segments

Tap the organ's network at a given point to select the associated segment

Tap a segment to deselect it



Hold the background of the scene to reset the segment selection

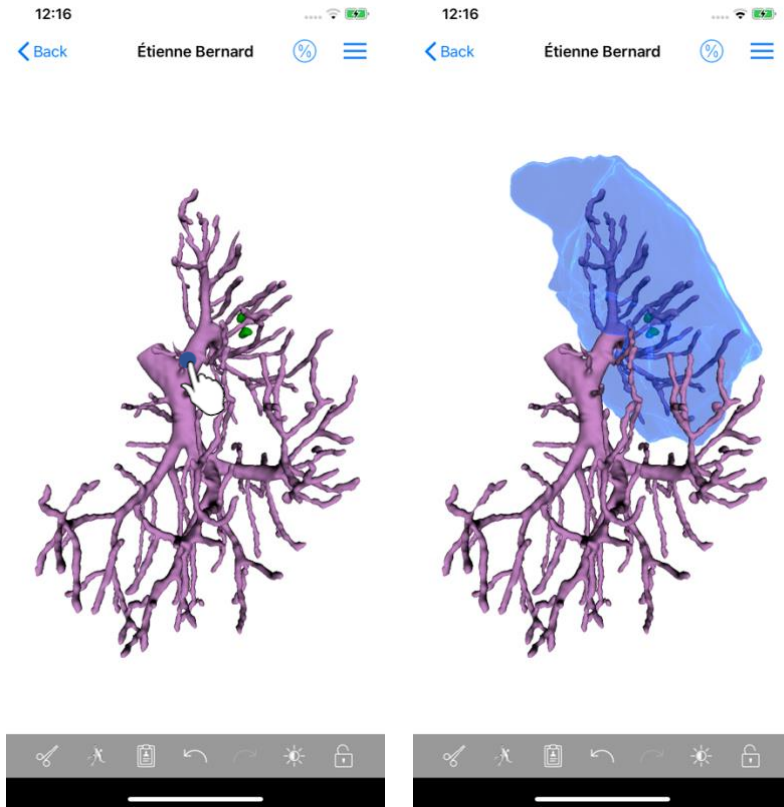


Figure 27: Segment selection

Figure 28: Display of the selected segment

Segment selection is done by tapping the network of the target organ where you want to apply a virtual clip (Figure 27). Vascular or respiratory territory corresponding to the selected section is then displayed (Figure 28). To deselect a segment, just tap on it. To reset the selection of segments, long press on the background of the scene.

6.7.4 Display of resection volumes

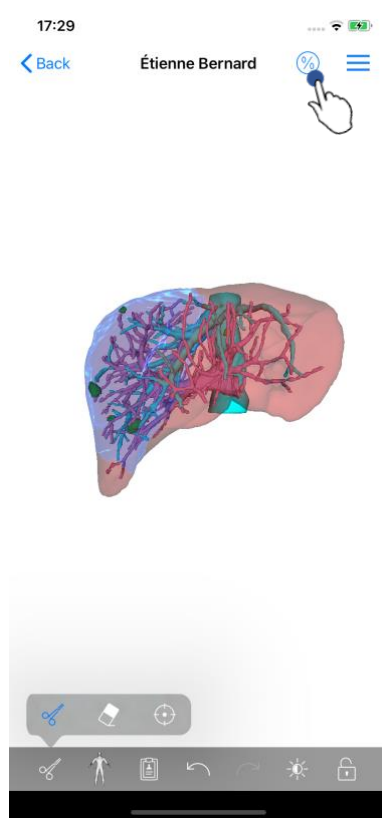


Figure 29: Display of a clip series

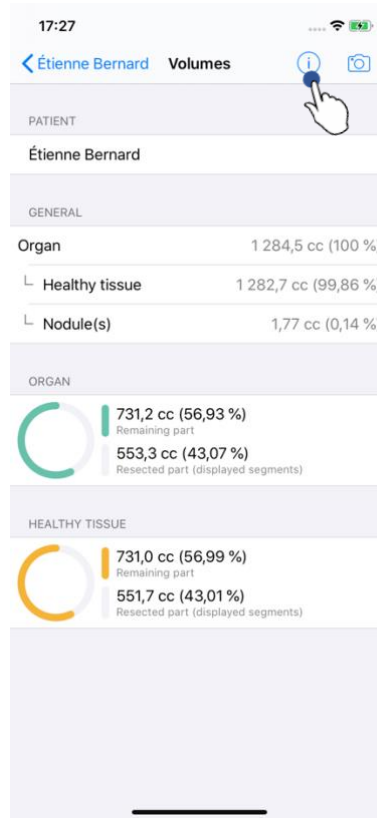


Figure 30: Display of volumes linked to clip data

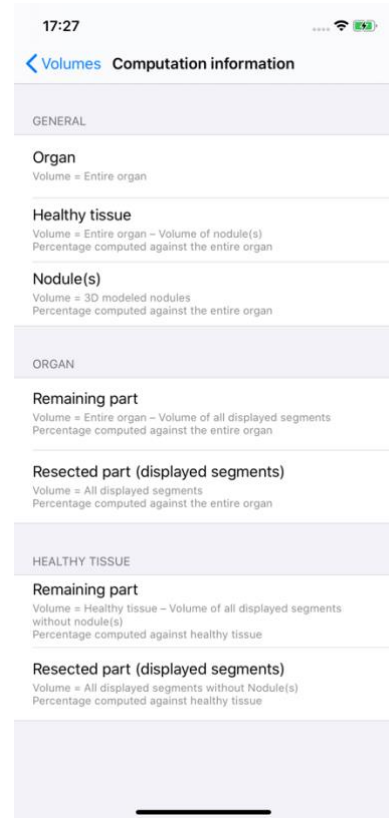


Figure 31: Display of volume computation of clip data

When segments have been selected for resection, the volume display icon (Figure 29) allows to display the view of volumes computed following resection simulation (Figure 30). Information on volume computation (Figure 31) is available by tapping the information button (Figure 30).

There is also a button to capture the volume view in the top right hand corner of the view (Figure 30).

6.7.5 Resection volume computation

Volumes displayed in the General section are computed as follows:

- **Organ**
 - Volume = entire organ
- **Healthy tissue**
 - Volume = entire organ – Nodule volume
 - Percentage computed based on the entire organ
- **Nodule(s)**
 - Volume = Nodule(s) modelled in 3D
 - Percentage computed based on the entire organ

The volumes displayed in the **Organ** section are computed as follows:

- **Remaining part**
 - Volume = entire organ – Volume of all visible segments
 - Percentage computed based on the entire organ
- **Resected part (visible segments)**
 - Volume = All visible segments
 - Percentage computed based on the entire organ

The volumes displayed in the Healthy tissue section are computed as follows:

- **Remaining part**
 - Volume = Healthy tissue – Volume of all visible segments without Nodule(s)
 - Percentage computed based on healthy tissues
- **Resected part (visible segments)**
 - Volume = All visible segments inside the Nodule(s)
 - Percentage computed based on healthy tissues

6.7.6 Estimate of vascular and respiratory territories

The computation of vascular territories corresponding to displayed segments is done upstream by the Visible Patient Suite medical device. The VP Planning iOS application uses the estimate of vascular and respiratory territories in order to compute the remaining and resected parts of an organ (see 6.7.5).

Vascular and respiratory territories proposed within clip data are an approximation of real patient anatomy. The method used to estimate these territories relies on organ vascularization or respiratory system of the organ and the accuracy of the method directly depends on segmentation quality of the tree. Territory estimate stems from following process.

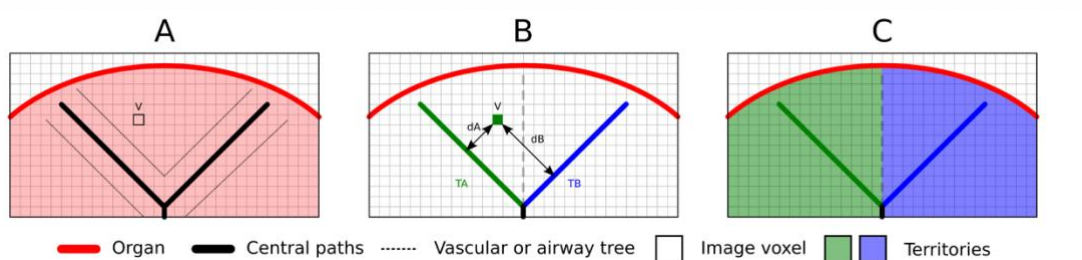


Figure 32: Territory identification process

First, segmentation of the vascular or respiratory system is used to compute central tubular paths (A). Then, these central paths, which represent the tubular structure, are labelled by trained health professionals in order to associate each path to the territory of an organ. For each voxel of the targeted anatomical structure, the method then finds the closest central path and associates the same organ territory (B). Finally, the result of the labelled image is meshed to obtain all territory estimates.

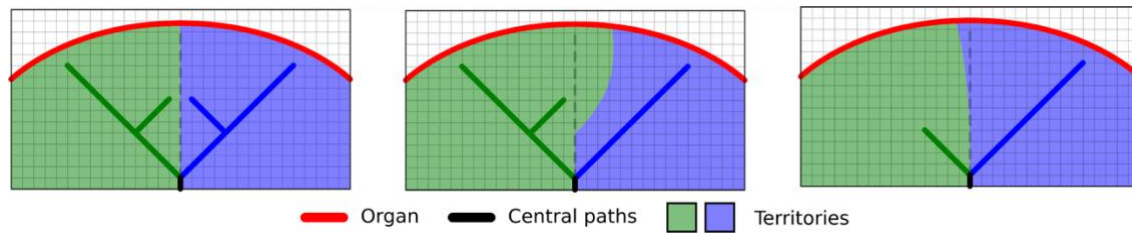


Figure 33: Territory variation depending on central paths of the target organ

Accuracy of the method directly depends on segmentation quality of the vascular or respiratory system. Image resolution, contrast agent diffusion in the vascular system of the organ during image acquisition, etc. can have an impact on territory estimate.

6.7.7 Other actions

The same actions as for visualization of a model series are also available (see 6.5.4).

6.8 How to update a case

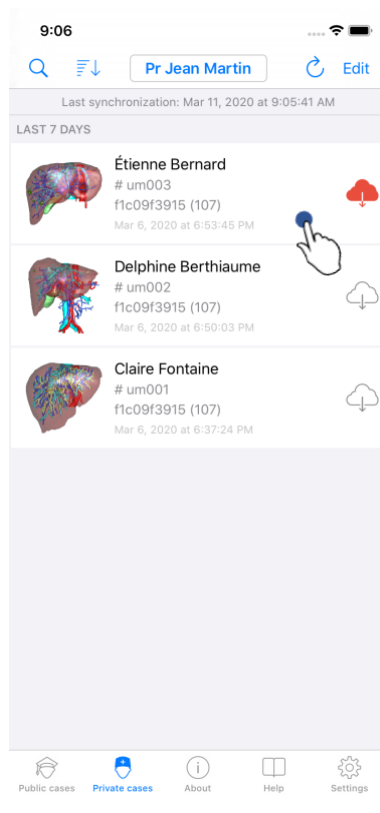


Figure 34: Icon of a case proposing an update

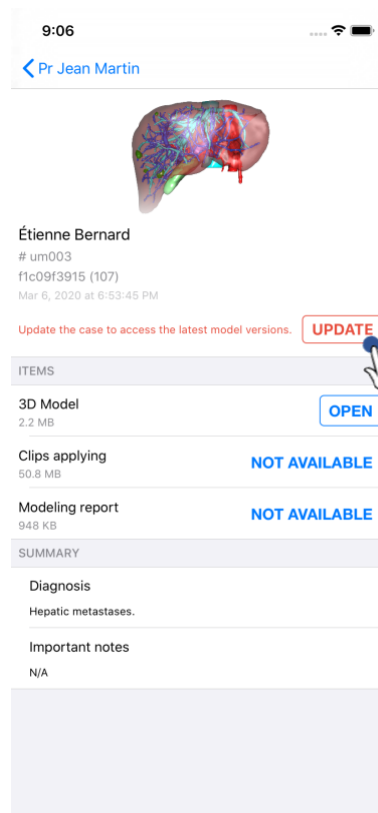


Figure 35: Update of a case

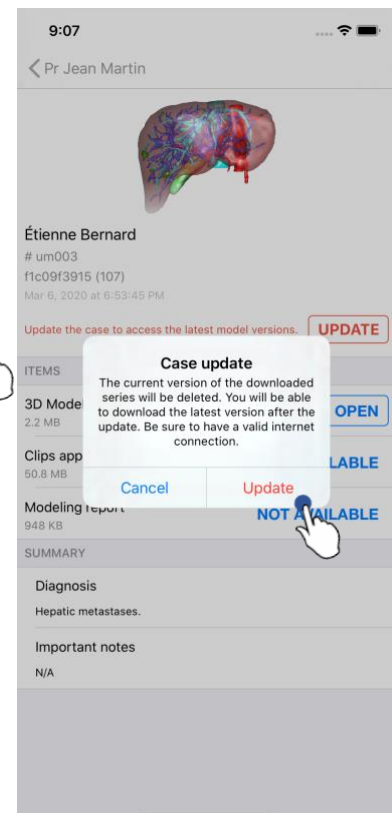


Figure 36: Validation of the update

Cases containing no downloaded series are automatically updated upon synchronization. For cases proposing an update and containing series downloaded on a previous revision, the status icon is updated (Figure 34). In order to update the case, you have to tap the **update** button (Figure 35). When the action has been validated (Figure 36), the case is updated.

Important: updating a case deletes the series downloaded on the previous revision of the case.

6.9 How to delete downloaded series

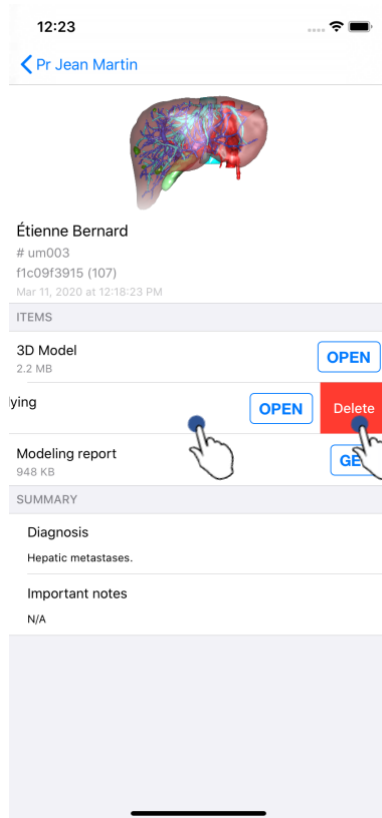


Figure 37: Deleting a downloaded series

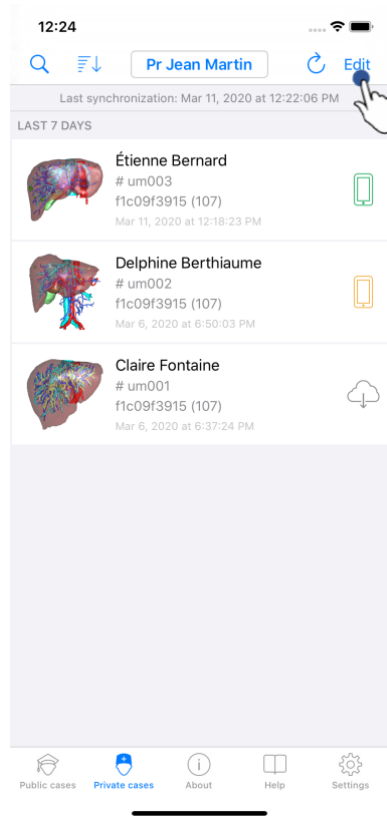


Figure 38: Activating selection mode of cases

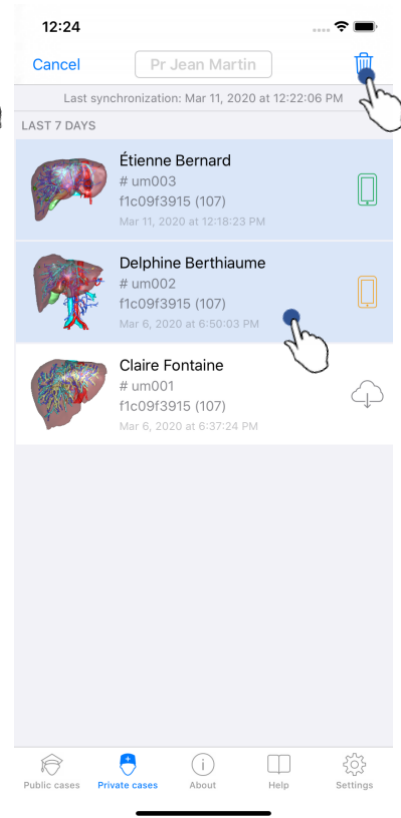


Figure 39: Selecting and deleting downloaded cases

In order to delete downloaded series, several options are possible.

First, it is possible to delete a downloaded series by dragging the data presentation cell towards the left (Figure 37). You then just have to tap the **delete** action on the right of the cell.

The second option allowing to delete downloaded series consists in activating the edit mode of the list of cases (Figure 38). When activated, select cases of which you want to delete series and validate deletion with the button in the top right hand corner of the view (Figure 39).

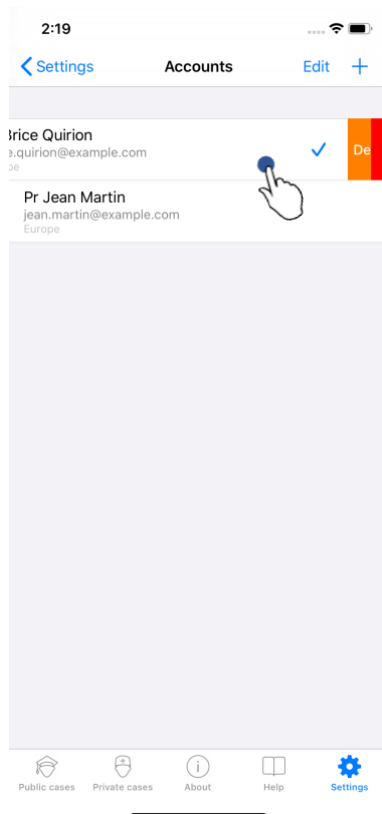


Figure 40: Display of deletion options of an account

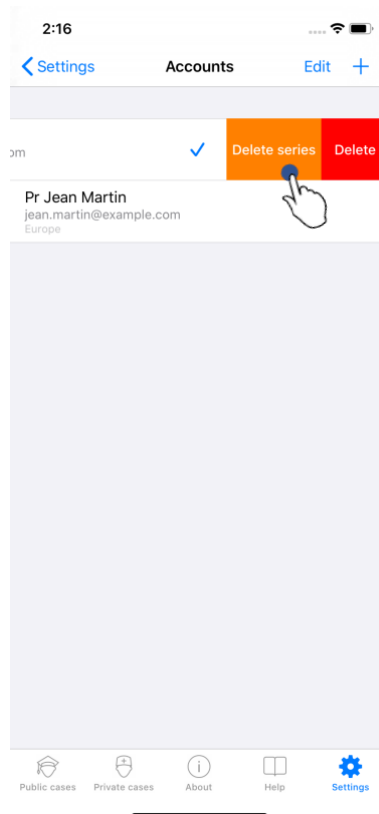


Figure 41: Deletion of downloaded series linked to an account

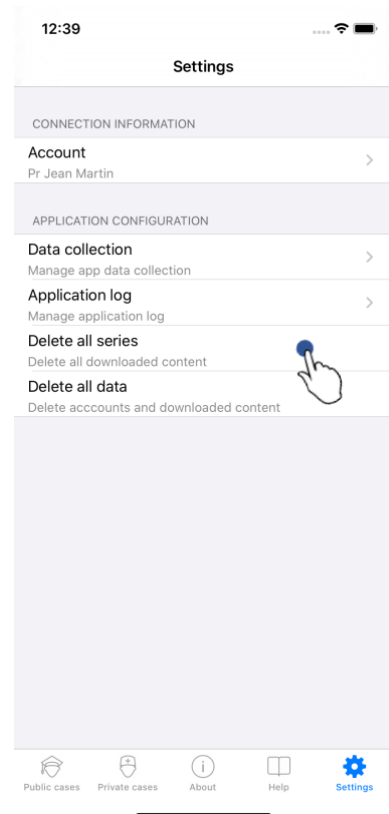


Figure 42: Deletion of all downloaded series

It is also possible to delete all series linked to an account. To do so, go to the list of available accounts and drag the account presentation cell towards the left (Figure 40). You then just have to tap the **delete series** action (Figure 41) and confirm deletion when the confirmation message is displayed.

Finally, it is possible to delete all the downloaded series. To do so, tap **delete all series** action located in the application settings (Figure 42).

6.10 How to delete registered accounts

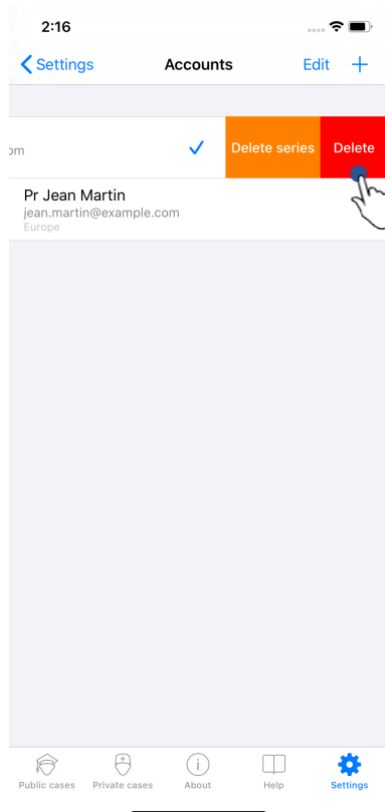


Figure 43: Delete an account

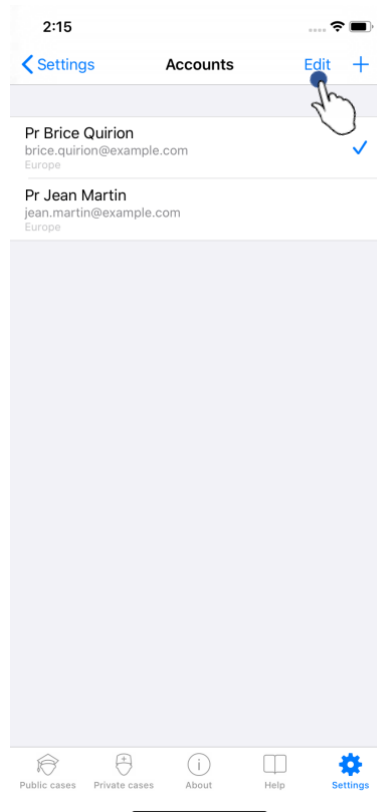


Figure 44: Activate account selection mode



Figure 45: Select and delete accounts

Various functionalities allow to delete an account.

First, a unique account can be deleted through the list of available accounts, dragging the account presentation cell towards the left (Figure 43). You then just have to tap the **delete** action and confirm deletion when the confirmation message is displayed.

The second option allowing to delete accounts consists in activating the edit mode of the list of accounts (Figure 44). When activated, select accounts you want to delete and validate deletion with the button in the top right hand corner of the view (Figure 45).

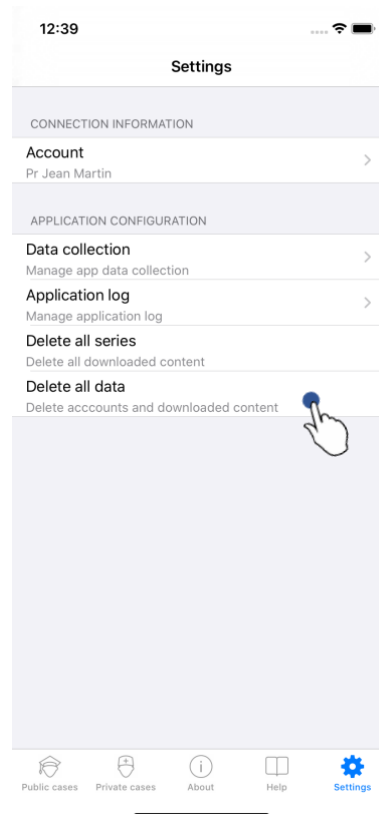


Figure 46: Delete all data from the application

Finally, it is possible to delete all accounts and their associated data. To do so, tap **delete all data** action in the application settings view (Figure 46).

6.11 How to access application parameters

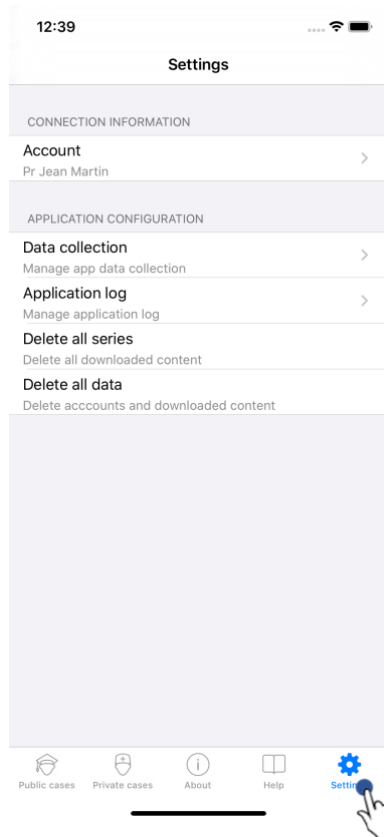


Figure 47: Settings view

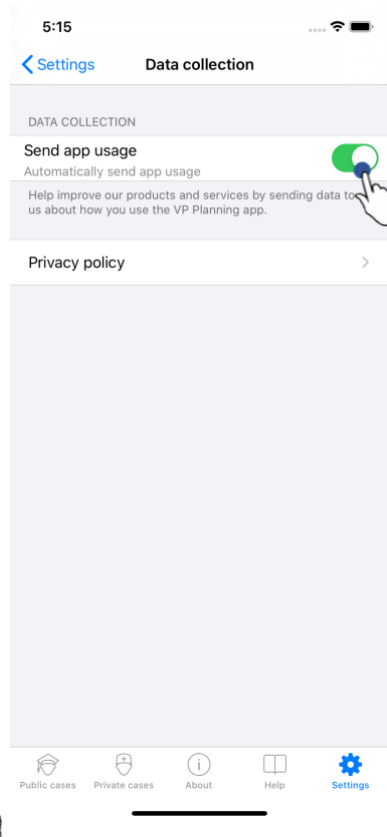


Figure 48: Data collection view

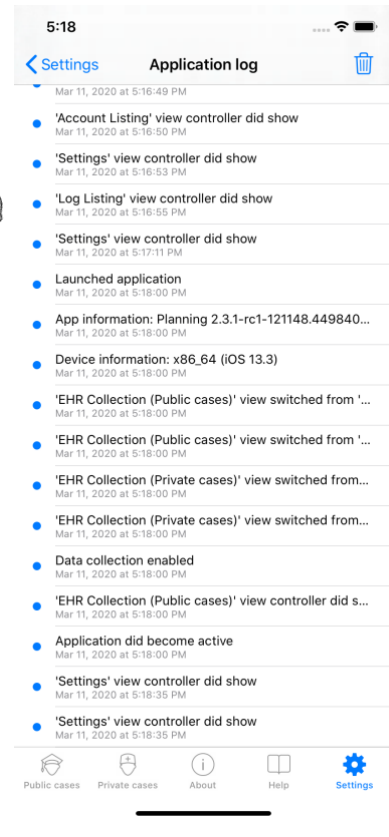


Figure 49: Application log view

The **Settings** view is accessible in the main menu bar of the application (Figure 47). The view allows in particular to access the account management view and to delete all downloaded series and registered accounts.

The view also allows to access the control view of data collection. By agreeing that Visible Patient collects usage data, you allow the application to be improved.

Finally, the view provides access to the log listing the various actions executed by the application. The log can be emptied by tapping the basket button in the top right hand corner of the view.

6.12 How to access regulatory information

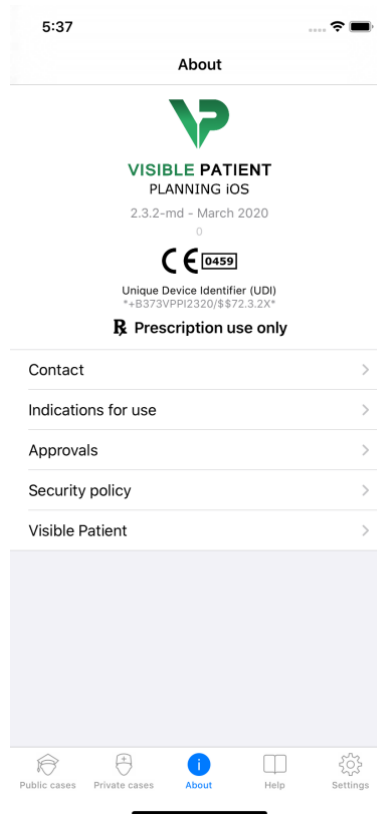


Figure 50: View about the application

Regulatory information is available in the **About** view of the application accessible in the main menu bar (Figure 50). Beside information on version and certification, the view provides access to a set of sub-views containing:

- Visible Patient contact information
- Indications for use of the application
- Information on application approvals
- Recommended security policy
- General information on Visible Patient

6.13 How to access help information

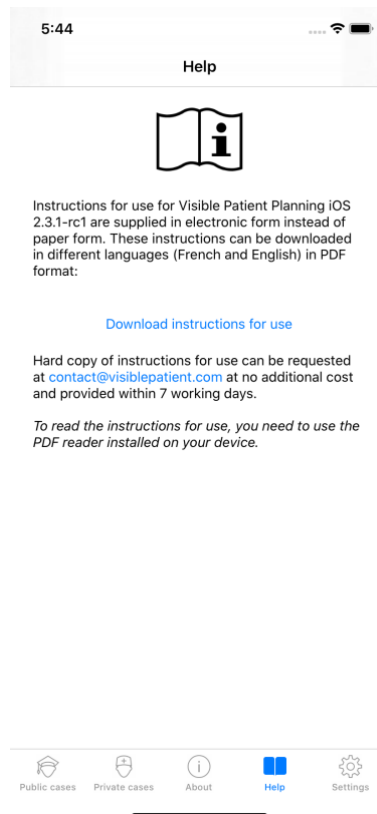


Figure 51: Help view

Information regarding access to the user manual is available in the **Help** view of the application accessible in the main menu bar (Figure 51).

6.14 How to open a Visible Patient link

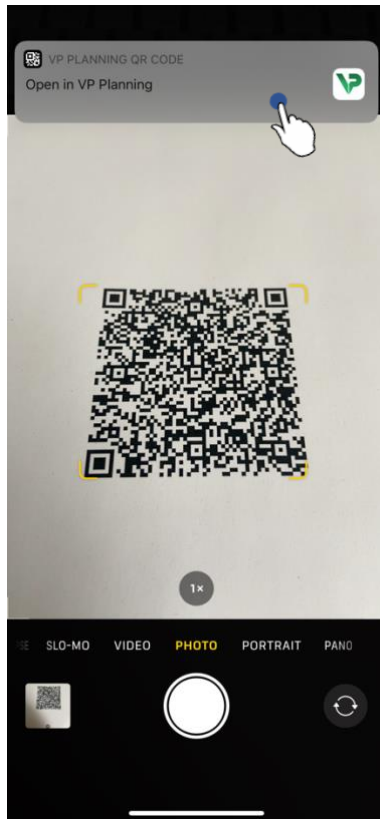


Figure 52: QR code scan

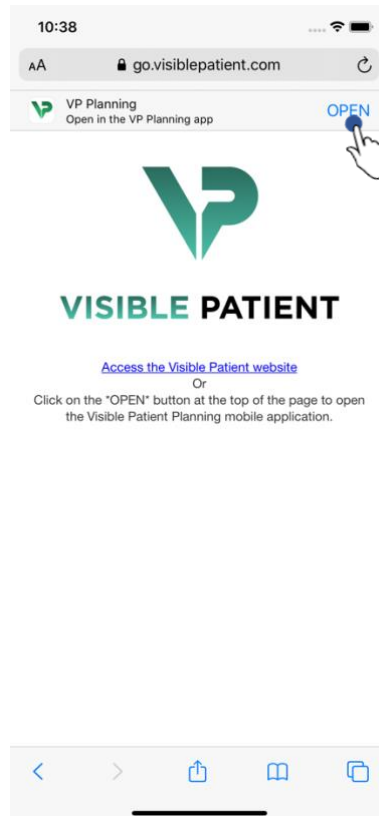


Figure 53: Opening a link via Safari

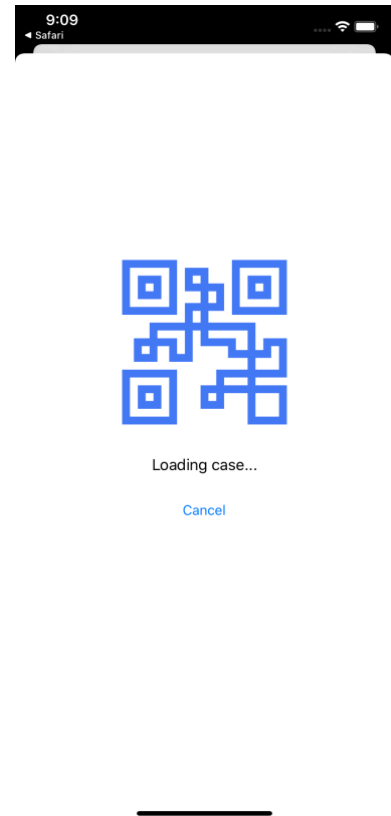


Figure 54: Loading screen of the link

Some links provided by Visible Patient can be opened within the application. There are two kinds of links:

- Links allowing to access a case
- Links allowing to prefill registration information of accounts

To access a link, flash the QR code provided by Visible Patient by using the device of your phone (Figure 52) or use Safari to open the communicated link (Figure 53) using the **Open** button at the top of the page (Figure 53). After the loading screen (Figure 54), you can access the account registration view or the desired case.

Warning: to access a private case via a link, you first have to register your account in the application. Your password will be requested to recover the case if it has not yet been recovered during manual synchronization. In case several accounts are registered in the application, you will have to select the account allowing to access the case.

7 Maintenance

No maintenance is required for the VP Planning iOS application. Updates are provided via the App Store.

7.1 Application update

Under iOS 13 and iPadOS 13, the VP Planning iOS application is automatically updated by default. You will receive no notification about application update. It is however also possible to generate the update manually by visiting the [VP Planning iOS](#) application page on the App Store and by tapping the download button.

8 Problem solving

8.1 General problems

8.1.1 I cannot register my account

This section contains the various errors that can be encountered during account registration in the application.

8.1.1.1 Technical problem during the display of the server list

Message: A technical issue prevents the connection to the server. Please try again later.

Resolution: A problem on Visible Patient servers prevents from connecting. Please try again in a few moments. If the problem persists, please contact the Visible Patient support.

8.1.1.2 No internet connection

Message: No internet connection available.

Resolution: Make sure you have an internet connection (Wifi or LTE) and that the Airplane mode of the device is not activated.

8.1.1.3 Incorrect identifiers

Message: Invalid credentials, please check your login and password.

Resolution: Make sure you have entered the right email and password on the right server. If the problem persists, please contact the Visible Patient support.

8.1.1.4 Account already registered

Message: Account already registered, this account has already been registered.

Resolution: The account you want to register has already been registered in the application. You cannot register the same account several times on the same device.

8.1.1.5 *Description already used*

Message: Description already used. The account description must be unique to identify it. Please provide another one.

Resolution: The description entered to identify the account is already used by another account. Please enter another one.

8.1.2 *I am unable to recover my list of cases*

This section contains the various errors that can be encountered during recovery of the list of cases (synchronization).

8.1.2.1 *No internet connection*

Message: No internet connection available.

Resolution: Make sure you have an internet connection (Wifi or LTE) and that the Airplane mode of the device is not activated.

8.1.2.2 *Data not found*

Message: Resource not found. A technical issue prevents to recover data from the server. If the problem persists, please contact the Visible Patient support.

Resolution: A problem on Visible Patient servers prevents data recovery. Please try the action again. If the problem persists, please contact the Visible Patient support.

8.1.2.3 *Insufficient storage space*

Message: Insufficient storage. Please free some space on your device to perform this action.

Resolution: Your device does not have sufficient storage space to perform this action. Please free some space on your device and try the action again.

8.1.3 *I am unable to download the series associated to cases*

This section contains the various errors that can be encountered during series download. Errors described during recovery of a list of cases can also be encountered (see 8.1.2).

8.1.3.1 *Corrupted downloaded data*

Message: Download failed. Downloaded data is corrupted. Please try to download the series again.

Resolution: Data has been corrupted during data download. Please download data again. If the problem persists, please contact the Visible Patient support.

8.1.4 I am unable to open a series

This section contains the various errors that can be encountered during opening of a series.

8.1.4.1 *Corrupted stored data*

Message: Opening failed. Data stored on device is corrupted. Please delete and download the series again.

Resolution: Data of the series has been corrupted on the device. Please download data again.

8.1.4.2 *Insufficient memory to open a clip series*

Message: Insufficient memory. Impossible to load Clip Applying for this model. For more information, please check system requirements.

Resolution: The clip series you are trying to open needs more memory to load than the memory your device features. This problem may occur on devices that do only have 1GB RAM. To access the data, please use a more recent device featuring at least 2 GB RAM.

8.1.5 I am unable to open a Visible Patient link

This section contains the various errors that can be encountered during opening of a Visible Patient link.

8.1.5.1 *No internet connection*

Message: No internet connection available.

Resolution: Make sure you have an internet connection (Wifi or LTE) and that the Airplane mode of the device is not activated.

8.1.5.2 *Account required*

Message: Account required. Please register your account into the application to access this case.

Resolution: Make sure you have registered your Visible Patient account in the application before opening that link.

8.1.5.3 *Case not available*

Message: Unavailable case. This case is not available.

Resolution: The case is not available on the server. Please contact the Visible Patient support.

8.1.5.4 *Unauthorized access*

Message: Unauthorized access. You are not authorized to display this case. Make sure the correct account is used.

Resolution: You are not authorized to display this case. If you think you have the right to access this data, please contact the Visible Patient support.

8.1.5.5 *Unsupported link*

Message: Unsupported link. This link is not supported by the application. Make sure to use a valid link.

Resolution: The link you are trying to open is corrupted. Make sure to use an up-to-date application, a valid link (with no input error) or an undamaged QR code.

8.2 3D visualization problems

This section contains the various errors that can be encountered during visualization of 3D data.

8.2.1 I am unable to interact with the model

If you are unable to interact with the model, make sure interactions are activated (see 6.5.4). If the model is no longer visible in the scene, you can shift the model by tapping one of the orientation buttons (axial, frontal, sagittal).

8.2.2 I am unable to mask an anatomical structure

If you are unable to mask an anatomical structure by tapping it, make sure to use the masking tool (see 6.5.3).

During display of clip data, some structures cannot be masked with the masking tool. Segments can be masked by using the clipping tool (see 6.7.3). The network of the target organ cannot be masked.

8.2.3 I am unable to visualize volumes associated to clip data

During visualization of volumes associated to clip data, the following message may be displayed: "Inconsistencies detected during volume computation. No information available." In this case, no volume is displayed in the view. This problem occurs when an inconsistency is detected during volume computation. To solve the problem, please contact the Visible Patient support.