

Handout 54. The History of Computer Science: text selection 4

<p>In the 1st century BCE, Julius Caesar coded his military messages to ensure they remained confidential. To do so, he substituted letters of the alphabet for other letters. The messenger just had to make sure the encrypted message reached its addressee. This method was so simple that it was used even during World War 1 by the Russian Army.</p>	<p>The use of electricity and magnetism to send information across vast distances or between the components of a computer can be applied to writing information to a memory. After 250 years of loyal service, the punched card was replaced by magnetic tape. In 1957, IBM replaced magnetic tape with a magnetic disk, protected from dust by a plastic case. The floppy disk was born.</p>
<p>The compact disc is not a magnetic information carrier. It is a plastic disc, read by a laser beam. Initially, the CD was used to replace vinyl records in the music industry. In 1985, the same principle was used to store any form of digital data. This was the beginning of the CD-ROM. It rapidly led to the disappearance of the floppy disk, before being replaced by DVDs, based on the same optical technology.</p>	<p>Sending information across vast distances without a messenger was the greatest challenge of the 18th century. Chappe's telegraph was complex: it used 92 different signals and relay stations had to be very close to one another. The electrical telegraph simplified that problem. In 1838, Samuel Morse and Alfred Vail invented a code for the telegraph. Their ingenious creation used short codes for the most frequent letters.</p>