Installation Guide for Spot

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This document gives instructions for the installation of the tool set-based prediction of traffic participants(spot) on ubuntu. This guide was tested under ubuntu 17.10 64-bit.

1 Install Java

Eclipse needs Java so open a terminal window and execute the following commands:

```
sudo add-apt-repository ppa:webupd8team/java
sudo apt-get update
sudo apt.get install oracle-java8-installer
```

Note that there are other ways to install java.

2 Download Eclipse

Get the latest version of eclipse from https://www.eclipse.org/downloads/. Check out your OS Type, 32-bit or 64-bit, by going to System Settings -> Details -> Overview, then select download Linux 32-bit or 64-bit of Eclipse Installer.

3 Install Eclipse

Extract the downloaded file and start the eclipse-installer. Select the option "Eclipse IDE for C/C++ Developers". After following the installation wizard you should be able to start eclipse.

4 Get Boost

When installing boost you should be aware that you when you install the version ubuntu provides you can get an old version of the library. Therefore we will use instructions to get the latest version of the boost library. We have to download it manually from their website:

```
wget -O boost_1_66_0.tar.gz http://sourceforge.net/projects/boost/files/boost/
1.66.0/boost_1_66_0.tar.gz/download
tar xzvf boost_1_66_0.tar.gz
cd boost_1_66_0/
```

Install all required dependencies:

```
sudo apt-get install build-essential g++ python-dev autotools-dev libicu-dev
build-essential libbz2-dev libboost-all-dev
```

Prepare the installation with bootstrap. You can define the location it will be installed later with the prefix argument.

```
./bootstrap.sh --prefix=/usr/local
```

And finally install boost:

```
sudo ./b2 install
```

5 Get the C++ implementation of spot

Now we need the source code of the C++-Implemenation of spot. You can download it manually from the git repository or do it automatically by the use of the import function of eclipse. The second option is strongly recommended. In Eclipse you have to go to File -> Import and select Git -> Projects from Git. You just have to copy and paste the url of the repository.

6 Set link and compile arguments

Usually everything should work now and the link and compile arguments should be imported from git.
Otherwise we have to do it manually. Go to Project -> Properties and select C++/C-Build -> Settings. In GCC C++ Compiler -> Misceallonous add "-c -fmessage-length=0 -std=c++17 -fopenmp". And for the linker arguments in GCC Linker C++ -> Miscellaneaous add "-fopenmp". Furthermore we have to add the path of boost. In the settings pane, select Includes under GCC C++ Compiler. Specify the path where you have extracted boost.