



POLISH-JAPANESE ACADEMY  
OF INFORMATION TECHNOLOGY

# Content Management Systems (CMS)

## Lecture 09: Corporate portals

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# Agenda

- Acronyms used
- Definitions
- Usage
- Portal market
- The most popular features
- Selected solutions

*Materials used from professor K. Subieta*

# Abbreviations used in the text

- ASP - Application Service Provider
- CRM - Customer Relationship Management
- EIP - Enterprise Information Portal
- ERP - Enterprise Resource Planning
- ETL - Extract Transform Load
- OLAP - OnLine Analytical Processing

# Abbreviations used in the text (2)

- PKI - Public Key Infrastructure
- PRM - Partner Relationship Management
- SCE - Supply Chain Execution
- SCM - Supply Chain Management
- SCP - Supply Chain Planning

# What is a corporate/enterprise portal?

- Web portal with content (including documents) from the corporate and Internet networks, application components and Internet services.
- It provides users with web documents, database reports, enterprise applications, and other resources.
- The corporate portal provides the placement of customer-centric resources from the corporate network and the Internet on a single site.

# What is a corporate portal? (2)

- The corporate portal simplifies the user's work environment. Until now, the computer user was flooded with a huge number of client-server applications and services available on the Internet. The working environment was divided into the world of the local network and the Internet.
- Portal users can find all corporate tools, the most commonly used Internet services, personalized customer, product and market information here.
- The corporate portal collects corporate and Internet resources and provides them with a wide range of employees, customers and partners.

# Corporate portal...

- It was created as a natural extension of Intranet.
- It can perform many functions - from simple aggregation of information for the company's employees to the integration of advanced applications (ERP, CRM, analytical tools for the board).
- There are many possibilities for enterprise portal applications, such as software architecture, database connection and independent applications.

# Corporate portal... (2)

- It is a strategic tool for acquiring and retaining existing clients, uniting teams, connecting manufacturers, resellers, distributors and transforming business processes.
- It can introduce a new model of running a business with a complete exclusion of intermediaries. Many manufacturers, whose business model was based on sales through intermediaries, began direct sales through the Internet.
- It redefined business processes and customer service.



# Typical uses of corporate portals

## ● External applications:

- Product catalog on the Internet, price lists for partners,
- Placing orders online,
- Internet sales (expanding the market),
- Providing customers with insight into their balances and payments.

## ● Internal applications:

- Shared customer base,
- Document workflow,

# Typical uses of corporate portals(2)

## ● Internal applications - *continued*

- staff database, telephone directory,
- HR management,
- holidays/vacation planning,
- orders for office supplies,
- reservation of conference rooms, transportation and other resources,
- planning meetings,
- company newsletter (news).

# Corporate portal and Intranet

- The term corporate portal and Intranet are used interchangeably.
- Initially, the Intranet was the Internet equivalent of a single company, and the information contained therein was static - the HTML itself was served.
- The purpose of the corporate portal is to provide all the information useful to the employee at the given position.
- Hence the emphasis on personalization, i.e. adjusting the content of the portal to the needs of users.
- Through the portal employee can reach applications in the enterprise - ERP system, CRM, financial-accounting system or human resources system.

# Corporate portal and knowledge management

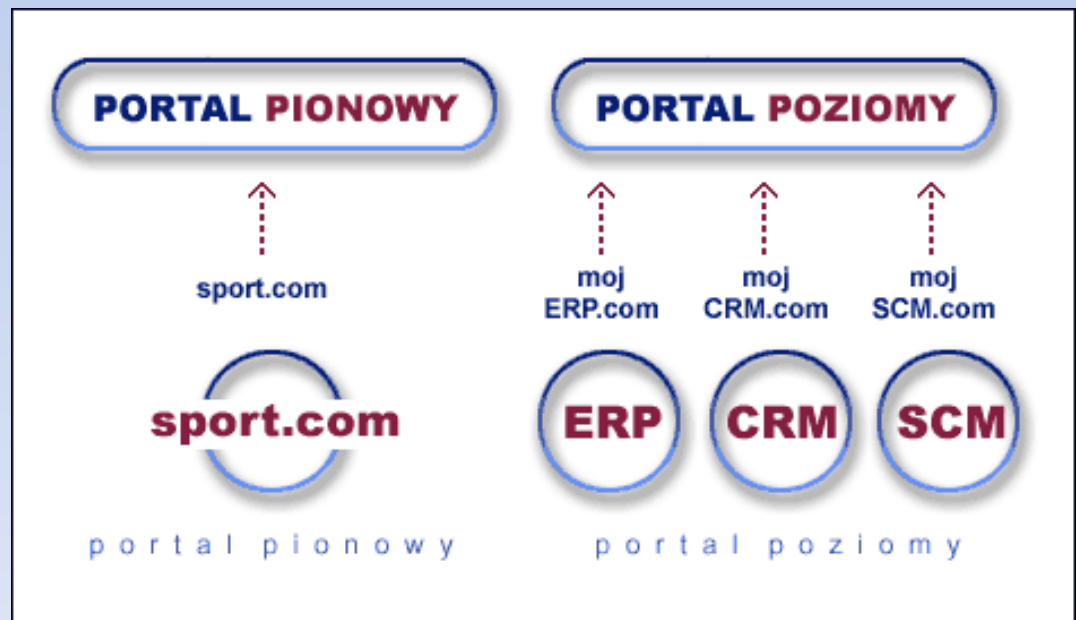
- The corporate portal is associated with the notion of knowledge management in an enterprise.
- Knowledge managed in the enterprise is divided into knowledge:
  - explicit, structured, saved in documents and databases,
  - quiet (tacit), owned by the minds of all employees of the enterprise.

# Corporate portal and knowledge management (2)

- There are a number of tools for effective management of both know-how (procedures, internal regulations, technical descriptions) and tacit knowledge of employees.
- Knowledge exchange in corporations is implemented through the mechanisms of the corporate portal: chat, discussion forums and telephone conversations over the network (VoIP), communicators e.g. Slack, Discord.

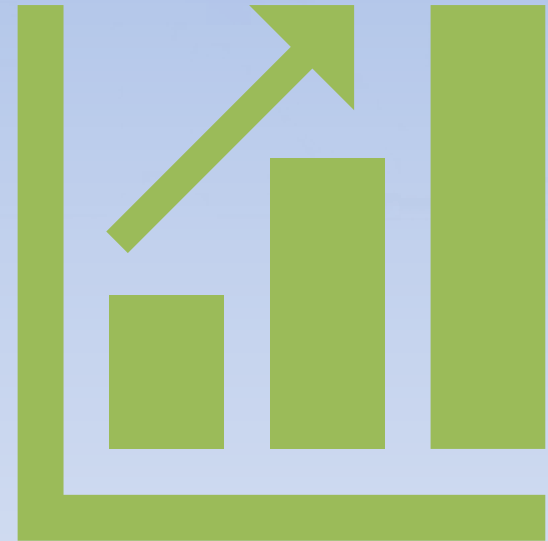
# Vertical portal and horizontal portal

- Horizontal Portal - combines common services for many industries or departments.
- Vertical portal - specialized for a particular industry or field of interest of employees.



# The market of corporate portals

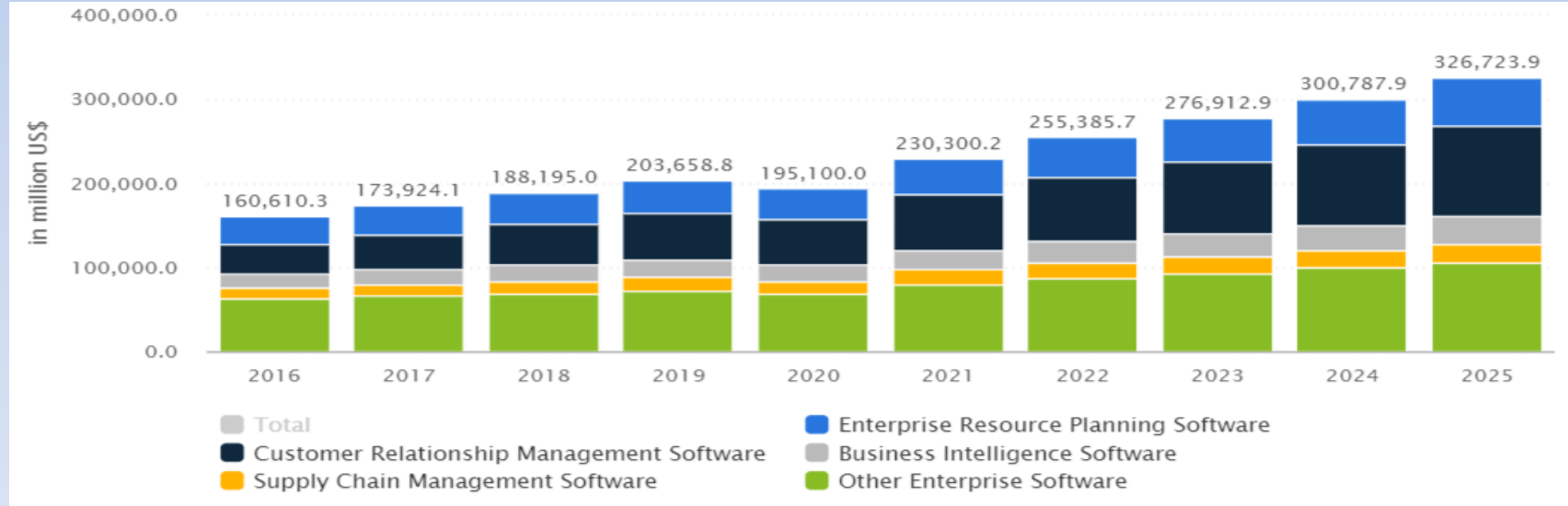
- The relatively young concept of corporate portals quickly gained enormous popularity.
  - Research conducted by *Research and Markets* shows that the global enterprise collaboration market size is projected to grow from USD **31.0 billion** in 2019 to USD **48.1 billion** by 2024,





# The market of corporate portals (2)

- Market analysts report interest in buying portal software.
- Building a corporate portal is not a cheap undertaking - for a company employing several thousand employees it costs several million dollars.



Source: <https://www.statista.com/outlook/14200/100/enterprise-software/worldwide>



# The most popular features of the corporate portal

General information	77%
Knowledge management (indexing, categorization, searching)	77%
Personalization of pages	69%
Services for employees (e.g. job info)	53%
Sales support, such as marketing information	42%
Project collaboration (e.g. forum)	57%
Customer services (e.g. knowledge base)	27%
Specific to a particular business	37%

*BEA White Paper: The Corporate Portal Market*

# Properties of corporate portal

- It should be able to personalize the appearance of pages, resource access and personal settings.
- Each portal must include some security mechanisms: levels of access to system resources (login and password) and, in particular, encryption of communications.
- The implementation of the corporate portal is often associated with the implementation of the electronic document flow system in the company (workflows).

# Properties of corporate portal (2)

- Important elements of group work in the corporate portal are:
  - chat mechanism,
  - integration of portal pages.
- Navigating through the jungle of documents and quickly searching for them is possible with the search engine.

# Properties of corporate portal (3)

- Transactional mechanisms for submitting orders and complaints (tickets),
- Subscribing mechanism (electronic newsletters)
- Interface to CRM and ERP systems.
- Technical features:
  - relational, object-relational, and multidimensional databases
  - client / server architecture, microservices.

# Properties of corporate portal(4)

## ● Technical features - *continued*

- Graphical user interface
- Content Management Servers
- Search engine tools
- Automated classification tools
- Content directories

# Requirements for corporate portals

- Ensuring mechanisms for accessing common data and documents across organizations - especially in large institutions. The similar functionality should be provided to clients and business partners for various information sets.
- A chain of information about the organization itself and its processes - important for large organizations where information is a complex process.

# Requirements for corporate portals(2)

- Similar functionality, but in a slightly different form, would be useful for some clients and investors - owners of institutions.
- Access to "live knowledge" - enable contact with expert staff, for example through newsgroups.
- Providing data to managers of different levels.

# Practitioners advice on the construction of the EIP

- An in-depth analysis of costs and benefits should be undertaken to build the portal.
- Be sure to protect against unauthorized access.



# Practitioners advice on the construction of the EIP (2)

- Greater emphasis should be placed on designing the internal structure of the data flow between portal applications rather than on page design.
- The needs of individual departments need to be carefully identified. The best way to do this is through the participation of their representatives, as well as the representatives of customers in the design and implementation of the portal and its tests.

# Organizational conditions

- Transforming a portal into a central knowledge store of an organization requires the designation of a person positioned high in the management of the organization.
- It usually takes the second position after the president (chairman).
  - In the US: Chief Knowledge Officer usually leads the corporate portal project.

# Organizational conditions (2)

- The duties of the holder include cooperate with other departments of the company when building a system of knowledge transfer in the company.
- The creation of the portal should be preceded by the preparation of a knowledge management strategy in the enterprise.
  - Management usually needs to be convinced about the equity of an investment in a corporate portal. Many benefits are difficult to estimate.
- Web designers and content specialists are working on the portal - responsible for the servers, databases and the correct delivery of content by the various departments.

# What is CRM?

- CRM (Customer Relationship Management) is a set of tools enabling interactive, personalized communication with customers through traditional and modern information channels.
  - Based on the client's knowledge, decisions are made regarding the offers, messages and channels used.
  - CRM synchronizes customer information from different systems, applies to customer recommendations and takes into account the impact of customer relationship quality on business quality.

# What is CRM? (2)

- CRM implementation creates many problems. The transition to CRM requires organizational changes in the processes involved and the implementation of a set of integrated applications.
  - Medium-sized companies are recommended less advanced solutions, simpler to implement by ASP.
  - No matter what is the size of the company CRM implementation is a must.
    - McKinsey & Company notes that "the acquisition and effective use of customer information will determine the winners and losers in e-commerce."

# The primary task of CRM is...

- Optimizing the relationship between the company and its customers.
  - For communication with customers we use high-performance, publicly available channels: web pages, email, phones.
  - With CRM, the company can collect, merge and share customer information with all interested parties - including marketing, sales and support.

# The primary task of CRM is... (2)

- CRM is based on a data warehouse that provides integrated, detailed information about customers, their habits and their past collaboration history.
  - The customer can make decisions when and how he or she intends to communicate with the company - CRM must meet these requirements.
  - The customer determines which companies he / she intends to stay in contact with. CRM must provide valuable and up-to-date information that will be accepted by the customer.
  - An understanding of customer interests can be used to determine his or her attitude toward marketing.



# Criteria for CRM

- Customer group expansion
- Increase profitability by encouraging customers to purchase more goods and services.
  - CRM must identify the potential of each customer.
  - Each customer base contains a significant amount of hidden profit potential - how will it be used?



# Criteria for CRM (2)

- CRM strategy requires moving the investment towards strategic clients, with the greatest potential. This transition requires the introduction of additional customer-oriented business processes rather than product.
- The consequence of this approach should be to generate additional profit.
- Keeping current customers

# CRM features

- Uses the data set. The composition includes integrated and extensive customer information used in preparing a special offer and defining a communication channel.
- Multi-channel communication with the customer. All information channels should be synchronized, ensuring the consistency and uniqueness of the information transmitted.

# CRM features (2)

- Measurement of connection efficiency. CRM provides analytical tools to: design communication initiatives, collect and interpret their results, use them in subsequent actions.
- Marketing controlled by the customer. The customer ultimately decides how and when to contact it. Customers should only receive attractive, up-to-date offers - otherwise they will block their access.

# Extranet

- Connection of two or more Intranets.
- Extranet connects the enterprise to the network with suppliers and large customers. Such a solution directly benefits the following:
  - Reduces costs associated with quality management. For example, providing online access of an up-to-date list of parts to manufacture.
  - Reduces costs associated with order processing - by enabling big customers to access the internal ordering system.

# Extranet (2)

- It provides customers with access to certain features that support Supply Chain Management - such as the state of order processing.
- The extranet is a practical solution: In return for a small financial contribution, the company reduces its costs, shortens the response time, provides suppliers and consumers with up-to-date data.
- However, it is unlikely that the solution will stay here for longer, as more advanced tools are available - Partner Relationship Management, portals, stock market.

# Partner Relationship Management (PRM)

- PRM, as a B2B CRM component, serves the trading department to develop more efficient and profitable relationships with indirect sales channels.
  - An indirect sales channel is becoming increasingly important in business and e-business. PRM is focused on building a loyal partner and improving sales performance.

# Partner Relationship Management (PRM) (2)

- One of the ways to achieve this is to create a "presentation tool" in the extranet. When the sales representative completes the application form, the PRM system creates a dedicated presentation in PowerPoint
- Consumer portals use documents in electronic form - created after the processing of documents in the traditional form.
  - Publishing catalogs in electronic form and using them in the e-Procurement process. E-Procurement accelerates the process of finding the source (supplier) and approving the action (purchase).



# Supply Chain Management (SCM)

- SCM is a back-end application that connects suppliers, manufacturers, distributors and resellers to a coherent production and distribution network.
- At the same time, it enables the company to track and streamline the flow of material and data in the production and distribution process to customers.
  - SCM is the next stage in the evolution of Enterprise Planning Systems - enabling integration of business partners with production processes.



# SCM - aspects of manufacturing and sales

## ● Implementation criteria

- expected demand,
- production capacity,
- available capital,
- time limits,
- assumed profit.

# SCM – aspects of manufacturing and sales (2)

- The purpose of SCM is to integrate suppliers, manufacturers, distributors in a dynamic system (via the Internet, Intranet or Extranet), taking all of the above factors into account.
- Benefits of SCM:
  - Suppliers more effectively assess the manufacturer's demand for materials, components
  - The manufacturer more effectively plans the production processes, manages the stock
  - Transport companies more effectively coordinate the delivery of goods
  - Distributors, customers keep track of the status of their orders.

# SCM layers

- Supply Chain Management consists of two layers: Supply Chain Planning (SCP) and Supply Chain Execution.
- Supply Chain Planning - A set of tools that provide access to data and their analysis to determine the expected demand for a given product and the relevant production plan.

# SCM layers (2)

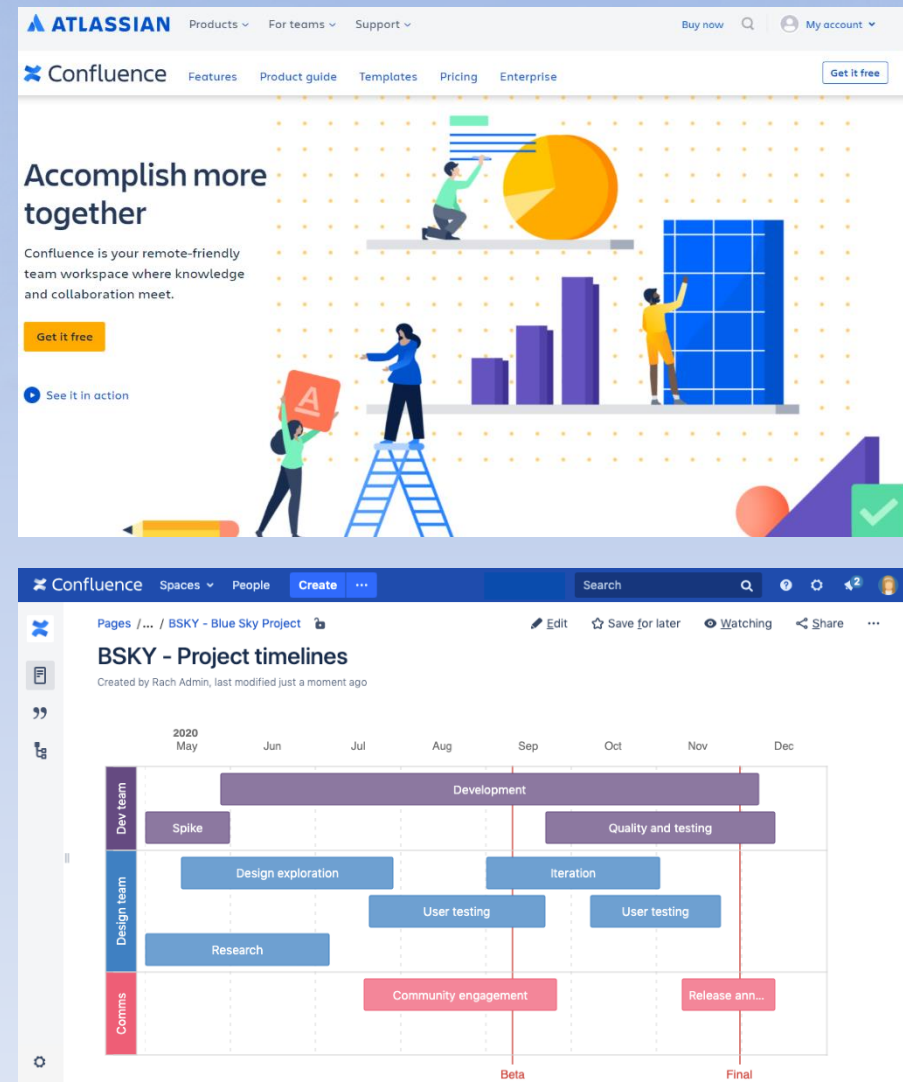
- This system can be used for operational purposes (current production) or for building long-term strategies (construction of a new factory, quarterly plan).
- Supply Chain Execution - Uses information generated in the SCP for production, stockpiling, material transportation, component assembly and product picking.
  - This application communicates with SPC and order management systems to determine production levels, take account of time and financial limits and define a production plan that meets all of the aforementioned criteria - flexible in implementation.

# Selected portal solutions

- It is virtually impossible to compare all the tools - a huge number of different solutions.
- All the discussed tools are multi-module, flexible and require dedicated implementation.
- Sample systems:
  - Atlassian Confluence,
  - Liferay Digital Experience Platform,
  - Microsoft SharePoint Portal Server,
  - Oracle WebCenter Content,
  - Salesforce Customer 360,
  - Tribe.

# Atlassian Confluence

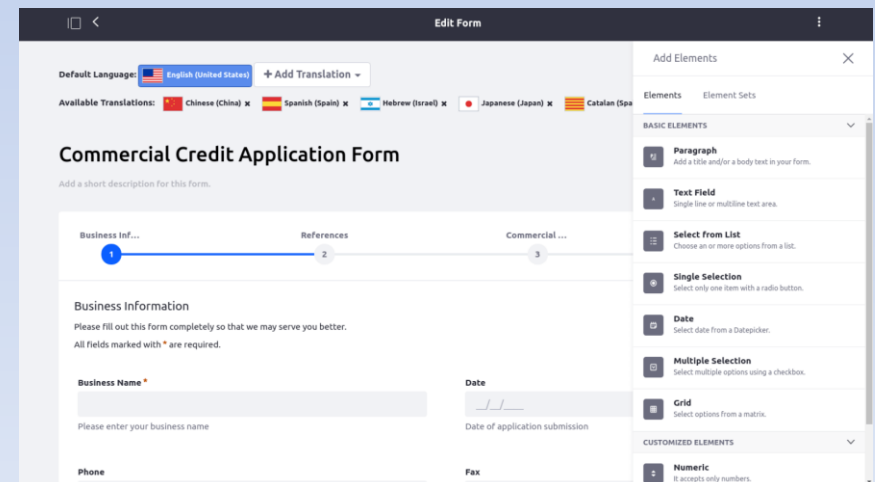
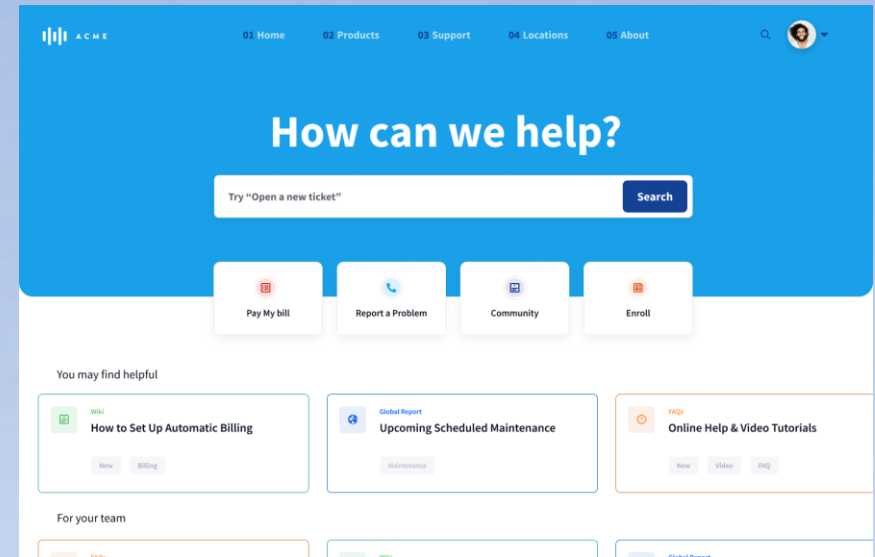
- Dedicated mainly to project management.
- Possibilities, including:
  - Brainstorming,
  - Discussion forums,
  - Task management,
  - Calendar,
  - Document management,
  - Content versioning.



# Liferay Digital Experience Platform

## ● Possibilities, including:

- Extensive content management,
- Advanced workflows,
- Sales support,
- Customer Service,
- API integration,
- FAQ.

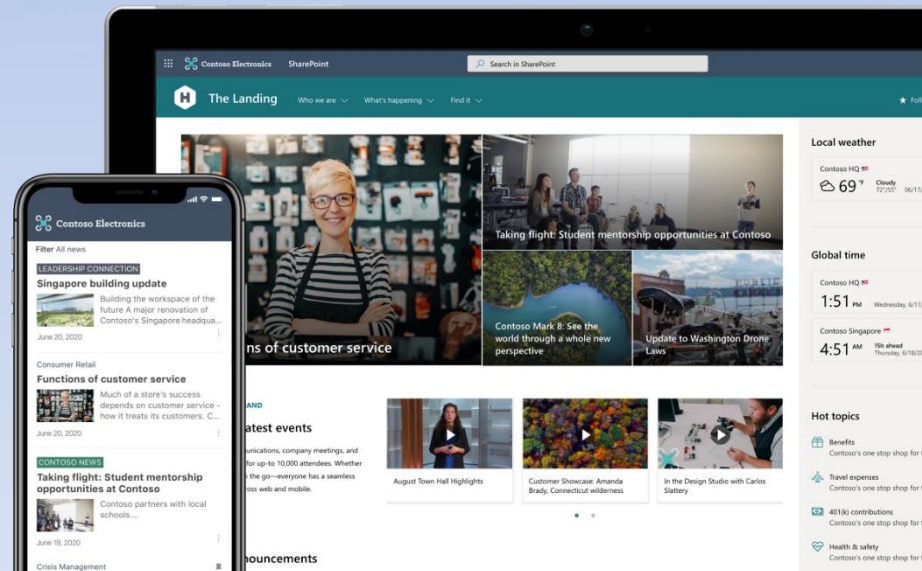




# Microsoft SharePoint Portal Server

- A corporate portal designed for the Windows platform.
- Scalable, based on Active Directory, provides integration mechanisms with many business platforms, as well as content management mechanisms.
- Users can contribute their own pages, such as mailboxes or personal schedules, using the

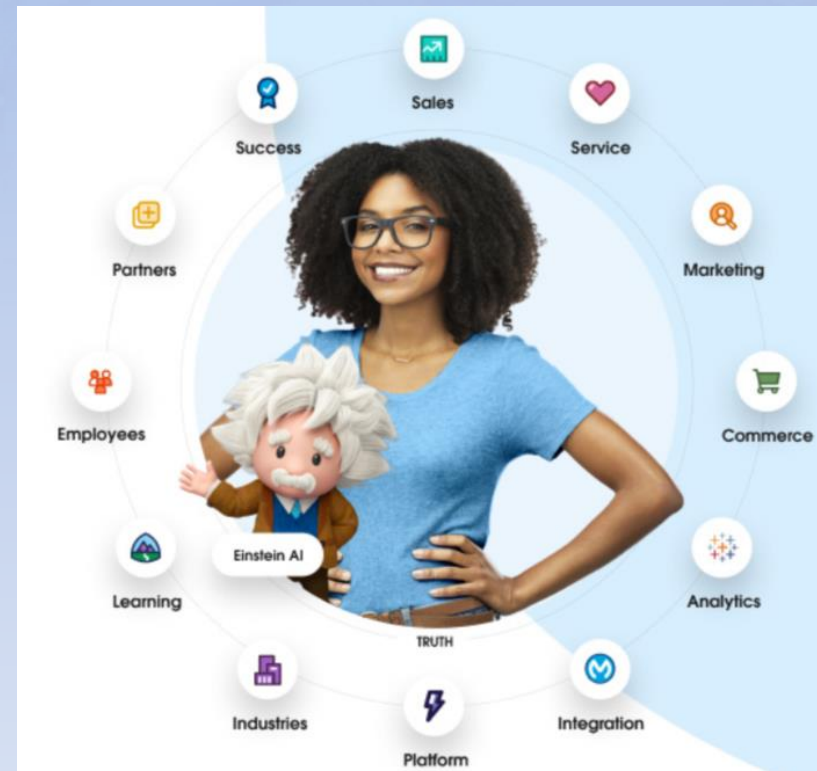
teamwork mechanisms associated with the Exchange Server.





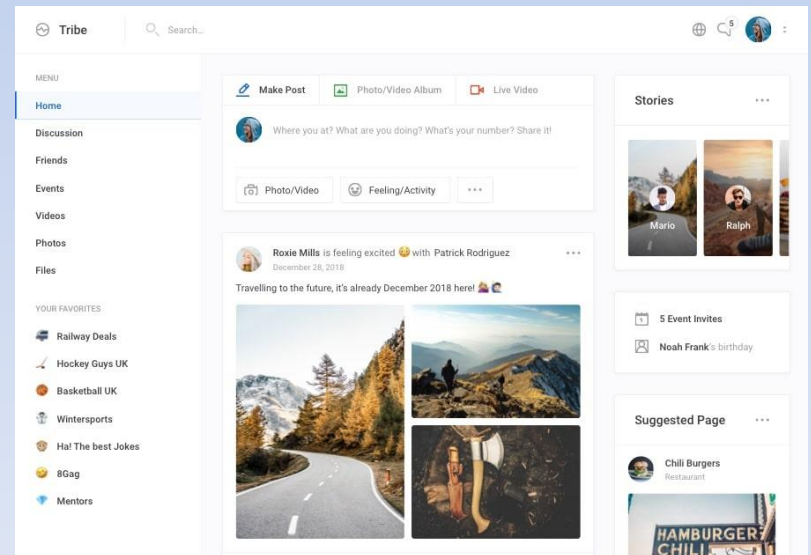
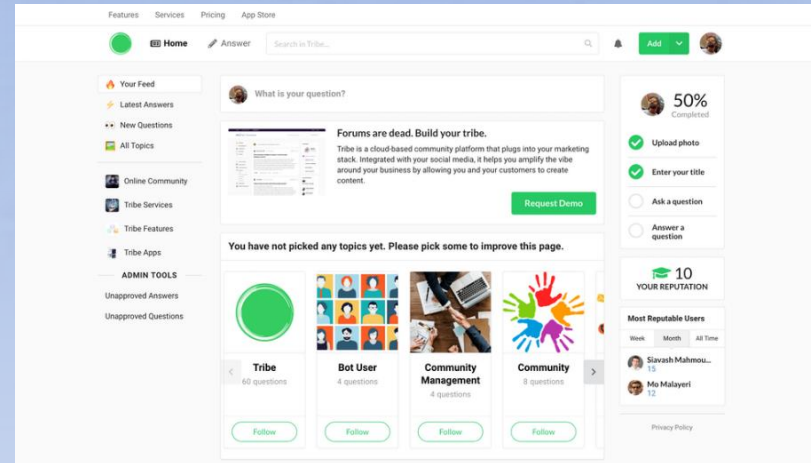
# Salesforce Customer 360

- Unified platform with many solutions, including:
  - CRM,
  - Marketing,
  - Sales,
  - Communication,
  - Employee cooperation,
  - Data analysis.



# Tribe

- Social intranet.
- Possibilities, including:
  - personalized content,
  - FAQ,
  - sharing different types of content,
  - widgets,
  - integration via API.



# Summary

- Practically all large organizations (including companies) have implemented some form of corporate portal.
- Many corporate portals use some form of CMS; The boundary between them is quite fluid.
- It is estimated that the corporate portal market will be growing at least for another several years.
- There are many competing solutions on the market.
- Selecting a particular system should be preceded by a thorough analysis of its capabilities and needs.