



About the `CODE`

# Why JAVA ?

Portability

UNIX, WINDOWS...

Simplicity

Graphical user interface, Server...

University

OOP, Team sync...



# Our project :

## Implementation :

Server

Graphical User Interface

Quantum Physics

Cryptography/B84

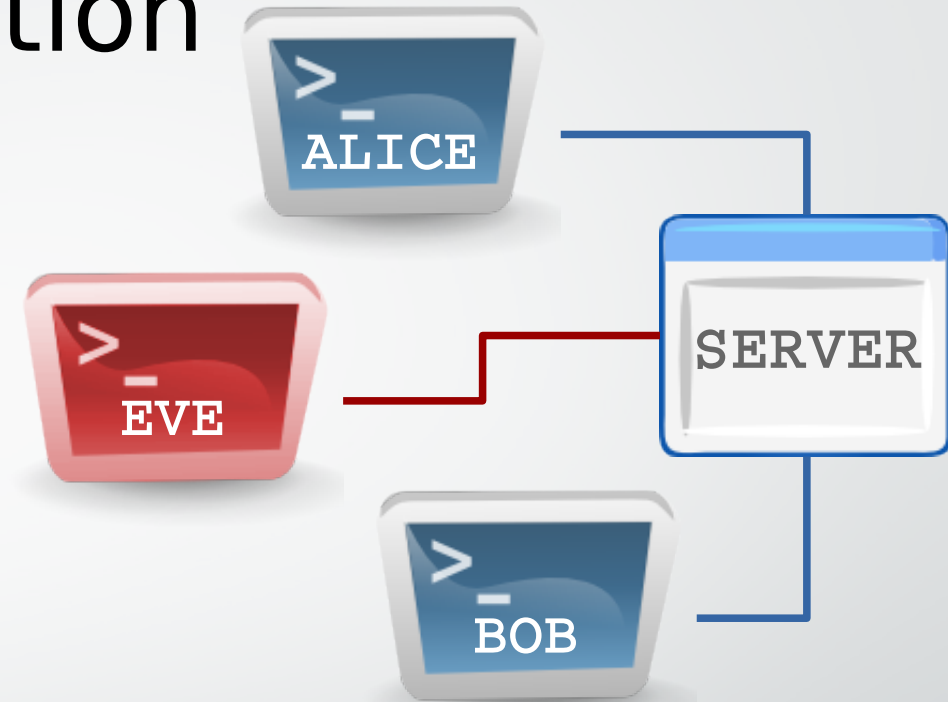
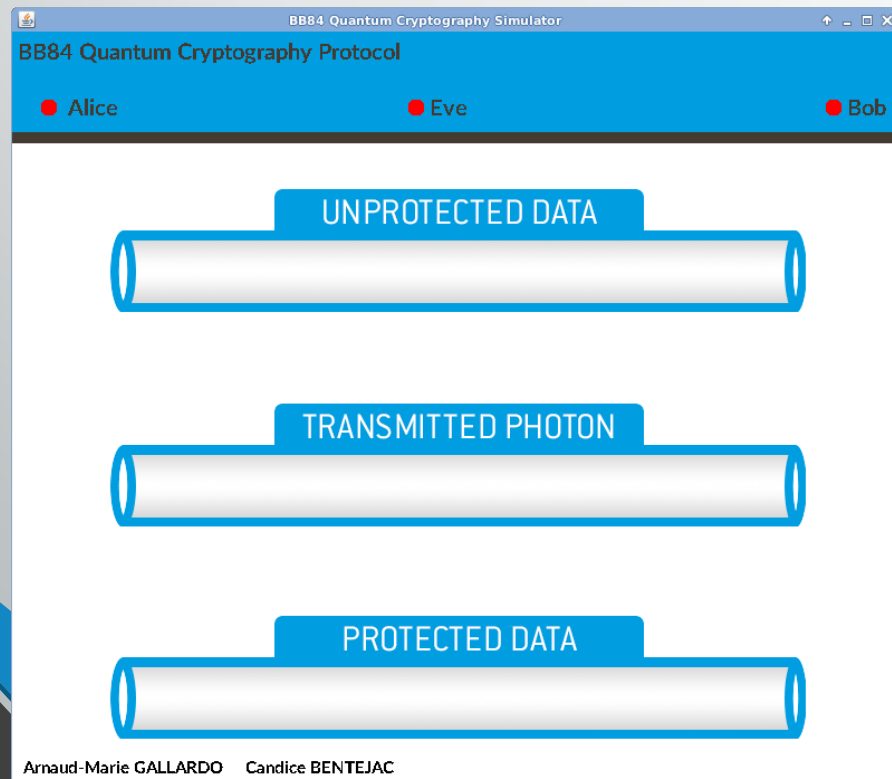
▼ Total Lines of Code	1618
▼ src	1618
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# Quick explanation

1

## Client/Server

We used a library named JEXXUS, based on the Java Sockets API

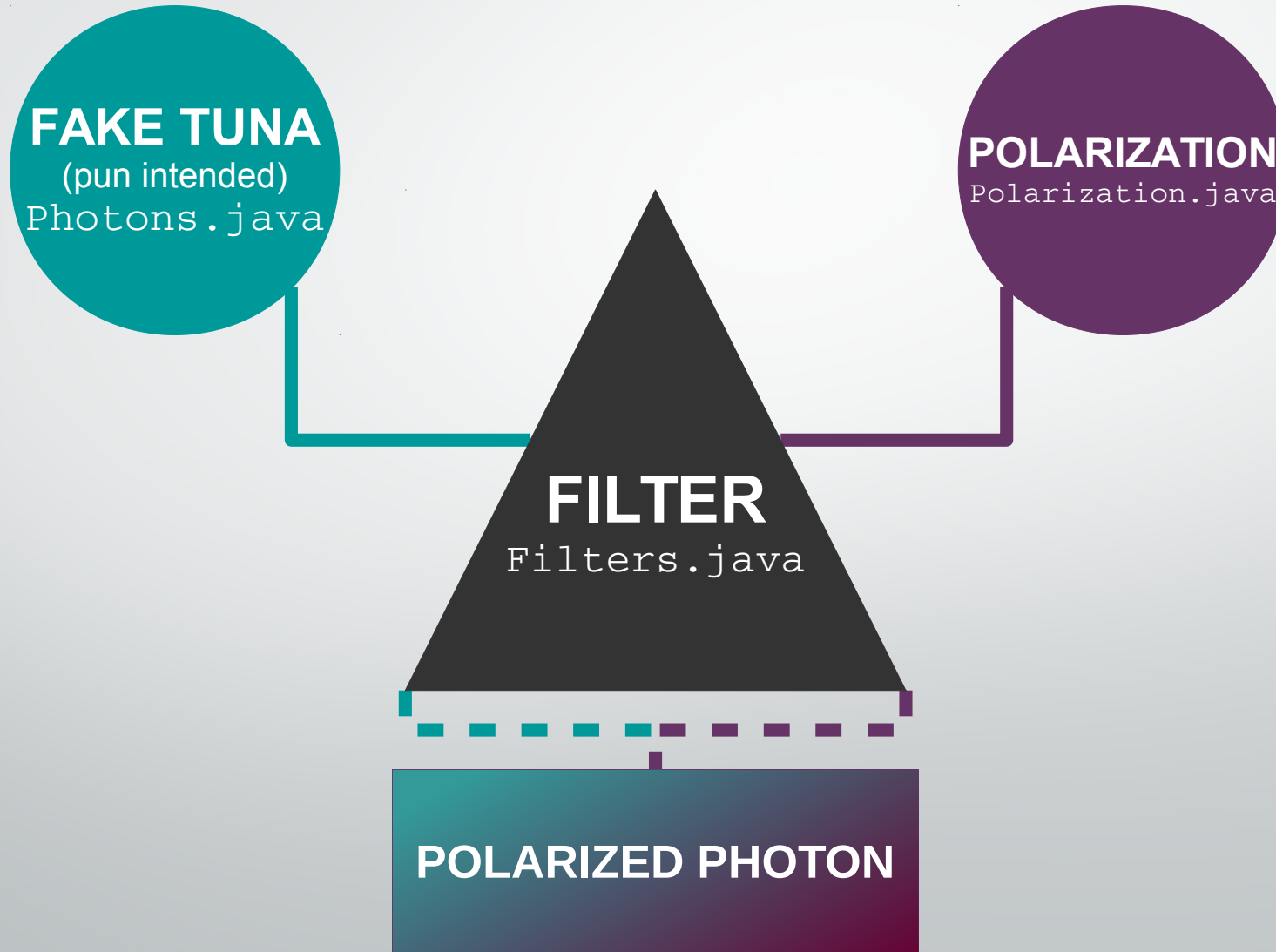


GUI (Graphical User Interface)

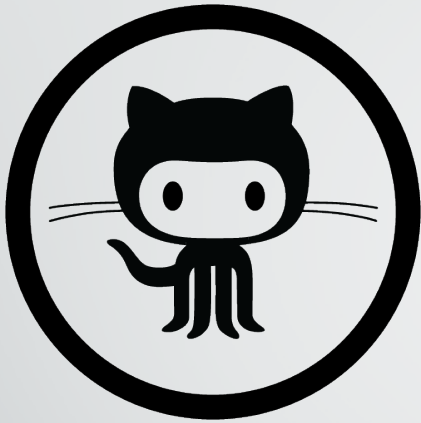
We used the Java Swing API

2

# Quantum physics implementation



# Team work



**github**  
SOCIAL CODING

[www.github.com/ArnaudGallardo/BB84](https://www.github.com/ArnaudGallardo/BB84)

[www.github.com/ArnaudGallardo/BB84-client](https://www.github.com/ArnaudGallardo/BB84-client)

# Benchmark



## Apache POI - the Java API for Microsoft Documents

- Creating spreadsheets files
- Automatic simulation (21000 tests in 80 minutes with at the end more than 16 millions photons simulated) and writing



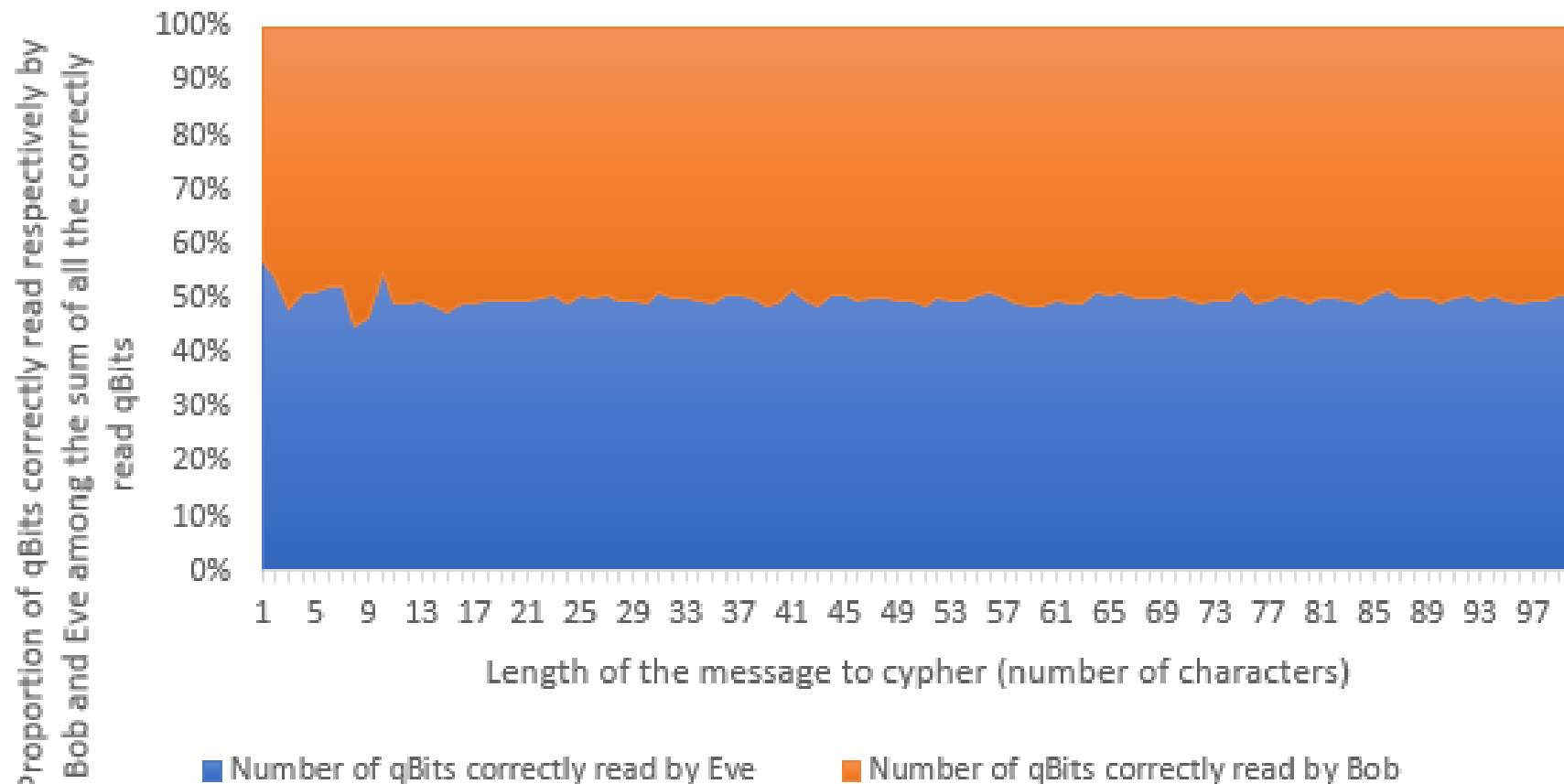
# Benchmark

Number of Qbits sent by Alice	Number of Qbits correctly read by Eve	Number of Qbits correctly read by Bob	Number of sacrificed photons	Eve's detection
16	7	7	1	0
32	13	22	6	1
48	27	25	1	0
64	29	27	1	0
80	38	31	1	1
96	51	44	1	0
112	62	66	10	1
128	60	61	1	1
144	85	71	1	0
160	89	75	1	0
176	91	95	7	1
192	93	86	1	1
208	111	108	4	0
224	122	124	12	1
240	125	129	9	1
256	124	129	1	1
272	134	137	1	1
288	142	136	1	0
304	178	156	4	1
320	160	157	1	1
336	160	169	1	0
352	165	163	1	0
368	173	179	1	1
384	179	187	1	1
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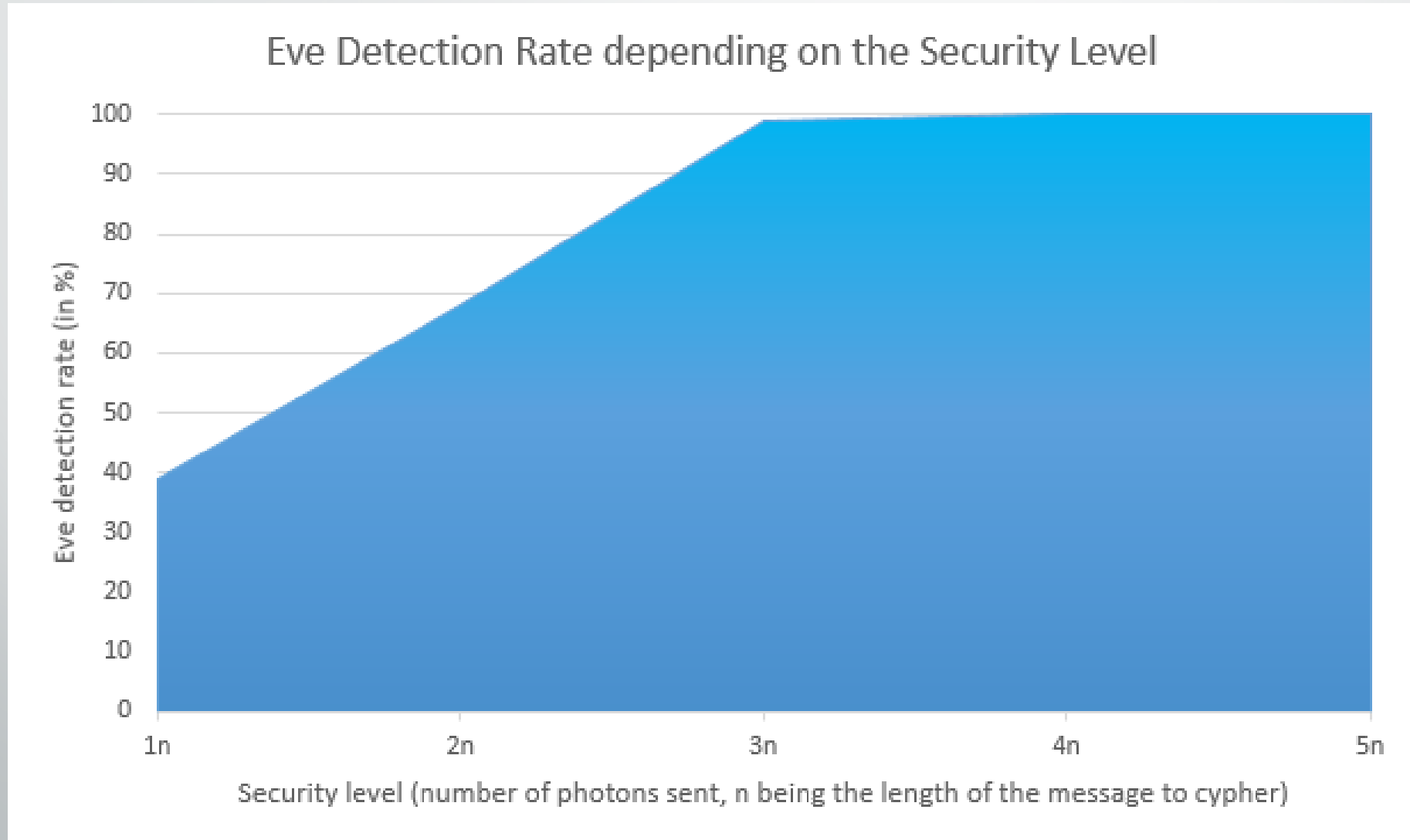


# Benchmark

Comparison between the qBits correctly read by Eve and the qBits correctly read by Bob



# Benchmark



# Benchmark

