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University of Applied Sciences

Hack The Automotive Simulator

Setting up a simulation environment
for carrying out hacking attacks on
CAN bus systems

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11020 | 37E | 02 36 32 32 39 53 30 39 .6229S09
99999 | 397 | 52 2
00298 | 405 | 00 0
00260 | 40C | 02 36 32 32 39 53 30 39 .6229S09
00298 | 428 | 01 04 00 00 52 1C 2F ....R./
00260 | 454 | 23 EF 36 #.6
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99999 | 578 | E2 D2 4C 5E ..L^
99999 | 58D | 8F 31 DB 51 24 E9 CD 28 .1.Q$..(
99999 | 591 |
00999 | 5A1 | 96 00 00 00 00 00 62 3E .....b>
99999 | 61B | AE 2C E0 57 B4 2E E7 .,.W...
99999 | 708 | 3F 31 E0 5F 7F C4 F4 40 ?1._...@
73535 | 721 | 91 82 29 2B ..)+
91366 | 7CF | 19 11 C0 66
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Agenda

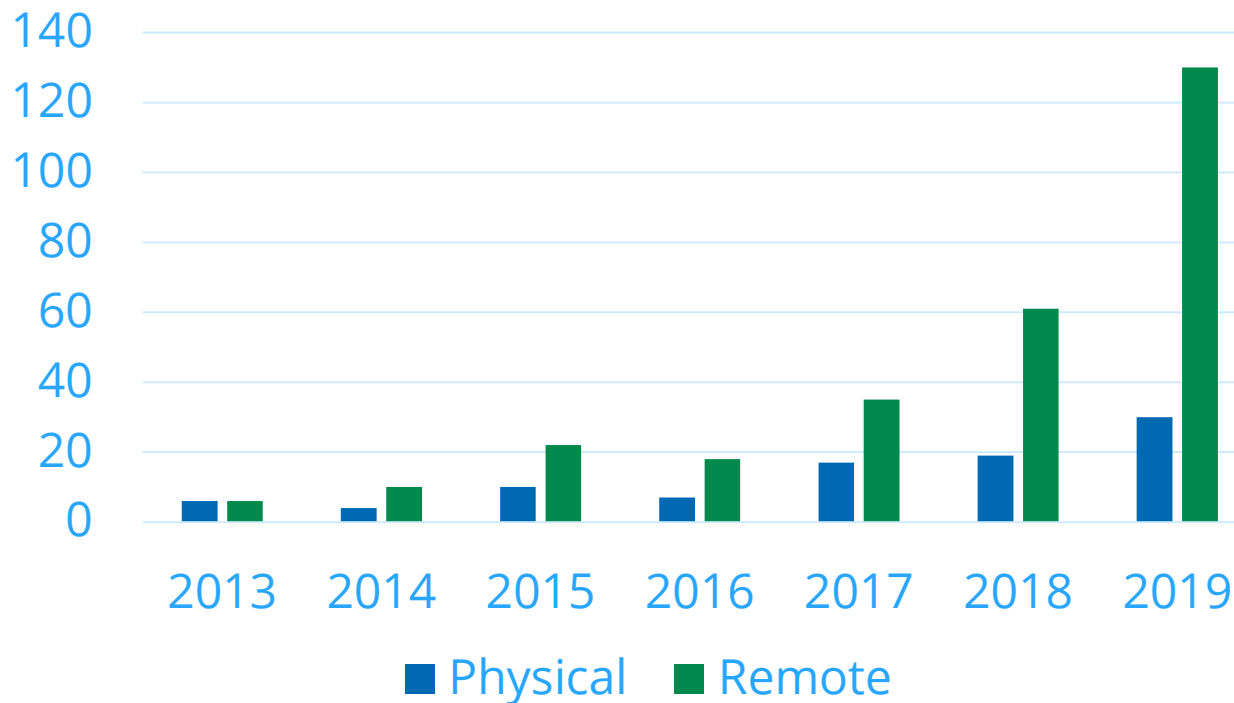
1. Motivation of this paper
2. Tools for our demonstrator
3. Live demo of the simulation environment

Motivation of this paper

Hack The Automotive Simulator

Motivation of this paper

- Remote attacks are increasing significantly.
- Authorities and companies often lack the understanding to be able to carry out forensic examinations on vehicles.



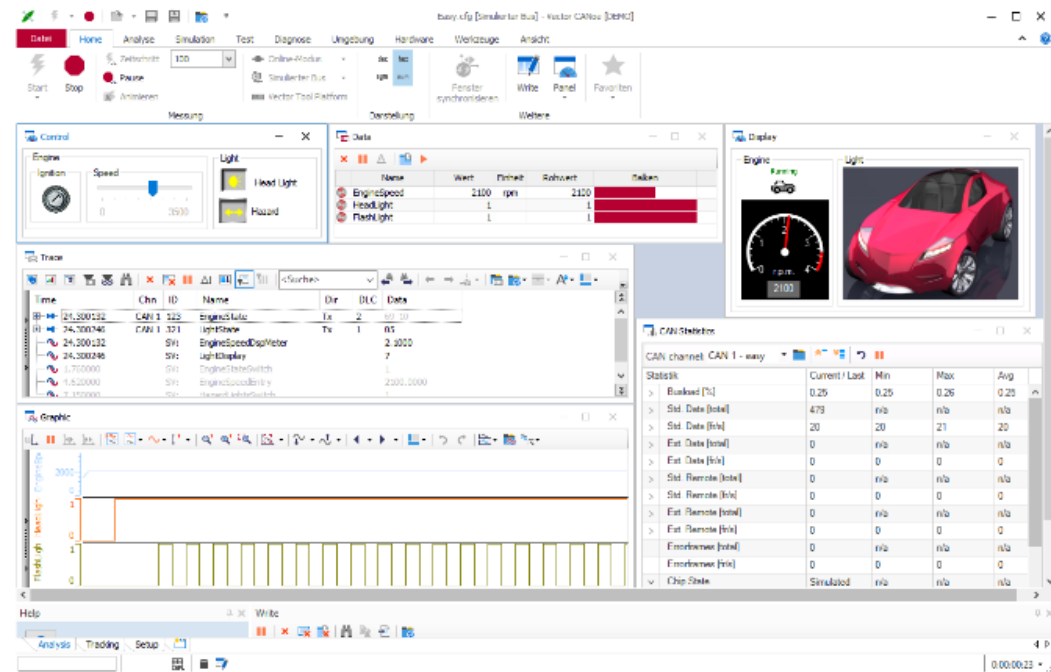
Tools for the demonstrator

Hack The Automotive Simulator

Tools for the demonstrator

We use the software tools:

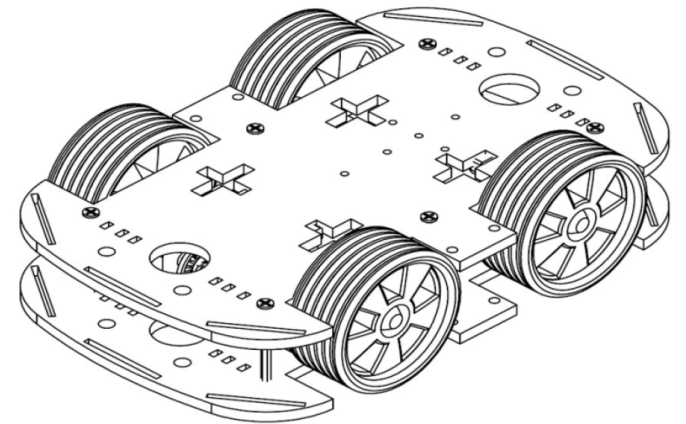
- Vector CANoe
- CANUTILS
- Microchip Studio
- Red Pitaya System
- AnyDesk oder UVNC
- ICSIM



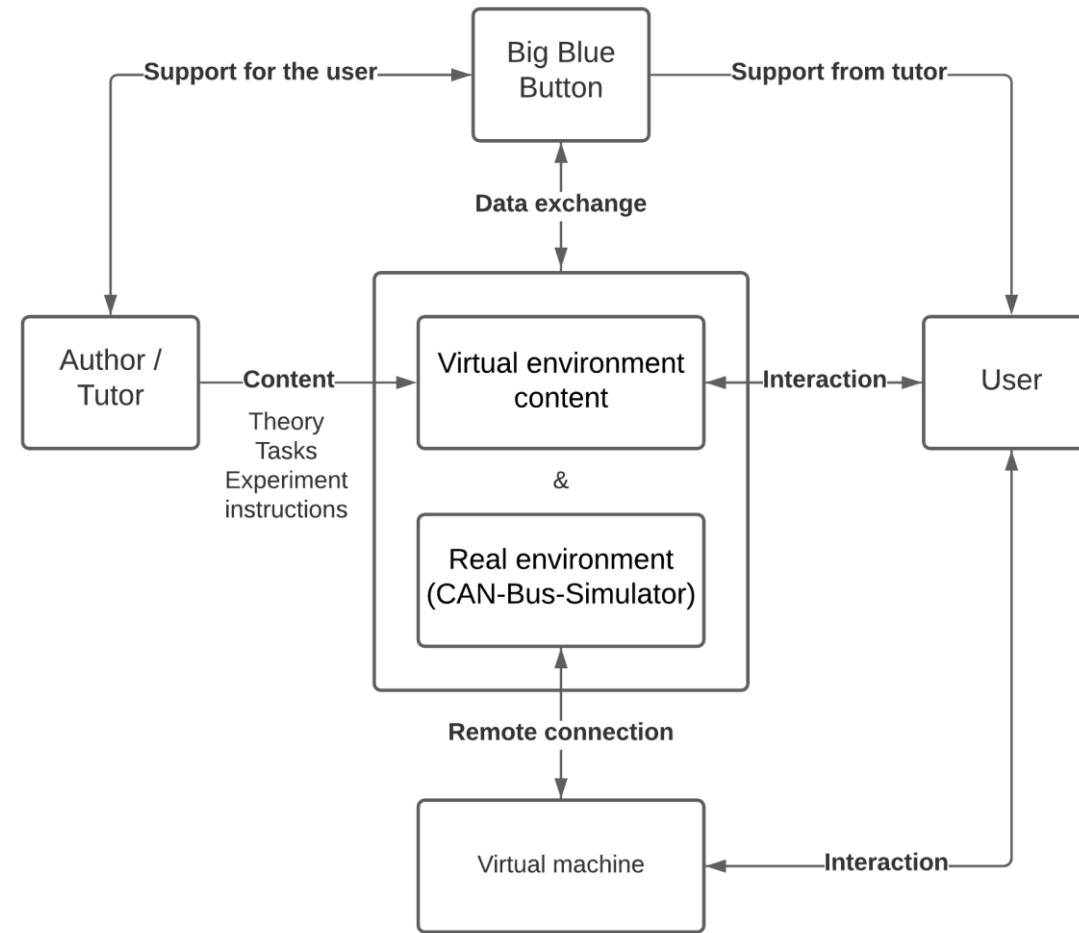
Tools for the demonstrator

Hardware used:

- PCAN-USB
- Robot Car Kit from Joy-IT
 - EVAL6207N evaluation board from STMicroelectronics
 - AT90CAN128 development board
 - ESP32-EVB Development Board with WIFI and CAN



Structure of the simulation environment



Live demo of the simulation environment

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Thank you very much for your attention.

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