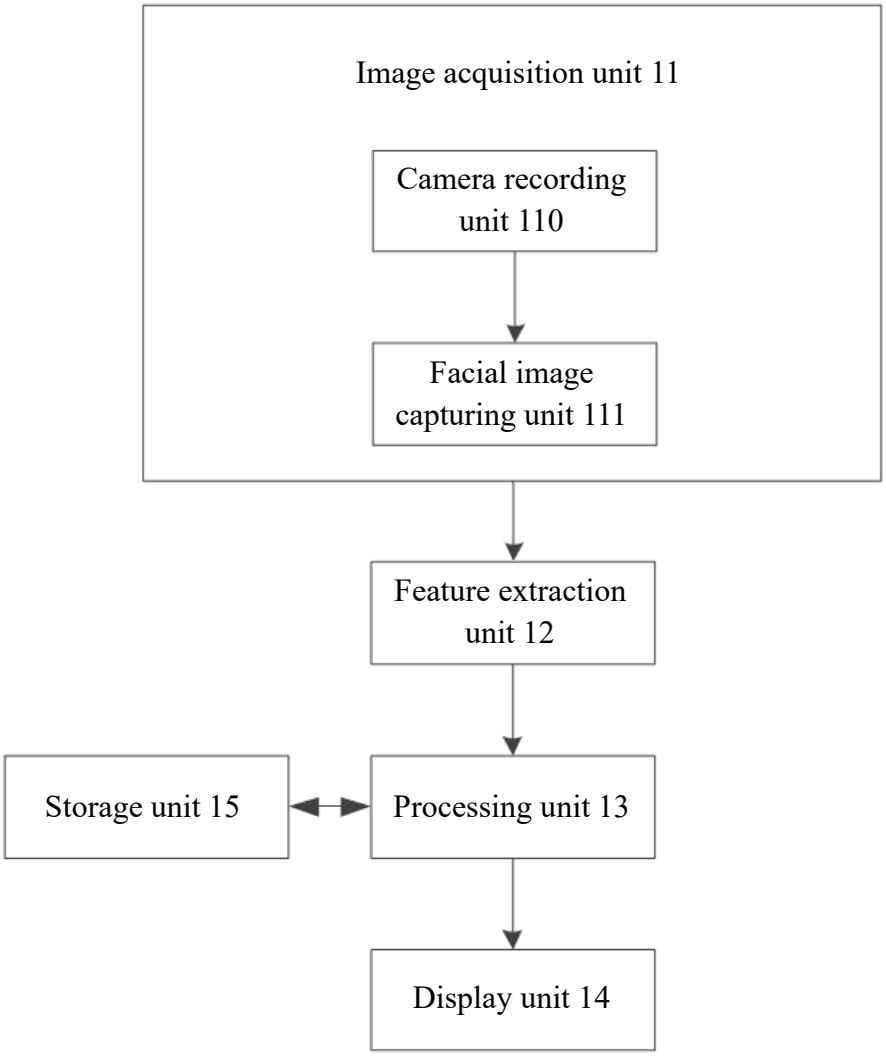
Image acquisition unit 11
Camera recording unit 110
Facial image capturing unit 111
Feature extraction unit 12
Storage unit 15
Processing unit 13
Display unit 14

Fig. 1

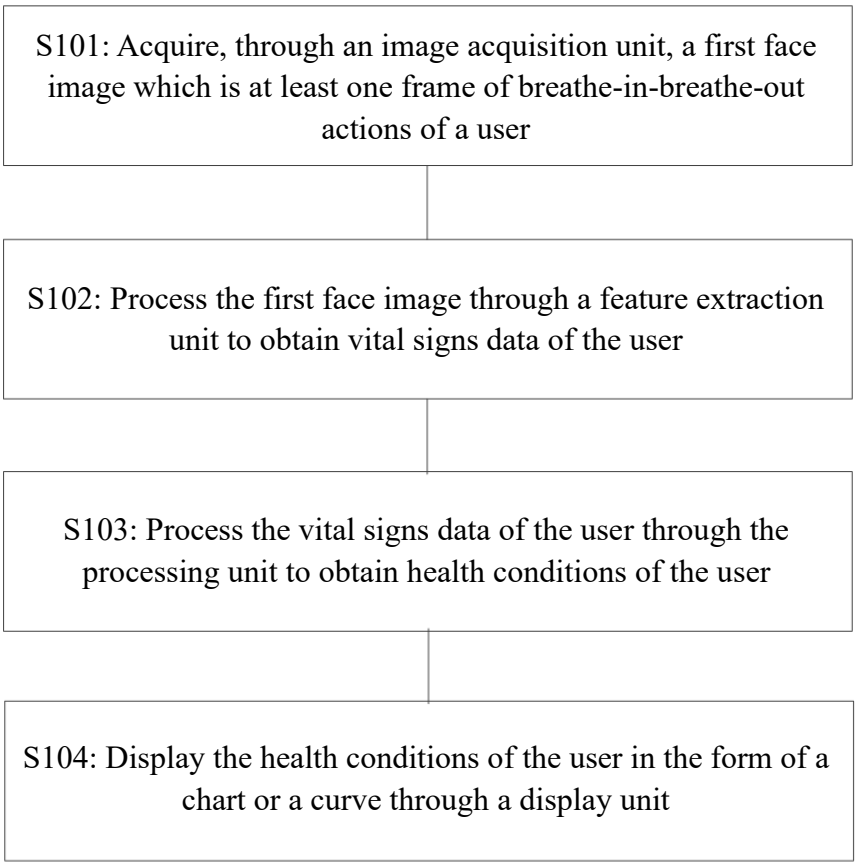
S101: Acquire, through an image acquisition unit, a first face image which is at least one frame of breathe-in-breathe-out actions of a user
S102: Process the first face image through a feature extraction unit to obtain vital signs data of the user
S103: Process the vital signs data of the user through the processing unit to obtain health conditions of the user
S104: Display the health conditions of the user in the form of a chart or a curve through a display unit

Fig. 2

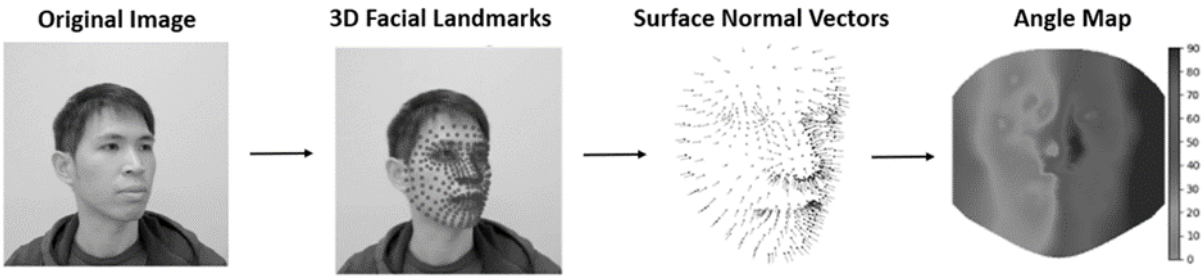
Original Image
3D Facial Landmarks
Surface Normal Vectors
Angle Map
90
80
70
60
50
40
30
20
10
0

Fig. 3

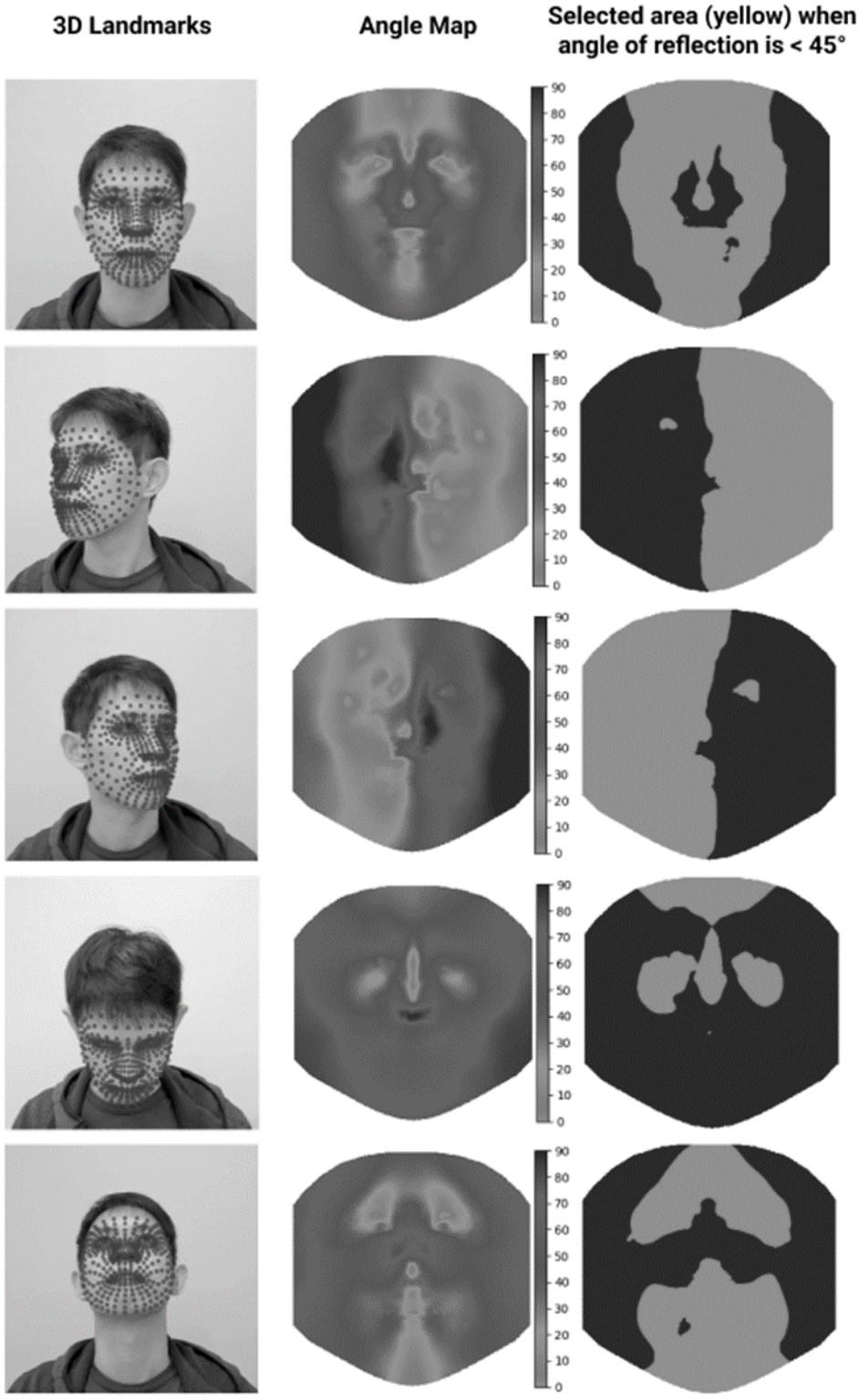
3D Landmarks
Angle Map
Selected area (yellow) when angle of reflection is < 45°
90
80
70
60
50
40
30
20
10
0

Fig. 4

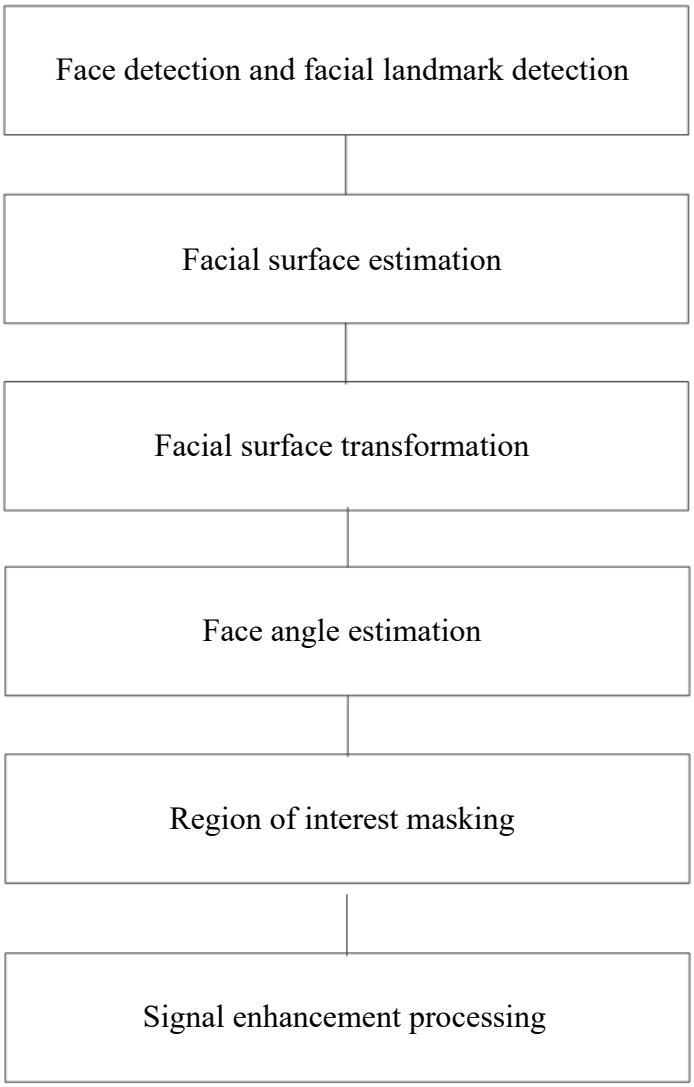
Face detection and facial landmark detection
Facial surface estimation
Facial surface transformation
Face angle estimation
Region of interest masking
Signal enhancement processing

Fig. 5

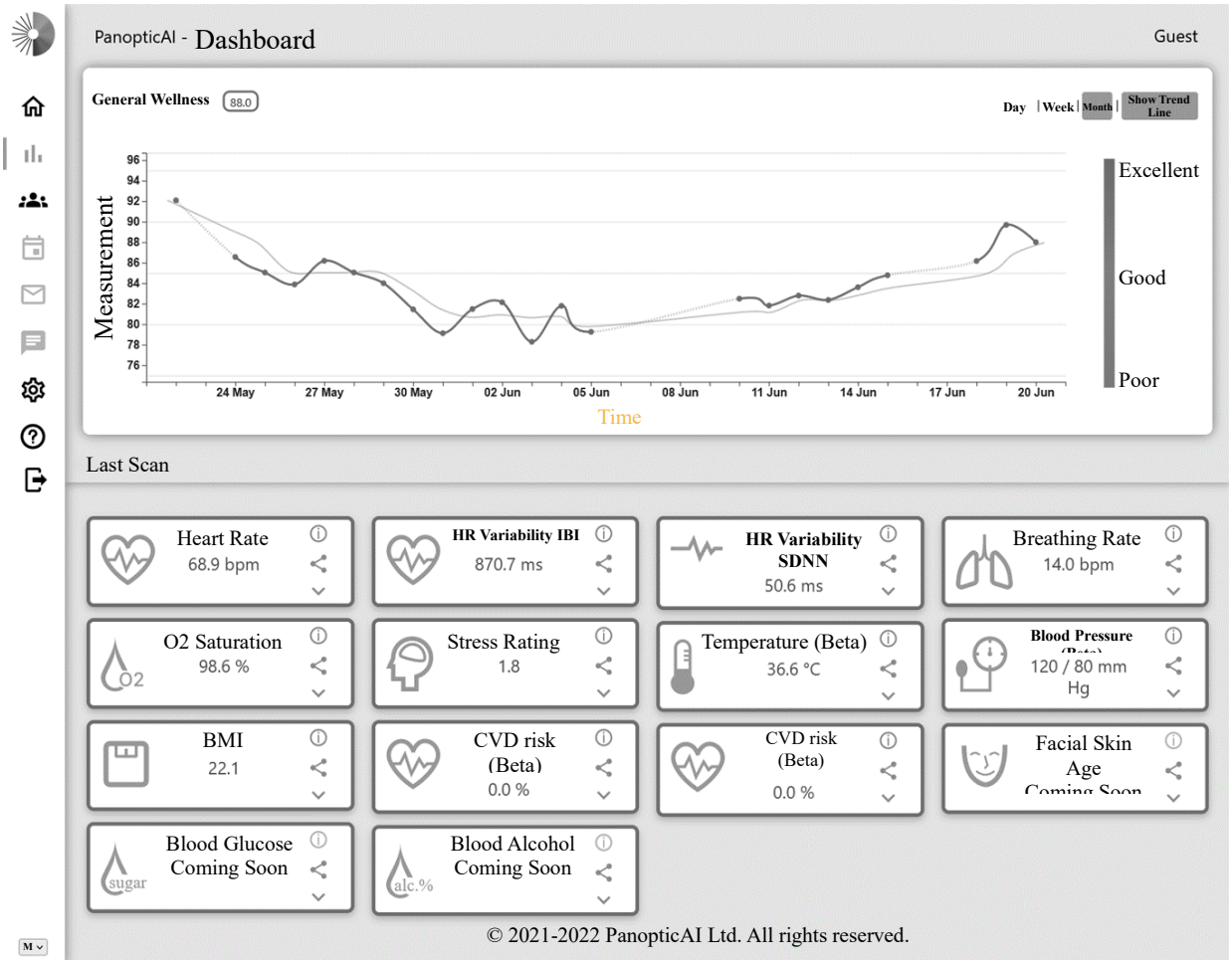
PanopticAI - Dashboard
Guest
General Wellness
88.0
Day
Week
Month
Show Trend Line
Measurement
Excellent
Good
Poor
24 May
27 May
30 May
02 Jun
05 Jun
08 Jun
11 Jun
14 Jun
17 Jun
20 Jun
Time
Last Scan
Heart Rate
68.9 bpm
HR Variability IBI
870.7 ms
HR Variability SDNN
50.6 ms
Breathing Rate
14.0 bpm
O2 Saturation
98.6 %
Stress Rating
1.8
Temperature (Beta)
36.6 °C
Blood Pressure
120 / 80 mm Hg
BMI
22.1
CVD risk (Beta)
0.0 %
CVD risk (Beta)
0.0 %
Facial Skin Age
Blood Glucose Coming Soon
Blood Alcohol Coming Soon
© 2021-2022 PanopticAI Ltd. All rights reserved.

Fig. 6

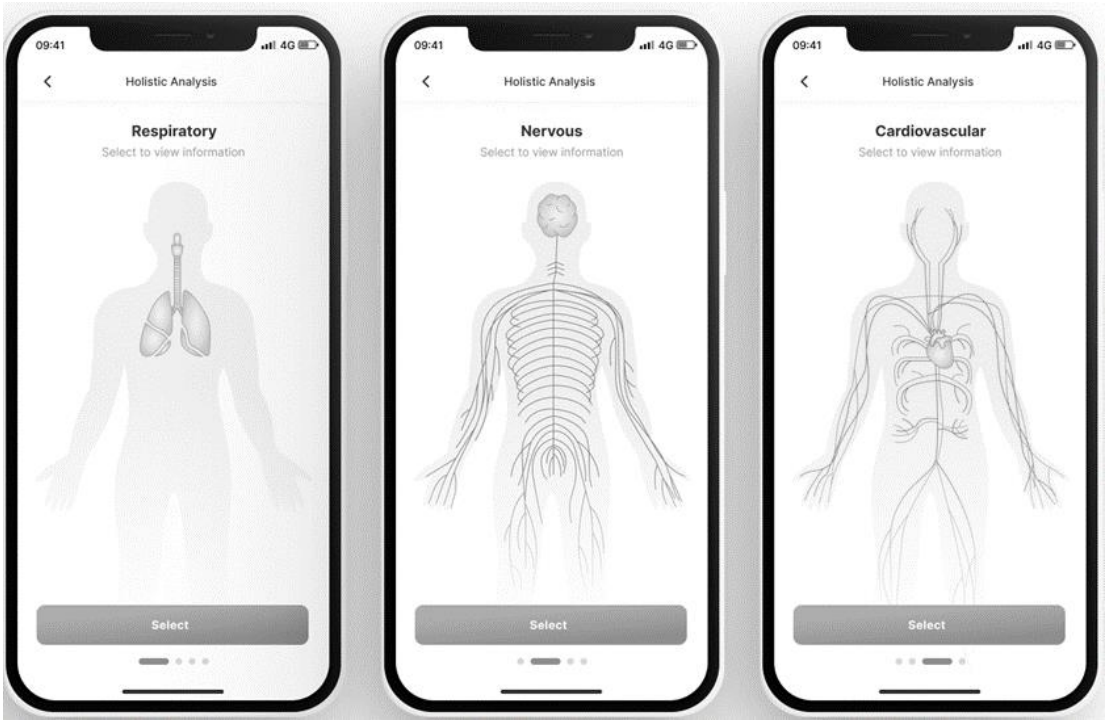
09:41
Holistic Analysis
Respiratory
Select to view information
Select
09:41
Holistic Analysis
Nervous
Select to view information
Select
09:41
Holistic Analysis
Cardiovascular
Select to view information
Select

Fig. 7

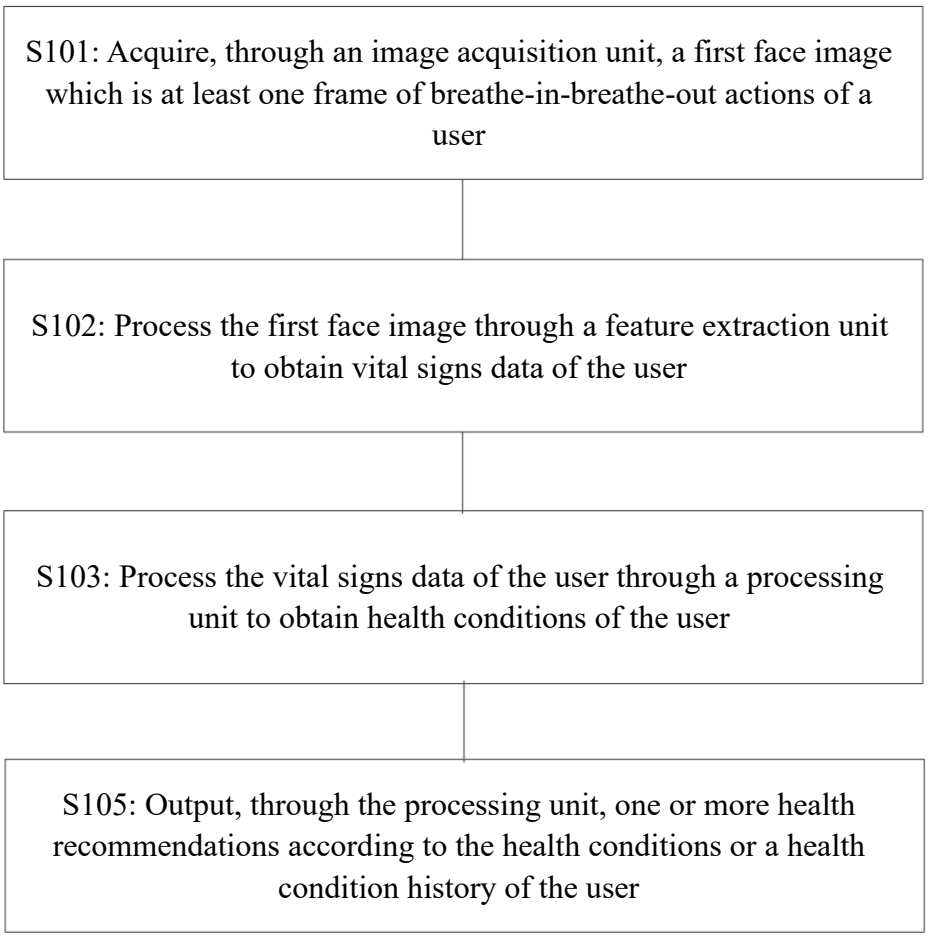
S101: Acquire, through an image acquisition unit, a first face image which is at least one frame of breathe-in-breathe-out actions of a user
S102: Process the first face image through a feature extraction unit to obtain vital signs data of the user
S103: Process the vital signs data of the user through a processing unit to obtain health conditions of the user
S105: Output, through the processing unit, one or more health recommendations according to the health conditions or a health condition history of the user

Fig. 8a

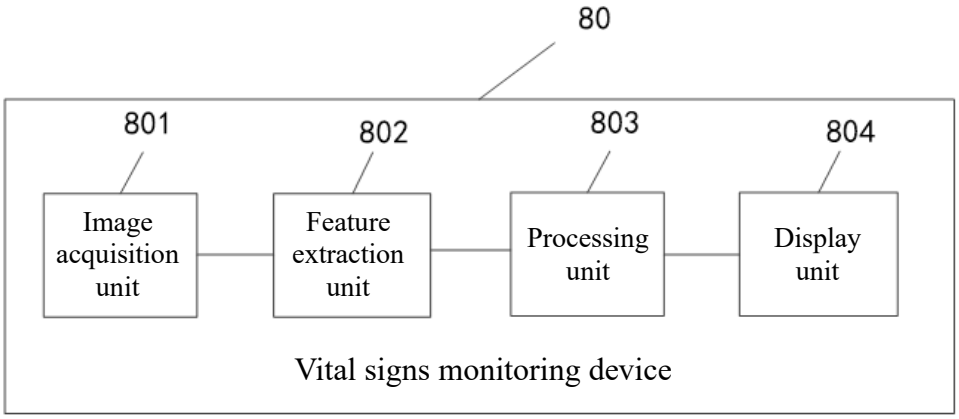
80
801
802
803
804
Image acquisition unit
Feature extraction unit
Processing unit
Display unit
Vital signs monitoring device

Fig. 8b

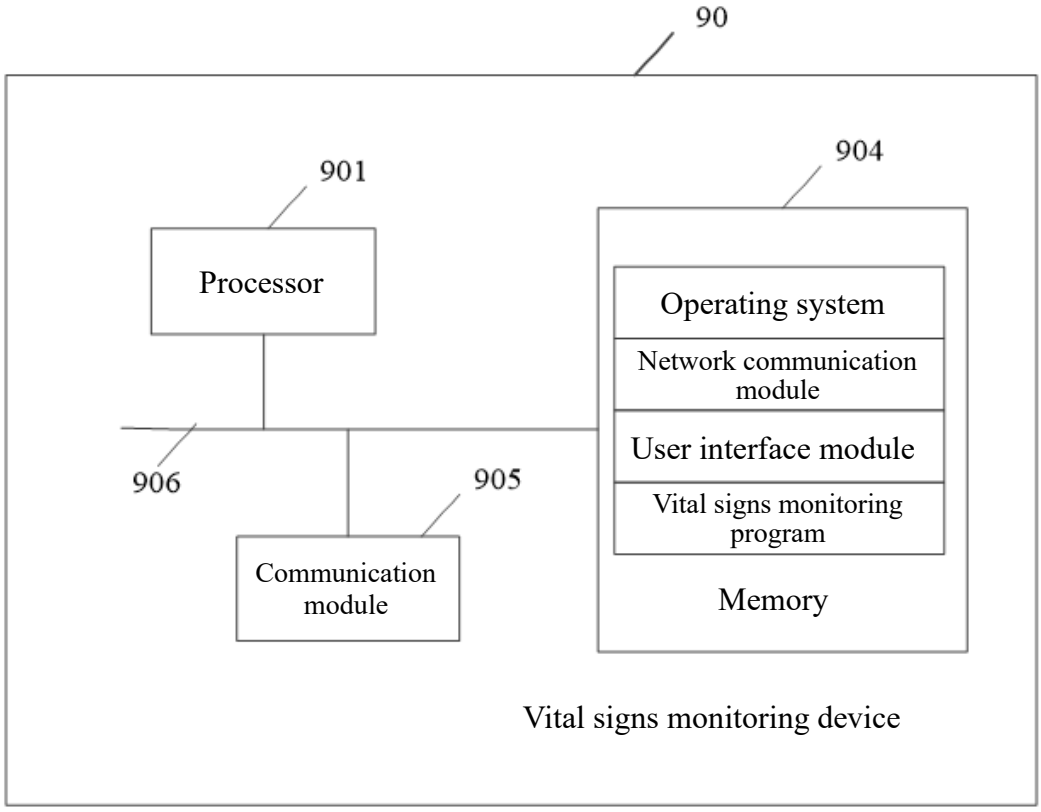
90
901
Processor
904
Operating system
Network communication module
User interface module
Vital signs monitoring program
Memory
906
905
Communication module
Vital signs monitoring device

Fig. 9