

How to make students remotely access your robots

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Who is this webinar for?

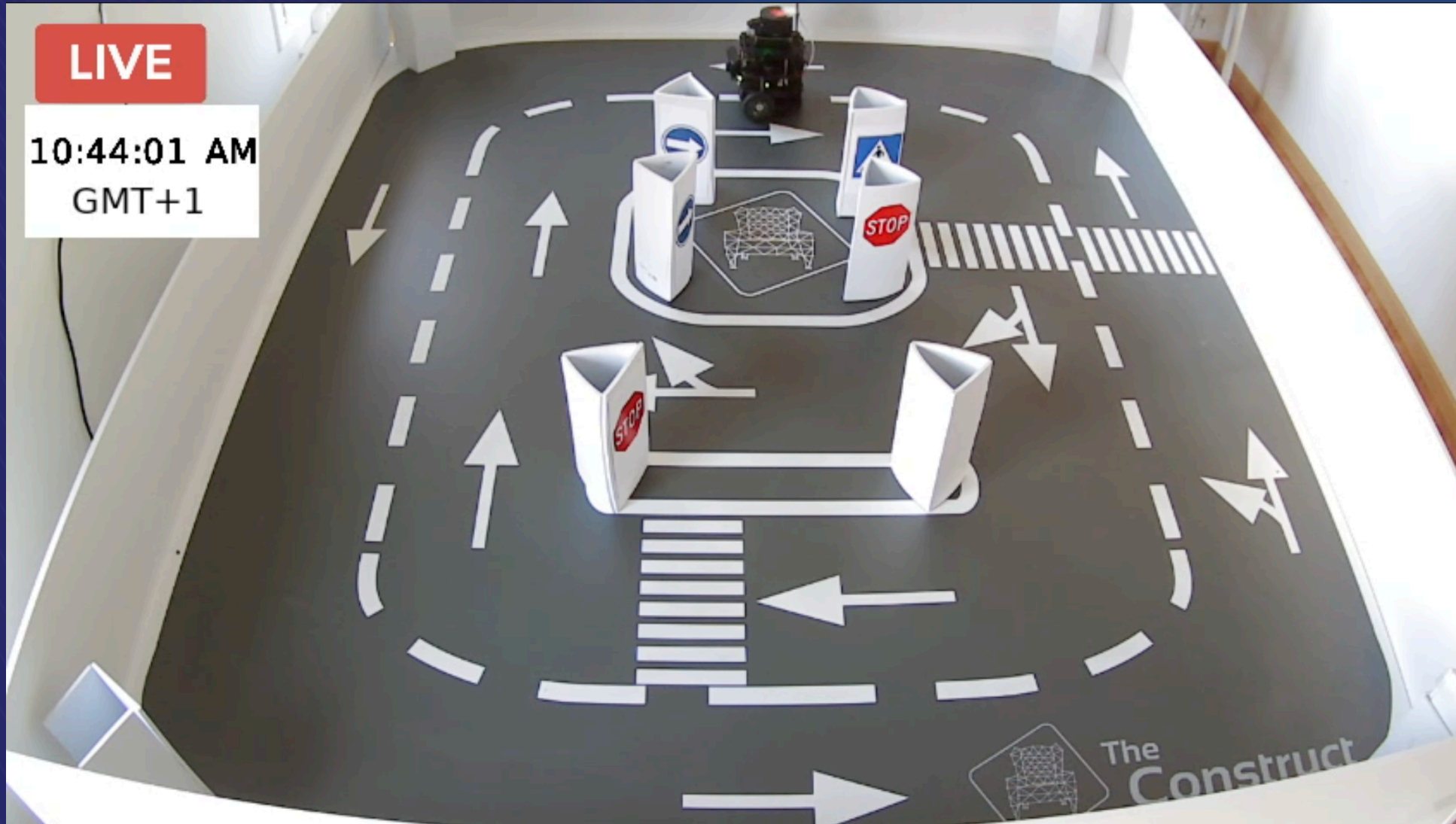
- Professors/Teachers/Teacher assistants of undergrads/graduate students of robotics
- You are delivering a robotics course along 2021
- You want to provide remote access to your robots to students due to COVID-19



We are going to learn how to do a setup like this ...



... or like this



Limitations in this presentation

1. Battery powered robots
2. Lab with limited time access
3. Robots running ROS1



Steps we need to do

1. Have the robot running ROS and connected to wifi (you should have done already)
2. Install on robot OVPN server
3. Configure router to allow connections
4. Create a project for students
5. Add an external camera (we'll not do this today)

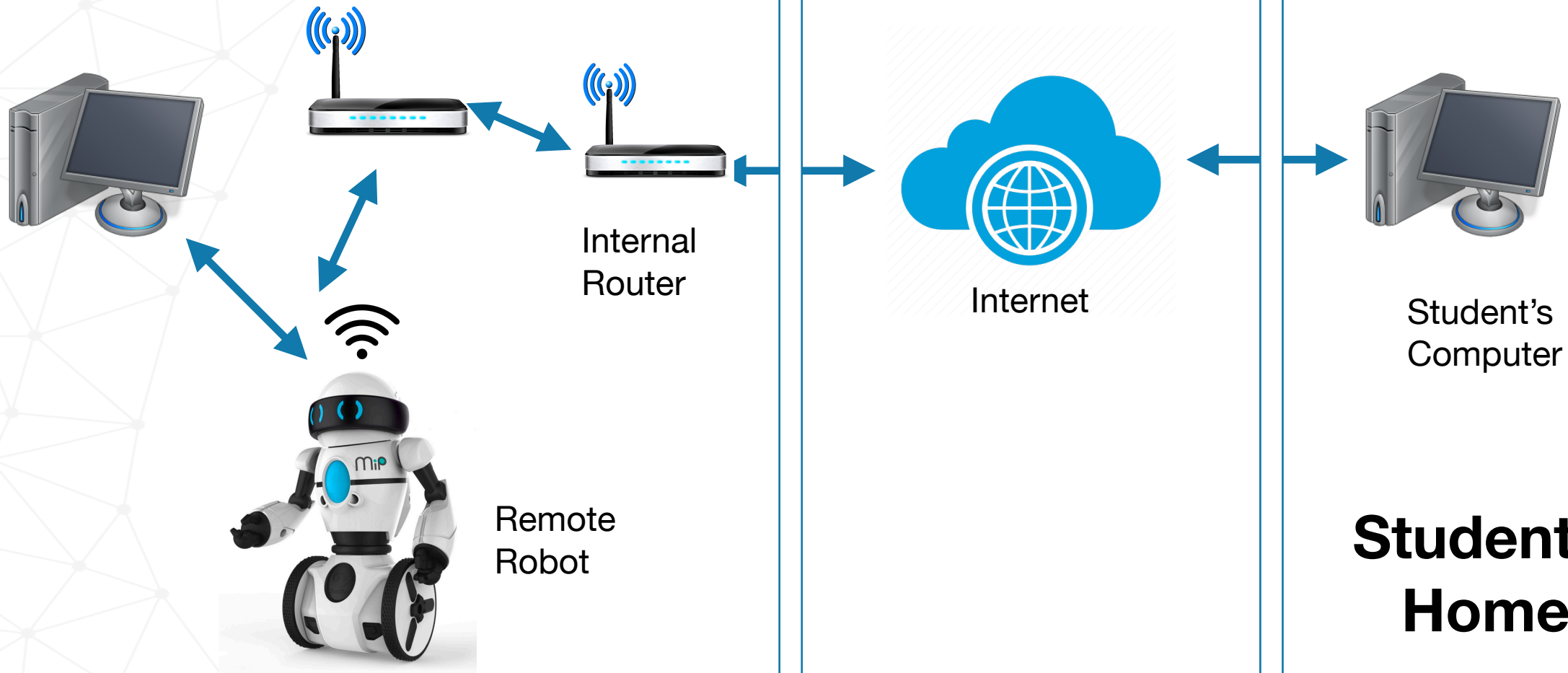




Installing the OVPN server



Configuring router



Your Robot Lab

Internal
Router

Internet

Student's
Computer

**Student's
Home**

Remote
Robot



Create students' project



Include in your student's project

- Simulation of your real robot lab environment
- OVPN config file
- Instructions about how to proceed



An isometric illustration on the left side of the slide depicts a workflow from project to robot. It includes a robotic arm at the top left, a cluster of four circular components, a spherical robot with a spotlight, a person in a wireframe suit sitting on a chair, a person in a wireframe suit standing and holding a tablet, a circular base with a central column, and a small car-like robot at the bottom. Diagonal lines and a grid pattern are used to connect these elements, suggesting a digital or data-driven process.

Connect from project to robot



Very Important

- Do not allow students connect to real if their code didn't work on simulation.





Add external camera

Limitations of this approach

- VPN config file is shared
- Complex if you have a complex network structure
- Have to manage dynamic IPs



**We manage all that for you at ROSDS
(available on first week of April)**

- Secured connection
- No need for OVPN install and config
- Automatic handling of access
- Independent of your network structure
- Independent of dynamic IPs



Final considerations

- Manage opening/closing times of the lab
- Manage students order to access the robot
- Manage robot batteries and robot repairs
- Ensure only a single student is connected
- Have a chat with direct connection with students
- Limit actions of students that may harm robot





Questions?



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Book a Demo

Have all your students learning ROS in less than a day!

REQUEST A DEMO





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