

# Peer-to-Peer Practical Exercise



TECHNISCHE  
UNIVERSITÄT  
DARMSTADT

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# 0. Exercise/Lab Overview

❖	21.04.	1	Exercise Kick-Off / Exercise 1 Hand-out
❖	28.04.	2	Exercise 2 Hand-Out
❖	05.05.	3	Handing out hardware / Lab Work 1 Handout
❖	12.05.	4	Lab Work 1 Discussion / Lab Work 2 Handout
❖	19.05.	5	Lab Work 2 Discussion / Lab Work 3 Handout
❖	26.05.	6	Exercise 1 & 2 Discussion / Lab Work 3 Discussion / Exercise 3 Hand-out
❖	02.06.	7	Exercise 3 Discussion / Exercise 4 Hand-out
❖	09.06.	8	Exercise 4 Discussion / Exercise 5 Hand-out
❖	16.06.	9	Exercise 5 Discussion / Exercise 6 Hand-out
❖	23.06.	10	Exercise 6 Discussion / Exercise 7 Hand-out
❖	30.06.	11	Exercise 7 Discussion / Exercise 8 Hand-out
❖	07.07.	12	Exercise 8 Discussion / Exercise Backup
❖	14.07.	13	Exam Consultation Hour

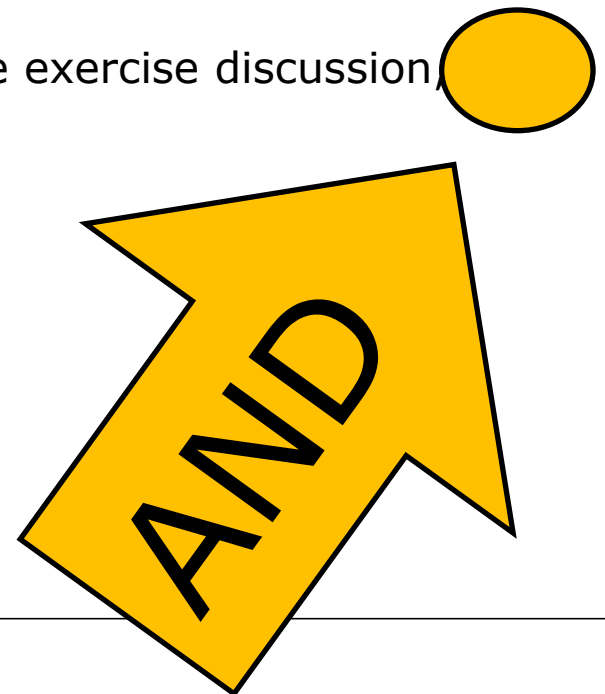
May be subject to changes. Currently all in Room **S101/A5**

# 0. Bonus

- ❖ A bonus of an 1/3 grade can be achieved for the exam
  - Examples:
    - Prelim grade 2.0 and bonus obtained -> Final Grade 1.7
    - Prelim grade 2.7 and bonus obtained -> 2.3
- ❖ You will obtain the bonus, if and only if
  - You have handed in 6 of 7 exercises before the exercise discussion
  - You handed in 2 of 3 lab exercises
    - If you do not participate in the study, there will be theoretical and practical substitution tasks

**The bonus *\*cannot\** be applied to turn an insufficient grade at the exam to a sufficient one.**

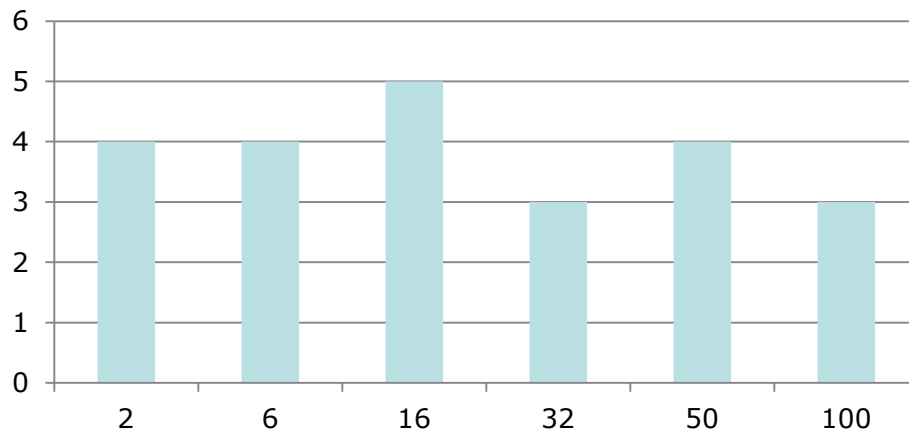
If the result of the exam is a grade >4 then the bonus is not applied.



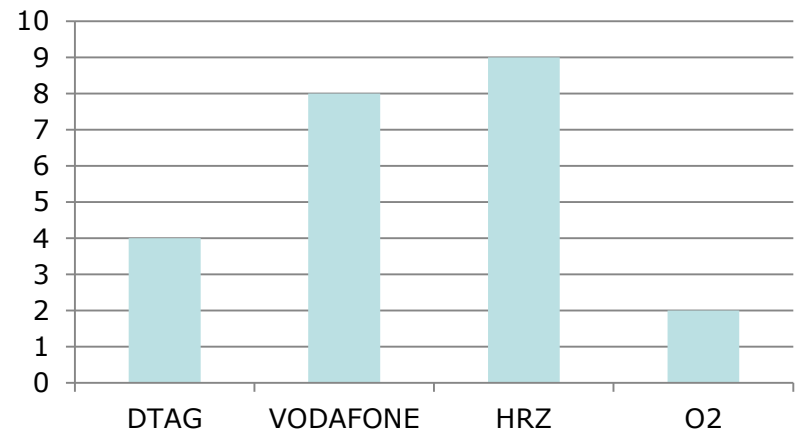
# 1. Some Statistics from the Survey

- ❖ We received 66 replies from you
- ❖ 23 students answered the survey completely
  - Top 3 locations: Darmstadt, Mühlthal, Mainz
  - About one third live in student dorms

## Connection Speed (Mbit/s)



## Provider



## 2. RB-HORST Physical Setup (1/2)



### ❖ First boot

- Insert the SD card into the Odroid
- Connect the device to your home network
- Connect your WiFi dongle
- Power the device using the plug
  - A red LED should be on
  - A blue LED should begin to flash
- Wait for the device to boot
- Wait for the device to reboot again, the whole process will take about 10 minutes.
  - **DO NOT SWITCH OFF THE DEVICE DURING THIS PROCESS!**
- The device is configured and ready to be used

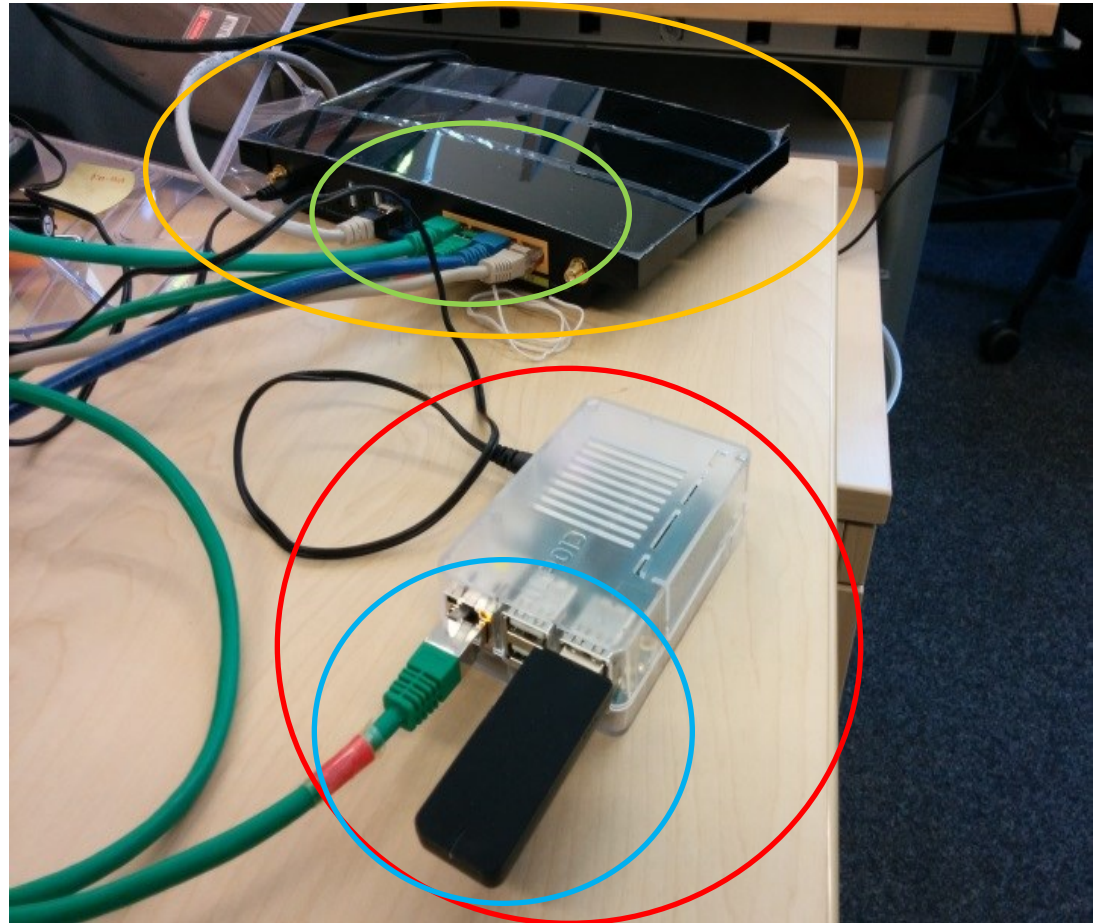
Already done on  
your device!

Just here for  
completeness.

## 2. RB-HORST Physical Setup (2/2)

### ❖ Physical Setup

- Your home router
- Ethernet ports
- RB-HORST access point
- WiFi dongle



### 3. RB-HORST Software Setup (1/2)



#### 1. On your own own router

- Log in to the administration interface
- Either **activate uPnP** or **configure static port forwarding** from external port 8443 (UDP+TCP) to RB-HORST internal IP port 8443
  - Unfortunately, this step may look different depending on your home router type
  - If you face problems, send a mail containing your home router type, we will point you to the correct documentation

#### 2. Connect with your Laptop via WiFi to the secure SSID of RB-HORST

- HORST\_secured\_{ID} → **will be handed out by supervisors**
- PSK/Password: {PW} → **will be handed out by supervisors**

### 3. RB-HORST Software Setup (2/2)



1. Open <http://192.168.40.1:8181/unada/>
2. Click: "Connect with Facebook"
3. Log in with your Facebook credentials
4. Accept the permissions
5. You are forwarded to the configuration interface
6. Click on "Overlay"
7. Wait for the location request and accept it
8. Save the location by clicking "update"
9. After a few minutes, your friends also using RB-HORST should appear on the "Administration" tab
  - If no friends are visible, nobody might have installed/used RB-HORST
  - Restart the device (by unplugging and plugging it in again) to assure you are connected to the DHT





## 4. RB-HORST App Setup

1. Install the “RBH-Study” App from:  
<https://play.google.com/store/apps/details?id=eu.smartenit.enduser.app>
2. Start the App and install the certificate when requested
  - Name the certificate “RBH-Study”
3. Log in with your Facebook credentials
  - Accept the permissions if appearing
4. The App should automatically connect to your closest HORST SSID
5. If the authentication was successful, the App should automatically connect to the “HORST\_secured\_{ID}” SSID
6. Then it is possible to use the network.
  - Go to vimeo.com to check the correct installation of the certificate
  - Check the network performance by running a few measurements using the “Measurements” screen

## 5. ToDos and Outlook

### ❖ Exercise sheet

- The exercise sheet for this lab will be uploaded to Moodle
- Two types of assignments
  - Marked by (†) is to be filled in by study participants
  - Marked by (\*) is to be filled in by all others

### ❖ Please fill in and upload the exercise sheet in the Moodle in any case to fulfill the bonus requirements

### ❖ **Next week:** Trace analysis of RB-HORST system

- Please bring your laptop and install wireshark
  - <https://www.wireshark.org/>