

OPTIMAL TRAFFIC ORGANIZATION ON ROAD JUNCTIONS

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Abstract

Nowadays time delays on road junctions are one of the main reasons of traffic jams. It causes a number of problems. Take as an example that government loses a huge amount of budget due to the traffic jams. Another consequences are related with ecological problems, like pollution of air etc. There are plenty of reasons, why traffic jams occurs in our city roads. Correspondingly each problem has its own solution. As to our country concerned, the top of the problems is the optimization of organizing traffic jams on road junctions. Optimization level depends on amount of flow directions at the same time, in other words how less the number of traffic light modes, so optimal a junction is organized.

Algorithm's description

Aim of the algorithm is to reduce the number of traffic light modes as possible. Take as an example road junction shown in figure#1.

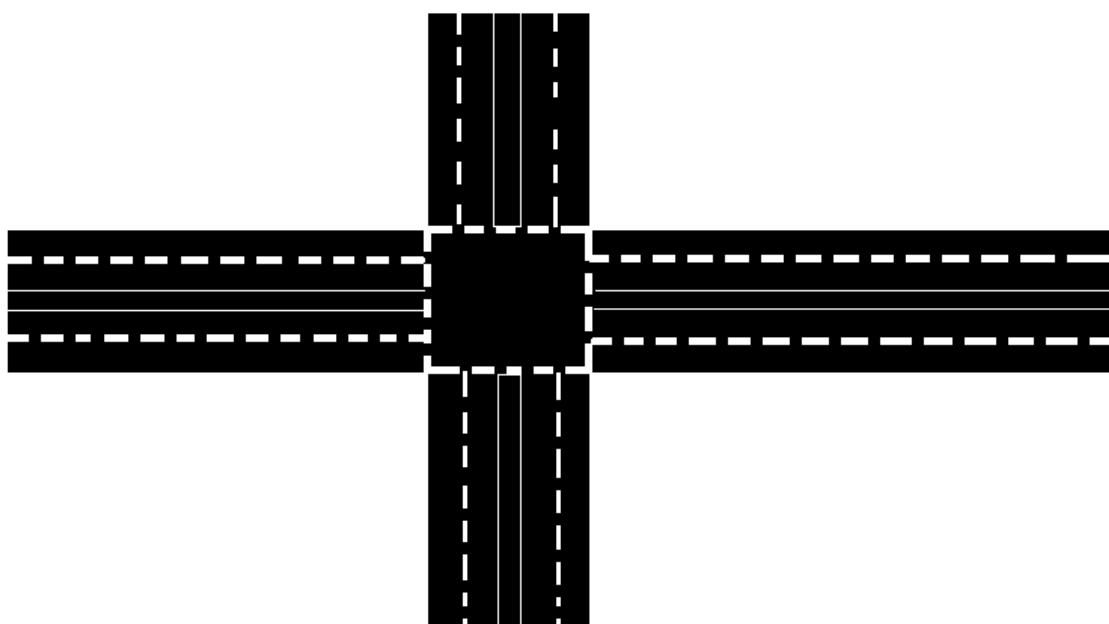


Figure #1

The junction in the figure is the result of intersection of two bidirectional, double tracked roads. To optimally organize traffic lights on that junction, we have to do perform the following steps.

Step #1: Mark each part of each road by a unique symbol as in figure #2:

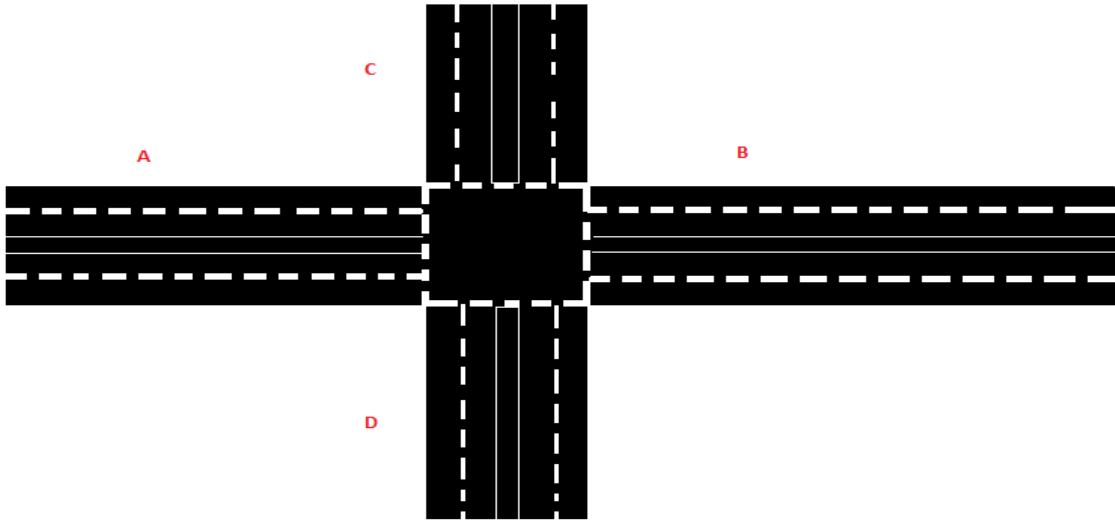
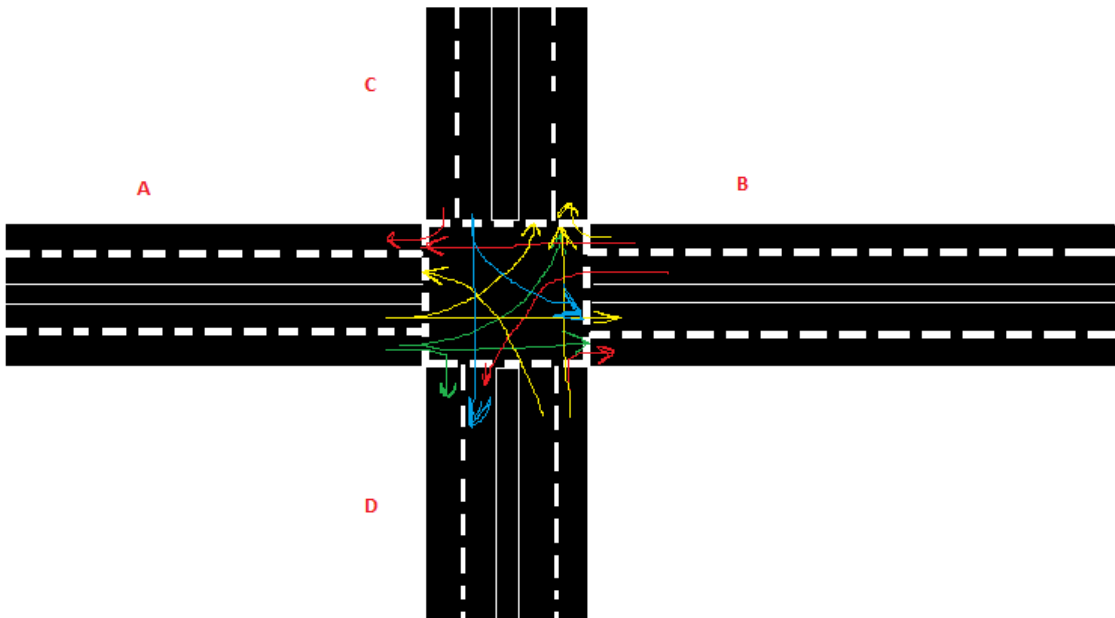


Figure #2

Step #2: Determine all possible direction of motion (See figure #3):



Figure#3

Step #3: Construct a graph nodes, taking each direction as a separate node. For instance, in our example, there are 12 nodes: AB, BA, AC,BC, DC,CD, AD, DA, CB, BD, DB, CB.

Step #4: Put edges. Draw an bidirectional edge between two nodes, if corresponding flow direction on real junction interferes each other. See example for AB node in figure # 4:

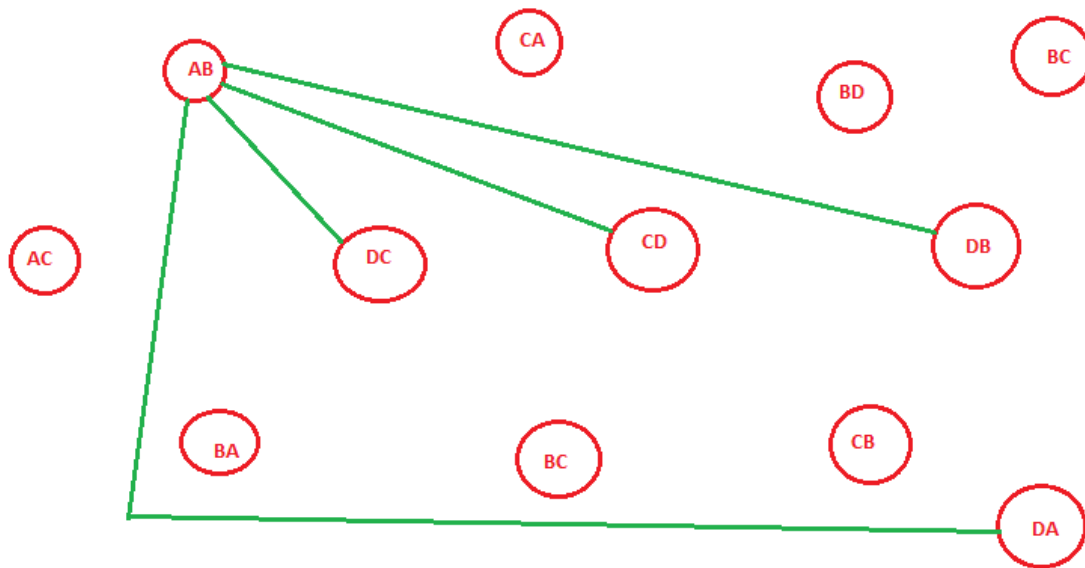


Figure #4

Perform this step for all nodes. (See figure #5):

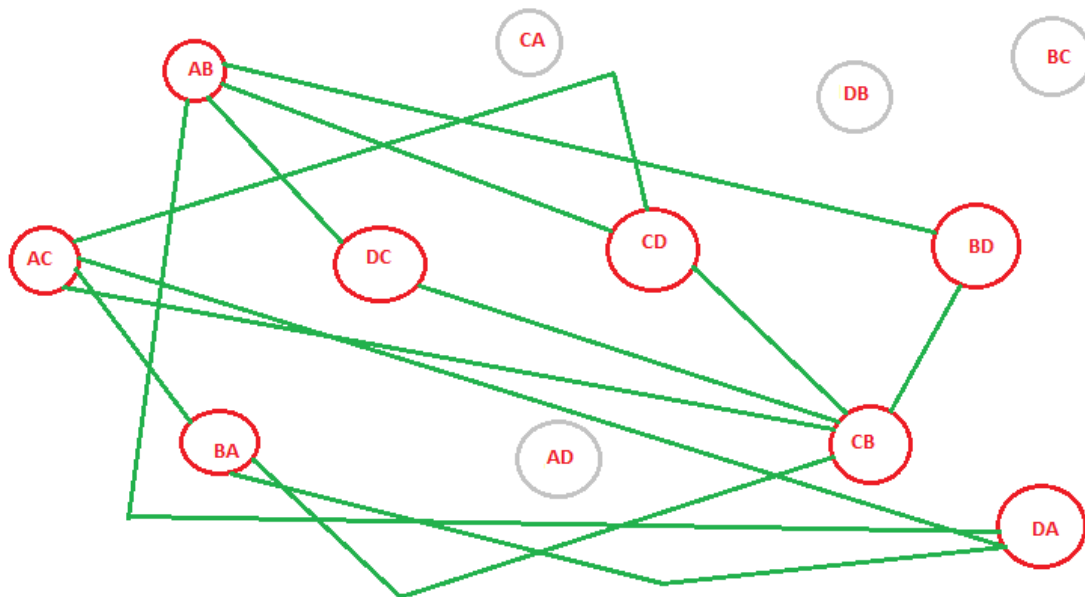


Figure #5

Then we see that cornerirection does not intersect with others: AD, CA, DB, BC, which means that traffic lights may always show them green, actually.

Step #5: Color those node which does not intersect with each other, to the same colour.(See figure #6):

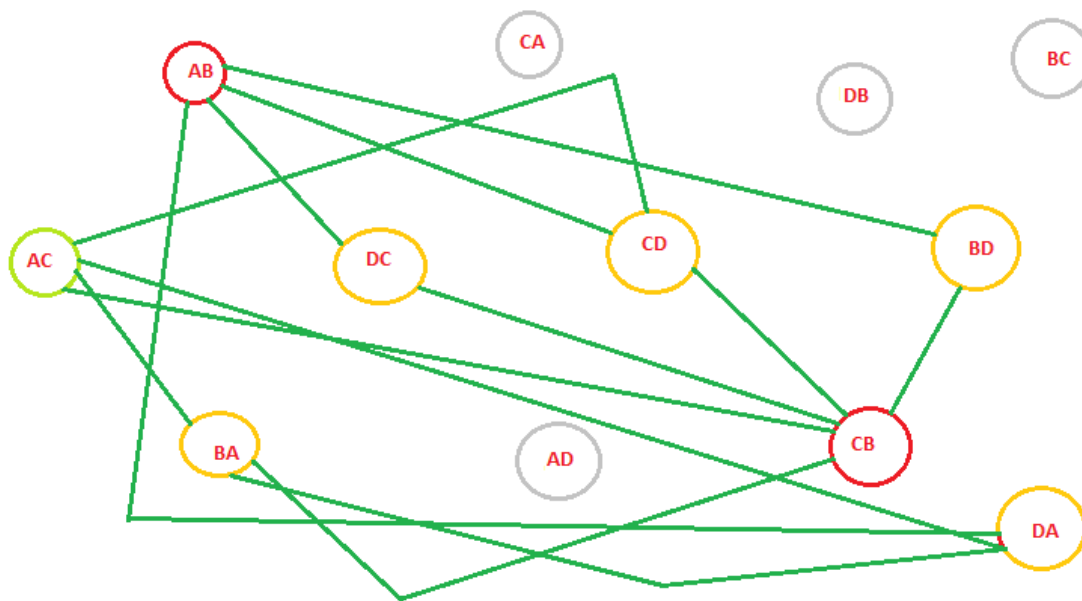


Figure #6

The colored bidirectional graph above shows that 3 modes of traffic lights are enough to safely organize our junction.

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INTERNET SHOP OF NEWS ON ANDROID PLATFORM

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Annotation

This mobile application provide users with access to professional-grade news and market data in Kazakhstan wherever and whenever you want it. The main server part of application is website 314news.kz news aggregator, which collects from Forbes, Nur.kz, Tengrinews, Prosporkz, Bnews etc. Convenient application for reading news with clear, fast, beautiful interface, and minimum required privileges. In our country there are several mobile applications that perform responsibilities of reading news. If we take each application separately there is still not enough usability for reader. So one of the main aims is to provide nice, pleasant content application with clear functionality for readers. Another purpose is to give opportunity to journalists or people who want to be, to realize their jobs in free mode and earn more money. And press agencies will increase opportunity to collect good news.

Аннотация

Это мобильное приложение, которое дает возможность пользователям доступ к новостям профессионального уровня и рыночной информации в Казахстане. Основная серверная часть приложения это - сайт 314news.kz, агрегатор новостей, который собирает от Forbes, Nur.kz, Tengrinews, Prosporkz, Bnews т.д. Удобное приложение для чтения новостей с ясным, быстрым, и красивым интерфейсом. Требуется минимум необходимых привилегий. В нашей стране есть несколько мобильных приложений, которые выполняют обязанности чтения новостей. Если мы возьмем каждого приложения отдельно, то заметим недостатки в удобстве использования и чтения. Таким образом, одна из основных целей является, сделать контент более красивым,