**Instructions and implementation details**

**Requirements:**

In this test we would like you to implement a traffic light system. We are required to have 4 sets of lights, as follows.

Lights 1: Traffic is travelling south   
Lights 2: Traffic is travelling west   
Lights 3: Traffic is travelling north  
Lights 4: Traffic is travelling east

The lights in which traffic is travelling on the same axis can be green at the same time. During normal hours all lights stay green for 20 seconds, but during peak times north and south lights are green for 40 seconds while west and east are green for 10 seconds. Peak hours are 0800 to 1000 and 1700 to 1900. Yellow lights are shown for 5 seconds before red lights are shown. Red lights stay on until the cross-traffic is red for at least 4 seconds, once a red light goes off then the green is shown for the required time(eg the sequence is reset).

**Implementation:**

Project/Solution name – TrafficLightSystem

Page name – **TrafficLightSystem.aspx** (https://localhost:44344/TrafficLightSystem.aspx)

**Result –**

* For North and South bound in non-peak time - first green light is for 20 seconds then yellow for 5 seconds and all bound red for 4 seconds.
* For West and East bound in non-peak time - first green light is for 20 seconds then yellow for 5 seconds and all bound red for 4 seconds.
* For North and South bound in peak time - first green light is for 40 seconds then yellow for 5 seconds and all bound red for 4 seconds.
* For West and East bound in peak time - first green light is for 10 seconds then yellow for 5 seconds and all bound red for 4 seconds.

Note - Peak hours are 0800 to 1000 and 1700 to 1900 as per date selected in UI. **After changing time in calendar control, please click on date again so date will be display in textbox as like 2nd image.**

**Screenshots -**

Graphical user interface, text, application

Description automatically generated

A picture containing graphical user interface

Description automatically generated

A picture containing graphical user interface

Description automatically generated

A screenshot of a computer

Description automatically generated with medium confidence

Graphical user interface

Description automatically generated

A screenshot of a computer

Description automatically generated with medium confidence

A screenshot of a computer

Description automatically generated with low confidence

**Bonus Requirements:**

Bonus: At this intersection north bound traffic has a green right-turn signal, which stops the south bound traffic and allows north bound traffic to turn right. This is green at the end of north/south green light and stays green for 10 seconds. During this time north bound is green, north right-turn is green and all other lights are red.

Page name – **TrafficLightSystemBonus.aspx** (https://localhost:44344/TrafficLightSystemBonus.aspx)

**Result –**

* For South bound in non-peak time - first green light is for 20 seconds then yellow for 5 seconds and all bound red for 4 seconds.
* For North bound in non-peak time - first green light is for 29(20+5+4) seconds then green light with right turn(arrow) for next 10 seconds then yellow for 5 seconds and all bound red for 4 seconds.
* For West and East bound in non-peak time - first green light is for 20 seconds then yellow for 5 seconds and all bound red for 4 seconds.
* For South bound in peak time - first green light is for 40 seconds then yellow for 5 seconds and all bound red for 4 seconds.
* For North bound in peak time - first green light is for 49(40+5+4) seconds then green light with right turn(arrow) for next 10 seconds then yellow for 5 seconds and all bound red for 4 seconds.
* For West and East bound in peak time - first green light is for 10 seconds then yellow for 5 seconds and all bound red for 4 seconds.

**Screenshots-**

A picture containing graphical user interface

Description automatically generated

Chart

Description automatically generated

Graphical user interface, chart

Description automatically generated with medium confidence

Graphical user interface

Description automatically generated

A screenshot of a computer

Description automatically generated with medium confidence

Graphical user interface

Description automatically generated with medium confidence

A screenshot of a video game

Description automatically generated

A screenshot of a computer

Description automatically generated with low confidence

Note -Please feel free to contact me on [jimit5806@gmail.com/0406966895](mailto:jimit5806@gmail.com/0406966895) if anything is unclear.😊