Information Architecture and Information Technology Architecture

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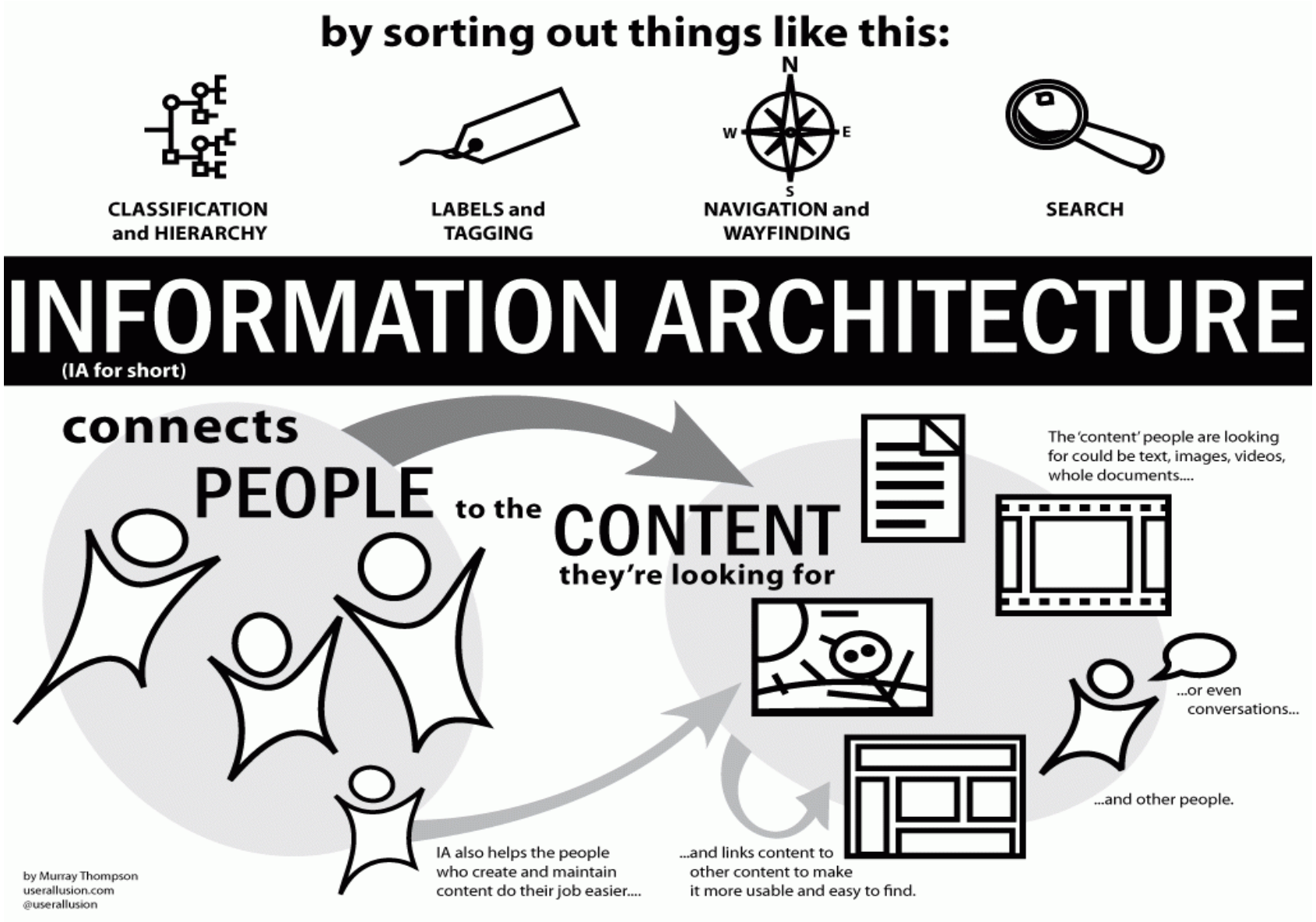
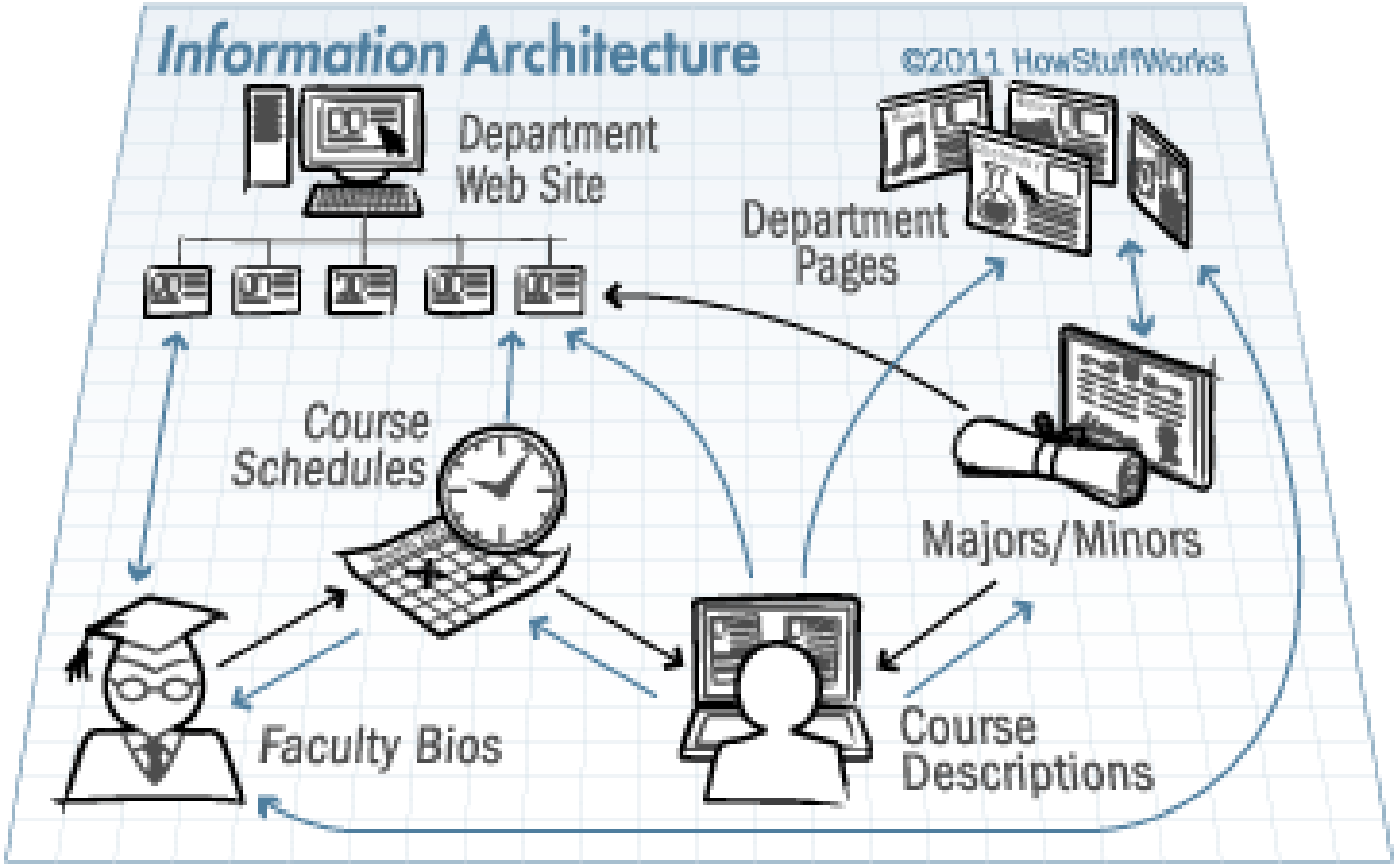
Information Architecture


by sorting out things like this:
CLASSIFICATION and HIERARCHY
LABELS and TAGGING
N
W
E
S
NAVIGATION and WAYFINDING
SEARCH
INFORMATION ARCHITECTURE
(IA for short)
connects
PEOPLE
to the
CONTENT
they're looking for
The 'content' people are looking for could be text, images, videos, whole documents....
...or even conversations...
...and other people.
IA also helps the people who create and maintain content do their job easier....
...and links content to other content to make it more usable and easy to find.
by Murray Thompson
userallusion.com
@userallusion

What it is (1)

- It is about helping people understand their surroundings and find what they're looking for, in the real world as well as online
- The creation of a structure for a website, application, or other project, that allows us to understand where we are as users, and where the information we want is in relation to our position
- results in the creation of site maps, hierarchies, categorizations, navigation, and metadata


Information Architecture
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Department Web Site
Department Pages
Course Schedules
Majors/Minors
Faculty Bios
Course Descriptions

What it is (2)

- When a content strategist begins separating content and dividing it into categories, she is practicing information architecture
- When a designer sketches a top-level menu to help users understand where they are on a site, he is also practicing information architecture
- Regardless of what task is being accomplished, here are some of the questions that must be asked when doing information architecture:
  - What is the flow of users through our site?
  - How does the application help the user catalog their information?
  - How is that information presented back to the user?
  - Is that information helping the customer, and driving decisions?

What it is (3)

- To answer the questions on the previous slide, the information architect must focus on a number of things:
  - the target audience
  - the technologies related to the website
  - the data that will be presented through the website

The founder of IA

- Modern information architecture's founder, *Richard Saul Wurman*, was not a web designer
- He was a graphic designer and an architect, and it was from architecture that the field of IA was born
- Wurman believed that information should be structured in the same way a building is structured: with a solid foundation
- Much like architecture, information architecture can take many attractive forms, and is based on a precise, intentional structure and solid foundation of ideas, though IA features in everything from libraries to websites

The Information Architect

- An information architect will generally do a variety of activities as part of a UX project team
- Common tasks include
  - Research
  - navigation creation
  - Wireframing
  - Labeling
  - Data modeling
- Most of these tasks are valuable because of the process they follow, and some also result in deliverables

User Research and Analysis (1)

- Information Architects (IAs)take on many responsibilities for a project
- To learn about the project's audiences, IAs need access to the results of
  - usability tests
  - card sorting exercises
  - stakeholder interviews
  - user interviews
- Often, an IA will take an active role in facilitating interviews or card sorts, where they can see how a prospective user would categorize a variety of terms

User Research and Analysis (2)

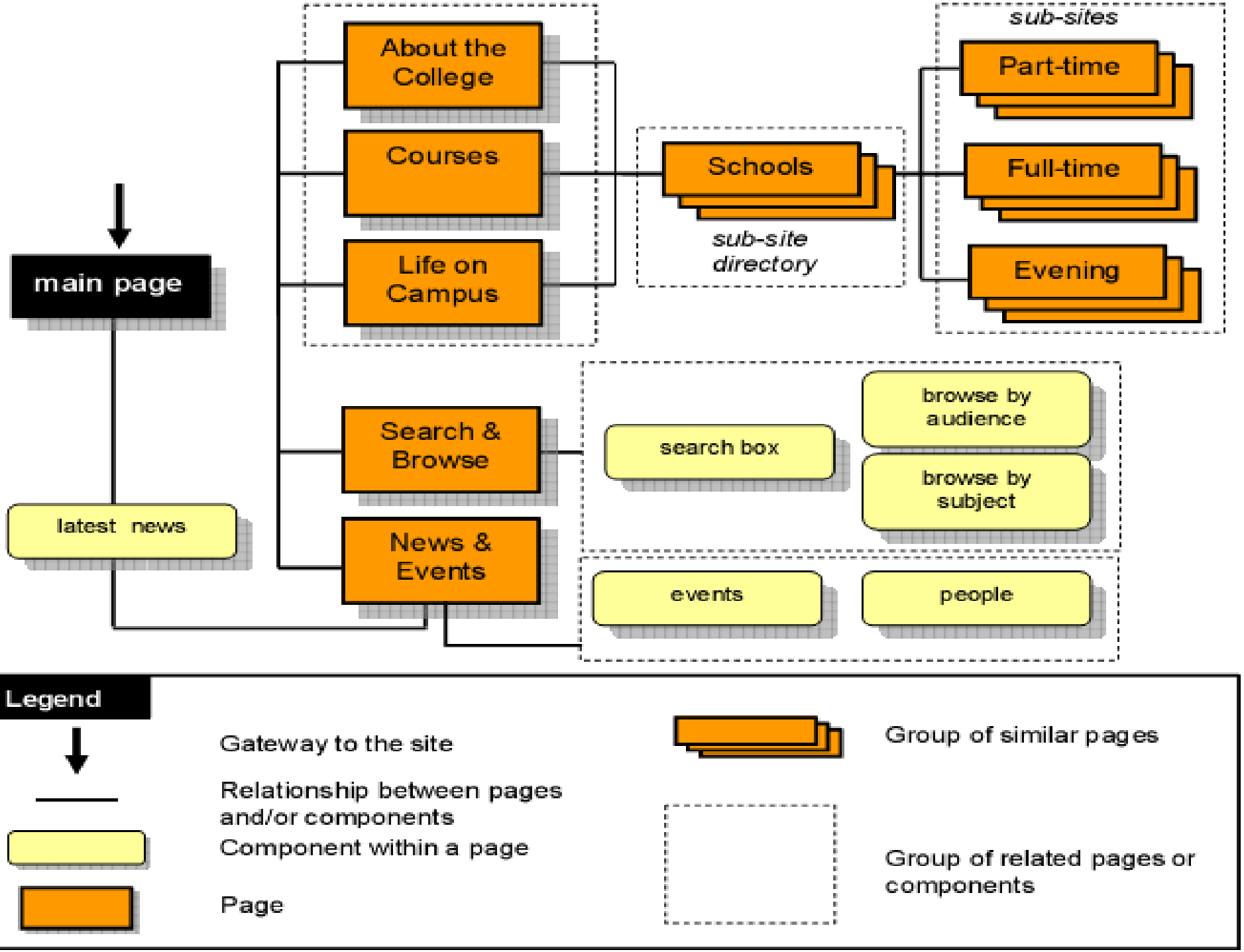
- Through this research, IAs are able to learn
  - what people will do with an application
  - how people will use information provided by the application
  - what mental models the users have when they use the application
- After conducting this research, an IA will begin to analyze the data
- IAs may present the information to the rest of the team as a spreadsheet or a set of recommendations, or even as a set of user personas that will showcase who the typical user is, what their goals are, and how they might approach the application

Navigation and Hierarchy Creation

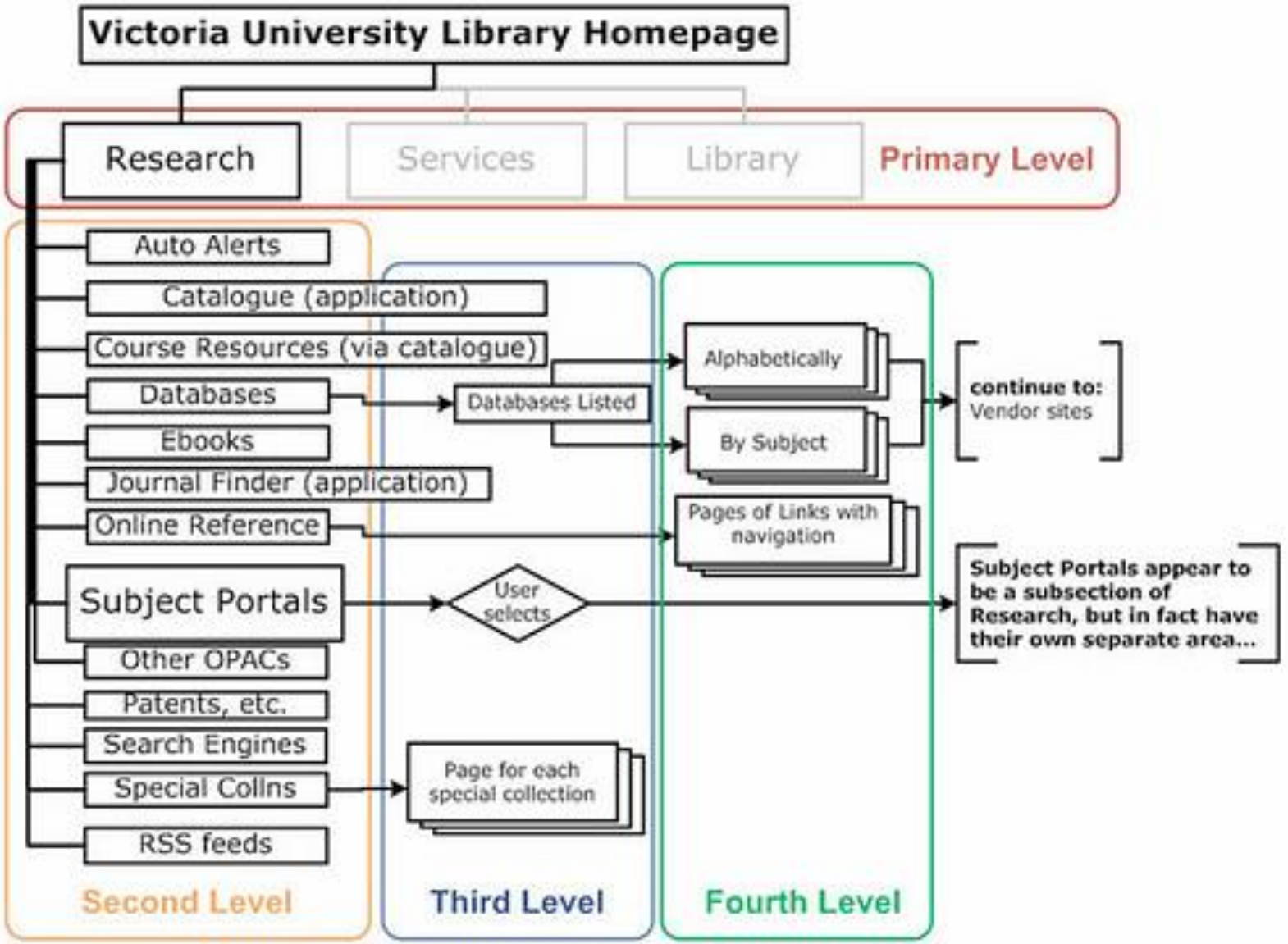
- The information architect is the key person responsible for determining how information across a website or application is displayed and accessed
- In order to create this hierarchy, the IA needs to consider what the user expects to see, as well as what content the organization wants to connect
- The IA considers alternatives that will achieve user goals
- It is the result of the IA's decisions that create the structure for the rest of the site or application
- The deliverable that is most commonly associated with this work is a **site map** or **blueprint**, which illustrates the hierarchy of content across a website

Blueprints

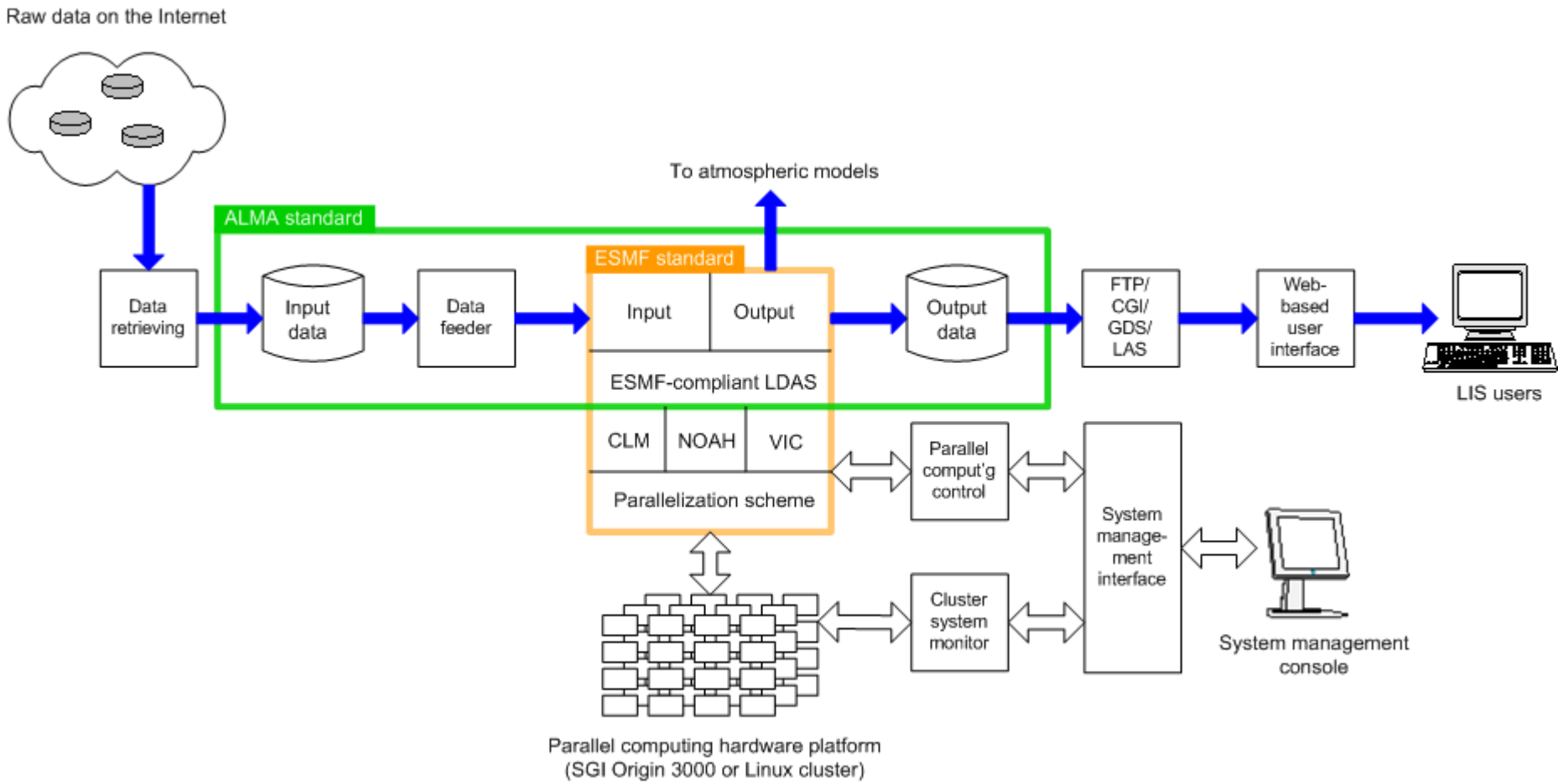
- Blueprints show the relationships between pages and other components
- They are sometimes referred to as **sitemaps**
- They display the "shape" of the information space in overview
- High level blueprints can be used in the initial design of a site as a basis for discussion
- More detailed blueprints can be drawn later in the process to assist the precise organization of information
- The diagram on the next slide shows a high-level blueprint for a college web site


main page
About the College
Courses
Life on Campus
Schools
sub-site directory
sub-sites
Part-time
Full-time
Evening
Search & Browse
search box
browse by audience
browse by subject
latest news
News & Events
events
people
Legend
Gateway to the site
Relationship between pages and/or components
Component within a page
Page
Group of similar pages
Group of related pages or components

Another example: Library blueprint



Information Architecture: Research Section, showing content levels.


Raw data on the Internet
To atmospheric models
ALMA standard
ESMF standard
Data retrieving
Input data
Data feeder
Input
Output
ESMF-compliant LDAS
Output data
FTP/ CGI/ GDS/ LAS
Web-based user interface
LIS users
CLM
NOAH
VIC
Parallelization scheme
Parallel comput'g control
System manage-ment interface
Cluster system monitor
System management console
Parallel computing hardware platform
(SGI Origin 3000 or Linux cluster)

Wireframes

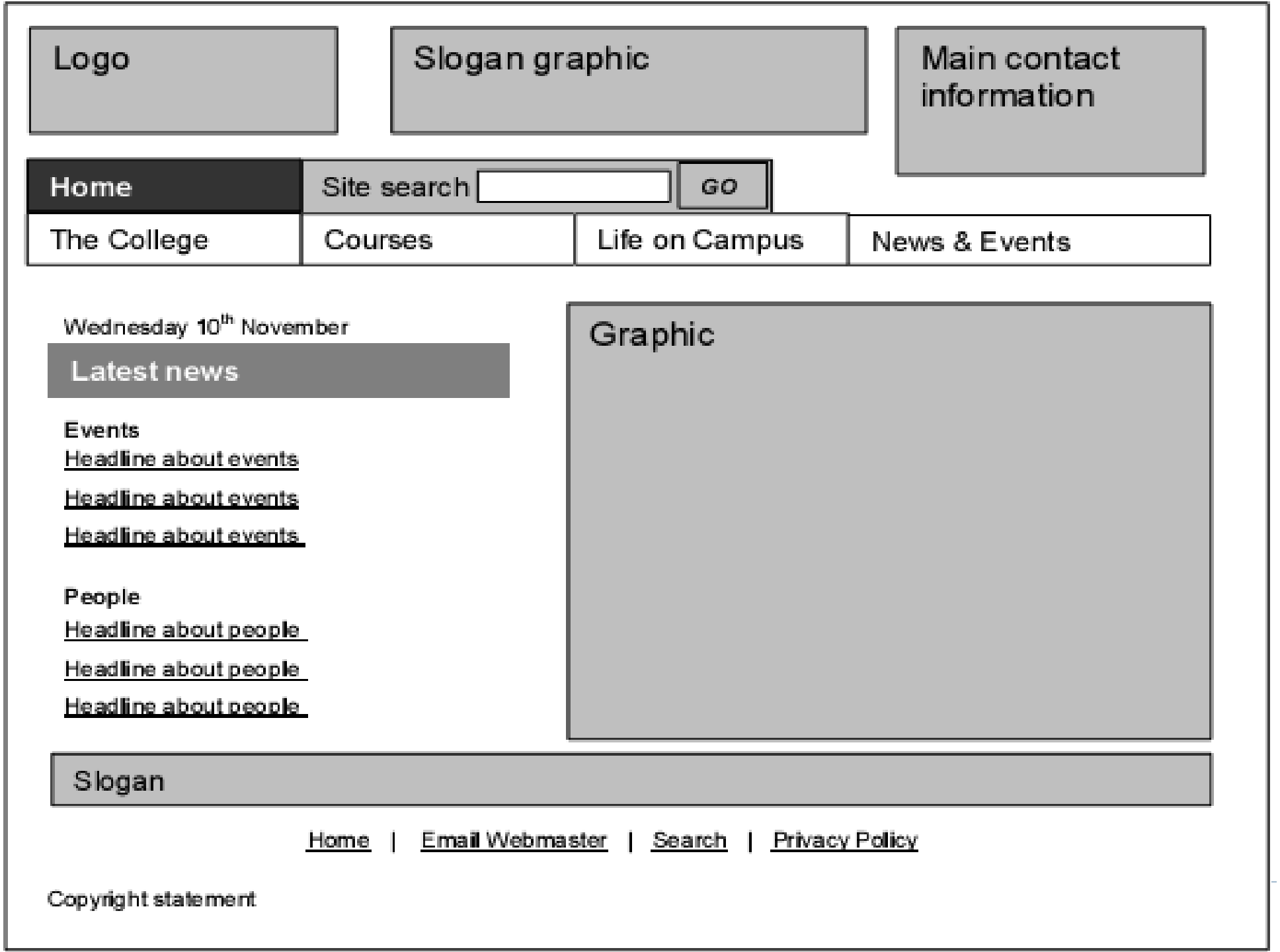
- Depict how individual pages should look from an architectural perspective
- Related to both the information architecture and visual design of the site
- Forces the architect to consider such issues as where the navigation systems might be located on a page
- Translates the navigation systems from blueprint into a “page”
- Ideas can be tried out at this stage, and if the navigation does not seem to work well, this can lead to the blueprint being revised

Wireframes (cont.)

- The wireframe also helps the information architect to decide how to group content on the page
- Items near the top left of the page tend to be scanned first by the user, so information can be prioritized by its position in the "page"
- Wireframes are typically created for the site's most important pages (main page, major category pages, etc) and can describe consistent templates that can be applied to many pages

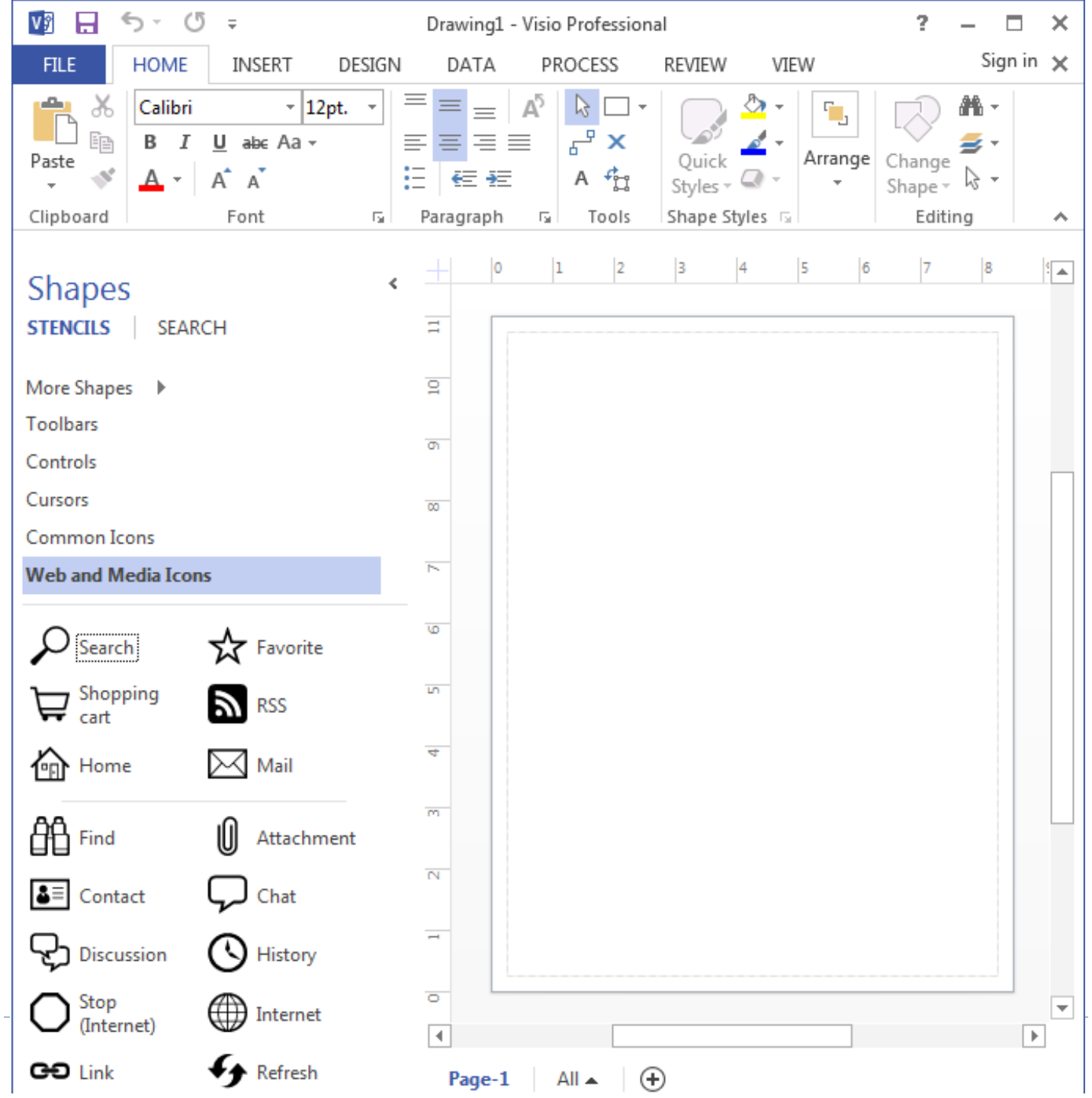
Wireframes (cont.)

- **A wireframe is not a finished web page**
- The final product should also involve graphic designers to define the aesthetic nature of the site
- Where the wireframe represents an interactive page, such as a form, it may be appropriate to involve specialist interaction designers and programmers in creating the final product

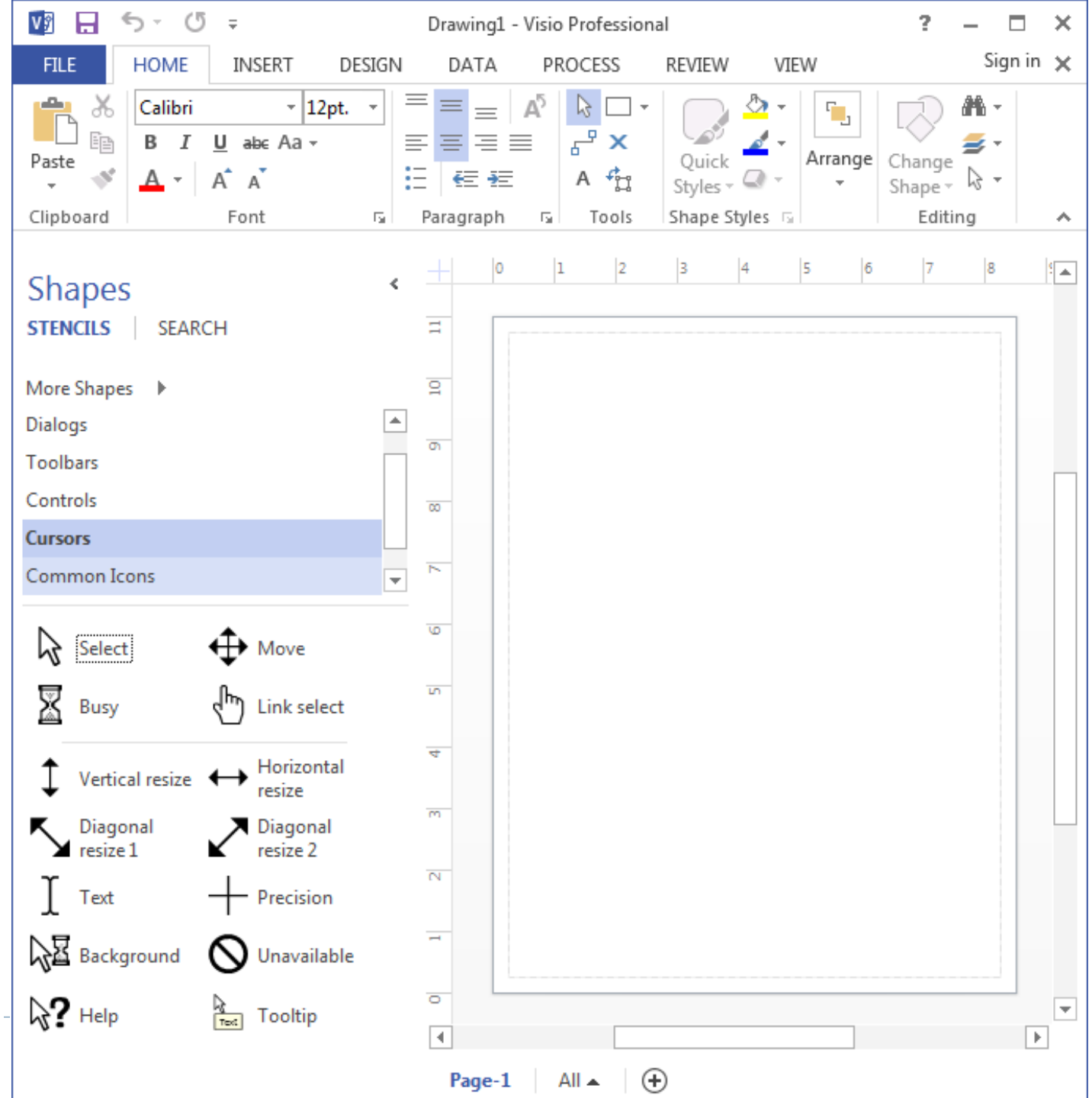

Logo
Slogan graphic
Main contact information
Home
Site search
GO
The College
Courses
Life on Campus
News & Events
Wednesday 10th November
Latest news
Events
Headline about events
Headline about events
Headline about events
People
Headline about people
Headline about people
Headline about people
Graphic
Slogan
Home | Email Webmaster | Search | Privacy Policy
Copyright statement

Professional Wireframing software

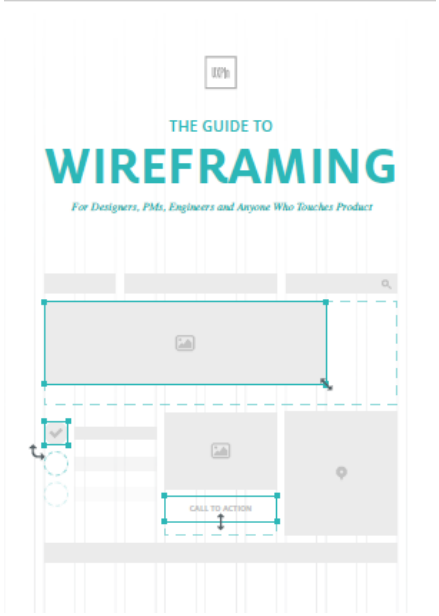
- UXPin
- Balsamiq
- Axure
- Proto.io



MS Visio 2013
Wireframe shapes


Drawing1 - Visio Professional
FILE
HOME
INSERT
DESIGN
DATA
PROCESS
REVIEW
VIEW
Sign in
Paste
Calibri
12pt.
Clipboard
Font
Paragraph
Tools
Quick Styles
Shape Styles
Arrange
Change Shape
Editing
Shapes
STENCILS
SEARCH
More Shapes
Dialogs
Toolbars
Controls
Cursors
Common Icons
Select
Move
Busy
Link select
Vertical resize
Horizontal resize
Diagonal resize 1
Diagonal resize 2
Text
Precision
Background
Unavailable
Help
Tooltip
Page-1
All

Further Reading on Wireframes



Bank, Chris. *A Guide to Wireframing: For Designers, PMs, Engineers and Anyone Who Touches Product*. UXPin

Labeling

- Labeling, or sometimes called pages and links on a site, ensures that the navigation and hierarchy is **appropriately titled**, which plays a large role in whether users will be able to find that information
- Labels must be descriptive enough to tell the user what a link is all about (the task is connected with the link)

Taxonomies and Metadata (1)

- A taxonomy is a set of things that are grouped together
- For an information architect, taxonomies are also records of how we group similar types of content or pieces of information
- Most IAs will choose one or more appropriate taxonomies for a website or app based on the mental model of their target audience
- They may then "tag" content with metadata, so that users can search for content based on the assumed taxonomies

Taxonomies and Metadata (2)

- For example, a clothing store might consider multiple taxonomies:
  - one based on fabric type
  - another based on clothing item
  - another based on color
- The information architect would tag a shirt with cotton, or nylon as well as shirt or top and red
- That way, a shopper with the mental model "I need a new shirt" could easily find this red, cotton shirt

Data Modeling (1)

- Also referred to as content modeling, this work may be shared with a content strategist
- Data modeling pairs an IA with developers in order to determine structured content types that represent
  - user needs
  - business logic and requirements
  - internal editorial practices

Data Modeling (2)

- In the case of website redesigns, new data models will often need to be mapped to existing structures in order to assure a smooth content migration
- This kind of work is often done in spreadsheets, mapping out field types and relationship requirements, but it is sometimes implemented directly into a CMS
- Data modeling can also result in the creation of documented content types, or content templates, for content strategists or copywriters to use as they create content

Information Technology Architecture

What it is (1)

- In information technology, especially computers and more recently networks, *architecture* is a term applied to both the process and the outcome of thinking out and specifying the overall structure, logical components, and the logical interrelationships of a computer, its operating system, a network, or other conception

  (http://whatis.techtarget.com/definition/architecture)

- In reference to computers, software or networks, the overall design of a computing system and the logical and physical interrelationships between its components. The *architecture* specifies the hardware, software, access methods and protocols used throughout the system

  (https://www.gartner.com/en/information-technology/glossary/architecture)

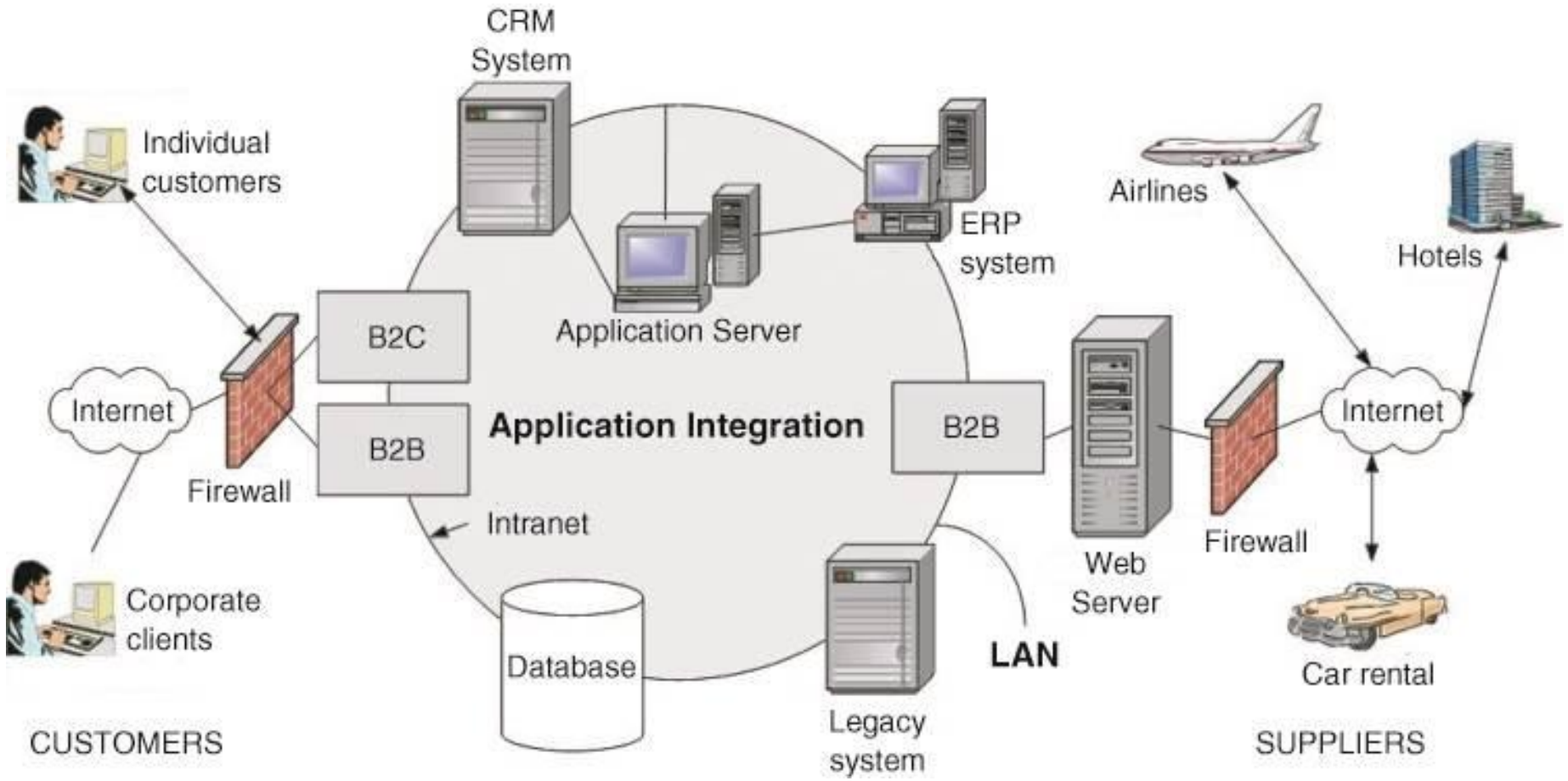
What it is (2)

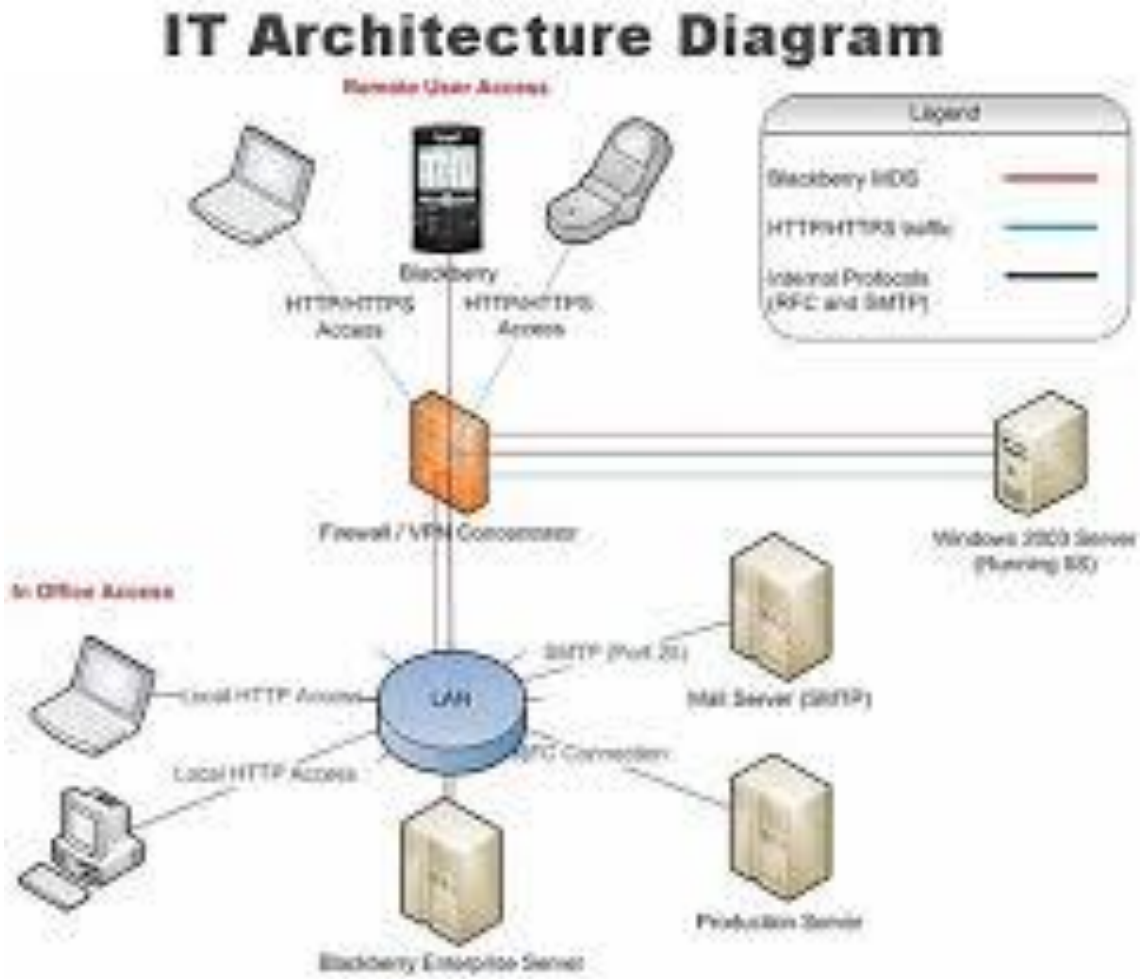
- A framework and set of guidelines to build new systems. IT architecture is a series of principles, guidelines or rules used by an enterprise to direct the process of acquiring, building, modifying and interfacing IT resources throughout the enterprise. These resources can include equipment, software, communications, development methodologies, modeling tools and organizational structures.

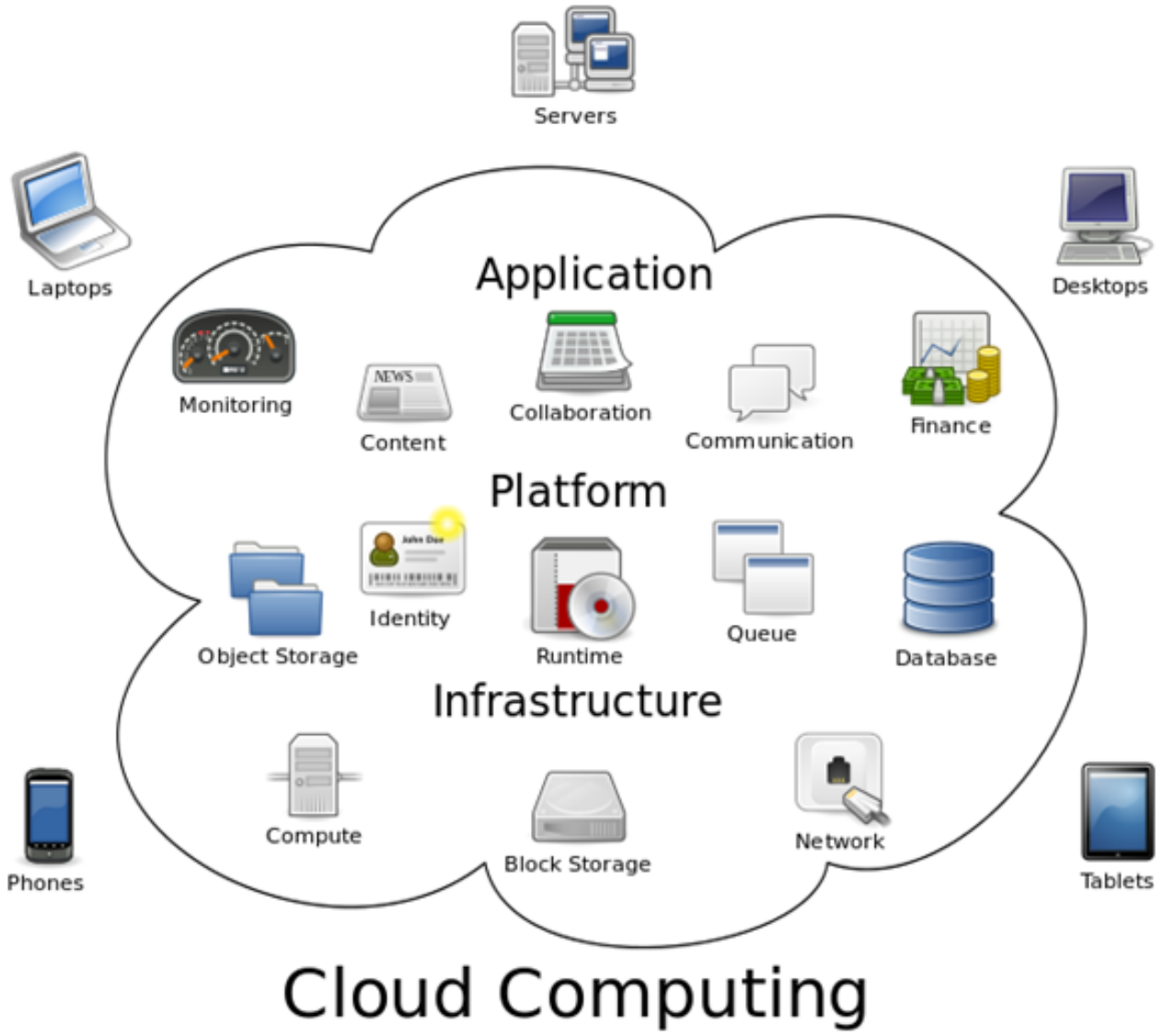
  (https://www.gartner.com/en/information-technology/glossary/architecture)

What it is (3)

- Computer architecture can be divided into five fundamental components:
  - input/output
  - Storage
  - Communication
  - Control
  - Processing
- In practice, each of these components (sometimes called *subsystems*) is sometimes said to have an architecture


CRM
System
Individual
customers
Application Server
ERP
system
Airlines
Hotels
B2C
Internet
Firewall
B2B
Application Integration
B2B
Internet
Intranet
Web
Server
Firewall
Corporate
clients
Database
LAN
Car rental
Legacy
system
CUSTOMERS
SUPPLIERS


IT Architecture Diagram
Remote User Access
Legend
Blackberry
Firewall / VPN Concentrator
In Office Access
LAN
Mail Server (SMTP)
Production Server


Servers
Laptops
Desktops
Application
Monitoring
Content
Collaboration
Communication
Finance
Platform
Identity
Object Storage
Runtime
Queue
Database
Infrastructure
Compute
Block Storage
Network
Phones
Tablets
Cloud Computing

The job of an IT Architect

- Get to know a broad view of a company's IT infrastructure or requirements
- Learn the system and how the other systems link to it
- Learn what a system is required to do, what is involved in providing that system, what business process or problems are involved
- Know the most effective way of providing an IT solution that meets the company's requirements, budget and other constraints
- Know the right diagramming tool to design the system (e.g., UML)
- Define the various components in the system or connected systems and how they work together
- **Document the system design** for communication between technical teams, end users and management teams

Reasons for documenting the IT architecture of the organization

- To confirm the current and proposed definitions of a set of systems or a single system between the IT architect, the technical teams, the users and any management teams involved
- To describe the details of linked systems or system components for various technical teams
  - Different teams could be responsible for different areas of a system or different systems

END OF PRESENTATION