

Street Talk, Calling accross the road

Pieter van den Hombergh
Ferd van Odenhoven

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1 The Crossing task is an exercise in using the executor framework. The case has very little in common
2 with the real world.

3 Calling accross the street

4 In this exercise we will practice with executors and futures. The task in this assignment is to build a
5 simple traffic control system for a crossing. To generate safe traffic, you must create `Callables`
6 that cycle a traffic light through green, but of course only if it is allowed.

7 The code for the `TrafficLight` is partly given as lass. (**`SimpleTrafficLight.java`**). There is also an
8 api in the package **`crossing.gui`**. The complete gui can be implemented using this api. Have a look in
9 `crossing.CrossingMain.java` as a how to.

10 We will construct this application step by step.

- 11 1. Define the crossing gui in netbeans as shown on the website.
- 12 2. Download the given project from the website and study its content.
- 13 3. The application is **`CrossingMain`**, which instantiates a **`CrossingModel`** with a 4 corners and per
14 corner as many traffic lights per corner as specified on the commandline.
- 15 4. In the application, each `TrafficLight` has a button, to indicate that a vehicle is waiting for that
16 `TrafficLight`. These requests are made known to the **`TrafficDispatcher`** using the **`void ad-`**
17 **`dRequest(int cornerNr, int laneNr);`** method.

18 Complete the **`TrafficDispatcher`**, which takes care of creating **`PassingTraffic`** tasks (`Callables`).
19 These `PassingTraffic` `Callables` return self as th value object. One of the values is the time of
20 creation of the callable. This allows you to simply monitor the duration of the waiting time.
21 Each button in the crossing gui has an associated label, This label show the number of requests
22 (R) and the number of green cycles. Th button flashes as long as the number of requests is above
23 the number of goes.

24 Test the application thoroughly and show the working application to your teacher.