

Summary of the iCommunicate System

THE need for communication between humans is just as important as communication between objects around us. Either in the home or the office or in any other setting whereby humans have to interact with machines and non-mechanical or non-electrical systems, the main intention of these systems is to lighten the workload of the users by making task easier to complete. However, each time new systems brought into an old setting; the office would most probably be not able to communicate with the rest of the systems. Therefore, if there can be intelligent communication between the all of the systems in question and also access of control to the office users would allow us to control and maximize the capability of the office equipment.

THE iCommunicate is a communication control module along with two separate transmitting and receiving module to transmit the status of the systems and also to execute the instructions to the intended systems respectively. The mode of communication between the control unit and other modules would be through RF waves. The transmission of the data will then be encrypted by using encoders and decoders to keep the data exclusive to the iCommunicate system.

CURRENTLY the iCommunicate system would consist of the iThink module which would be the controller along with a iAlert module that is able to record the voice or any sound played at its microphone and then replay the piece as the alarm which would be heard during status notifications received from the transmitting module, followed by the iSend module which will be planted in the object that requires monitoring, transmitting four data bits back to the iThink module and lastly there would be the iDo module that will receive the signals from the iThink to execute the instructions to the object to be activated.

IN our project, we choose to have a mailbox being monitored for the presence of mail and whether there is a break-in. For this setting, the iAlert module was programmed to sound out 'You have received mail' and beeps will be played in the event of a break-in. Also, we built a mini-vehicle to illustrate the execution of instructions from the iThink module to the iDo module on board the vehicle.

SO the flexibility of the iCommunicate is being able to send out instructions to any object which has the iMove module controlling its actuators and also to be able to receive signals from the iSend module which is fixed to an object that can be non-electrical like a chair for status updates, corresponding sensors would have to be fitted in the iSend module to 'read' the changes of the object.

THE iCommunicate system is not restricted to just the mailbox, this system allows control over 256 objects that are being installed with either the iMove or iSend modules. Therefore its application is limited not by how many devices that has to be controlled but only by its hardware which can be overcome by upgrading the receiver and transmitter modules for more address bits. In essence the iCommunicate is versatile multi-purpose remote controller which can control and also display the status of the devices which are being controlled.

