Blood Pressure Analyzer⁺ MacOS

Blood Pressure Analyzer$^+$ MacOS V1.0.5

Software User Manual

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Content

1 Introduction

Blood Pressure Analyzer+ is the blood pressure data collection APP which has been developed by Microlife corporation. It can transfer data from Microlife Blood Pressure monitoring devices via USB cable.

1.1 APP Specification

Support OS	MacOS 12~ 14
Languages	English
Report Type	CSV, PDF
Compatible Devices	Microlife USB BPMs with 3G/4G protocol
Communication Interface	USB

1.2 Symbols

The following symbols are shown in the software and explained as below.

#	Symbols	Interpretations
1		**AFIB (Atrial Fibrillation)** This symbol doesn't apply to USA market.
2		**IHD (Irregular Heartbeat Detection)** If irregular pulse is detected, this symbol will be shown in the data table.
3		**Cuff fit** A proper cuff fit is essential for accurate blood pressure readings. During the measurement, if the cuff is fitted properly, this symbol will be shown in the data table.

1.3 Installation

Select App Store from the Apple menu and then Mac App Store will open. Search the "Blood Pressure Analyzer+" to find the APP. Press install and then the APP will be installed on your Mac.

1.4 Uninstallation

Use the Finder to delete apps.

Find the APP and drag it to the Trash.

2 User Interface of BPA+

There are three general buttons in area "A" and four main tabs in area "B" of the BPA+ APP. They are described as below:
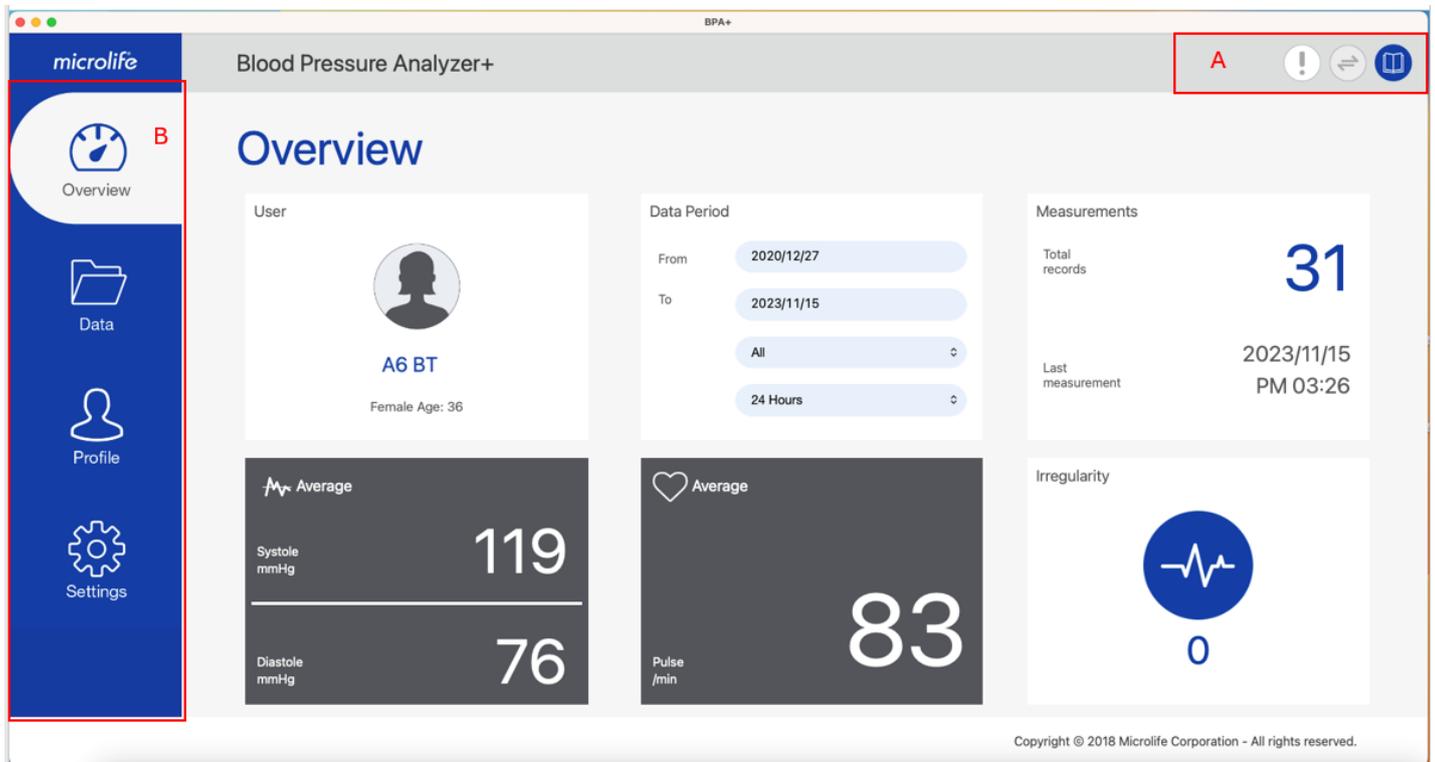

Fig- 1

■ Area A: General Buttons

■ Area B: Tabs
  - Overview Tab
  - Data Tab
  - Profile Tab
  - Settings Tab

2.1 General Buttons

There are three buttons on the right upper side and described as below:

| Button	Function
Software Version Button.	When the button is pressed, the software version is shown as below.
Data Transfer Button	When the device is not connected, this button is disabled as shown here . Once the device is connected, this button will be enabled as shown here . When the button is pressed, all data on the device will be transferred to the APP.
User Manual Button	When the button is pressed, it will direct to the user manual download page of the Microlife support website. Note: To connect to the Microlife support website, the internet is needed.

2.2 Overview Tab
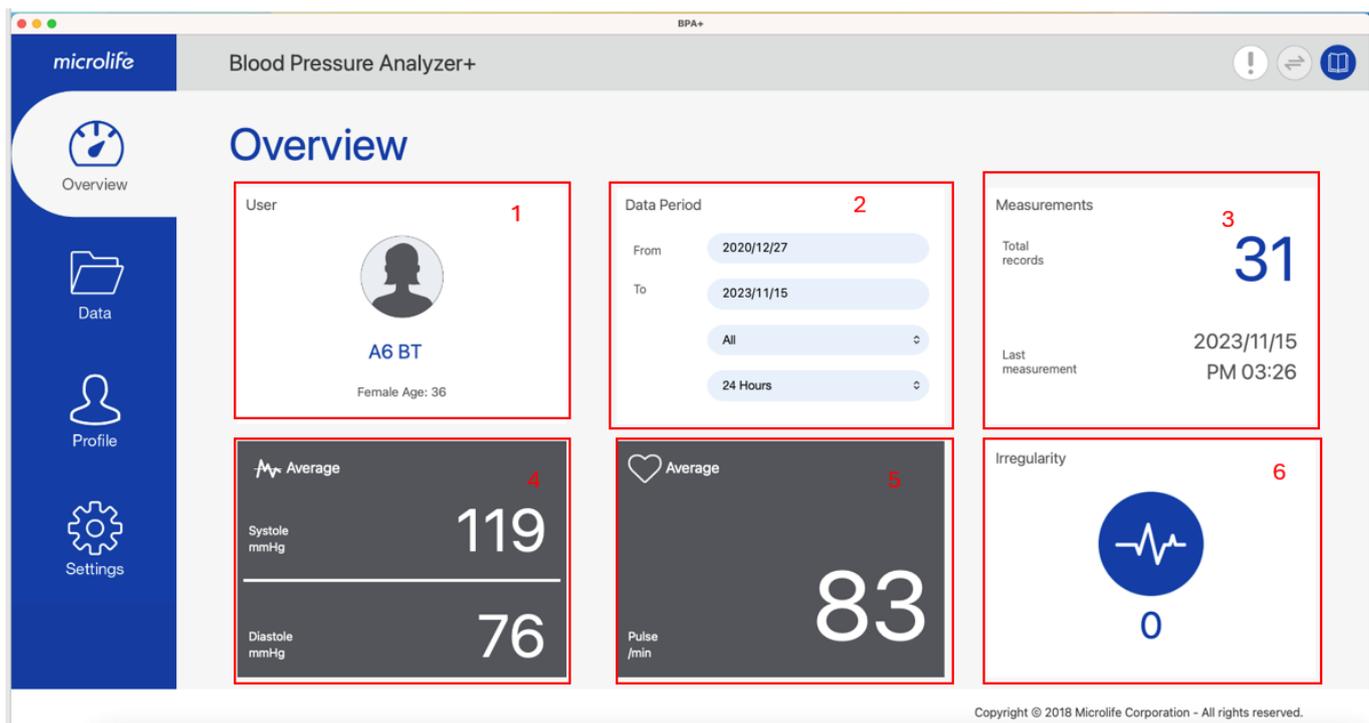
Fig- 2

The information below will be found in the overview tab.

(1) Area 1: User basic information area

The username, gender, age can be found in this area.

(2) Area 2: Data Period area

This area shows the period of the readings. Users can customize the day and time period to filter the readings in the overview tab.
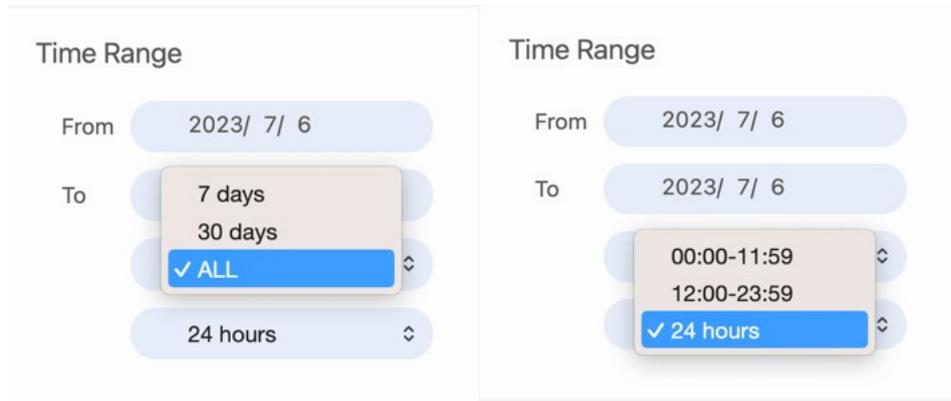
Fig- 3

(3) Area 3: Measurements area

This area displays the total number of measurements and the latest measurement time.

(4) Area 4: Blood Pressure Readings Average Area

This area displays the average of the systolic and diastolic of all measurements of the selected data period.

Note: If the systolic &diastolic blood pressure averages are equal or higher than the corresponding threshold values in the settings, the values will be displayed in red.

(5) Area 5: Pulse Average Area

The average of the pulse is shown in this area for the selected time range.

(6) Area 6: Pulse Irregularity Area

If irregular pulse or AFIB is detected in the measurements, the number of detections is displayed in this area.

Note:

a. The Microlife AFIB feature is available only on specific blood pressure monitor models.

b. If the region is selected as USA, the AFIB symbol will not be displayed.

2.3 Data Tab

Users can review the detailed individual measurements in the list view, or review the corresponding measurement trend in the chart view at this tab.

Users can switch the below buttons (Fig – 4) to select corresponding data presentation.

Fig - 4

2.3.1 Data Table

This page is the default page shown in the data tab. Users can press the ☰ button to switch to this page as below. Users can review all of the readings at this page. In addition, users can also export the CSV or PDF

report by pressing the ⬇ button.

| Date	Time	SYS	DIA	Pulse	Irregularity	Cuff fit	Mode	Notes
2023/11/22	AM 02:13	133	72	80	✓	✓		
2023/11/11	PM 11:12	85	54	79		✓	MAM	
2023/10/12	AM 06:39	144	70	82	✓	✓	MAM	
2023/10/05	PM 03:25	121	103	130	✓	✓	MAM	
2023/09/16	PM 09:43	143	70	80	✓	✓	MAM	
2023/08/31	AM 11:06	136	72	83	✓	✓	MAM	
2023/08/10	AM 08:09	208	155	80		✓		
2023/07/06	PM 03:08	82	55	79		✓		

Fig- 5

Note:
1. Only the measurement data within the selected date & time range will be displayed.
2. If the systolic & diastolic blood pressure averages are equal or higher than the corresponding threshold values in the settings, the values will be displayed in red.

Users can input a comment or edit the comment under the "Notes" column for the reading (Fig-6).

Date	Time	SYS	DIA	Pulse	Irregularity	Cuff fit	Mode	Notes	
2038/12/05	PM 04:28	102	82	56				Take medicine	🗑

Fig-6

If the reading is not needed, users can press 🗑 (Fig-7) to delete the reading. Once the button is pressed, a message as Fig-8 will appear. Users can select "Yes" to proceed with deletion or select "No" to cancel deletion.

Date	Time	SYS	DIA	Pulse	Irregularity	Cuff fit	Mode	Notes	
2038/12/05	PM 04:28	102	82	56				Take medicine	🗑

Fig-7

Do you want to delete the reading?

No   Yes
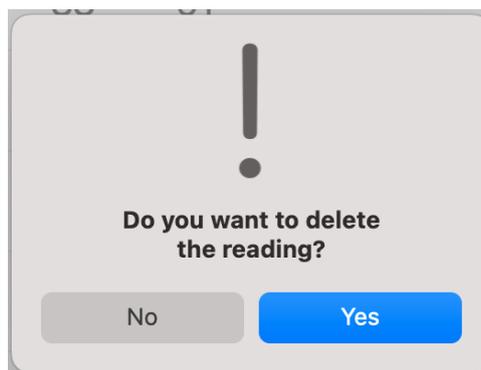
Fig- 8

Users can also sort the readings by Date & Time, SYS, DIA, or Pulse individually, by clicking on the headers of these columns (Fig-9). Sorting may be helpful to find the lowest or highest values in the table quickly.

Date	Time	SYS	DIA	Pulse	Irregularity	Cuff fit	Mode	Notes	
28/03/2021	11:41	121	76	93		✓			🗑
20/06/2020	11:06	120	72	69	⎓		MAM		🗑
12/06/2020	14:10	116	76	75	⎓				🗑
28/05/2020	10:45	115	66	65	⎓		MAM	Tired.	🗑

Fig-9

2.3.2 Trend Chart Page

Users can press the [icon] button to switch to trend chart page to review the BP trend chart as Fig-10. Users can press the combo box [BP+ Pulse] to decide what kind of trend chart to show.
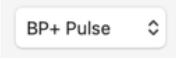
The trend chart can show at most 15 years' data. If the data period is over 15 years, the APP will modify the data period to 15 years automatically (based on the latest reading date).

The APP supports the users to zoom in/ zoom out via the touch pad of the MacBook.

According to different data periods, the calculation algorithm of each point is different. It's interpretated as below.

Data Period	Data Range of each point	The value algorithm
<= 7days	A point means one hour	The average value within an hour
7~ 180 days	A point means one day	The average value within a day
180~3 years	A point means one week	The average value within a week
3~15 years	A point means one month	The average value within a month
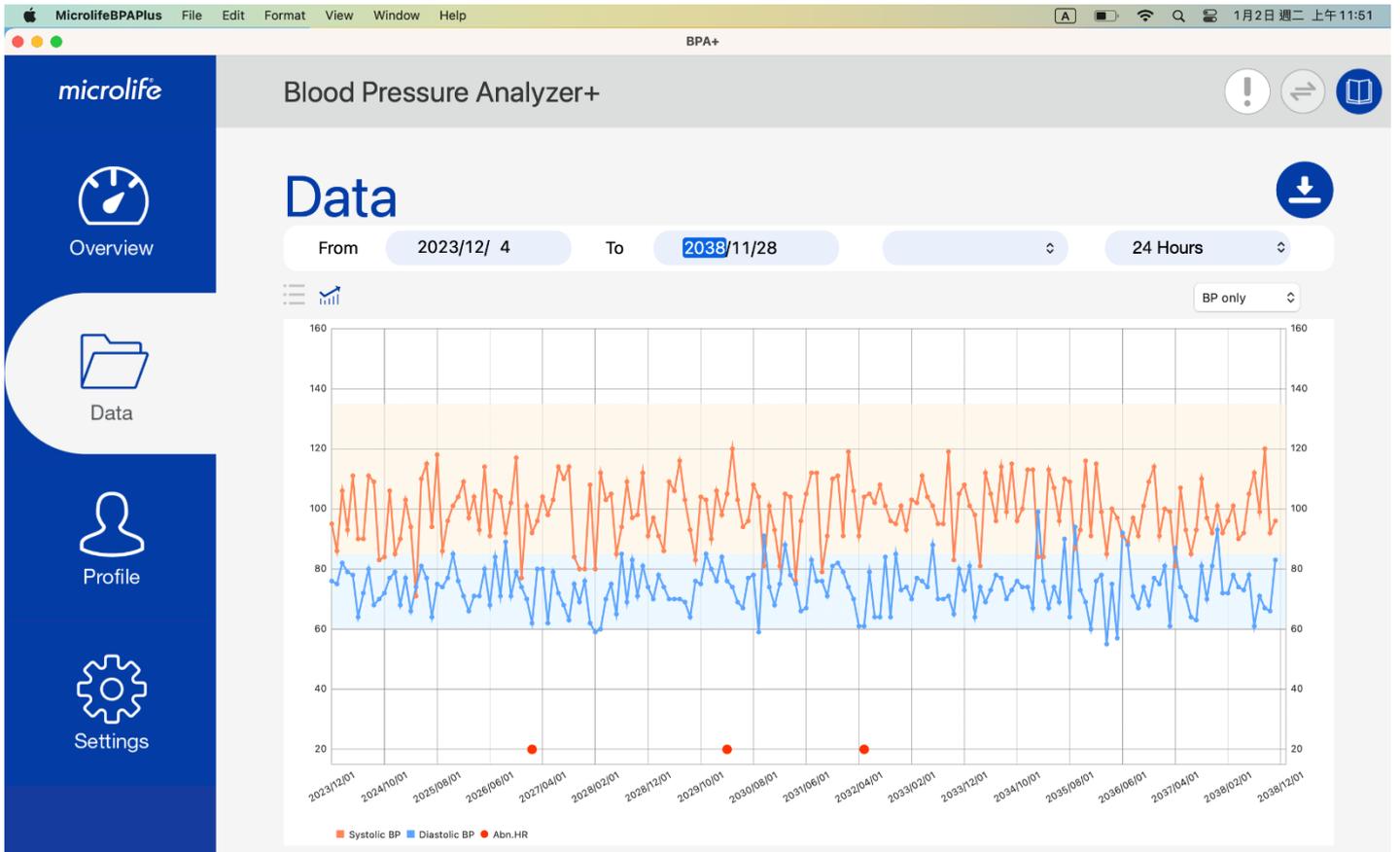
Fig-10: Trend chart with BP only
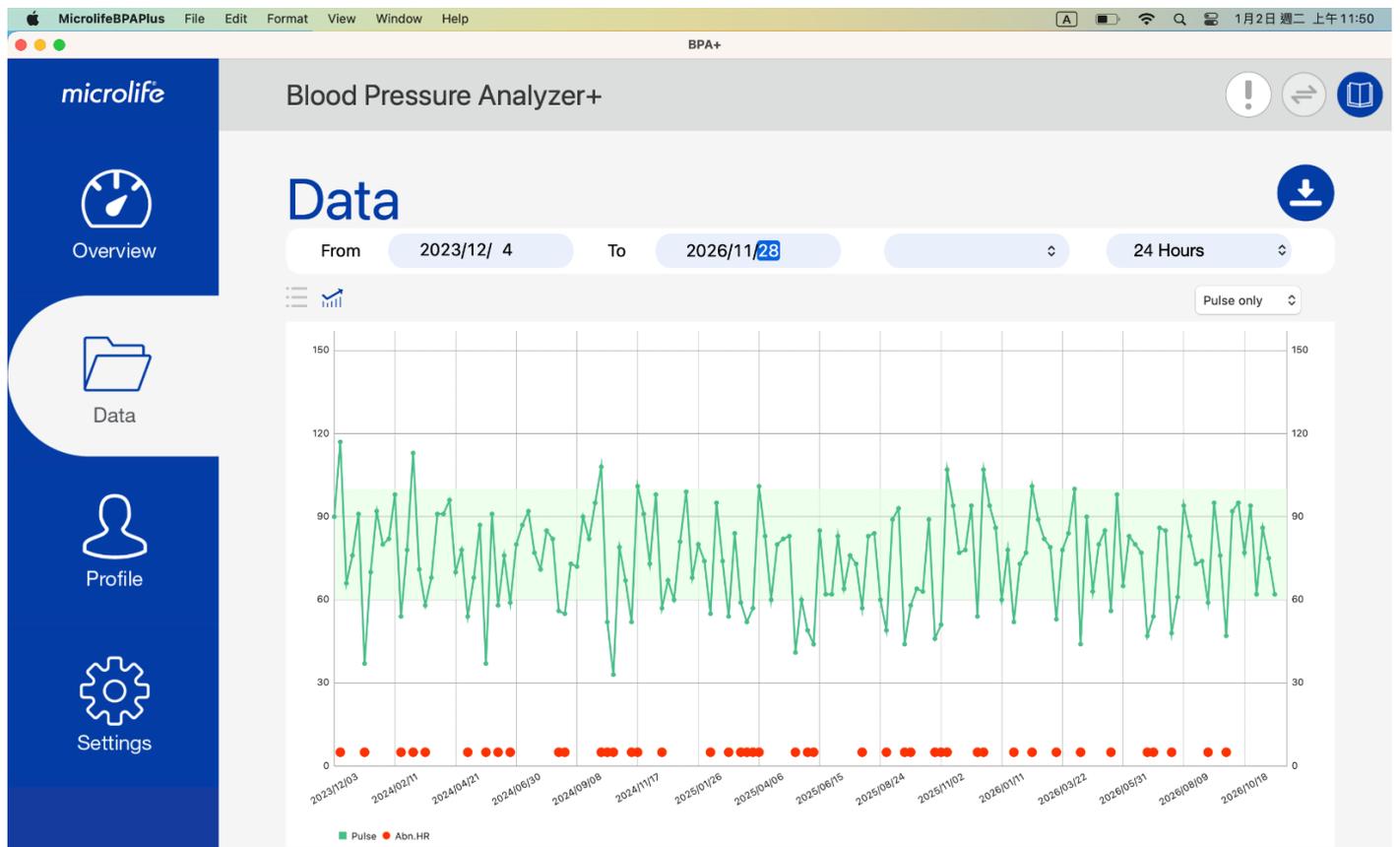
Fig11: Trend chart with pulse only

In addition, if the pulse is out of the normal range or a comment has been added, the circle will be shown on the bottom of the chart as below.
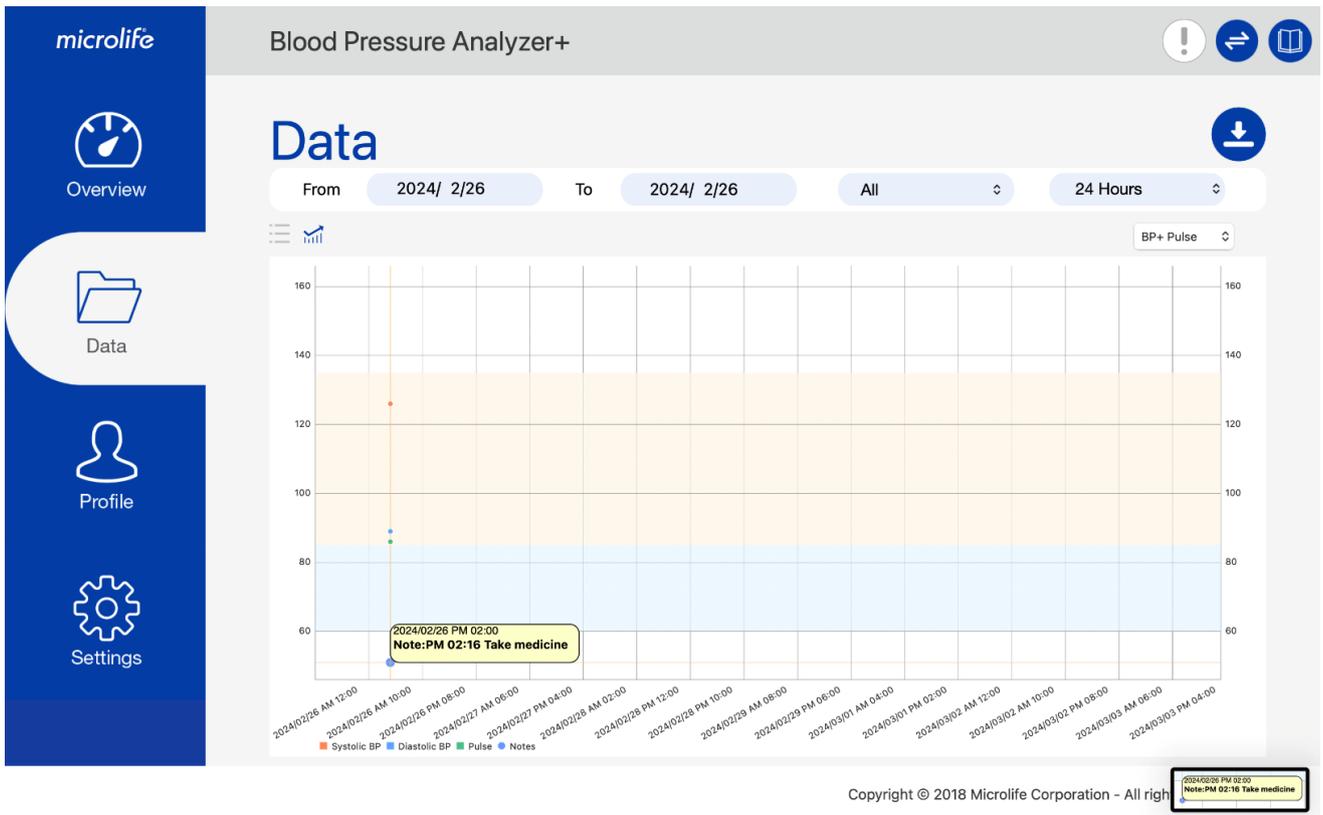
Fig12

It's explained as below.

Circle colors	Interpretation	Example
● (Red)	If a red circle appears, it means the heart rate is abnormal.	2024/02/26 PM 02:00 HR:89
●(Blue)	If a blue circle appears, it means there is a comment.	2024/02/26 PM 02:00 Note:PM 02:16 Take medicine
●(Purple)	If a purple circle appears, it means an abnormal pulse and there is a comment.	2024/02/26 PM 02:00 HR:86 Note:PM 02:16 Take medicine

2.4 Profile Tab

Users need to create their user profile at the profile tab the 1st time they use the APP.
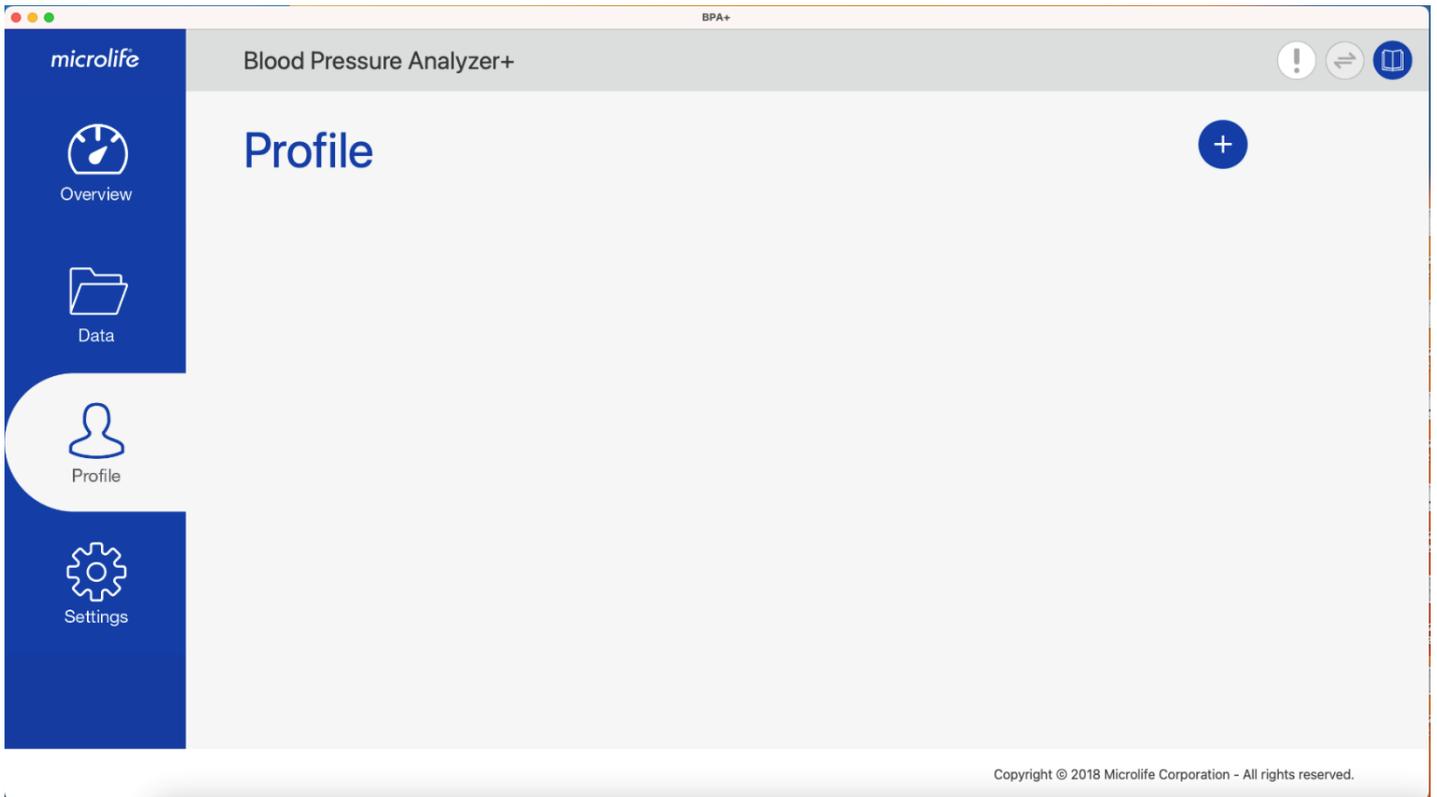
Fig- 13

Note: Refer to section 3.3 for details about creating a user profile.

2.5 Settings Tab
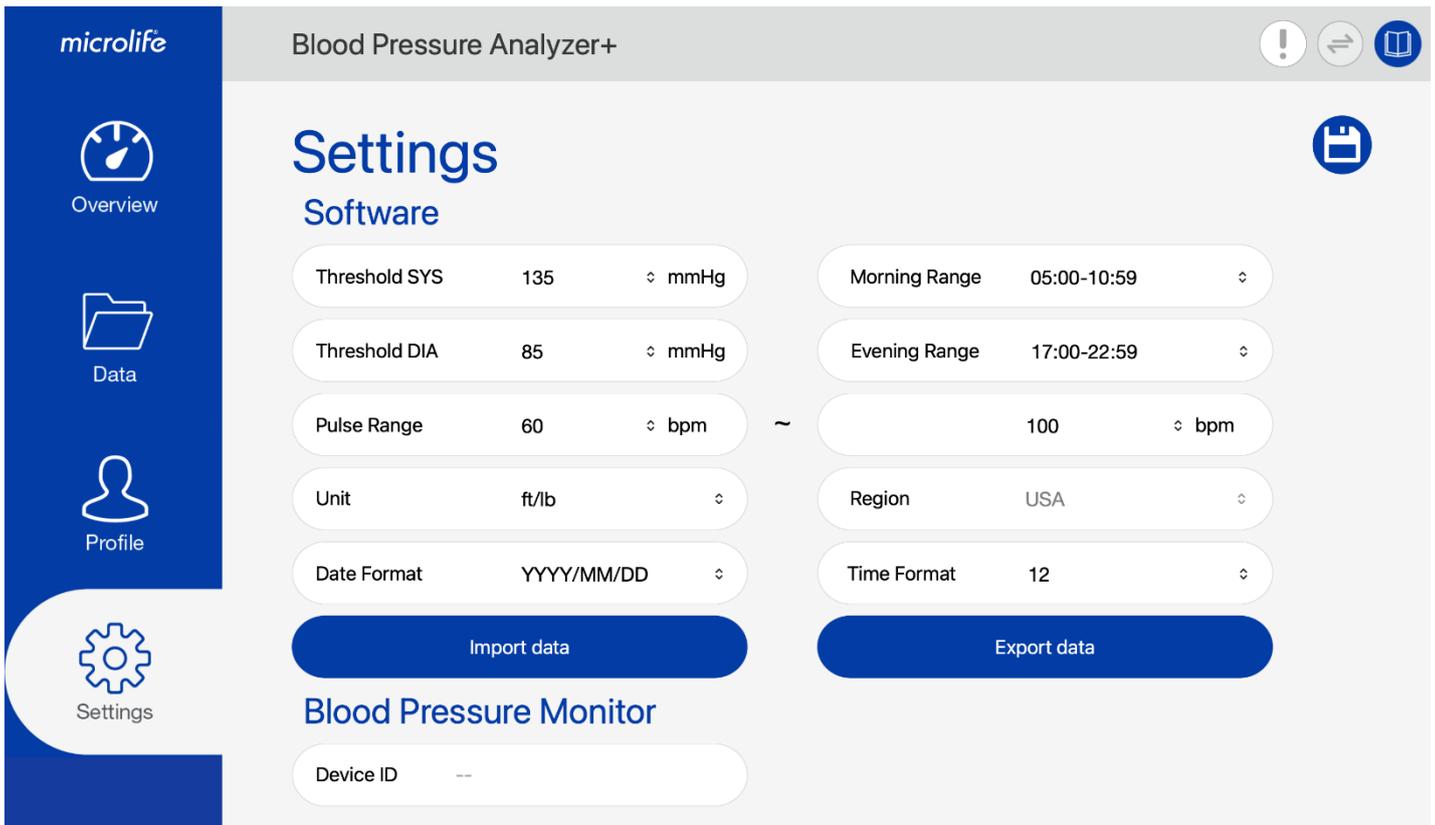
Fig- 14

The below fields can be configured at the Settings tab:

(1) Threshold SYS 、(2) Threshold DIA 、(3) Pulse Range 、(4)Unit 、(5) Date Format
(6) Time Format 、(7) Morning Range and (8) Evening Range

Note:
The Region can be selected only one time, when using the software for the first time after software installation. This setting cannot be changed once selected.

Users can press the "Import data" or "Export data" button to Import/ Export configuration, user profile, and measurement data of BPA+ software. Use this feature to migrate the BPA+ software data from one computer to another.

Note: "Import data" feature is compatible with the export patient file (in XML format) of the older Microlife BP Analyzer software.

3 Scenarios of BPA+

3.1 Region Setting

Step1: Users have to select the region when the program is executed the first time. If you are located in the USA, please select "USA"; if you are located in countries other than USA please select "Others".
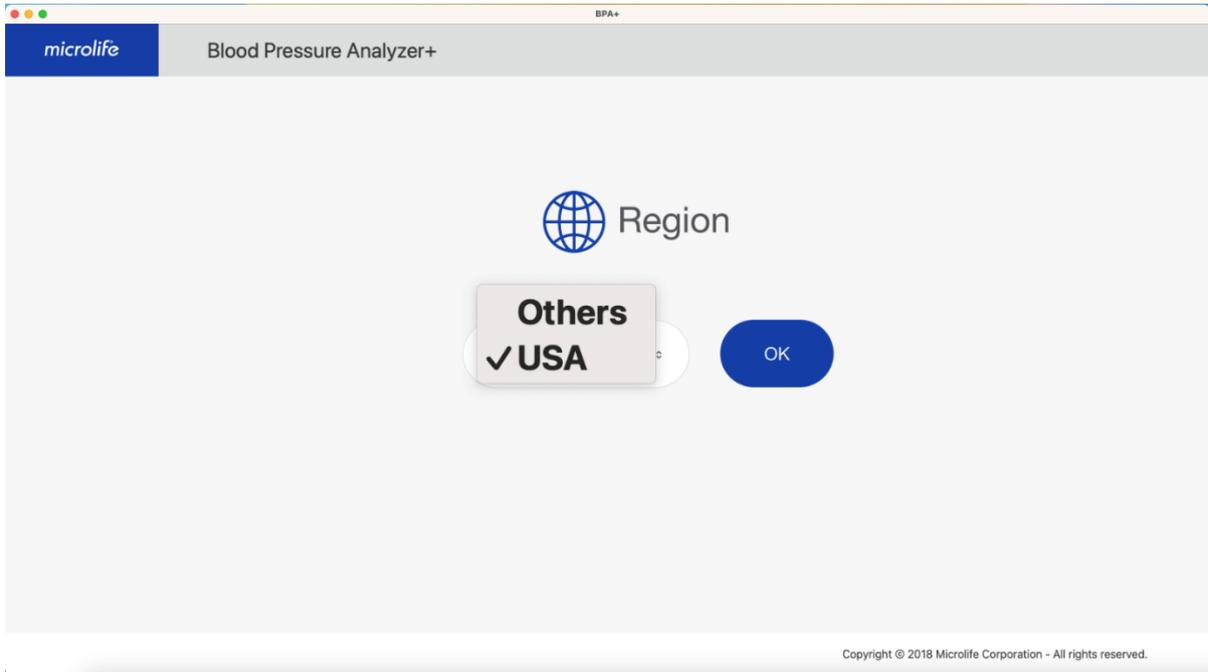
Fig- 15

Step2: When the region setting is done, the profile page will be shown as below.
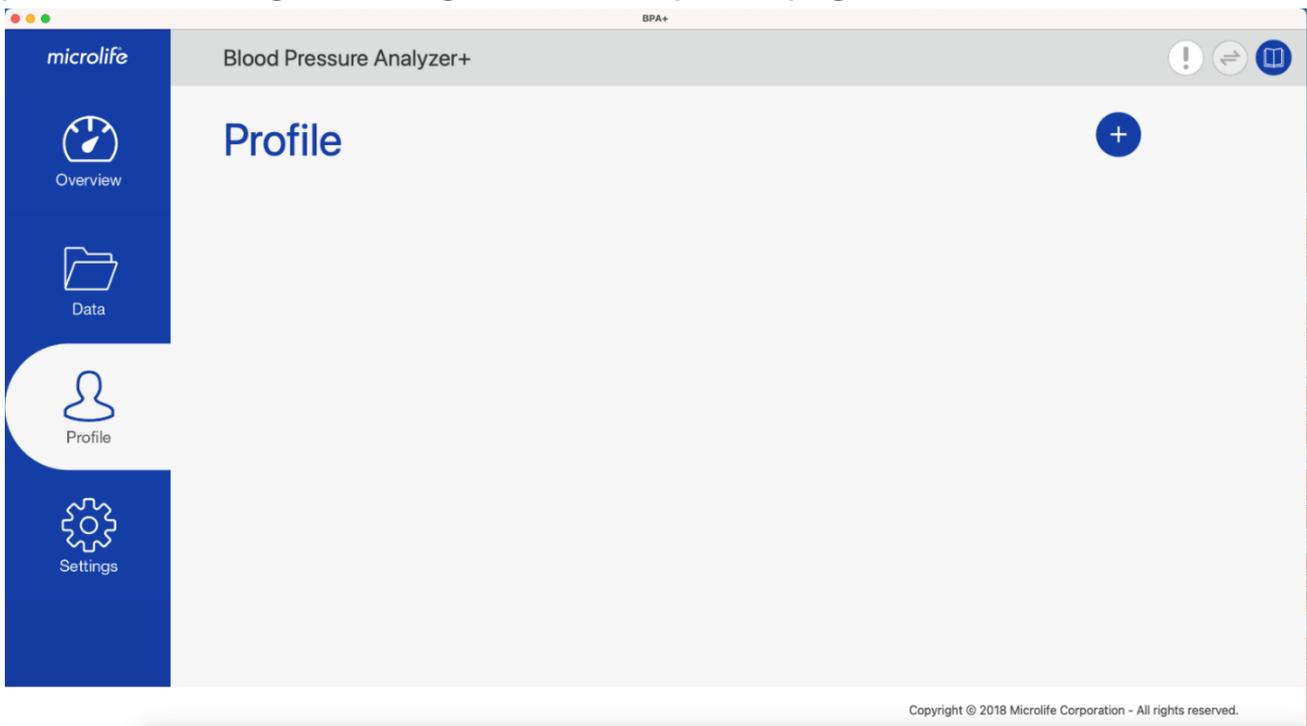
Fig- 16

3.2 Synchronize the Date and Time

Before using the device, users need to set the date and time of the device first.
The easiest way to set the date and time is users can synchronize it via the APP. Users can follow the procedure below to synchronize it.

Step1: Connect the device to the APP:
Connect the device to the computer. Once the device connection is ready, the

⇌ button on the right upper side will be enabled.

Step2: Press ⇌ button, APP will check the date & time between the APP and device. If the date and time conflicts, the below dialog will be displayed.
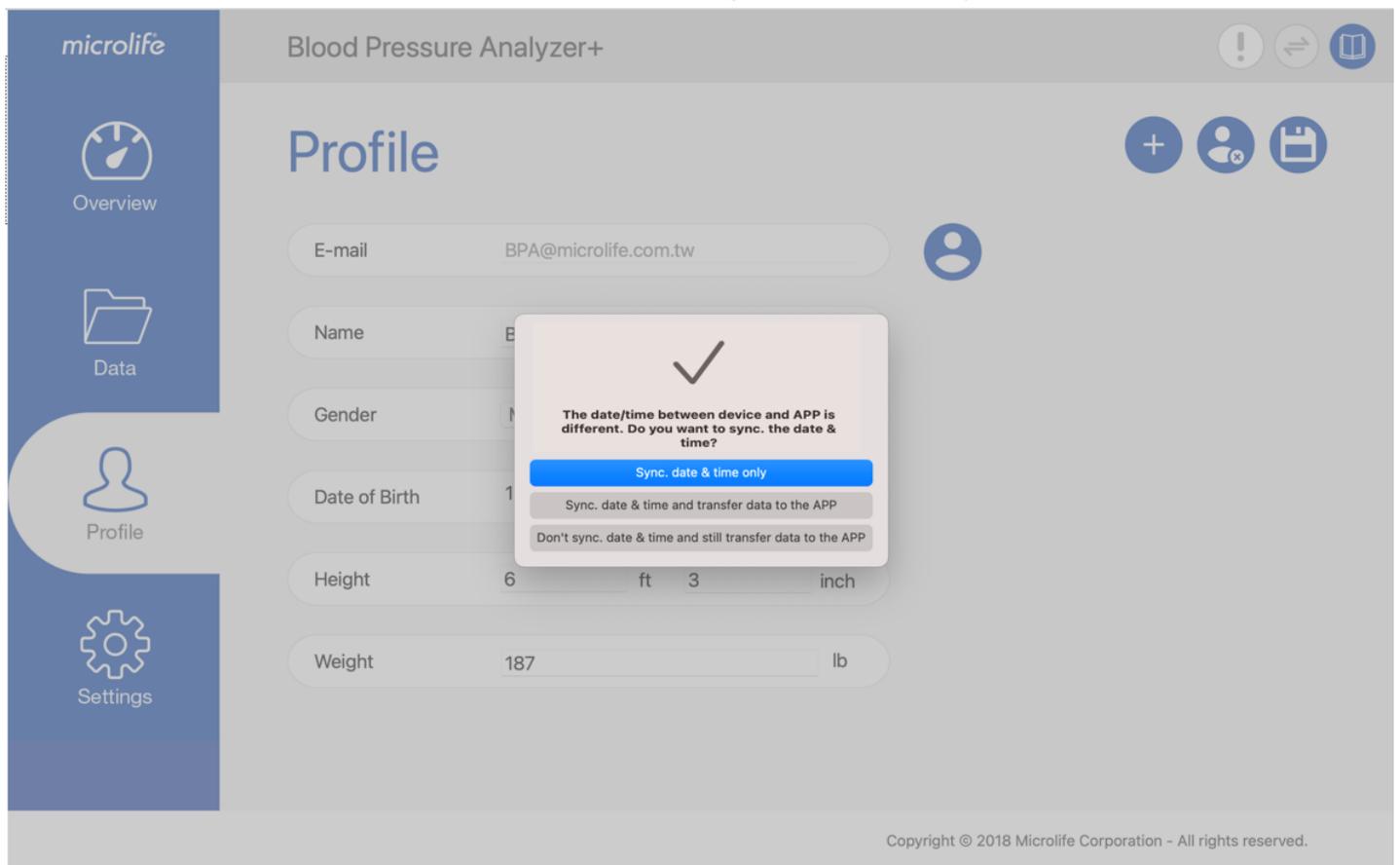
Fig- 17

3.3 Create a User Profile
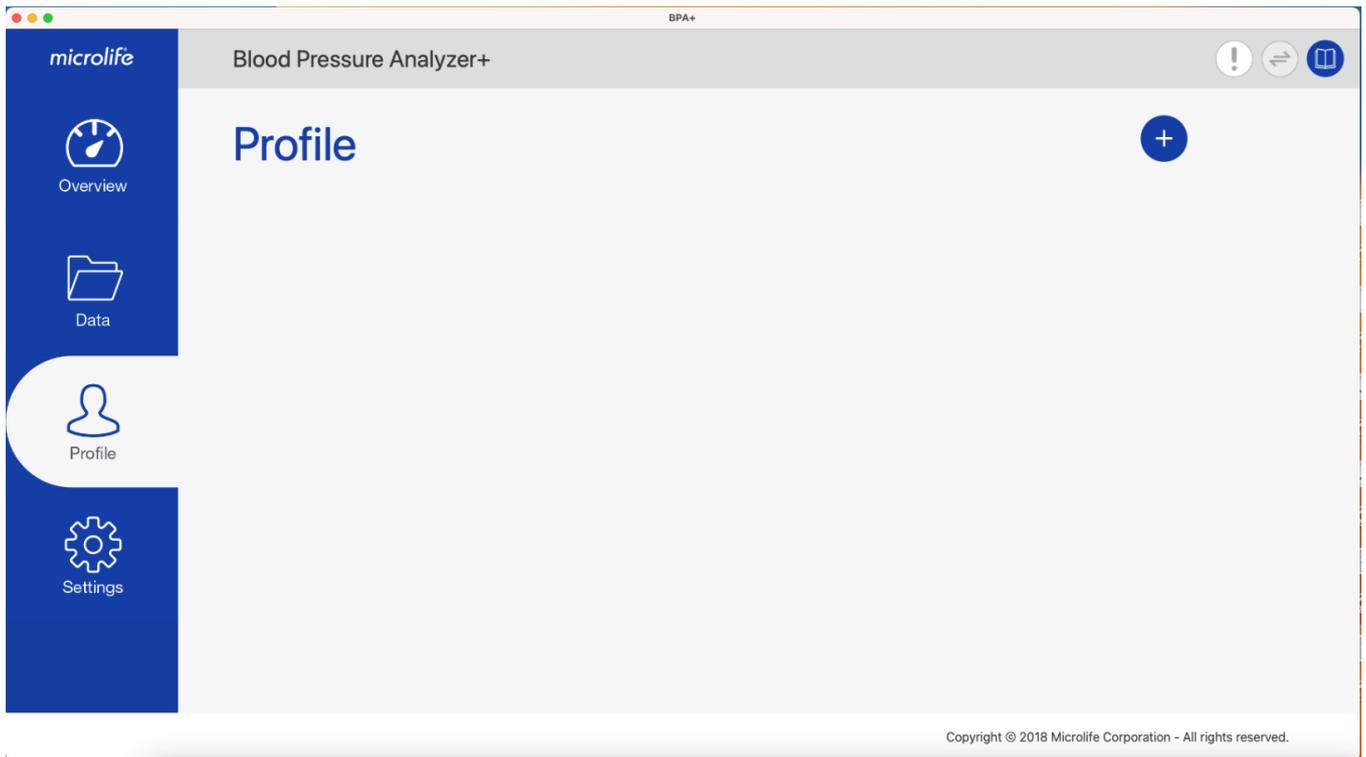
Fig- 18

Step1: Press the ⊕ button to create the user profile. Then the dialog below, as shown in Fig 19 will be displayed.

Note: Users have to create the user profile before they start to transfer the data from the device.

Step2: Input the Email and user basic information and then press the "OK" button to create the user profile.

Fig- 19

Note: BPA+ allows multi-users usage. Users can repeat step1 to step2 to create other user profiles.

3.4 Download Data from the Device

Step1: Connect the device to your Mac. Once the device connection is ready, the

 button will be enabled. Users can press this button at any tab to download the readings.

Before downloading the data, APP will check the date & time between the APP and device, if the date and time conflicts, the below dialog will be displayed. Users need to synchronize the date and time first.
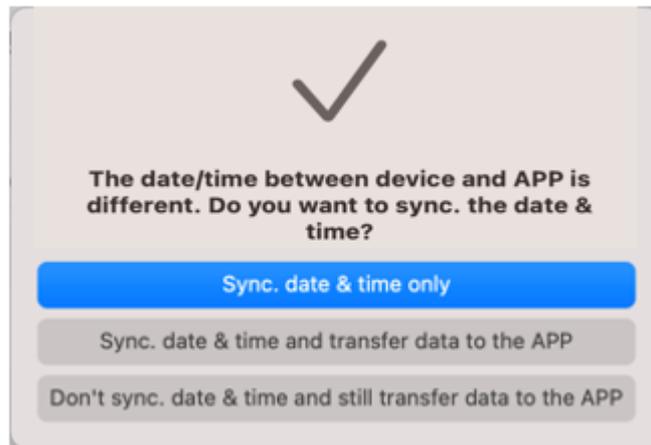
Fig- 20

Step2: When the button is pressed, the message box will be shown as below. Users can select which user profile to be transferred.
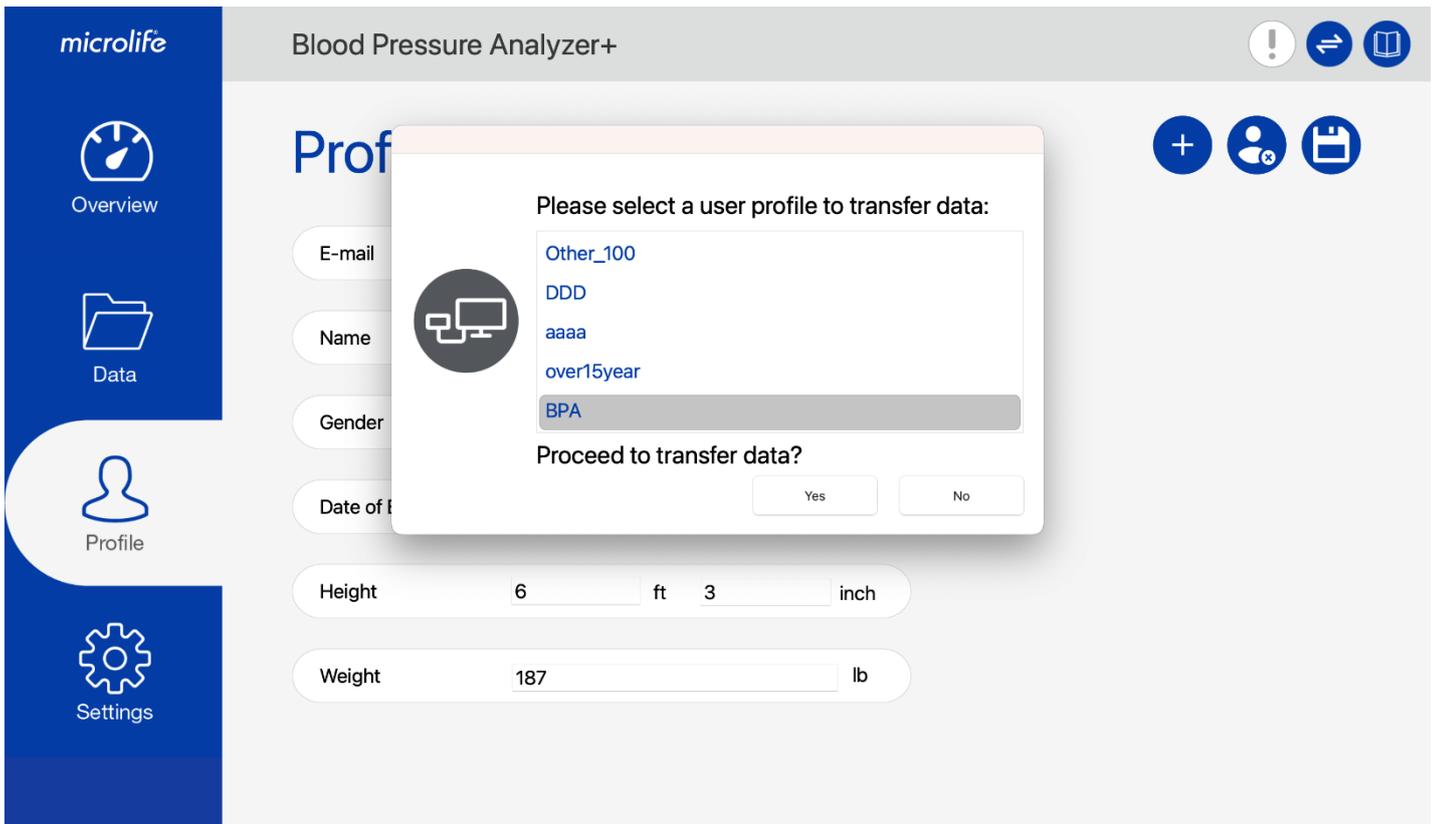
Fig- 21

Note:
(1) If there is only one user profile created, only one user profile is displayed. If there are multiple user profiles created, all of the user profiles will be shown.

Step3: Select a user profile and then press the "ok" to transfer the data from the device.

Step4: When the data download is done, the pop- up message will be displayed. Press the "OK" button and then users can start to review their latest readings at the readings page of Data Tab.
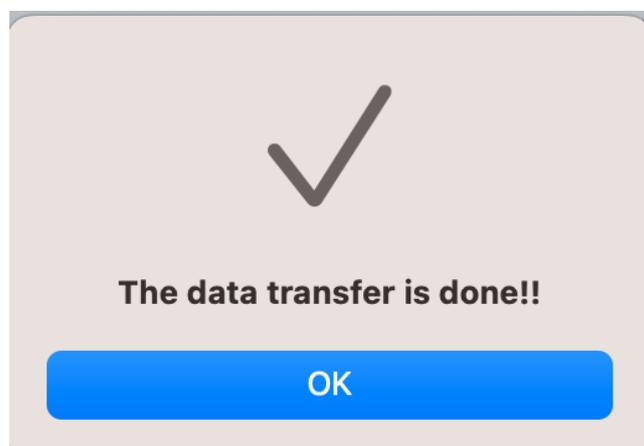
Fig- 22

Step5: Then the update overview tab will be shown as below.
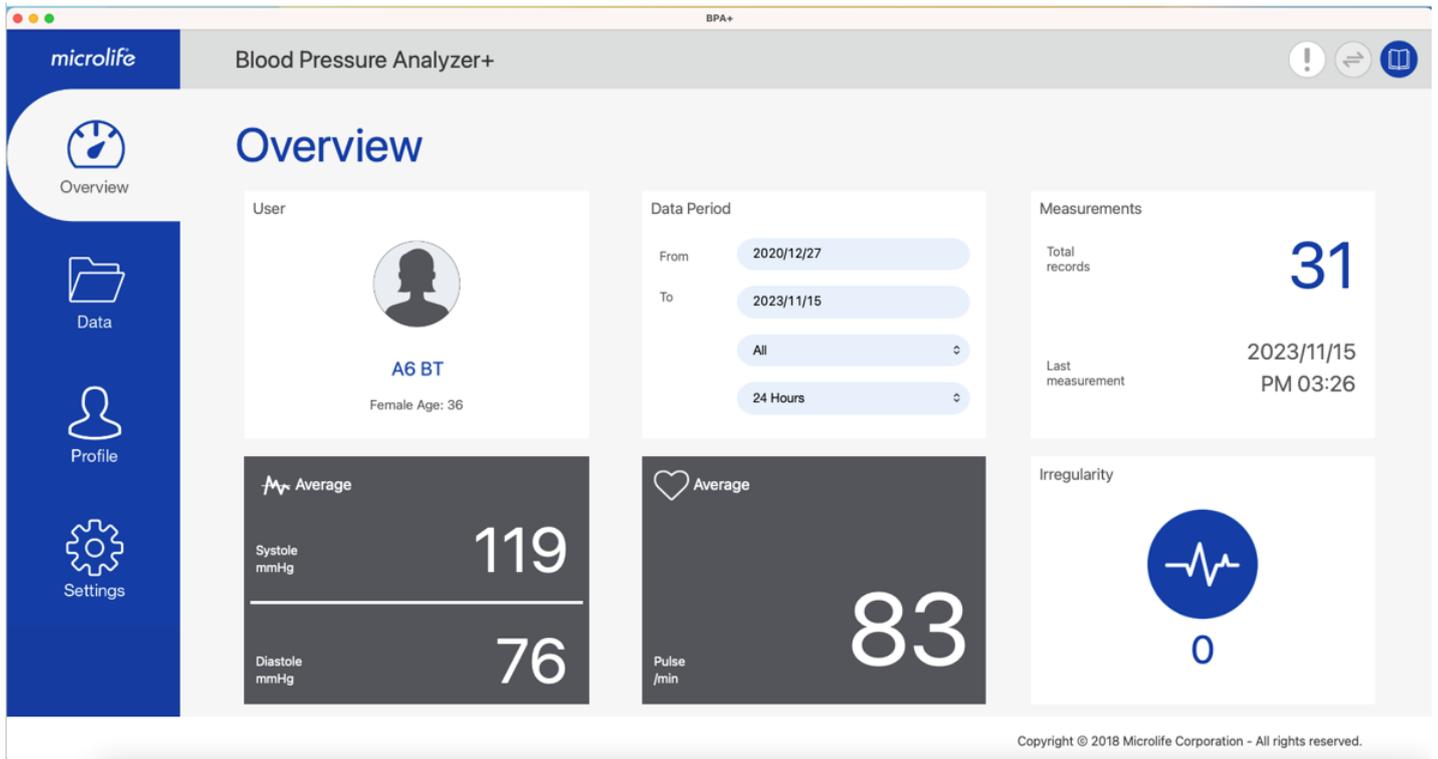
Fig- 23

3.5 Select Another User Profile

The BPA+ program allows users to create multiple user profiles. If users would like to review another user's readings, they can switch to the corresponding profile.
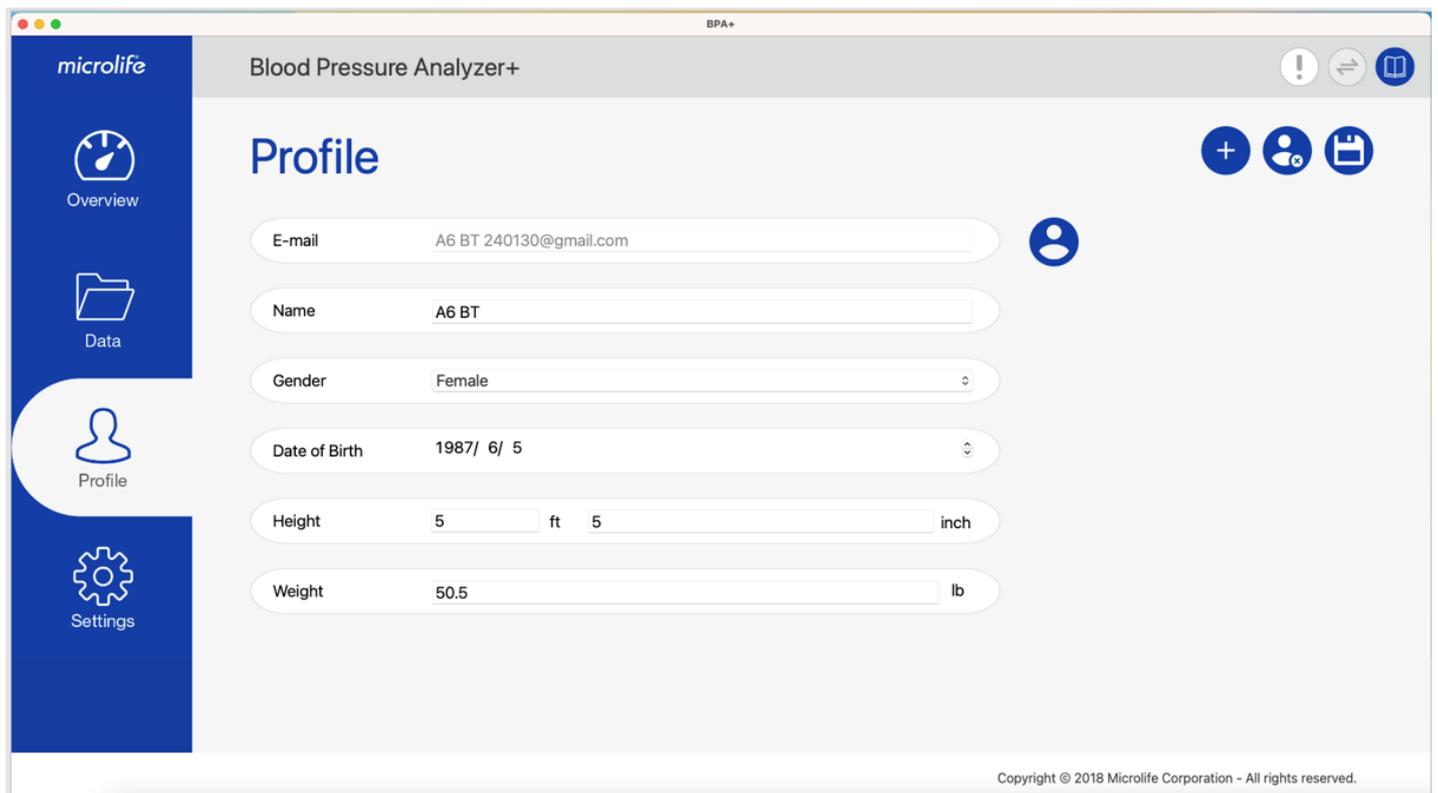
Fig-24

Step1: Press the 🔵 button and then the users list will be shown as below. Then users can select the specific user and press the "OK" button to manipulate continuously.
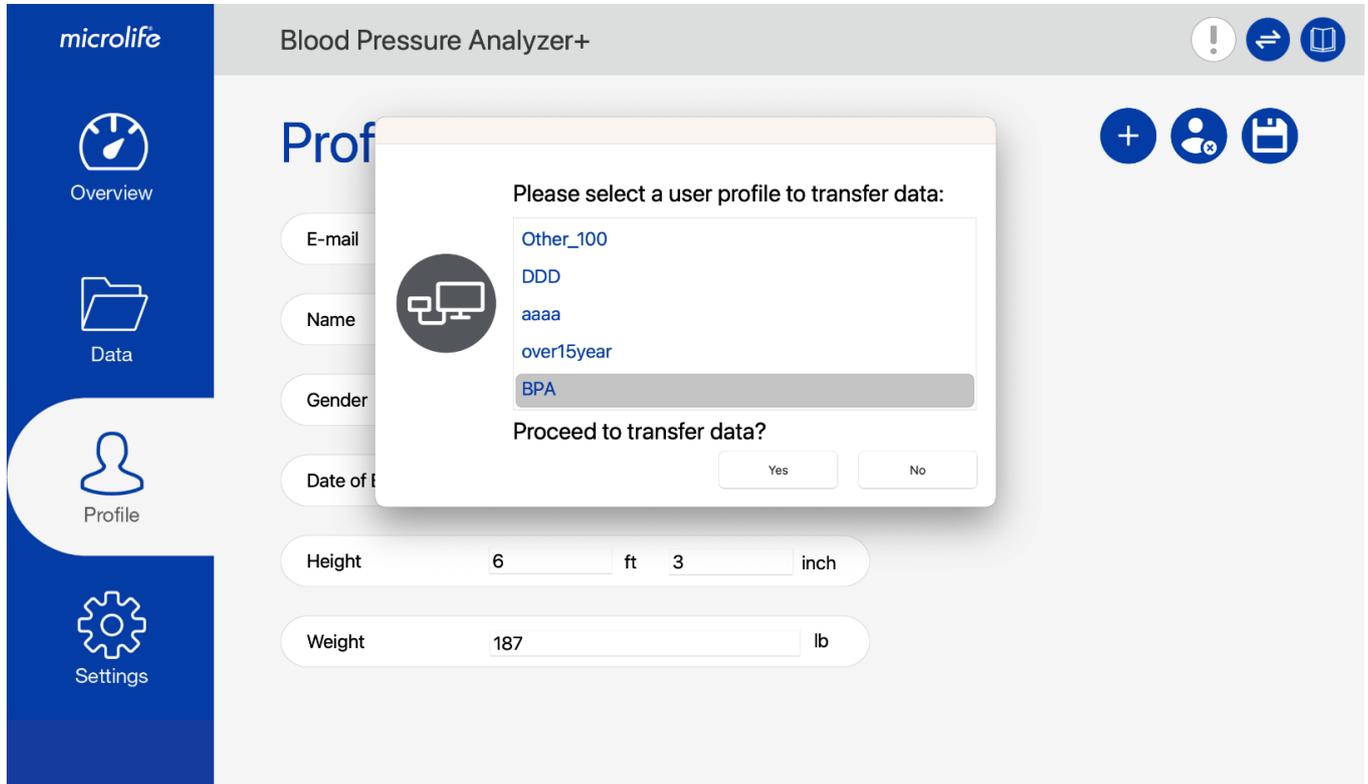
Fig-25

3.6 Export CSV/ PDF Report

The BPA+ APP can export CSV or PDF report. Users can export it and take to the physicians.

Step1: Decide the data period in the Data tab first.
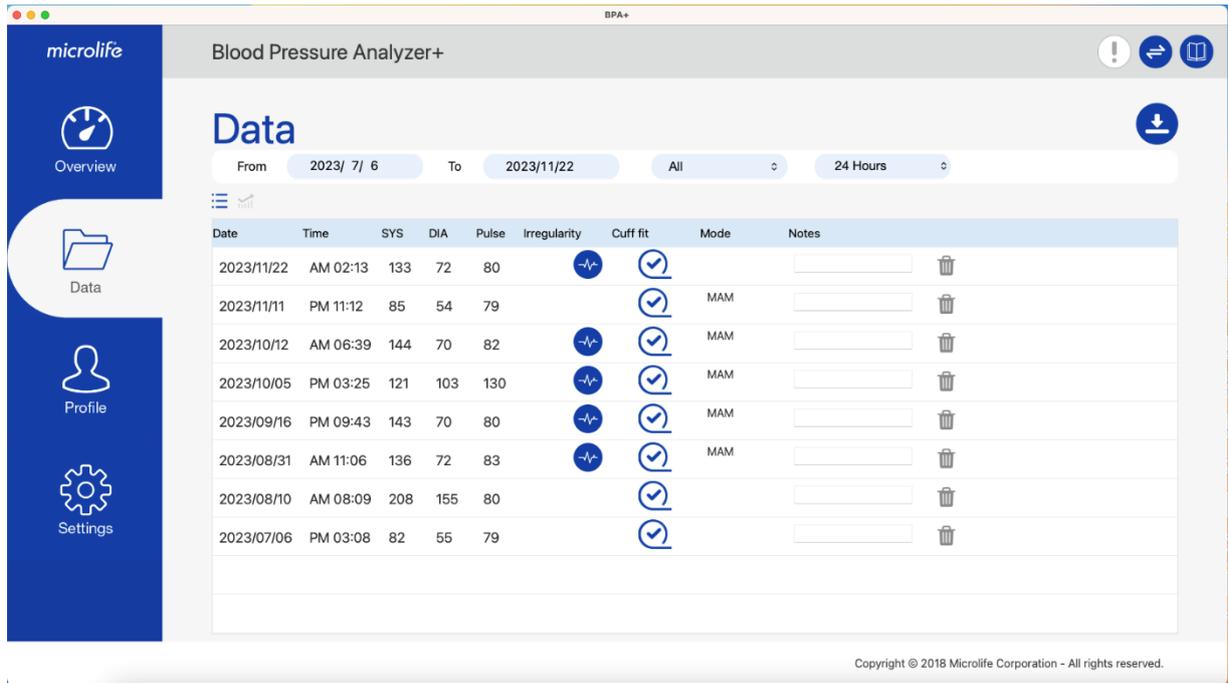
Fig-26

Step2: Press the ⬇ button and select which format to be exported.

Fig-27

Step3: Once the report export is done, the message box will be shown as below.
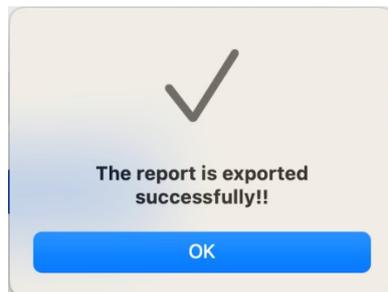
Fig-28

3.7 Import/ Export Data

The BPA+ APP provides data import/export functions. Users can import the data from the BPA+ APP or export data to another Mac.
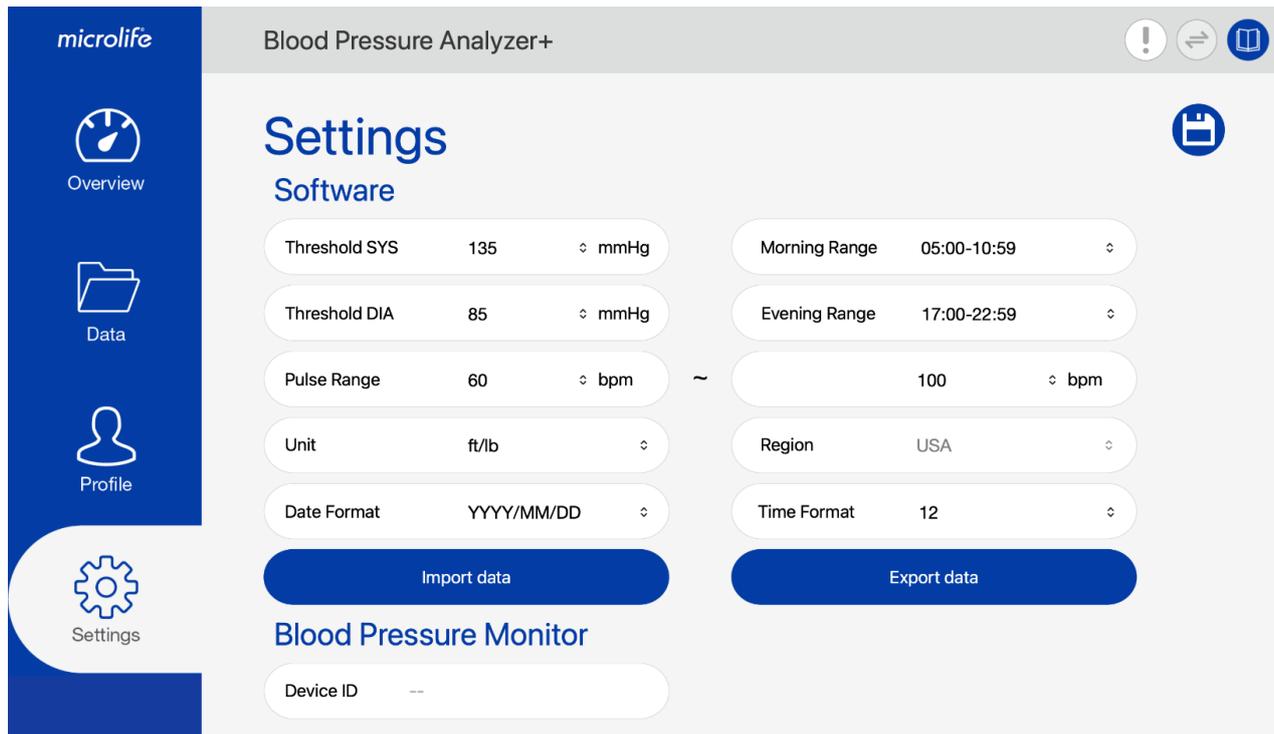
Fig-29

3.7.1 Import Data

Step1: Switch to Settings Tab.

Step2: Press the "Import data" button.

Step3: Select the file and then import it.
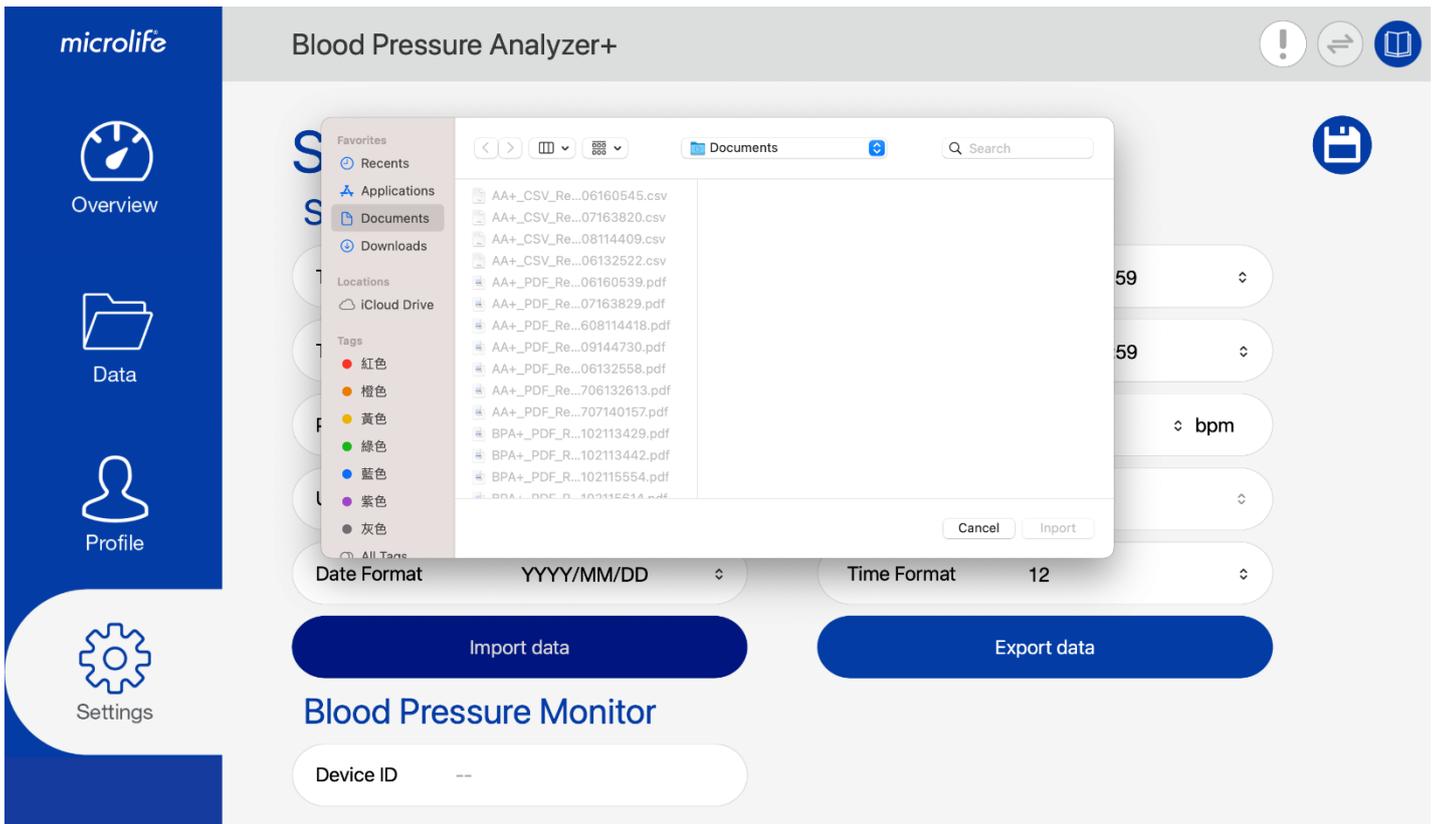
Fig-30

Step4: Press "Import" and then data will be imported. Once the data import is done, the message below will be displayed.
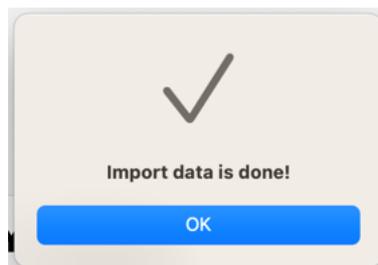

Fig- 31

3.7.2 Export Data

Step1: Switch to Settings Tab.

Step2: Press the "Export data" button.

Step3: Select the data save path and then export it.

Step4: Press "Export" and then data will be exported. Once the data export is done, the message below will be shown.

24
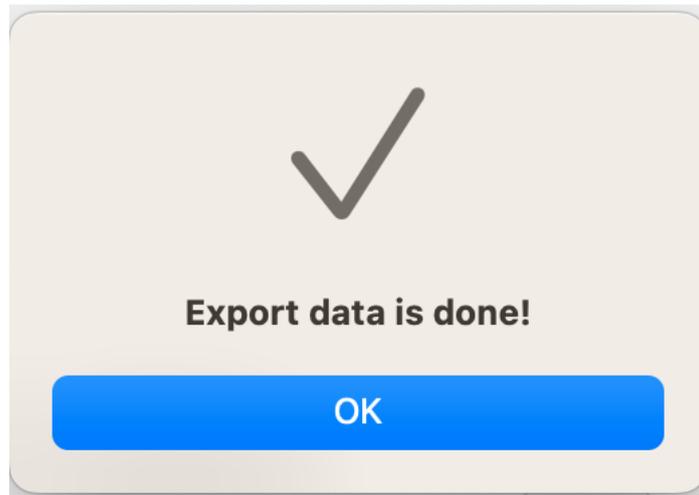
Fig- 32

4 User Manual

Users can press 📖 to open the webpage to download the user manual of BPA+ APP.

Fig- 33