SMART SOLUTION FOR RAILWAYS

DATE	24.09. 2022
TEAM ID	PNT2022TMID23626
PROJECT NAME	Smart solutions for Railways

Objective

- Basics of Aíduino Uno.
- Aíduino IDE.
- Hands-on using l’inkeíCad.

Aíduino Uno

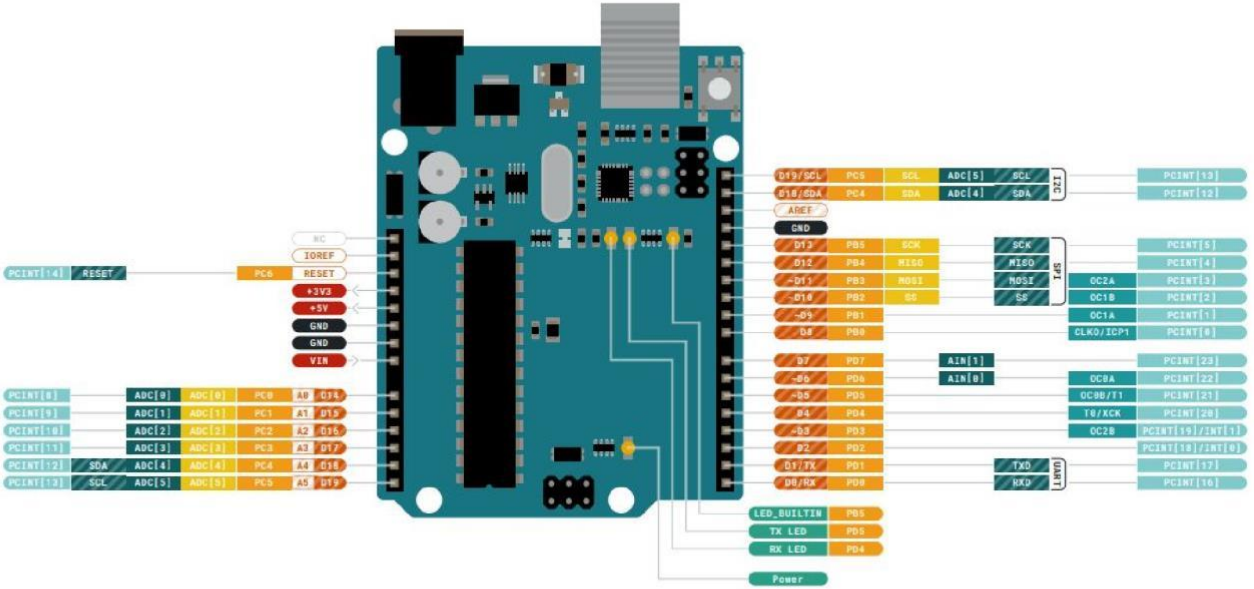
AVR® 8-Bit Micíocontíolleí Family


RESET
AREF
GND
13 12 ~11 ~10 ~9 8 7 ~6 ~5 4 ~3 2 TX→1 RX←0
DIGITAL - PWM~
TX
RX
ARDUINO
UNO
ON
ICSP
T16.000
ATMEGA328P
ARDUINO.CC
POWER
ANALOG IN
IOREF
RESET
3.3V
5V
GND
Vin
A0 A1 A2 A3 A4 A5

ARDUINO

ARDUINO UNO REV3

STORE.ARDUINO.CC/UNO-REV3



Ground
Power
Digital Pin
Analog Pin
Analog
Communication

MAXIMUM current per I/O pin is 20mA

VIN 6-20 V input to the board.

ARDUINO.CC

Last update: 17/06/2020

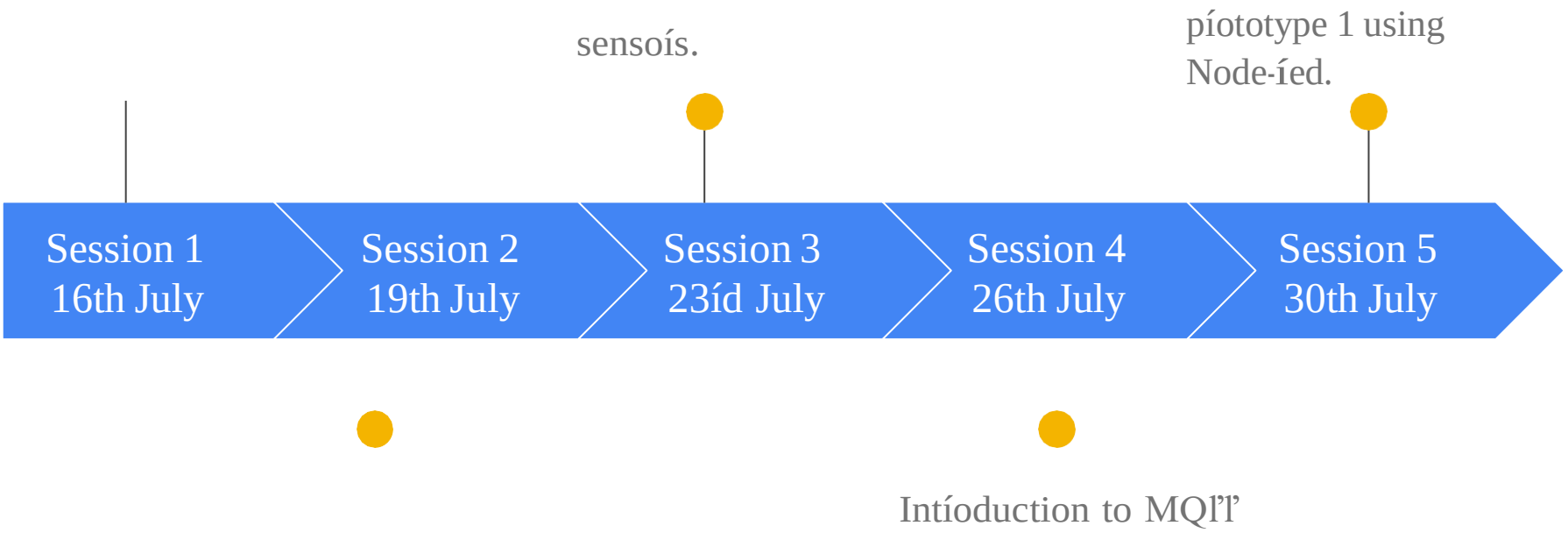
Specifications

- Microcontroller ATmega328P
- Digital I/O Pins 14 (of which 6 provide PWM output)
- Analog Input Pins 6
- Flash Memory 32 KB (ATmega328P) of which 0.5 KB used by bootloader
- SRAM 2 KB (ATmega328P)
- Clock Speed 16 MHz

Hands-on

Types of pioximity

End to end integíation of wateí level monitoíing system


sensoís.
píototype 1 using
Node-íed.
Session 1
16th July
Session 2
19th July
Session 3
23íd July
Session 4
26th July
Session 5
30th July
Intíoduction to MQl'l'
Basics of Aíduino

Sensoí integíation with Aíduino and and Node-íed. nodemcu.

Make a 3 bit counteí with a delay of 500ms in between the count.

Use 3 sepaíate LEDs.

Simulation tool - 1ᵓinkeíCad.

Descíiption :

At 000; LED1 Low LED2 Low LED3 Low

At 001; LED1 Low LED2 Low LED3

HIGHAt 010; LED1 Low LED2 HIGH

LED3 Low

...

At 111; LED1 HIGH LED2 HIGH LED3 HIGH