

### Template Week 3 – Hardware

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#### Assignment 3.1: Examine your phone

What processor is in your phone?

Apple A15 Bionic chip.

To which architecture family does this processor belong? In other words, which Instruction Set Architecture (ISA) is used?

ARM-architectuur, specifiek ARMv8-A

How much RAM is in it?

6 GB ram

How much storage does your phone have?

128GB

What operating system is running on your phone?

IOS 26.1

Approximately how many applications do you have installed?

112

Which application do you use the most?

YouTube

Can your phone be charged with what type of plug?

Lightning-kabel

Which I/O ports can you visually see on your phone?

Lightning kabel

SIM-Kaart

Luidspreker en microfoon punten

#### Assignment 3.2: Examine your laptop

What processor is in your laptop?

I5-8250U

To which architecture family does this processor belong? In other words, which Instruction Set Architecture (ISA) is used?

X86-64

How much RAM is in it?

16GB

How much storage does your laptop have?

1tb HDD – 128GB SSD

Which operating system is running on your laptop?

Win 11

Approximately how many applications do you have installed?

150 ish

Which application do you use the most?

Google Chrome

Can your laptop be charged with what type of plug?

Netadapter

Which I/O ports can you visually see on your laptop?

1 x USB-C

2 x USB-A

1 x HDMI

1 x 3,5mm audio jack

1 x SD kaartlezer

1 x oplaad poort

1 x Ethernet poort

#### Assignment 3.3: Power to the laptop

What is the input voltage?

100-240v

What is the output voltage?

19,5V

How many watts can your power adapter deliver?

45W

Is the input voltage AC or DC?

AC

Is the output voltage AC or DC?

DC

AC/DC what is that?

AC = Stroom wisselt hele tijd van richting.,

DC = Stroom gaat maar een richting op.

If you reverse the polarity of the output voltage, is that bad for your laptop?

Ja dan word de binnen kant gefrituurd.

You forgot your power adapter, your laptop normally needs 15 watts. You will be loaned a power adapter that can deliver 50 watts. Voltage, polarity, etc. are all the same compared to the original power adapter. You can connect the borrowed power adapter to your laptop. What will happen?

Also explain why you think that.

Er gaat niks raars gebeuren de laptop pakt alleen de stroom die die nodig heeft en niet meer.

Assignment 3.4: Build your dream PC

Screenshots PC configuration + motivation:

Assignment 3.5: Adders

Complete the half adder, full adder and 4-bit adder assignment as described in the PowerPoint slides of week 3 in Logisim. Save the chip design and also export three PNG pictures of the separate finished designs. See the PowerPoint slides of week 3.

Paste the three exported PNG pictures in here.

Ready? Save this file and export it as a pdf file with the name: week3.pdf