

### TeleMedicine & Public Health Service

that is kinder, more accessible and affordable with greater coverage and outreach at immensely reduced cost of service provision for

- Primary Care
- Home Healthcare
- Mental Health

Especially to rural areas and remote parts of the country

### What is MRESENCE?

“MRESENCE” is Presence in Mixed Reality. Mixed Reality is a term that describes a production of data and digital experience resulting from a mix (experience) of physical reality and digital reality – all made available to a user of a Smartphone connected to a high-speed mobile data service network.

MRESENCE enables people who are geographically dispersed to communicate with one another over the Internet in Mixed Reality in ways that are close approximation to what or how they would do if they were together in one same physical space and time in text chat, in a dialogue with voice conversation, and in video in VR (Virtual Reality) and MR (Mixed Reality) streaming back and forth between/among the parties.

Through the operation of MRESENCE, the various parties achieve

- “See What I See”,
- “Touch What I Touch” and
- “Expression of Empathy over cyberspace”

in their interactions which may be in

- a one-to-one,
- one-to-many,
- many-to-one and
- many-to-many configuration.

Each party is typically either an Advice Seeker or an Advice Giver in the configuration.



### MRESENCE is an enablement platform that is (to be) implemented with the following attributes:

- the above-stated unique functional features
- hashed Blockchain recording and archiving of media data
- real time 2-way translation of dialog between the Advice Seeker and the Advice Giver
- Big Data Analytics capability of captured data
- AI Deep Learning capability

Others are invited to build vertically integrable service provision operation on MRESENCE Enablement Platform. API is provided for the purpose of integration.

### TeleCare with MRESENCE is

- Easy to set up
- Very Convenient
- Very Affordable

### TeleCare with MRESENCE service ecosystem consists of

(a) A party (the Patient) with a Personal Care Giver / Helper using a smartphone running TeleCare App for Patient with its camera pointed at the Patient to capture the image and physical condition of the Patient and the surrounding condition

(b) Another Party (a Physician or a Medical Specialist) using a Smartphone running TeleCare App for Medical Advice Giver. The Smartphone is secured in a holder at the top of a stand or it is held by a Medical Assistant standing next to the Medical Specialist.

Both (a) and (b) are connected to the Internet with a highspeed Internet connection (4 Mbps) and with each other through

(c) MRESENCE Enablement Platform that is a cloud-based Server

The Medical Specialist sees on the screen of their Smartphone the Patient and his/her surrounding in VR Streaming and conducts a conversation with the Patient and examine the Patient in procedure that the Physician would normally do for diagnosis to determine prognosis of the Patient's condition and to give prescription for medication to the Patient, etc.

The Medical Specialist can instruct the Care Giver to do any of the following with pinpoint accuracy by using their finger or a spatula or a pointing device to point at the VR image that is shown through the screen of their Smartphone.

The voice instruction and Mixed Reality capture of the Medical Specialist's pinpointing action on the VR Image as it appears in the Smartphone are transmitted through the cloud-based MRESENCE Server over to the Patient's Smartphone and are displayed on the screen of the Patient's Smartphone.

- to point the camera of the Smartphone at various parts of the Patient's body for examination including examining the inside of the Patient's mouth and throat, etc.
- to have the camera capture the Patient's posture when sitting, standing up, making steps in walking, etc.
- to place a stethoscope (integrable with the Smartphone through a USB port) on the person of the Patient according to the instructions of the Medical Specialist. The signal detected by the stethoscope are transmitted through the cloud-based MRESENCE Server to the Medical Specialist's Smartphone.



### The following data are captured and archived with hashed blockchain implementation:

The media data of the VR & MR Streaming including

- the text chat between Patient/Care Giver and the Medical Specialist
- the audio duplex conversation between the Patient/Care Giver and the Medical Specialist
- the voice file and video file of the images of the interaction between the Patient/Care Giver and the Medical Specialist
- the signals transmitted from the Stethoscope integrated with the Smartphone to the Medical Specialist

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