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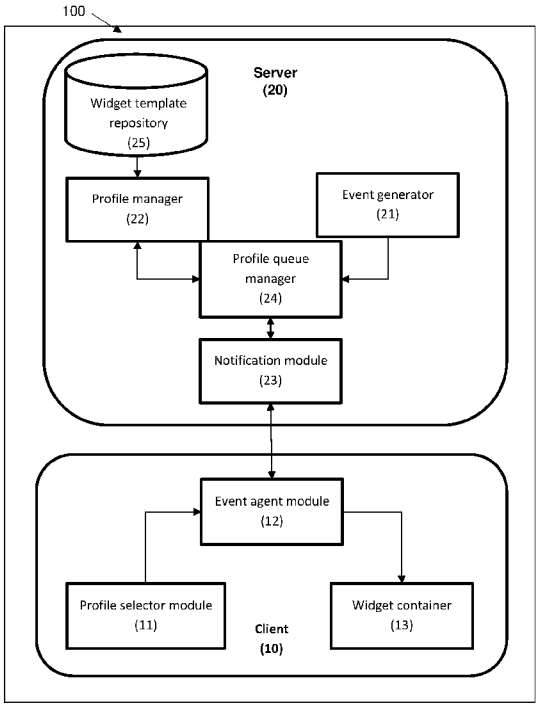

FIG. 1

(57) Abstract: The present invention relates to a system (100) and method for displaying widget on a dashboard. The system (100) comprises a client (10) and a server (20), wherein the client (10) is connected to the server (20). The server (20) provides a service to one or many clients (10) which initiates requests for such services. On the other hand, the client (10) may be a hardware or software that accesses the service made available by the server (20). The system (100) displays one or more widgets on the dashboard based on whether a configuration is done by a user at the client (10) or if an event which occurred in the system (100) is detected by the server (20).

WO 2020/101475 A1

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A SYSTEM AND METHOD FOR DISPLAYING WIDGET ON A DASHBOARD

FIELD OF INVENTION

The present invention relates to a system and method for displaying widget on a dashboard. More particularly, the present invention relates to a system and method for displaying widget on a dashboard based on event triggered and user's request.

BACKGROUND OF THE INVENTION

In a sensor monitoring system, a plurality of sensors are used to provide different readings, whereby a dashboard is required to monitor all the readings from the sensors. The data from the sensors are displayed in a form of widgets, wherein widgets are elements of graphical user interface that display information or provide a specific way for interaction between a user and an operating system or an application. Although the data from the sensors are displayed by the widgets, it is difficult to display all the required data from all the sensors at the same time on a fixed structure dashboard. Therefore, systems and methods are developed to dynamically visualise all data from all of the sensors.

An example of such system and method is disclosed in a United States Patent Publication No. 2015/0153918 A1 which relates to a digital dashboard application. The digital dashboard application extracts data, performs data processing on the extracted data, and displays the analysed data as widgets in a dashboard format. The digital dashboard application may access a widget library whereby an end user may download a widget from the widget library to add the widget into the digital dashboard application. The digital dashboard application may be installed, set up and maintained by the end user.

Another example of a system and method for displaying widget on a dashboard is disclosed in a United States Patent No. 7,954,064 B2 which relates to systems and methods for organising, managing and presenting widgets in display area. The system includes a processor which interacts with a user interface to provide two dashboard environments. The first dashboard environment is invoked from the user interface, while the second dashboard environment is invoked from the first dashboard environment. Each dashboard environment

includes a layer relative to a desktop and is separately displayable over the desktop. The desktop is inactivated in such a way that the visible elements on the desktop cannot be interacted with when the selected dashboard environment is displayed.

Although there are many systems and method for displaying widget on a dashboard, most of the systems and methods allow user to position the widgets in a desired arrangement such as overlapping, minimising, maximising and the like. Although such flexibility may be useful to the user, the arrangement may result in a cluttered display screen. Additionally, the cluttered screen may lead to information overload, thus, preventing the user from efficiently using the computer equipment due to difficulty in locating the relevant data. Therefore, there is a need for a system and method for displaying widget on a dashboard which addresses the mentioned problems.

SUMMARY OF INVENTION

The present invention relates to a system (**100**) and method for displaying widget on a dashboard. The system (**100**) for displaying widget on a dashboard comprising a server (**20**) configured to provide a service to at least one client (**10**) that initiates requests for such services and the at least one client (**10**) that accesses the service made available by the server (**20**). The server (**20**) comprising an event generator (**21**) configured to trigger profile change event when a predetermined condition is fulfilled and a profile manager (**22**) configured to validate the profile change request or profile change event, and prepare, generate and publish the effective profile. The client (**10**) comprising a widget container (**13**) configured to conform to an effective profile and caches at least one widget, wherein the effective profile is a data structure that comprises description of user interface elements and configuration and a profile selector module (**11**) configured to generate profile change request based on user's choice of widget container identification, wherein the profile change request comprises the widget container identification, configuration data, widget identification and requestor identification.

The method for displaying widget on a dashboard includes the steps of determining if a profile change is detected, generating a profile change event by the event generator (**21**) if a profile change is detected and the profile change is caused

by an event triggered configuration and validating the profile change event by a profile manager (**22**) by ensuring all key-value pairs of the profile change event are valid. Thereon, the profile manager (**22**) prepares, generates and publishes an effective profile to a widget container (**13**). The widget container (**13**) then validates the effective profile by determining whether the widget container identification matches with an identification in the effective profile and loads a uniform resource locator, URL of the widget content into the widget container (**13**) if the effective profile is valid.

Preferably, if the profile change is detected and the profile change is caused by a configuration done by a user, the steps include selecting the widget container identification of the widget container (**13**) to be configured, selecting a widget template of intended widget type for the widget container (**13**) to be displayed, selecting and configuring relevant widget configuration data, compiling all of the selected widget configuration data by the profile selector module (**11**) and generating a profile change request by the profile selector module (**11**). The profile change request is sent to the profile manager (**22**) for validation by ensuring all key-value pairs of the profile change request are valid. Thereon, the profile manager (**22**) prepares, generates and publishes an effective profile to a widget container (**13**). The widget container (**13**) then validates the effective profile by determining whether the widget container identification matches with an identification in the effective profile and loads the URL of the widget content into the widget container (**13**) if the effective profile is valid.

BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying drawings, which are incorporated in and constitute a part of the specification, illustrate embodiments of the invention and, together with the description, serve to explain the principles of the invention.

FIG. 1 illustrates a system (**100**) for displaying widget on a dashboard according to an embodiment of the present invention.

FIG. 2 illustrates a flowchart of a method for displaying widget on a dashboard according to an embodiment of the present invention.

FIG. 3 illustrates an example of visualisation of the widgets on the dashboard.

FIG. 4 illustrates a flowchart of sub-steps for generating a profile change event by an event generator (**21**) of the method of **FIG. 2**.

FIG. 5 illustrates a flowchart of sub-steps for generating a profile change request by a profile selector module (**11**) of the method of **FIG. 2**.

FIG. 6 illustrates an example of the dashboard with user configuration on a profile selector widget.

DESCRIPTION OF THE PREFERRED EMBODIMENT

A preferred embodiment of the present invention will be described herein below with reference to the accompanying drawings. In the following description, well known functions or constructions are not described in detail since they would obscure the description with unnecessary detail.

Initial reference is made to **FIG. 1** which illustrates a block diagram of a system (**100**) for displaying widget on a dashboard according to an embodiment of the present invention. The system (**100**) comprises at least one client (**10**) and a server (**20**), wherein the client (**10**) is connected to the server (**20**). In order for the client (**10**) and the server (**20**) to communicate with each other, the system (**100**) employs a transport protocol such as representational state transfer architecture, REST transactions, WebSockets protocol, and publish-subscribe messaging protocols.

The server (**20**) provides a service to the client (**10**) which initiates requests for such services. The service refers to the functionality performed by the server (**20**), whereby examples of the service include but not limited to sharing data or resources among multiple clients (**10**), and performing computation for the client (**10**). On the other hand, the client (**10**) may be a hardware or software that accesses the service made available by the server (**20**). The system (**100**) displays one or more widgets on the dashboard based on whether a configuration is done by a user at the client (**10**) or an event occurred in the system (**100**) is detected by the server (**20**).

The client (**10**) comprises a profile selector module (**11**), an event agent module (**12**), and at least one widget container (**13**). The widget container (**13**), which is connected to the event agent module (**12**), is a web-based application configured to conform to an effective profile. The effective profile is a data structure which comprises a description of user interface elements and configuration. The widget container (**13**) is also configured to update the user interface and configuration upon receiving the effective profile. Each widget container (**13**) caches at least one widget (not shown), wherein each widget container (**13**) and each widget has a unique identification, ID.

The profile selector module (**11**) is configured to generate a profile change request based on user's choice of widget container ID. The profile change request comprises the widget container ID, configuration data, widget ID and requestor ID, wherein the configuration data includes but not limited to list of devices, measurement types, icons and arbitrary data provisioned in the server (**20**). A format structure of the profile change request contains key-value pairs describing the profile change that is intended. The key-value pair is a set of two linked data items, wherein the key is a unique identifier for some item of data, while the value is either the data that is identified or a pointer to the location of that data.

The profile selector module (**11**) stores a list of widget container ID of the widget container (**13**) in the dashboard. The profile selector module (**11**) also stores a list of widget templates available in a widget template repository (**25**) of the server (**20**). The profile selector module (**11**) may further be filled with desired configuration data.

The event agent module (**12**) which is connected to the profile selector module (**11**), widget container (**13**) and server (**20**). The event agent module (**12**) is configured to convert the transport protocol employed in transmitting the profile change request or effective profile to and from the server (**20**). The event agent module (**12**) is also configured to send the profile change request from the profile selector module (**11**) to the server (**20**) and distribute the effective profile to the widget container (**13**).

The server (**20**) comprises an event generator (**21**), a profile manager (**22**), a notification module (**23**), a profile queue manager (**24**), and the widget template repository (**25**). The server (**20**) is connected to the event agent module (**12**) of the client (**10**) via the notification module (**23**).

The notification module (**23**) is connected to the event agent module (**12**) and profile queue manager (**24**). The notification module (**23**) receives the profile change request from the event agent module (**12**) and converts the transport protocol employed in transmitting the profile change request from the event agent module (**12**).

The notification module (**23**), which is further connected to the profile manager (**22**) and profile queue manager (**24**), forward the profile change request received from the event agent module (**12**) to the profile queue manager (**24**). The notification module (**23**) is also configured to convert the transport protocol employed in transmitting the effective profile to the event agent module (**12**) and forward the effective profile received from the profile manager (**22**) to the event agent module (**12**).

The profile queue manager (**24**) is connected to the event generator (**21**), profile manager (**22**) and notification module (**23**). The profile queue manager (**24**) is used as a communication channel for the event generator (**21**), profile manager (**22**) and profile selector module (**11**) to exchange the profile change request, profile change event and effective profile. A format structure of the profile change event contains key-value pairs describing the change that is intended.

The event generator (**21**) that is connected to the profile queue manager (**24**) is configured to trigger a profile change event when a predetermined condition is fulfilled. Examples of the conditions are a particular timing or a reading threshold. The event generator (**21**) may trigger the profile change event if the reading threshold exceeds a predetermined threshold. The profile change event comprises the widget container ID, configuration data, widget ID and requestor ID.

The profile manager (**22**) that is connected to the profile queue manager (**24**) is further connected to the widget template repository (**25**). The profile manager (**22**)

is configured to prepare, generate and publish the effective profile. The profile manager (**22**) prepares the effective profile by collecting selected widget template from the widget template repository (**25**), collecting necessary data based on configuration data points and creating widget content. The widget content is a web resource and is stored in a web server (not shown). The widget content is supplied with a uniform resource locator, URL address as a widget payload key within the effective profile, wherein the URL refers to the address of the widget content.

The profile manager (**22**) generates the effective profile by packing all effective profile parameter value into the effective profile. The profile manager (**22**) also publishes the effective profile to the profile queue manager (**24**).

The profile manager (**22**) is further configured to validate the profile change request and profile change event. The profile manager (**22**) validates both profile change request or profile change event by ensuring all key-value pairs are valid. The profile manager (**22**) ensures all key-value pairs are valid by comparing the key-value pairs of the profile change request or profile change event with available widget template and combinations of configuration data suitable for the relevant widget template.

The widget template repository (**25**) which is connected to the profile manager (**22**) is configured to store the preconfigured widget profile, wherein the widget profile may comprise user interface and selection configuration detail. The widget template repository (**25**) also stores widget template which contains executable codes such as JavaScript and Hypertext Markup Language, HTML.

Reference is now made to **FIG. 2** which illustrates a flowchart of a method for displaying widget on a dashboard according to an embodiment of the present invention. Initially, the system (**100**) determines if a profile change is detected as in decision **1005**. If the profile change is detected and the profile change is caused by an event triggered configuration, the event generator (**21**) generates a profile change event as in step **1110**. The profile change event is generated based on a set of conditions that are met. The sub-steps for generating the profile change event by the event generator (**21**) are further explained in relation to **FIG. 4**.

Thereon, the profile manager (**22**) validates the profile change event as in step **1120**. The profile manager (**22**) obtains the profile change event and determines if the contents of the profile change event are valid. The profile manager (**22**) validates the profile change event by ensuring all key-value pairs of the profile change event are valid. The profile manager (**22**) ensures all key-value pairs are valid by comparing the key-value pair of the profile change event with available widget template and combinations of configuration data suitable for the relevant widget template.

However, if the profile change is detected and the profile change is caused by a configuration done by the user as in decision **1005**, the profile selector module (**11**) generates a profile change request as in step **1210**. The profile change request is generated based on the user's choice of widget container ID. The sub-steps for generating the profile change request by the profile selector module (**11**) are further explained in relation to **FIG. 5**.

Thereon, the profile manager (**22**) validates the profile change request as in step **1220**. The profile manager (**22**) obtains the profile change request and determines if the contents of the profile change request are valid. The profile manager (**22**) validates the profile change request by ensuring all key-value pairs of the profile change request are valid. The profile manager (**22**) ensures all key-value pairs are valid by comparing the key-value pairs of the profile change request with available widget template and combinations of configuration data suitable for the relevant widget template.

Once the profile manager (**22**) has validated either the profile change event or profile change request as in step **1120** or step **1220** respectively, the profile manager (**22**) prepares the effective profile as in step **1300**. The profile manager (**22**) prepares the effective profile by extracting widget template, configuration data, and requestor ID from the key-value pair in the profile change event or profile change request format. If the widget template exists in the widget template repository (**25**), the profile manager (**22**) obtains the widget template from the widget template repository (**25**). The profile manager (**22**) then obtains the configuration data from the extracted profile change and combines the configuration data with the widget template to

create a widget content. The widget content is stored in the web server and the URL of the widget content is generated.

Afterward, the profile manager (**22**) generates the effective profile as in step **1400**. The profile manager (**22**) fills the widget container ID within the effective profile with the same value of similar key from the profile change event or profile change request. The profile manager (**22**) combines the data collected from the widget template such as HTML elements, fonts, colours, and JavaScripts to generate a widget on the server (**20**). The URL of the widget content is inserted into a widget payload key within the effective profile.

The profile manager (**22**) then publishes the effective profile to the profile queue manager (**24**) as in step **1500**. The notification module (**23**) retrieves the effective profile from the profile queue manager (**24**) and relays the effective profile to the event agent module (**12**). The event agent module (**12**) sends the effective profile to the widget container (**13**).

Upon receiving the effective profile, the widget container (**13**) validates the effective profile by determining whether the widget container ID matches with the ID in the effective profile as in decision **1650**. The URL of the widget content finally is loaded into the widget container (**13**) only if the widget container ID matches with the ID in the effective profile as in step **1700**.

An example of visualisation of the widget on the dashboard is illustrated in **FIG. 3**. As shown in **FIG. 3**, the dashboard displays a profile selector widget and a widget with a widget container ID 123. The profile selector widget is a widget for the profile selector module (**11**), wherein the profile selector widget receives user's configuration and thereon the profile selector module (**11**) generates the profile change request based on the user's configuration.

The widget with the widget container ID 123 displays the widget content from the URL loaded into the widget container (**13**) if the widget container ID matches with the ID in the effective profile. As the widget content contains the temperature value detected by a sensor, the relevant widget template to be used is a gauge meter. Additionally, as the widget content contains an additional alert data due to the

temperature has exceed a threshold temperature, the relevant widget template to be used is an alert animation.

Therefore, the widget with the widget container ID 123 displays the widget content using the relevant widget template. In this case, the widget with the widget container ID 123 displays the temperature value on the gauge meter and the alert data in the alert animation. The alert animation is displayed below the gauge meter.

Referring back to **FIG. 2**, if the widget container ID does not match with the ID in the effective profile as in decision **1650** or if there is no profile change detected as in decision **1005**, the widget container remains unchanged or unmodified. The widget container may remain empty as there is no matching effective profile arriving from the server (**20**).

FIG. 4 illustrates a flowchart of sub-steps for generating the profile change event by the event generator (**21**) of the step **1110** of the method of **FIG. 2**. Initially, the event generator (**21**) waits for an event to be triggered. If an event is triggered, the event generator (**21**) gathers all condition sets as in step **1112**. A condition set is a logical statement defining conditions which when met, an action will be taken. An example of the condition set is measurement reading from a temperature sensor. When the temperature sensor detects that the temperature has gone over 100°C which is the threshold temperature, an action has to be executed to update a widget container with the gauge meter template. The temperature gauge meter is used to display the temperature reading with an alert animation.

Thereon, the event generator (**21**) determines if any conditions are met as decision **1113**. If at least one condition is met, the event generator (**21**) implements condition configuration as in step **1114**. The condition configuration establishes a list of target device, measurement type, icon selection and any arbitrary data relevant to widget template selected.

Referring to the earlier example, once the temperature sensor detects that the temperature has gone over 100°C, the alert animation is executed by gathering and applying relevant configuration details into the format structure of the profile change event. The configuration details include but not limited to listing the targeted device,

measurement type, widget template to be used, container ID to be affected and additional arbitrary data which is relevant to the widget in the widget template repository (**25**).

The event generator (**21**) then generates the profile change event as in step **1115** and the profile change event is sent to the profile queue manager (**24**) as in step **1116**. The profile queue manager (**24**) sends the profile change event to the profile manager (**22**) for validation as in step **1120** of the method of **FIG. 2**.

FIG. 5. Illustrates a flowchart of sub-steps for generating the profile change request by the profile selector module (**11**) of the step **1210** of the method of **FIG. 2**. Initially, the user selects the widget container ID of the widget container (**13**) to be configured as in step **1211**. Thereon, the user selects the widget template of intended widget type for the widget container (**13**) to display as in step **1212**.

The user also selects and configures relevant widget configuration data as in step **1213**. The widget configuration data comprises the list of target device, measurement type, icon selection and any arbitrary data relevant to the widget template selected. The user selects the widget container ID to be configured, widget template of intended widget type and relevant widget configuration from the profile selector widget on the dashboard as shown in **FIG. 6**. **FIG. 6** illustrates an example of the dashboard with the user configuration on the profile selector widget.

Once the profile selector module (**11**) receives the user's configuration via the profile selector widget, the profile selector module (**11**) compiles all of the selected widget configuration data and generates the profile change request as in step **1214**. The profile selector module (**11**) then sends the profile change request to the event agent module (**12**) which then sends the profile change request to the notification module (**23**). The profile change request is then sent to the profile queue manager (**24**) as in step **1215** which then forwards the profile change request to the profile manager (**22**) for validation as in step **1220** of **FIG. 2**.

While embodiments of the invention have been illustrated and described, it is not intended that these embodiments illustrate and describe all possible forms of the invention. Rather, the words used in the specifications are words of description rather

than limitation and various changes may be made without departing from the scope of the invention.

CLAIMS

1. A system (**100**) for displaying widget on a dashboard comprising:
    a) a server (**20**) configured to provide a service to at least one client (**10**) that initiates requests for such services, wherein the service refers to the functionality performed by the server (**20**), and wherein the server (**20**) further comprising:
        i. an event generator (**21**) configured to trigger profile change event when a predetermined condition is fulfilled; and
    b) the at least one client (**10**) that accesses the service made available by the server (**20**), wherein the client (**10**) further comprising:
        i. a widget container (**13**) configured to conform to an effective profile and caches at least one widget, wherein the effective profile is a data structure that comprises description of user interface elements and configuration; and
        ii. a profile selector module (**11**) configured to generate profile change request based on user's choice of widget container identification, wherein the profile change request comprises the widget container identification, configuration data, widget identification and requestor identification;

    characterised in that the server (**20**) further comprising:
        iii. a profile manager (**22**) configured to validate the profile change request or profile change event, and prepare, generate and publish the effective profile.

2. The system (**100**) as claimed in claim **1**, wherein the server (**20**) further comprising:
    a) a notification module (**23**) configured to convert transport protocol employed in transmitting the profile change request or effective profile to or from the at least one client (**10**);
    b) a profile queue manager (**24**) configured to be used as a communication channel for the event generator (**21**), profile manager (**22**) and profile selector module (**11**) to exchange the profile change request, profile change event and effective profile; and
    c) a widget template repository (**25**) configured to store a preconfigured widget profile and a widget template that contains executable codes,

wherein the widget profile comprises user interface and selection configuration detail.

3. The system (**100**) as claimed in claim **1**, wherein the client (**10**) further comprising an event agent module (**12**) configured to convert transport protocol employed in transmitting the profile change request or effective profile to and from the server (**20**) and send the profile change request from the profile selector module (**11**) to the server (**20**), and format and distribute the effective profile to the widgets installed in the widget container (**13**).

4. A method for displaying widget on a dashboard is characterised by the steps of:

a) determining if a profile change is detected;
b) generating a profile change event by the event generator (**21**) if a profile change is detected and the profile change is caused by an event triggered configuration;
c) validating the profile change event by a profile manager (**22**) by ensuring all key-value pairs of the profile change event are valid;
d) preparing an effective profile by the profile manager (**22**);
e) generating the effective profile by the profile manager (**22**);
f) publishing the effective profile to a widget container (**13**) by the profile manager (**22**);
g) validating the effective profile by determining whether the widget container identification matches with an identification in the effective profile by the widget container (**13**); and
h) loading a uniform resource locator, URL of the widget content into the widget container (**13**) if the effective profile is valid.

5. The method as claimed in claim **4**, wherein if the profile change is detected and the profile change is caused by a configuration done by a user, the steps include;

a) selecting the widget container identification of the widget container (**13**) to be configured;
b) selecting a widget template of intended widget type for the widget container (**13**) to be displayed;

c) selecting and configuring relevant widget configuration data;
d) compiling all of the selected widget configuration data by the profile selector module (**11**);
e) generating a profile change request by the profile selector module (**11**);
f) sending the profile change request to the profile manager (**22**);
g) validating the profile change request by a profile manager (**22**) by ensuring all key-value pairs of the profile change request are valid;
h) preparing the effective profile by the profile manager (**22**);
i) generating the effective profile by the profile manager (**22**);
j) publishing the effective profile to a widget container (**13**) by the profile manager (**22**);
k) validating the effective profile by determining whether the widget container identification matches with an identification in the effective profile by the widget container (**13**); and
l) loading the URL of the widget content into the widget container (**13**) if the effective profile is valid.

6. The method as claimed in claim **5**, wherein validating the profile change request by a profile manager (**22**) by ensuring all key-value pairs of the profile change request are valid includes the step of comparing the key-value pair of profile change request with available widget template and combination of configuration data suitable for relevant widget template.

7. The method as claimed in claim **5**, wherein preparing the effective profile by the profile manager (**22**) includes the steps of:
a) extracting widget template, configuration data and requestor identification from key-value pair in the profile change request, wherein configuration data includes list of devices, measurement types, icons and arbitrary data provisioned in the server (**20**);
b) obtaining widget template from a widget template repository (**25**) if the widget template exists in the widget template repository (**25**);
c) obtaining configuration data from extracted profile change;
d) creating a widget content by combining the configuration data with the widget template; and

e) generating the URL of the widget content.

8. The method as claimed in claim **5**, wherein generating the effective profile by the profile manager (**22**) includes the steps of:

a) filling widget container identification with same value of similar key from the profile change request;

b) generating a widget on the server (**20**) by combining data collected from widget template, wherein the data include Hypertext Markup Language, HTML elements, fonts, colours, and JavaScripts; and

c) inserting the URL of the widget content into a widget payload key.

9. The method as claimed in claim **4**, wherein generating the profile change event by the event generator (**21**) if an event occurred in the system (**100**) is detected by the event generator (**21**) and the profile change is caused by an event triggered configuration includes the steps of:

a) gathering all condition sets;

b) determining if any conditions are met; and

c) implementing condition configuration if at least one condition is met.

10. The method as claimed in claim **4**, wherein validating the profile change event by a profile manager (**22**) by ensuring all key-value pairs of the profile change event are valid includes the step of comparing the key-value pair of profile change event with available widget template and combination of configuration data suitable for relevant widget template.

11. The method as claimed in claim **4**, wherein preparing the effective profile by the profile manager (**22**) includes the steps of:

a) extracting widget template, configuration data and requestor identification from key-value pair in the profile change event, wherein configuration data includes list of devices, measurement types, icons and arbitrary data provisioned in the server (**20**);

b) obtaining widget template from a widget template repository (**25**) if the widget template exists in the widget template repository (**25**);

c) obtaining configuration data from extracted profile change;

d) creating a widget content by combining the configuration data with the widget template; and

e) generating the URL of the widget content.

12. The method as claimed in claim **4**, wherein generating the effective profile by the profile manager (**22**) includes the steps of:

a) filling widget container identification with same value of similar key from the profile change event;

b) generating a widget on the server (**20**) by combining data collected from widget template, wherein the data include Hypertext Markup Language, HTML elements, fonts, colours, and JavaScripts; and

c) inserting the URL of the widget content into a widget payload key.

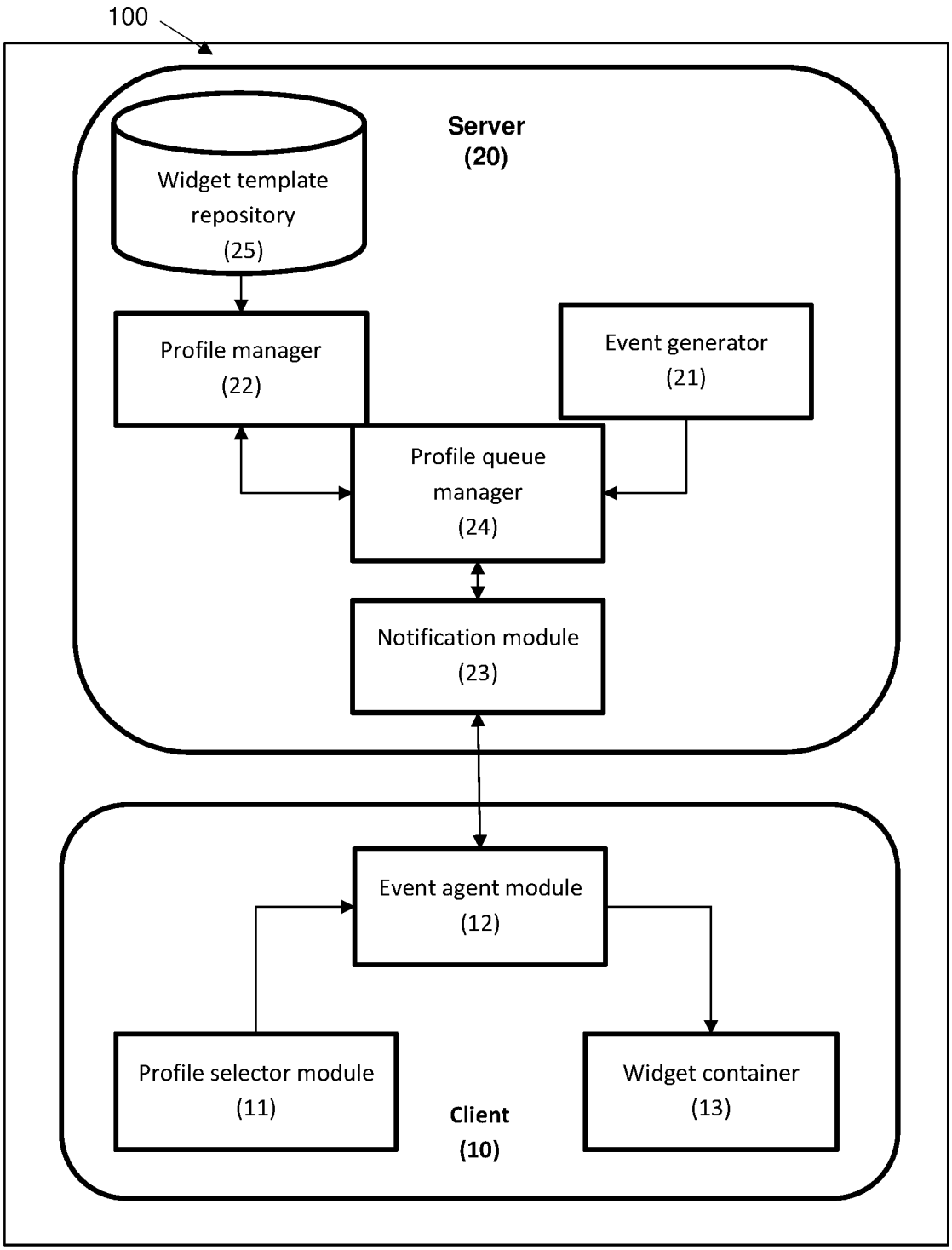
100
Server
(20)
Widget template repository
(25)
Profile manager
(22)
Event generator
(21)
Profile queue manager
(24)
Notification module
(23)
Event agent module
(12)
Profile selector module
(11)
Widget container
(13)
Client
(10)

FIG. 1

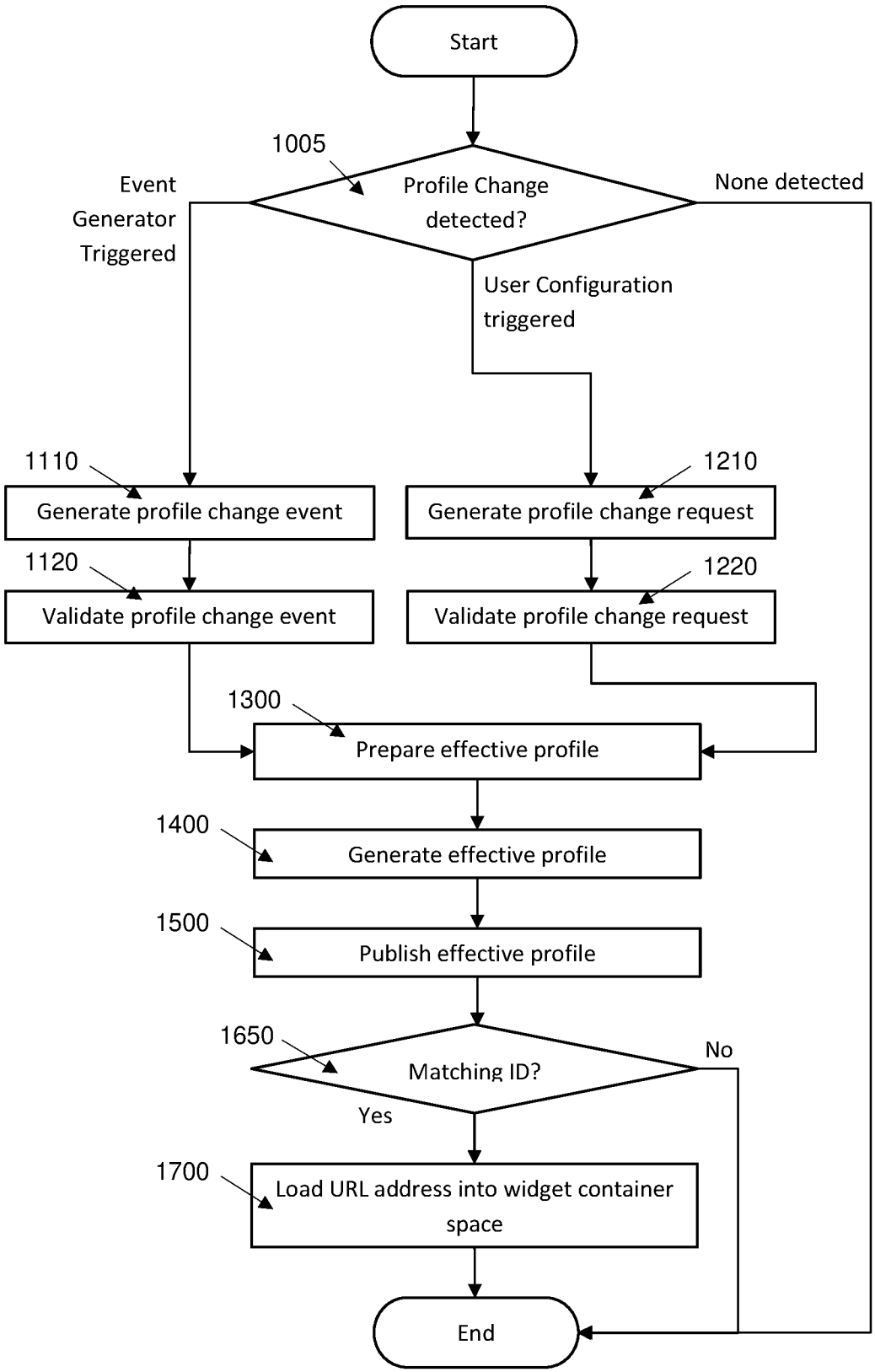
Start
1005
Profile Change detected?
Event Generator Triggered
None detected
User Configuration triggered
1110
Generate profile change event
1210
Generate profile change request
1120
Validate profile change event
1220
Validate profile change request
1300
Prepare effective profile
1400
Generate effective profile
1500
Publish effective profile
1650
Matching ID?
No
Yes
1700
Load URL address into widget container space
End

FIG. 2

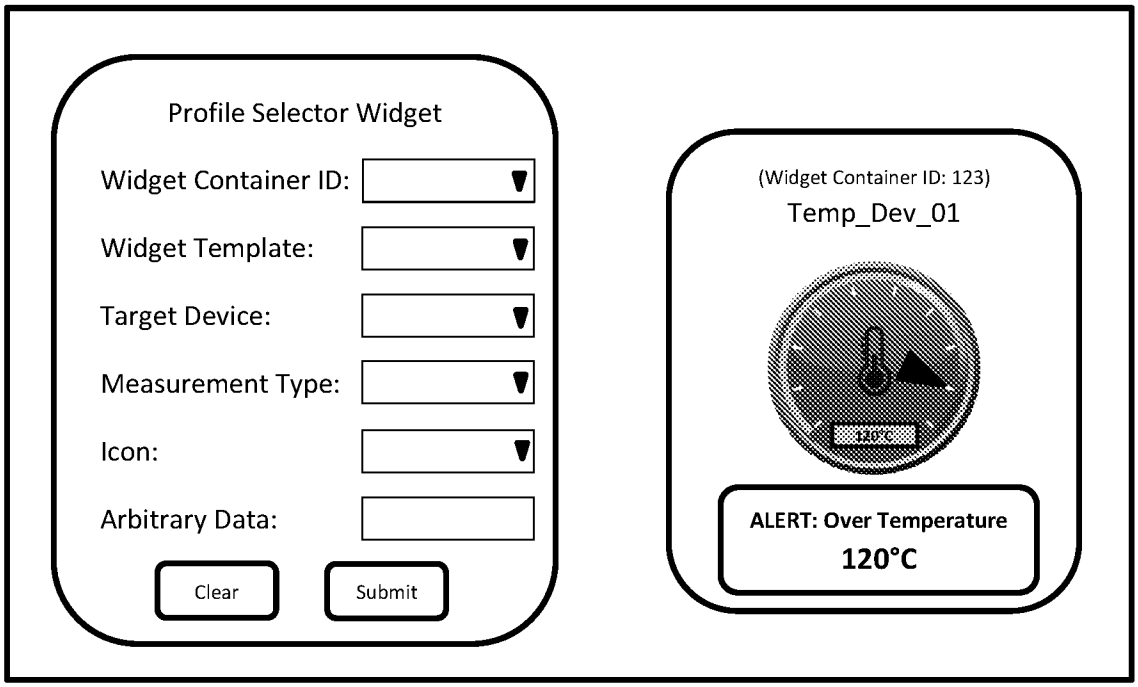
Profile Selector Widget
Widget Container ID:
Widget Template:
Target Device:
Measurement Type:
Icon:
Arbitrary Data:
Clear
Submit
(Widget Container ID: 123)
Temp_Dev_01
ALERT: Over Temperature
120°C

FIG. 3

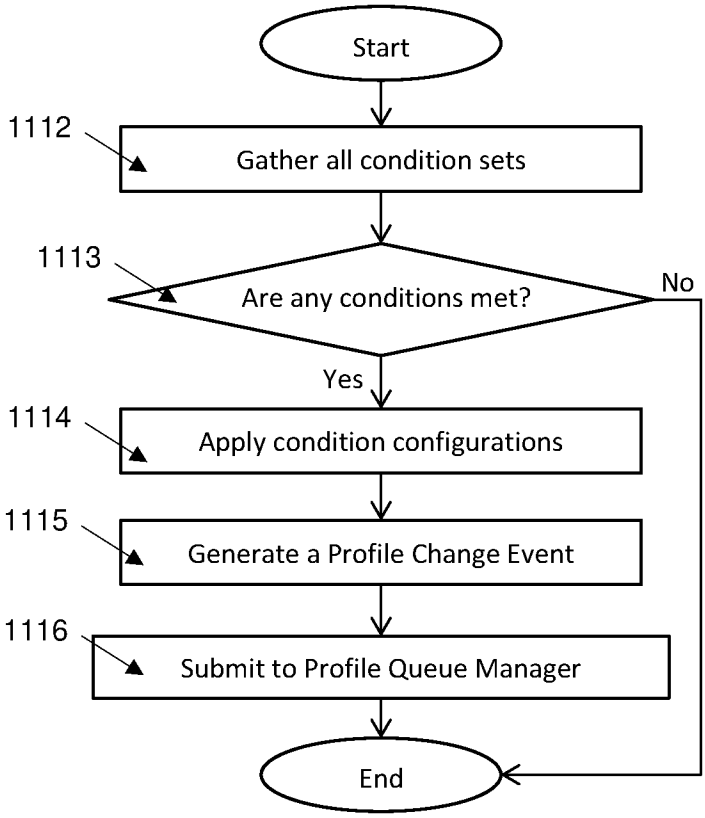
Start
1112
Gather all condition sets
1113
Are any conditions met?
No
Yes
1114
Apply condition configurations
1115
Generate a Profile Change Event
1116
Submit to Profile Queue Manager
End

FIG. 4

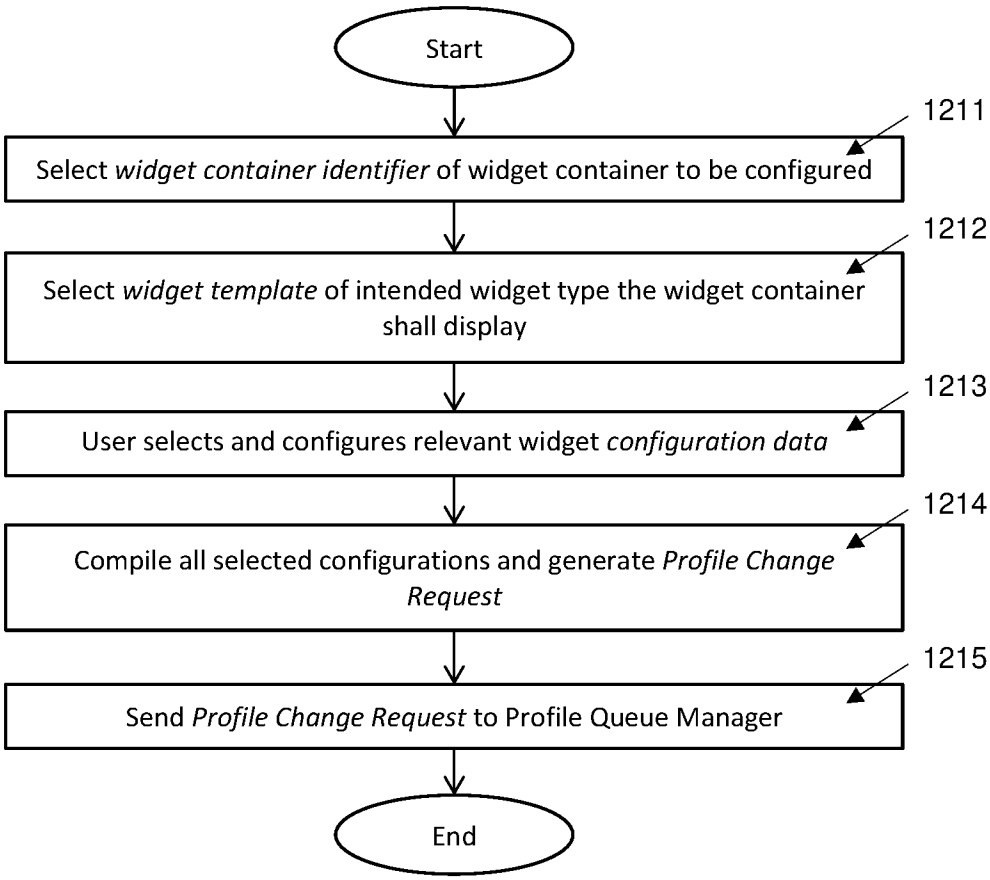
Start
1211
Select *widget container identifier* of widget container to be configured
1212
Select *widget template* of intended widget type the widget container shall display
1213
User selects and configures relevant widget *configuration data*
1214
Compile all selected configurations and generate *Profile Change Request*
1215
Send *Profile Change Request* to Profile Queue Manager
End

FIG. 5

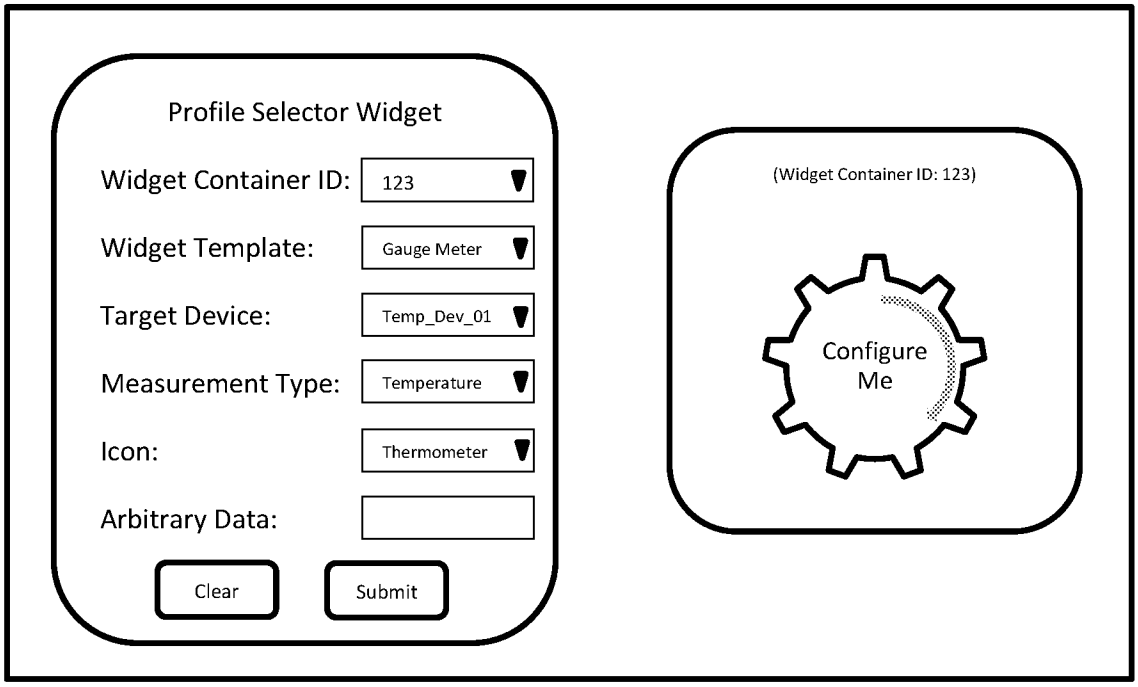
Profile Selector Widget
Widget Container ID:
123
Widget Template:
Gauge Meter
Target Device:
Temp_Dev_01
Measurement Type:
Temperature
Icon:
Thermometer
Arbitrary Data:
Clear
Submit
(Widget Container ID: 123)
Configure Me

FIG. 6

INTERNATIONAL SEARCH REPORT

International application No.
PCT/MY2019/050090

A. CLASSIFICATION OF SUBJECT MATTER

G06F 3/0484(2013.01)i, G06F 21/62(2013.01)i, H04L 29/08(2006.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
G06F 3/0484; G06F 17/30; G06F 3/048; G06F 3/0481; G06F 3/0482; G06F 9/44; G06F 21/62; H04L 29/08

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Korean utility models and applications for utility models
Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
eKOMPASS(KIPO internal) & Keywords: change event, predetermined condition, effective profile, profile change request, validation, server, client, widget

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2011-0099487 A1 (SEPPO PYHALAMMI et al.) 28 April 2011 paragraphs [0044]-[0054]; and claim 1	1-12
Y	US 2013-0275890 A1 (MARK CARON et al.) 17 October 2013 paragraphs [0029]-[0053]; and claims 1, 3	1-12
DY	US 2015-0153918 A1 (GENERAL ELECTRIC COMPANY) 04 June 2015 paragraph [0011]; and claim 1	4-12
A	US 2010-0058216 A1 (SOO YEOUN YOON et al.) 04 March 2010 paragraphs [0072]-[0083]; and claim 1	1-12
A	US 2017-0199633 A1 (APPLE INC.) 13 July 2017 paragraphs [0099]-[0109]; and claim 2	1-12

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"D" document cited by the applicant in the international application
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents,such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
16 March 2020 (16.03.2020)	**16 March 2020 (16.03.2020)**

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/MY2019/050090

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