are these done? no

|  |  |
| --- | --- |
| Module Name | main() |
| Module Type | Coordination |
| Input Arguments | None |
| Output Arguments | None |
| Descriptions | The main function calls BluetoothConnect() to conncet to Arduino2 and to the users phone. TextInput() is then called to receive the text the user wants to display and then converts the text to be displayed onto the LED wand. IRCalculation() is called to calculate the speed of the wand and sends the data to Arduino2 to adjust the motor speed. |
| Modules Invoked | BluetoothConnect, TextInput, IRCalculation |

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| --- | --- |
| Module Name | BluetoothConnect() |
| Module Type | Input and Output |
| Input Arguments | None. |
| Output Arguments | None. |
| Descriptions | This function calls Arduino2() and Phone() to create a bluetooth connection between the Arduino’s and the user’s phone. |
| Modules Invoked | Arduino2, Phone |

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| --- | --- |
| Module Name | Arduino2() |
| Module Type | Input and Output |
| Input Arguments | Bluetooth address to the Arduino2 is inputted |
| Output Arguments | Bluetooth Connection |
| Descriptions | Creates a connection with Arduino2 with its address and this connection is then used to send the speed of the motor to Arduino2 |
| Modules Invoked | None. |

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| --- | --- |
| Module Name | Phone() |
| Module Type | Input and Output |
| Input Arguments | Bluetooth to phone |
| Output Arguments | Bluetooth Connection |
| Descriptions | Creates a bluetooth connection to the user’s phone which allows the user to then input a text and send it to the Arduino to display on the LED wand. |
| Modules Invoked | None. |

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| --- | --- |
| Module Name | TextInput() |
| Module Type | Input and Output |
| Input Arguments | userText-text from the user that was sent over bluetooth |
| Output Arguments | userText |
| Descriptions | Receives the text from the user and sends this text to ConvertText() to have the text mapped to the LED |
| Modules Invoked | ConvertText |

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| --- | --- |
| Module Name | ConvertText() |
| Module Type | Input and Output |
| Input Arguments | userText |
| Output Arguments | mappedLEDs |
| Descriptions | Receives the inputted text from the user and maps the text to the LED’s |
| Modules Invoked | LEDControl |

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| --- | --- |
| Module Name | LEDControl() |
| Module Type | Input and Output |
| Input Arguments | mappedLEDs |
| Output Arguments | None. |
| Descriptions | Takes the mapped LEDs and displays them on 64 x110 pixels and decides what LED’s need to be lit up at what time as the LED wand spins. |
| Modules Invoked | None. |

|  |  |
| --- | --- |
| Module Name | IRCalculation() |
| Module Type | Input and Output |
| Input Arguments | IRSensor |
| Output Arguments | IRReadings |
| Descriptions | This function records the IR sensor and uses it to calculate the angular velocity of the arm and sends this information to SendInput() |
| Modules Invoked | SendInput |

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| --- | --- |
| Module Name | SendInput() |
| Module Type | Input and Output |
| Input Arguments | IRReadings |
| Output Arguments | Speed |
| Descriptions | This sends the new speed that the motor needs to operate at to Arduino2 through the bluetooth connection |
| Modules Invoked | None |

Arduino 2