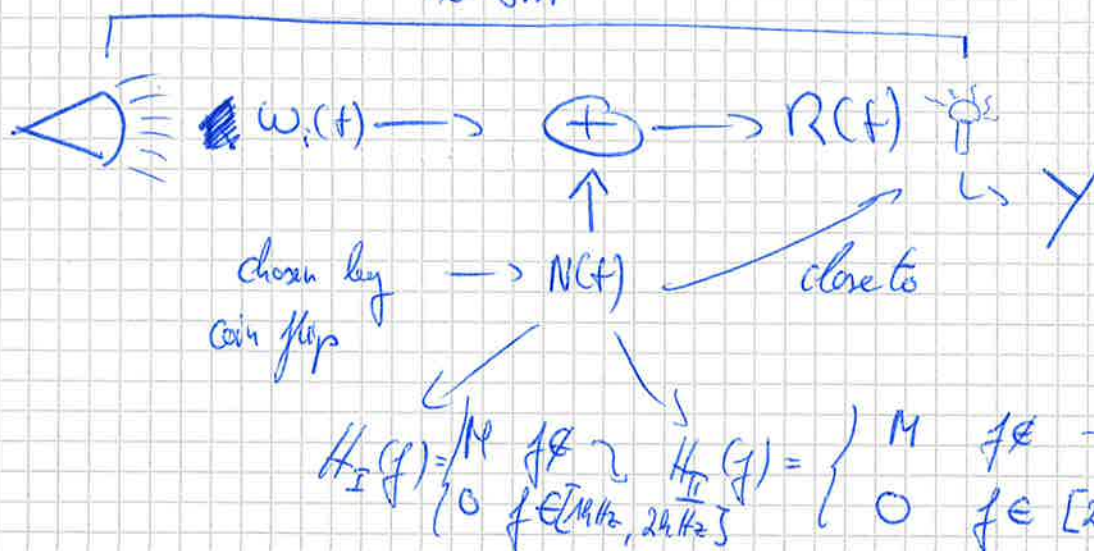


~160 chan to transmit
max 3 minutes

Wednesday, 2nd May → groups
Friday, 1st June → 10am code + demo

Project: PDC

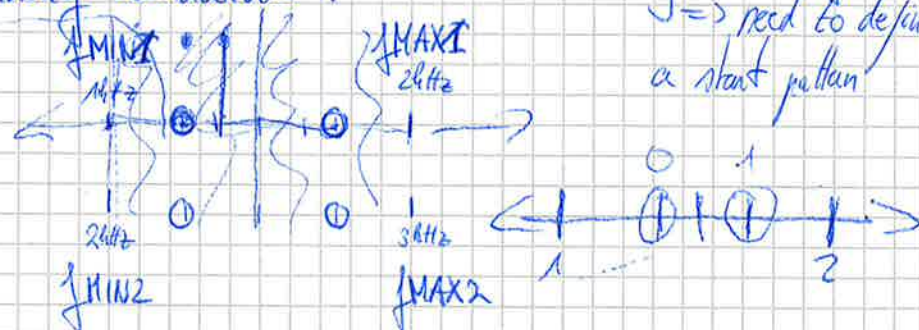
~ 3m



$w_i(t), i \in \{0, 1\}$ has to use either frequency bandwidth $[14kHz, 24kHz]$ or $[24kHz, 36kHz]$ depending on the noise introduced.

⇒ Sample the noise to find out which one is introduced + use the corresponding bandwidth?

⇒ set f_{MIN}, f_{MAX} freq



One-way communication
⇒ need to define a start pattern

$$f_{BIT0} = \frac{MIN1 + (MAX1 - MIN1)}{4}$$

$$f_{BIT1} = \frac{MAX1 - (MAX1 - MIN1)}{4}$$

$$f_{HID} = \frac{MAX1 + MIN1}{2}$$

$$w_0(t) = A \sin(2\pi f_{BIT0} t + \phi_0) +$$

$$w_1(t) = A_1 \sin(2\pi f_{BIT1} t + \phi_1) +$$

$$\sum_{i=0}^{n-1} b_i \left[A \sin(2\pi f_{i0} t) + A \sin(2\pi f_{i1} t) \right] \quad \text{rec } f_t = f_{IT}$$

10.11

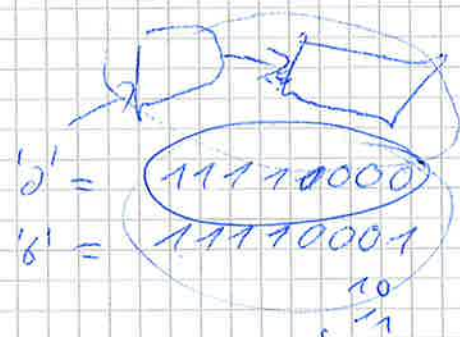
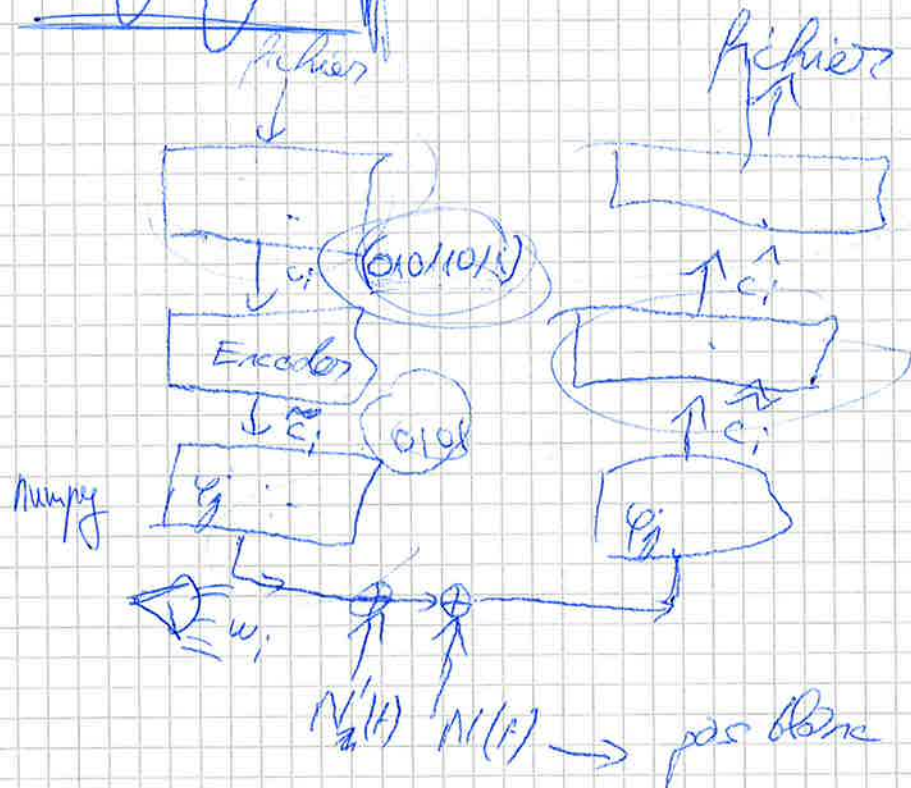
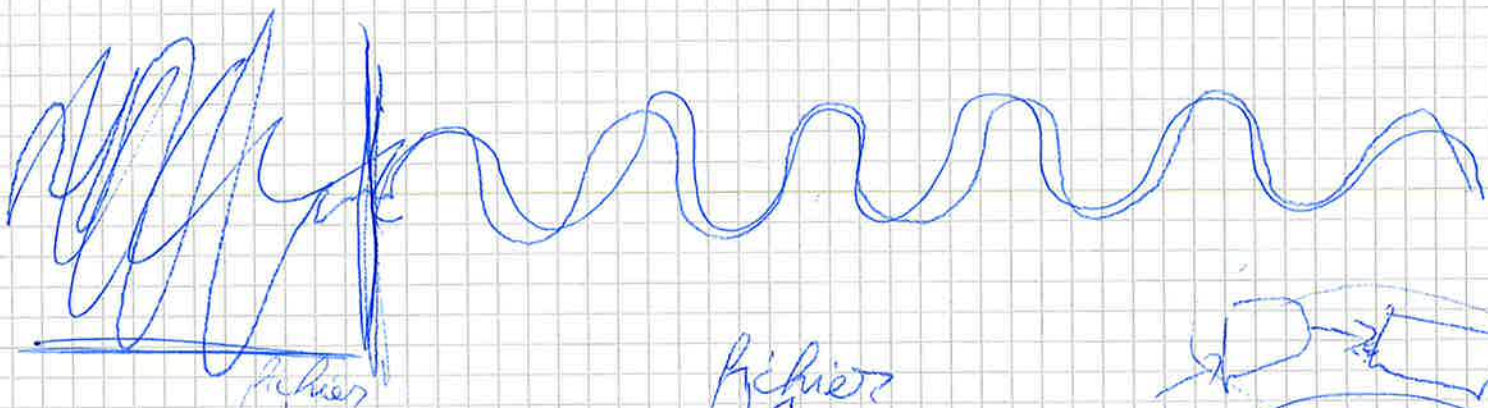
⇒ encode char bytes (UTF-8) to error recovering encoding? Reed Solomon

→ Cyclic → RS → Trans → RS → Dec

Polin Code

~~allowed to only (one of the)~~

+



'2' = 11110010

$P(b=1) > P(b=0)$

$$P_j(H) = \varphi_{j1}(H) + \varphi_{j2}(H)$$

$$\langle N', \varphi_{j1} \rangle = 0$$

$$\text{or } \langle W', \varphi_{j2} \rangle = 0$$

10/11