Application of telepresence robot for COVID-19 management

Telepresence robots can be used to help manage the COVID-19 situation now, this section will talk some details about some specific application through block diagrams.

1. Remote temperature monitoring at public places like airports, such function can avoid staff being exposed to the danger of being infected when measuring others temperature. Compared to ask staff to measure the temperature by themselves, telepresence robot can measure multiple person’s temperature at once, which improve the efficiency.

**Controller**

Monitor the temperature reading, and give instruction through remote control system

**Temperature measuring telepresence robot**

**Tablet with camera and speaker**

**Door switch**

**Infrared thermometer**

Measure comer’s temperature and transmit the reading to controller

Open thedoor

if temperature is not too high

Make video call

Guide comers to quarantine if the temperature is high

1. Remote consultation between health professionals (doctors, nurses etc.) with patients using the tab/ Replace hospital reception staff with robots to answer questions by patients and family members.

**Patient**

**Remote consultation telepresence robot**

**Appointment system on Tablet**

Shows doctor’s status

(whether convenient)

**Infrared thermometer**

Measure temperature and store the reading

Make a schedule if the doctor is inconvenient

**Tablet with camera and speaker**

Make video call for

diagnosis after measuring the temperature

**Doctors**

Update status

(whether convenient)

**Controllers or doctors**

Make Update or diagnosis through remote control system

1. Contactless delivery of food and medicines, by some modification of the medication dispenser. Transport robots can free some nurses by doing their work like delivering medicine or food and reduce their time for intimate contact the virus.

**Food or Medicine Dispenser**

**Transport telepresence robot**

**Tablet with camera and speaker**

**Infrared thermometer**

**Moving Chassis**

**Guidance and moving system**

Measure **Patient’s** temperature

**Deliver Container** with food or medicine inside

**Controller or doctors**

Give instruction through remote control system

1. Disinfect rooms with ultraviolet light and remove germs using special attachments

**Moving Chassis**

**Disinfection telepresence robot**

**Pneumatic system**

release spray and disinfect the air

**Tablet with camera and speaker**

**Ultraviolet Light**

**Disinfection system**

**Guidance and moving system**

Show the progress

**Controller or doctors**

Give instruction through remote control system