

ECE 321 Lab
Software Requirements Engineering
Department of Electrical and Computer Engineering
University of Alberta

404 Team Name Not Found

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1 Customer:

Client: Alberta Traffic Supply Ltd.
7798 16 th Street
Edmonton, Alberta, T6P 1L9
Western Canada largest traffic sign manufacture and traffic control company

2 Definitions

*Labels **1,2,3,P1,P2,P3,B3,S2,G1,G3** can be found in Figure 1.*

1. **TLMS** - **T**raffic **L**ight **M**onitoring **S**ystem
2. **RB** - **R**eset **B**utton
3. **M** - Hardware malfunction: 1 indicates a malfunction, 0 for normal operation
4. **1** - Light on Road 1
5. **2** - Light on Road 2
6. **3** - Light on Road 3
7. **P1** - Pedestrian light on road 1
8. **P2** - Pedestrian light on road 2
9. **P3** - Pedestrian light on road 3
10. **t1** - Timer for **1**
11. **t2** - Secondary timer for everything else
12. **G1** - Left turn signal on road 1
13. **G3** - Left turn signal on road 3
14. **S2** - Magnetic sensor which detects if a car/motorcycle is waiting on **2**
Outputs: 1 if vehicle waiting, 0 otherwise
15. **B3** - Button on road 3 which a pedestrian can hit to request to cross the intersection
16. **BG** - **B**linking **G**reen
17. **BR** **B**linking **R**ed
18. **D** - **D**ay
19. **N** - **N**ight
20. **Clock** - Can have value **D** or **N**
- 21.
- 22.

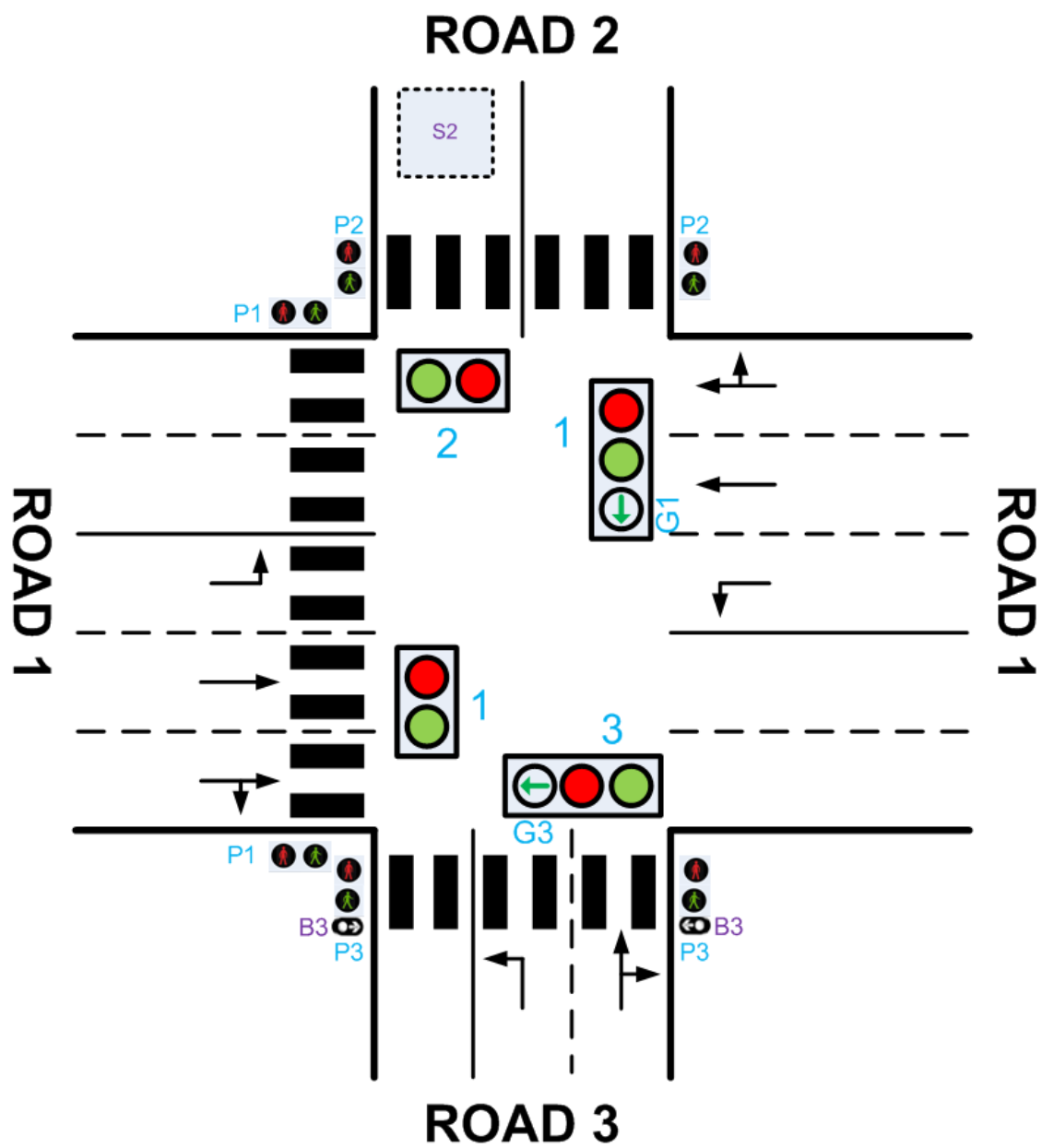


Figure 1: INSERT CAPTION HERE

3 Description

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum. road **1** is main, **3** is also main but **1** is the most important, and road **2** is secondary

4 Requirements

1. yooo

5 Nice-to-haves

1. yooo

6 State description

*Labels **1,2,3,P1,P2,P3,B3,S2,G1,G3** are defined on page 2 and in Figure 1 on page 1.*

1. Default

- **1,P2**
- **2,3,P1,P3,G1,G3**
- **t1** activated
- **M**: 0
- **Clock**: **D**

2. Green **G1**

- **G1,P1**
- **1,2,3,P2,P3,G3**
- **t2** activated
- **M**: 0
- **Clock**: **D**

Notes:

- (a) **Green 3 S2** is this state, but when **S2=1**

3. Green **3**

- **3,G3**
- **1,2,P1,P2,P3,G1**

- **t2** activated
- **M:** 0
- **Clock:** D

Notes:

(a) **Green 3 S2** is this state, but when **S2=1**

4. Green P3

- **1,P2,P3**
- **2,3,P1,G1,G3**
- **t2** activated
- **M:** 0
- **Clock:** D

Notes:

(a) **Green 3 S2** is this state, but when **S2=1**

5. Green 2&3

- **2,3**
- **1,P1,P2,P3,G1,G3**
- **t2** activated
- **M:** 0
- **Clock:** D

6. Night

- **1 BG**
- **2,3 BR**
- **P1,P2,P3,G1,G3** are turned off
- **M:** 0
- **Clock:** N

7. Emergency

- **1 BG**
- **2,3 BR**
- **P1,P2,P3,G1,G3** are turned off
- **M:** 1
- **Clock:** D or N

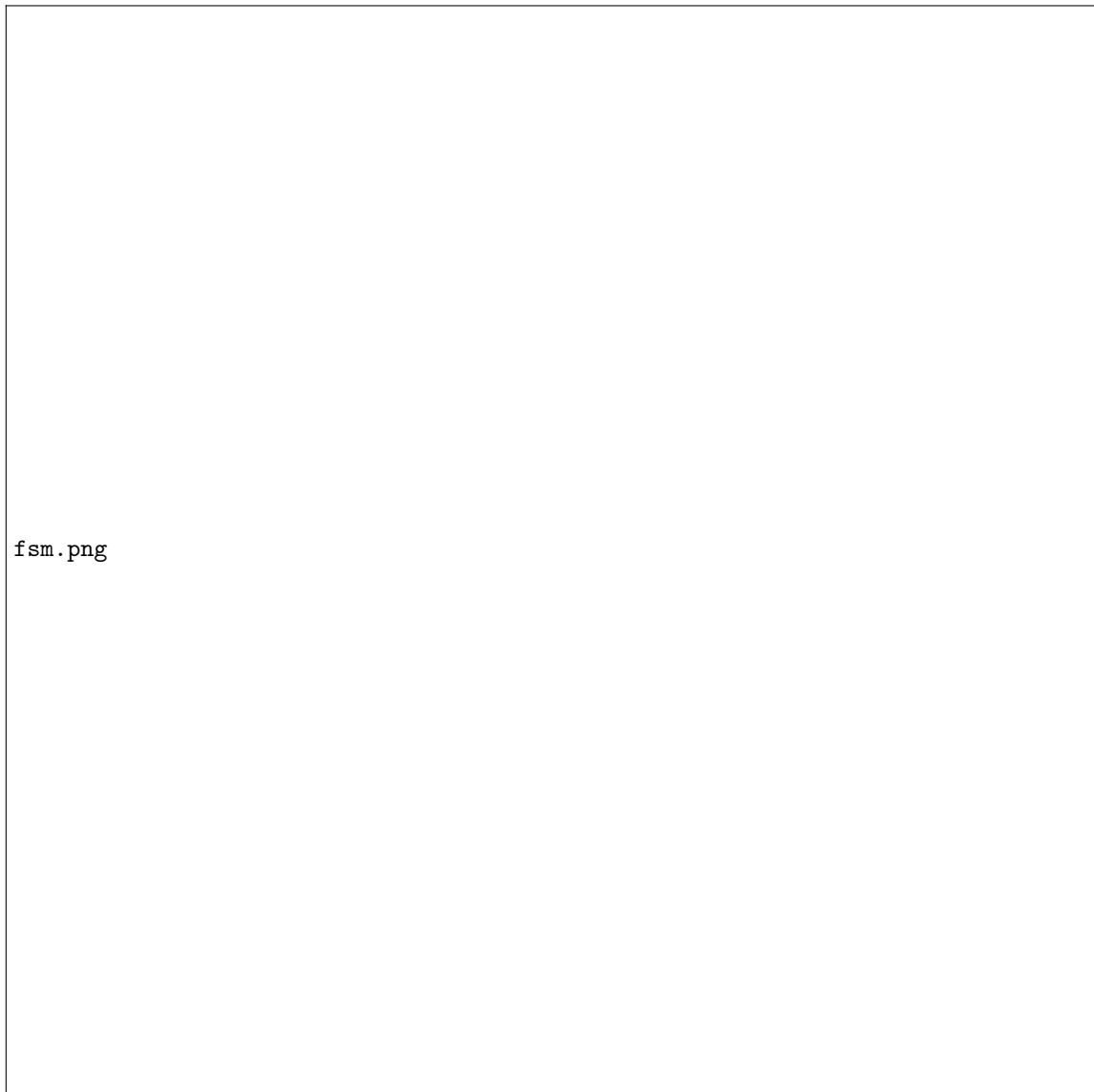


Figure 2: INSERT CAPTION HERE

7 Special considerations

1. Security
Here's how we make the system more secure:
 - (a) step 1
 - (b) step 2

(c) step 3

2. Reliability

3. Synced timings