

# Markup languages and information management systems

Ciclo Formativo de Grado Superior

Administración de Sistemas Informáticos en Red

IES Triana

# Markup languages to format text

The Kingdom of animals







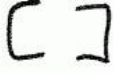










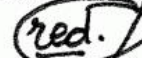
Mammals

Mammals (mammalia) are a class of vertebrate homeothermic amniotes that possess milk-producing mammary glands with which they feed the young.



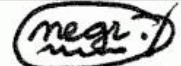




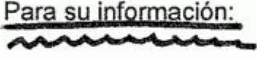
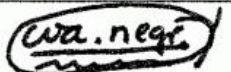




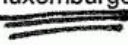

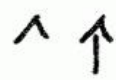


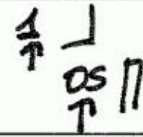
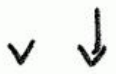


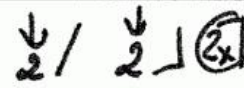







Birds.

Birds are vertebrate, warm blooded animals that walk, jump or stand alone on the hind legs.

# Markup languages prehistory

Alinear texto		Esta línea es un poco rara	
Alinear el texto a la izquierda		Justificar esta línea a la izquierda	
Alinear el texto hacia la derecha		Entrar esta línea un poco	
Centrar		Título del capítulo Subtítulo	
Juntar en un mismo párrafo		No hay que confundir Antioquia con Antioquía	
Poner en párrafo aparte		Escoge: 1) Cuenca, 2) Huelva	
Poner en la línea siguiente		El Tribunal de Justicia de las Comunidades Europeas	
Pasar de redonda a cursiva		Libro de estilo interinstitucional	
Pasar de cursiva a redonda		Libro de estilo interinstitucional	

# Markup languages prehistory

Pasar de fina a negrita		Aviso muy importante: 	
Pasar de negrita a fina		Para su información: 	
Poner en cursiva y negrita		Para su información: 	
Cambiar a minúsculas (caja baja)		LUXEMBURGO 	
Cambiar a mayúsculas (caja alta)		luxemburgo 	
Poner voladito		(  ) en los nos  15 y 26	
Poner como subíndice		CO  H 	
Rectificación (dejar como estaba)		Dos y dos  son cinco 	
Poner sangría		1) La capital de España es Madrid 	

# Markup languages to display text

## **The kingdom of animals**

### **Mammals**

Mammals (**mammalia**) are a class of vertebrate *homeothermic amniotes* that possess milk-producing mammary glands with which they feed the young.

### **Birds**

Birds are vertebrate, warm-blooded animals that walk, jump or stand alone on the hind legs.

# Markup languages to display text

```
1 The kingdom of animals
2 Mammals
3 Mammals (mammalia) are a class of vertebrate homeothermic
  amniotes that possess milk-producing mammary glands with
  which they feed the young.
4 Birds
5 Birds are vertebrate, warm-blooded animals that walk, jump
  or stand alone on the hind legs.
```

# Markup languages to display text

## Text

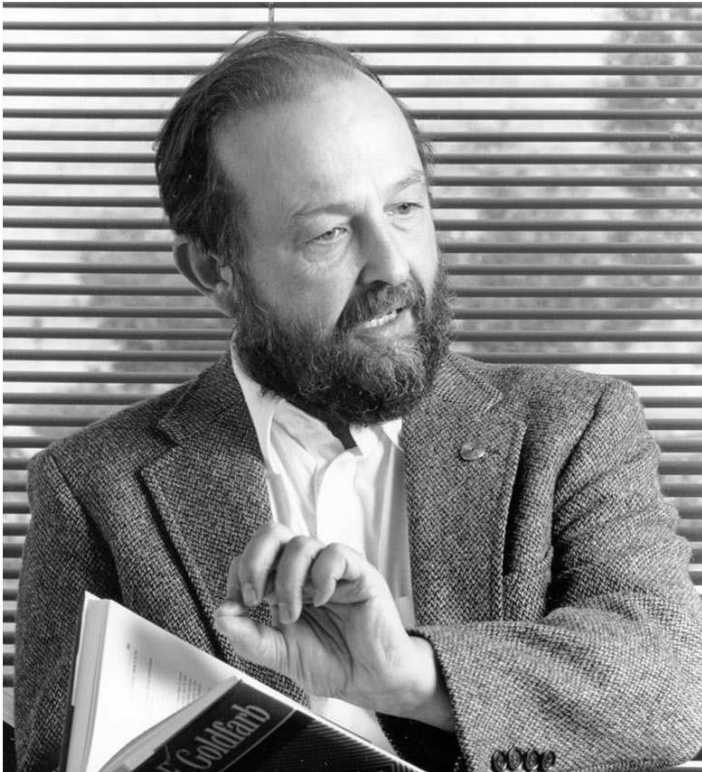
- The kingdom of animals
- Mammals
  - mammalia
  - homeothermic amniotes
  - milk-producing mammary glands
- Birds

## Format

- 24 pt bold
- 18 pt
  - Bold
  - Italics
  - Underlined
- 18 pt

# Markup languages history

## Charles Goldfarb



- Worked for IBM
- Designed GML (1969-1970)
- GML is the root of SGML



# GML (Generalized Markup Language)

- Metadata:

[colon (:)][Tag name][dot (.)]

- Example:

`:h0.The kingdom of the animals`

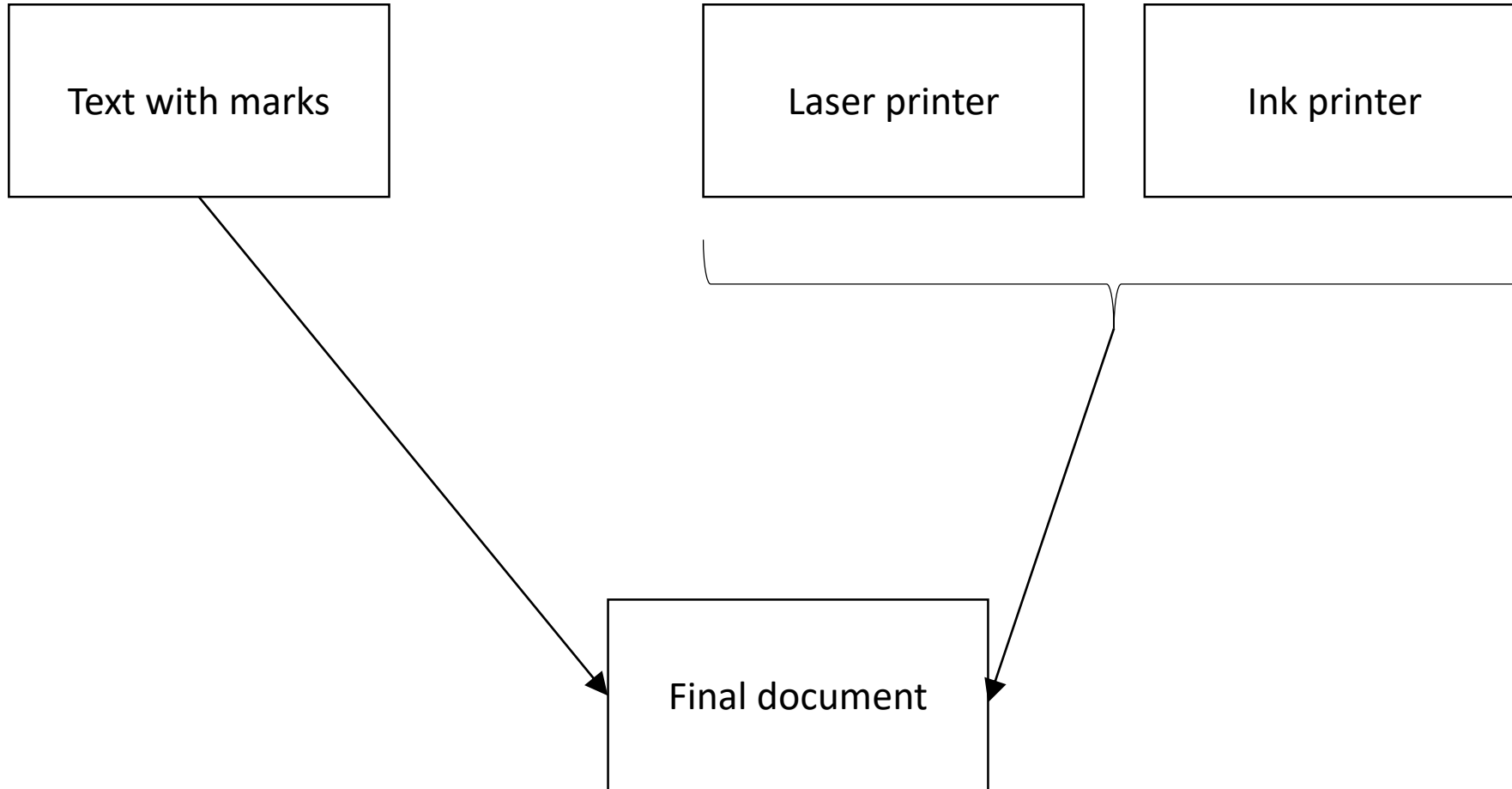
`:h1.Mammals`

`:p.Mammals (:hp1.mammalia:ehp1.) are a class of vertebrate :hp2.homeothermic  
amniotes:ehp2. that posses :hp3.mil-producing mammary glands:ehp3. with which  
they feed the young.`

`:h1.Birds`

`:p.Birds are vertebrate, warm-blooded animals that walk, jump or stand alone on  
the hind legs.`

# GML (Generalized Markup Language)



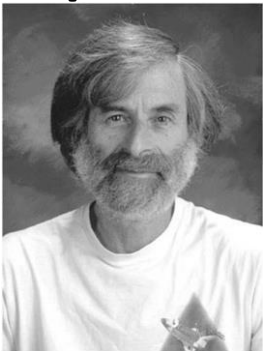
# Markup languages history

**Donald Knuth**



- Designed TeX
- Created METAFONT (high quality fonts)

**Leslie Lamport**

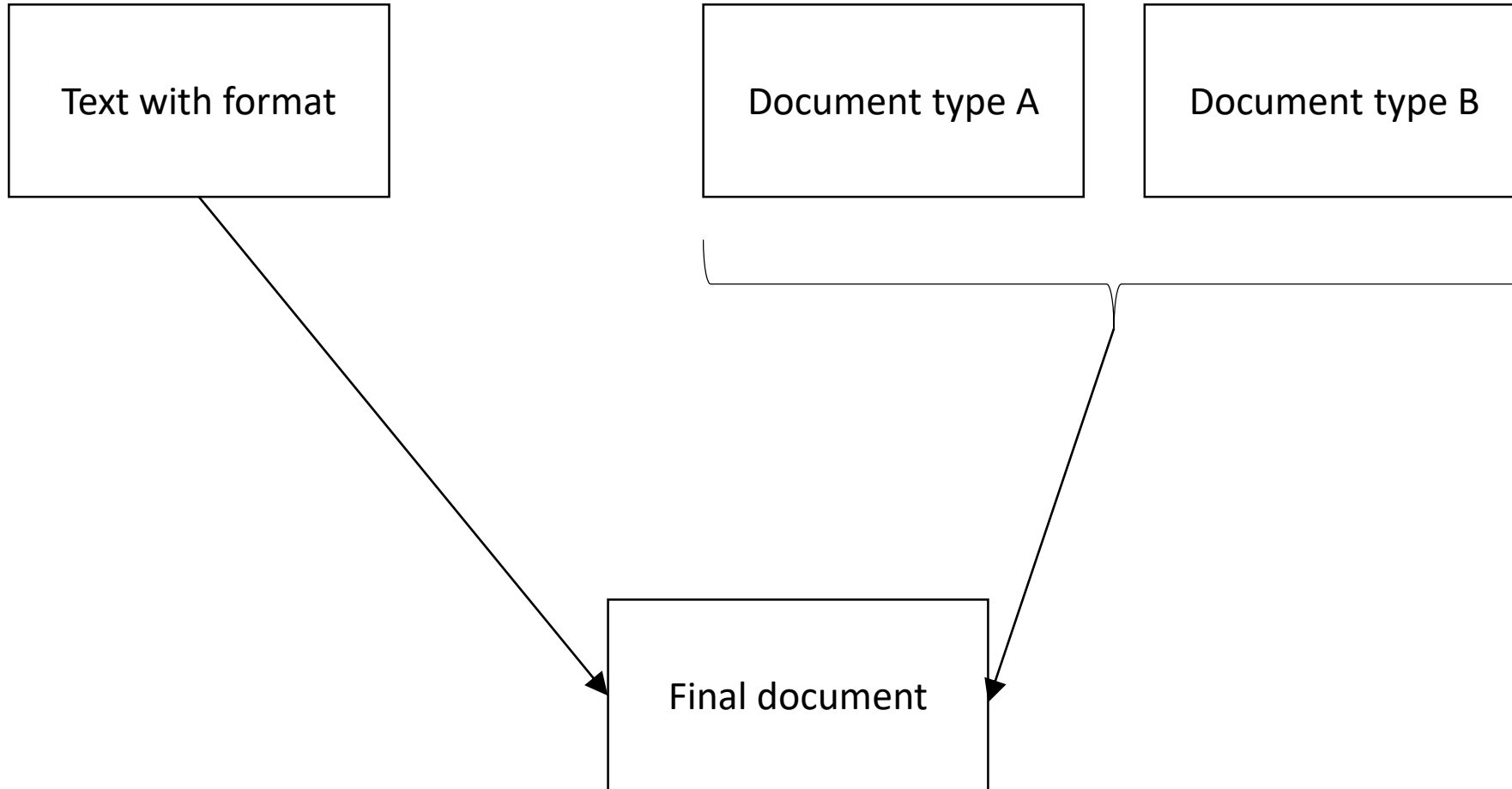


- Designed TeX
- Improved TeX => L<sup>A</sup>T<sub>E</sub>X

# L<sup>A</sup>T<sub>E</sub>X

```
\documentclass[12pt]{article}
\usepackage{lingmacros}
\usepackage{tree-dvips}
\begin{document}
\section*{The kingdom of animals}
\subsection*{Mammals}
Mammals (\textbf{mammalia}) are a class of vertebrate
\textit{homeothermic amniotes} that possess \underline{milk-}
producing mammary glands} with which they feed the young.
\subsection*{Birds}
Birds are vertebrate, warm-blooded animals that walk, jump or
stand alone on the hind legs.
\end{document}
```

L<sup>A</sup>T<sub>E</sub>X



L<sup>A</sup>T<sub>E</sub>X

# The kingdom of animals

## Mammals

Mammals (**mammalia**) are a class of vertebrate *homeothermic amniotes* that possess milk-producing mammary glands with which they feed the young.

## Birds

Birds are vertebrate, warm-blooded animals that walk, jump or stand alone on the hind legs.

# RTF (Rich Text Format) (Microsoft)

```
{\rtf\ansicpg1252\deff0\deflang3082
{\fonttbl {\f0\fcharset0\froman Times New Roman} {\f1\fcharset0\fswiss Arial Black} }
{\pard \f1\fs48
The kingdom of the animals
\par}
{\pard \f1\fs40
Mammals
\par}
{\pard \f0\fs25
Mammals ({\b mammalia}) are a class of vertebrate {\i homeothermic amniotes} that possess {\u milk-producing mammary glands} with which they feed the
young.
\par}
{\pard \f1\fs40
Birds
\par}
{\pard \f0\fs25
Birds are vertebrate, warm-blooded animals that walk, jump or stand alone on the hind legs.
\par}
}
```

# HTML (Hyper Text Markup Language)

```
<!DOCTYPE html>
<html>
<head>
  <meta charset="UTF-8">
  <title>Document</title>
</head>
<body>
  <h1>The kingdom of animals</h1>
  <h2>Mammals</h2>
  <p>Mammals (<b>mammalia</b>) are a class of vertebrate <i>homeothermic amniotes</i>
that possess <u>milk-producing mammary glands</u> with which they feed the young.</p>
  <h2>Birds</h2>
  <p>Birds are vertebrate, warm-blooded animals that walk, jump or stand alone on the
hind legs.</p>
</body>
</html>
```



# Markup languages example

1. Create a file with .html extension.
2. Include some text in several lines.
3. Open that file with a browser.
4. Edit your file and surround some words with these tags:
  - `<b>some text</b>`
  - `<i>other text</i>`
  - `<u>more text</u>`
5. Refresh the file you opened in the browser.
6. What happened?

# Markup languages to give meaning

## Text

- The kingdom of animals
- Mammals
  - mammalia
  - homeothermic amniotes
  - milk-producing mammary glands
- Birds

## Meaning

- **Headline**
- **Section**
  - **Bold**
  - *Italics*
  - Underlined
- **Section**

# SGML (Standard GML)

```
<article>
  <title1>The kingdom of animals</title1>
  <title2>Mammals</title2>
  <normal>Mammals (<b>mammalia</b>) are a
class of vertebrate <i>homeothermic
amniotes</i> that possess <u>milk-
producing mammary glands</u> with which
they feed the young.</normal>
  <title2>Birds</title2>
  <normal>Birds are vertebrate, warm-blooded
animals that walk, jump or stand alone on the
hind legs.</normal>
</article>
```

# Markup languages to give meaning

Alejandro Gómez

Fake Street, no 3

Seville 41010

Spain

999 999 999

666 666 666

- A person? A name? A lastname?
- An address??
- Phone numbers??

# XML (eXtensible Markup Language)

- ```
<?xml version="1.0" encoding="UTF-8"?>
<name>Alejandro</name>
<lastname>Gómez</lastname>
<address>
  <street>Fake 3</street>
  <place>Seville</place>
  <zip>41010</zip>
  <country>Spain</country>
</address>
<phones>
  <phone type="land">999 999 999</phone>
  <phone type="mobile">666 666 666</phone>
</phones>
```

# JSON (Javascript Object Notation)

```
{ "name": "Alejandro",  
  "lastname": "Gómez",  
  "address": {  
    "street": "Fake Street 3",  
    "place": "Seville",  
    "zip": "41010",  
    "country": "Spain"  },  
  "phones":  
  [ { "type": "land", "number": "999 999 999" },  
    { "type": "mobile", "number": "666 666 666" }  
  ]  
}
```

# Summary

- Markup languages
- Procedures: LaTeX
- Presentation: HTML
- Information description: XML, JSON