

<i>Week</i>	<i>Date</i>	<i>Projected Goals</i>	<i>Comments</i>
1	9/25/16	Research: Street lamp standards Li-Fi standards Current traffic prediction techniques	Physical and electrical requirements of streetlamps. Do current Li-Fi standards exist? What regulations would we have to follow to broadcast Li-Fi? How are traffic patterns predicted and modified to improve flow. Basics of how Li-fi works.
2	10/2/16	Research: Photo receivers RGB LED's/LED drivers Optical filters (color prism)	Photo receiver types and specifications. LED technologies and specifications. Optical filter/splitter options Rx side sensor.
3	10/9/16	Research: Microcontrollers/Microcomputers Light modulation techniques	Is there a standard for Li-fi modem technology? What type of microcontroller/microcomputer would best for light modulation? What computer language? Details on how light modulation is commonly implemented.
4	10/16/16	Research: Photo receivers RGB LED's/LED drivers Optical filters (color prism) Choose/Buy Components for basic prototype	Advanced Li-fi research. Select hardware for initial prototype construction Choose specifics components to use for prototype
5	10/23/16	Test Components Code: Code familiarization Template code	Small scale component construction. Verify component specs in the real world. Become familiar with coding on the microcontroller and microcomputer.
6	10/30/16	Revamp Proposal Test Components Code: Code familiarization Template code	Rewrite proposal with TA feedback. Small scale component construction. Verify component specs in the real world. Become familiar with coding on the microcontroller and microcomputer. Dissect source code.

7	11/6/16	<p>Revamp Proposal</p> <p>Prototype 1</p> <p>Code T0: Tx portion of source code using PWM</p> <p>Code R0: Rx portion of source code using PWM</p>	<p>Rewrite proposal with TA Feedback</p> <p>Build a Tx and Rx circuit. Run source code with separate Tx and Rx (vary Rx LED brightness depending on Tx LED)</p> <p>Separate source code so 2 launch pads can be used. One as Rx, and the other as Tx.</p>
8	11/13/16	<p>Prototype 1</p> <p>Code T0: Tx portion of source code using PWM</p> <p>Code R0: Rx portion of source code using PWM</p>	<p>Build a Tx and Rx circuit. Run source code with separate Tx and Rx (vary Rx LED brightness depending on Tx LED)</p> <p>Separate source code so 2 launch pads can be used. One as Rx, and the other as Tx.</p>
9	11/20/16	<p><i>(Thanksgiving Break)</i></p> <p>Reevaluate Prototype 1</p> <p>Code T1: Modify T0 to send bits</p> <p>Code R1: Modify R1 to receive bits</p>	<p>Reevaluate parts being used for the circuit. Look at other options depending on findings.</p> <p>Make T1 send bit values with the RGB on a fixed time</p> <p>Make Rx launch pad blink LED to show bit value received.</p>
10	11/27/16	<p>Build Prototype 2</p> <p>Code T2: T1 with UART</p> <p>Code R2: T2 with UART</p> <p>Project Progress Report due 1 Dec 16</p>	<p>Implement UART to choose the bit being sent (hit the 0 or 1 key on Tx) and showing the received bit on the Rx side.</p> <p>Report on progress done so far due to faculty mentor (Dr. Namuduri). Need Dr. Namuduri to send to Dr. Varanasi with his comments on our project</p>
11	12/4/16	<p>Build Prototype 2</p> <p>Code T2:</p>	<p>Implement UART to choose the bit being sent (hit the 0 or 1 key on Tx) and showing the received bit on the Rx side.</p>

		T1 with UART Code R2: T2 with UART	
12	12/11/16	Finals Week	
13	12/18/16	Winter Break	(buffer to reevaluate and catch up)
14	12/25/16	Winter Break	(buffer to reevaluate and catch up)
15	1/1/17	Winter Break	(buffer to reevaluate and catch up)
16	1/8/17	Winter Break	(buffer to reevaluate and catch up)
17	1//15/17	Refamiliarize with past research and code	Potentially retest system and verify points as to how to improve the system.
18	1/22/17	Build Prototype 2 Code T2: T1 with UART Code R2: T2 with UART	Implement UART to choose the bit being sent (hit the 0 or 1 key on Tx) and showing the received bit on the Rx side.
19	1/29/17	Reevaluate Prototype 2 Code T3 & R3: Multi channel communication	Reevaluate parts used for prototype 2 and circuit structure Modulate all colors (RGB) for multi channel communication.
20	2/5/17	Code T4: Assign entire ASCII table to bit patterns to send to Rx Code R4: Assign entire ASCII table to bit patterns to receive from Tx	Need to hardcode all the values of keys to bit patterns. So when a certain key is hit, it's equated to a certain bit pattern that we can send.
21	2/12/17	Code T5: Send keystroke to Rx Code R5: Receive keystroke from Tx	Instantaneously send keystrokes from Tx to Rx
22	2/19/17	“ “	

23	2/26/17	Prototype 3 Code T6: Wait to send message until enter key Code R6: Receive message and show it in its entirety	Build prototype 3 Instead of single keystrokes, now an entire message being sent and needing to be processed. Still controlled on which channel (color) it is sent.
24	3/5/17	Other capabilities	Sending audio over a channel, CSK modulation, daylight operations, 2 way communication, etc.
25	3/12/17	<i>(Spring Break)</i>	
26	3/19/17	“ “	
27	3/26/17	“ “	
28	4/2/17	Completed/constructed system	Verify entire system is working at full capacity.
29	4/9/17	Test/Reevaluate/Big Picture Theory/Deliverables	Final testing and evaluating to confirm it works under all conditions
30	4/16/17	“ “	
31	4/23/17	“ “	
32	4/30/17	Project Presentation: Final Semester	After presentation, discuss project preservation. Write formal thank you notes to all staff involved. Pending graduation!
33	5/7/17	Finals Week	