Group: Flexers United
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Constraints:

1. The program will use less than 450 KB of memory and 45 KB of RAM
2. The program will follow the the constraints of traffic laws of Alberta
3. There are no constraints on the licensing of the system
4. No constraints on technology used to create the program

Documentation:
HireMe Software will provide documentation for the system and software. Furthermore, we will provide guides for setting up the system and maintenance.

Scope:
HireMe Software is only responsible for the software of the system. Hardware, scheduling and finance are out of the scope of this document.The day to day maintenance of this system will not be the responsibility of our team.

Crash Recovery:
When the system is reset or initialized it will be in the emergency state for a minute before transitioning to the default state. A human operator will be automatically notified when the system malfunctions. In an event of a failure HireMe Software will be available for consultation.

User Profile:
The system should be designed so anybody can use it. For example, the times T1 and T2 referenced in the state section should be long enough to allow slower users to cross the crosswalk.

Previous Solutions:
This solution is unique in that there are no yellow lights, and the overall system is not optimized. Extra care should be taken to ensure the system still follow Alberta’s Traffic regulations.

Light at Each State:

Clock 1 (T1): N

Clock 2 (T2): D

Two clocks can be different. T1 should be longer than T2.

S2 is a sensor located on the road and B3 is a sensor for the crosswalk across road 3

State	1	2	3	P1	P2	P3	G1	G3	T1	T2	Malfunction	Clock
S_Default	G	R	R	R	G	R	R	R	On	Off	Off	D
S_GreenG1	R	R	R	G	R	R	G	R	Off	On	Off	D
S_Green3	R	R	G	R	R	R	R	G	Off	On	Off	D
S_GreenP3	G	R	R	R	G	G	R	R	Off	On	Off	D
S_Green2and3	R	G	G	R	R	R	R	R	Off	On	Off	D
S_Night	BG	BR	BR	Off	Off	Off	Off	Off	Off	Off	Off	N
S_Emergency	BG	BR	BR	Off	Off	Off	Off	Off	Off	Off	On	D/N

State Transition: