Team eyeCU

Milestone 1 and 2 Goals

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Milestone 1

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| **Module** | Wireless |
| **Inputs** | Wireless data generated by Beagle Bone. UART data from the MSP430. |
| **Outputs** | UART data to the MSP430 board. Wireless data to the Beagle Bone. |
| **Functionality** | The XBEE wireless will have two-way communication. The Beagle Bone XBEE will be able to send cursor commands to the MSP430 XBEE. And the MSP430 XBEE will send algorithm parameter data the Beagle Bone XBEE. |
| **Demonstration Plan** | Send the string, “Hello World”. The string will be sent from the MSP430 development board through UART1 and into an XBEE. This XBEE will transmit this string to another XBEE connected to a USB XBEE explorer and will transmit the string to the computer and display, “Hello World” on a terminal. |

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| **Module** | Camera board |
| **Inputs** | Visual data |
| **Outputs** | 8-bit data bus with image information in RGB 5:6:5.  HD, VD, DCLK |
| **Functionality** | The camera board houses the camera and supporting hardware. The camera will output da­­ta in the configuration above. Each pulse of DCLK signifies another 8-bit parallel chunk is ready to be read. HD signifies the end of a line in the 640x480 resolution of the final images while VD signifies the end of the image. |
| **Demonstration Plan** | To show functionality of the camera board by displaying the data clock on an oscilloscope. |

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| **Additional Goals** |  |
|  | * Have power PCB revision one designed * Have MSP430 board revision one designed |
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Milestone 2

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| **Module** | Wireless |
| **Inputs** | Wireless data generated by Beagle Bone. UART data from the MSP430. |
| **Outputs** | UART data to the MSP430 board. Wireless data to the Beagle Bone. |
| **Functionality** | The XBEE wireless will have two-way communication. The Beagle Bone XBEE will be able to send cursor commands to the MSP430 XBEE. And the MSP430 XBEE will send algorithm parameter data the Beagle Bone XBEE. |
| **Demonstration Plan** | Send cursor commands from Beagle Bone XBEE to the MSP430 XBEE. Send algorithm parameters from MSP430 XBEE to Beagle Bone XBEE. |

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| --- | --- |
| **Module** | Camera board |
| **Inputs** | Visual data |
| **Outputs** | 8-bit data bus with image information in RGB 5:6:5.  HD, VD, DCLK |
| **Functionality** | The camera board houses the camera and supporting hardware. The camera will output da­­ta in the configuration above. Each pulse of DCLK signifies another 8-bit parallel chunk is ready to be read. HD signifies the end of a line in the 640x480 resolution of the final images while VD signifies the end of the image. |
| **Demonstration Plan** |  |

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| **Additional Goals** |  |
|  | * Have power PCB revision two designed. * Power PCB revision one will power the Beagle Bone, Camera, and XBEE. * Have prototype of the physical setup of the human controlled interface |
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