



Information and Communication Technology:

A LITTLE MORE ABOUT THE COMMUNICATION TECHNOLOGY

The **UNIVERSITY** *Technology*



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Communication Model

Shannon and Weaver [1949], simplex mode

INFORMATION

SOURCE

TRANSMITTER

RECEIVED

RECEIVER

DESTINATION

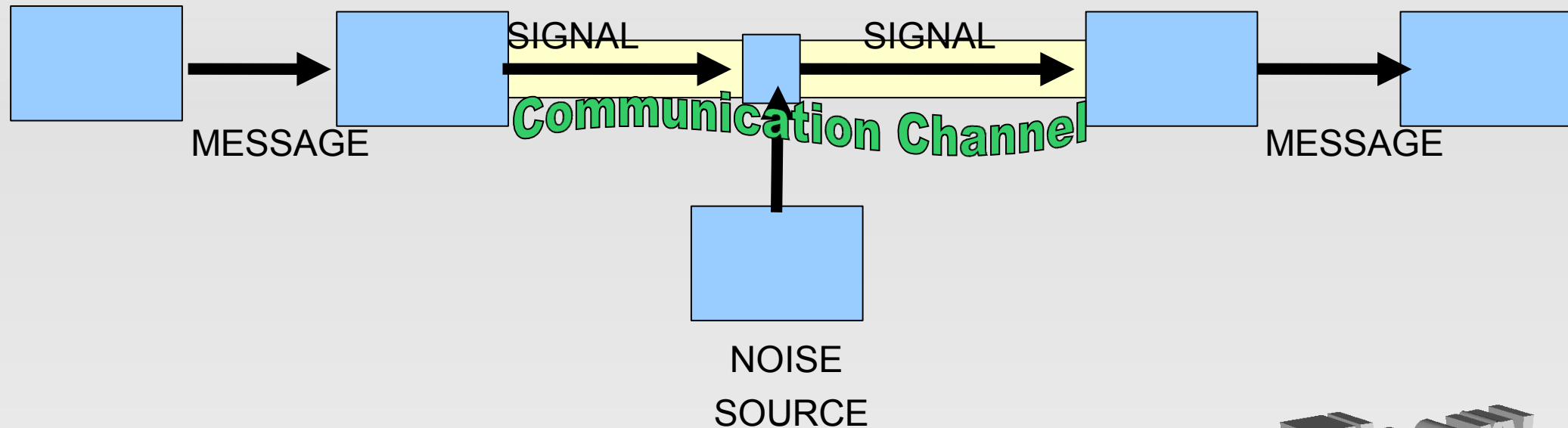
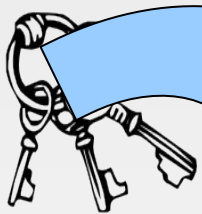


Fig. 1 — Schematic diagram of a general communication system



The Information Theory

The MODEs of Communication

Shannon and Weaver [1949], simplex mode

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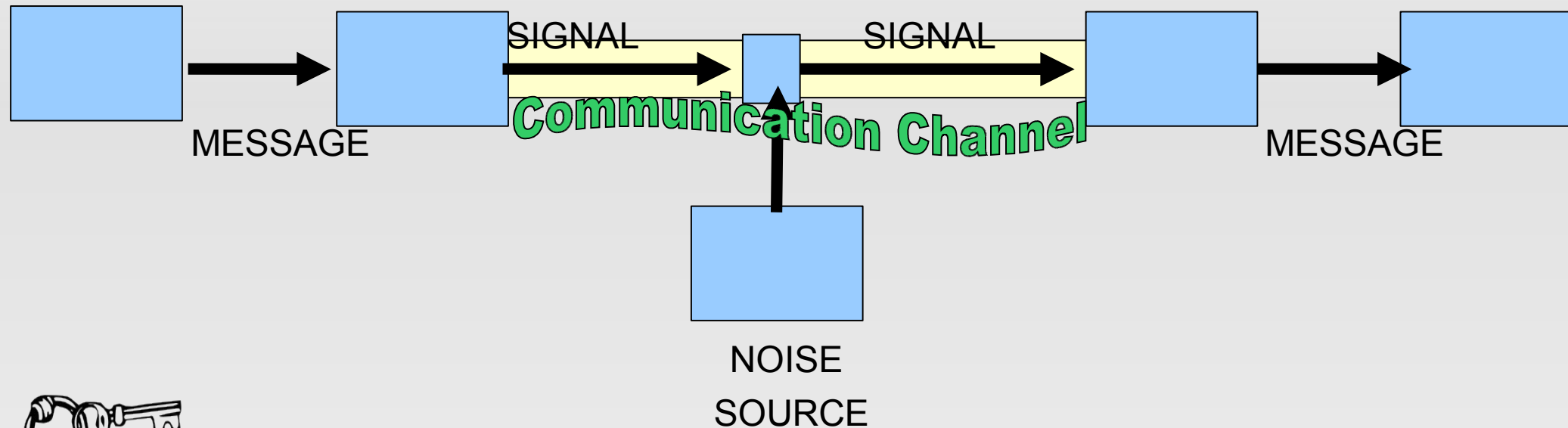


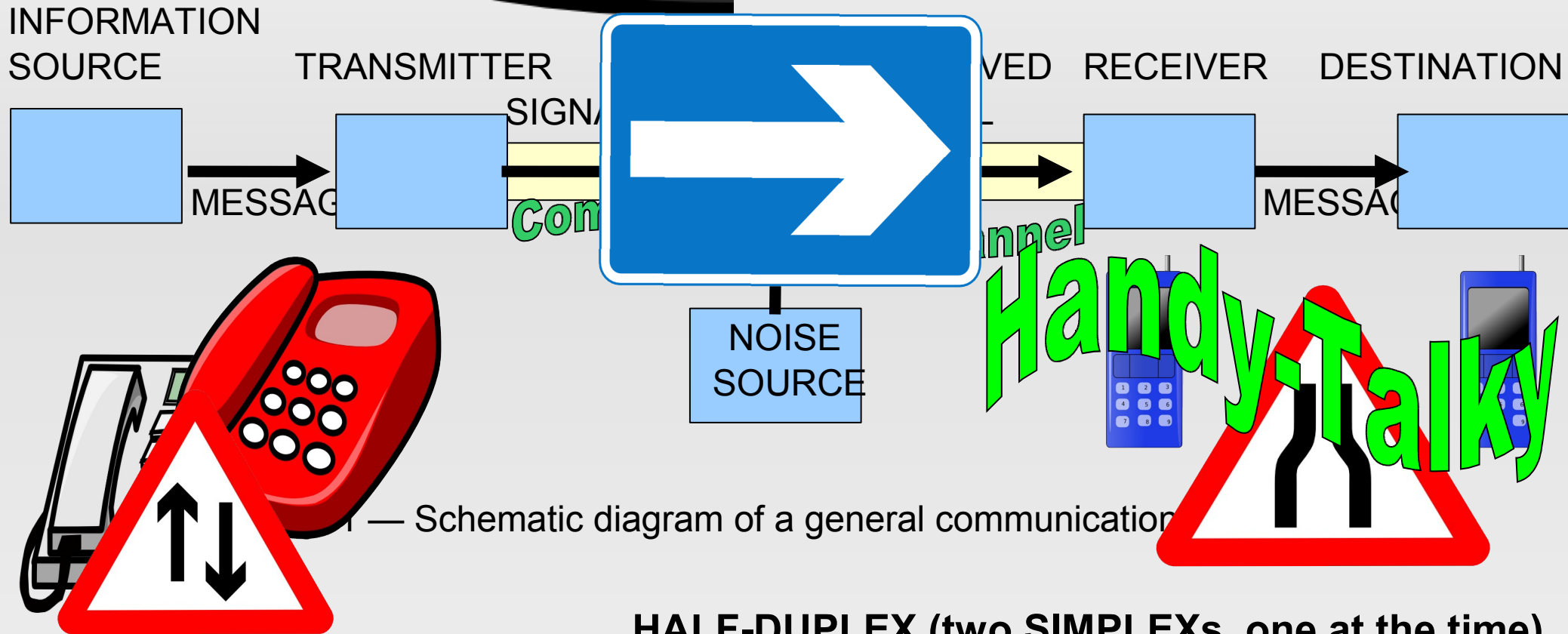
Fig. 1 — Schematic diagram of a general communication system.

The MODEs of Communication:

- The SIMPLEX MODE (the model above)
- The DUPLEX MODE: Full Duplex and Half Duplex

The MODEs of Communication

Shannon and Weaver [1949], simplex mode



HALF-DUPLEX (two SIMPLEXs, one at the time)

FULL-DUPLEX (two SIMPLEXs)

SINGLE-SOURCE SINGLE-DESTINATION



The MODEs of Communication

not a simplex mode

not a full-duplex

not a half-duplex, but

the NETWORK !



MULTI-SOURCE MULTI-DESTINATION

The NETWORK mode

on NETWORK



MODE JARINGAN (Network)

All kinds of NETWORK:

- LOCAL AREA NETWORK (LAN)
- WIDE AREA NETWORK (WAN)
- METROPOLITAN AREA NETWORK (MAN)
- CAMPUS AREA NETWORK (CAN)
- The INTRANET
- The INTERNET

MULTI-SOURCE MULTI-DESTINATION

The INTERNET

- Read :

http://en.wikipedia.org/wiki/History_of_the_Internet

- A “non-hierarchical” organization
- Members: Computers and the Accessories
- “Permanent” and “Temporary” members
- Every single member has its “IP address”
(IP = Internet Protocol) :
 - Version 4: 000.000.000.000 to 255.255.255.255, “local” and “public” IP
 - Ipv6 (version 6)

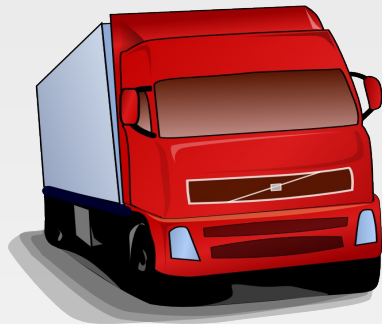


The INTERNET member.....

- Every single member of the Internet has its specific function:
 - *servers*: mail-server, file-server, web-server, list-server, Domain-Name Server (DNS), dll.....
 - *routers*: the traffic controllers
 - *bridges*: connecting networks
 - *terminal, client*
 - etc.

Packet Data Communication

- Using a communication protocol: **TCP/IP**
- Communication by sending and receiving **DATA PACKETS**
- Each DATA PACKET has its CONTENTS and its "WRAPPER", its SENDER's Address and its DESTINATION/RECEIVER's Address





Let's GO

to seethe

Internet