

Software Systems Overview

Objective:

Provide the context for advanced topics on Software Engineering.

Content :

- ✓ Definition
- ✓ Types of Software Systems
- ✓ Applications





What is software

What to do?
When to do?
How to do?

● Set of programs that helps the computer to perform specific tasks.





Types Of Software



software

System Software



Application Software





System Software



Handles basic internal functions of a computer.



Operating System



Coordinates the functions of hardware and software.



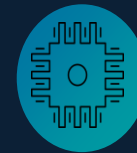
Device Drivers



Provides interface between the user and component of the computer.



Language Translator



Firmware



Application Software

- ☐ Performs specific functions for the user or in some cases another application.
- ☐ Personal, business, educational purposes.
- ☐ Also known as end –user programs or only an “app”.





Types of Application Software



**General Application Software
(Off-The-Shelf)**



Business/Enterprise Applications



**Internet Applications
(SaaS/Software as a Service)**



**Customized Application Software
(Bespoke/Tailor-made)**



General Application Software (Off-the-shelf software)

- ☐ Perform a wide range of fundamental functions that a user needs to perform on a system.



Word processing software



Multimedia software



Instant Messengers



Spread sheet software



Web browsers



Presentation software



Graphic designing software



Word Processing Software



Designed to allow users to format, beautify, and manipulate text.



Contains features to make it easier to perform repetitive tasks.



Google Docs



Microsoft Word



ZOHO Docs



Open Office Writer



Spread Sheet Software



Helps to store and represent data in tabular form.



Using spreadsheet users can perform calculations with formulas and functions.



Google Sheet



Microsoft Excel



OpenOffice Calc



Apple Numbers



Presentation Software



Designed to assist the users to create visual presentations.



These presentations are usually delivered in the form of slides.



Google Slides



Microsoft PowerPoint



Open office Present



Apple Keynote



Multimedia Software



Provides users with an interactive platform to create, manage and play all types of media files.



Multimedia content typically includes a combination of different media types such as text, graphics, audio, video, and animation.



Plays an important role in video editing, graphics, and animations.



Adobe illustrator



Adobe After Effects



Direct X



Web Browsers



Help the users to browse on the internet and access websites.



Helps to retrieve data and explore the world wide web.



Google Chrome



Apple Safari



Internet Explorer



Opera



Mozilla Firefox



Educational Software



Designed to enhance the learning experience.



Makes it easier to conduct lectures with visual and auditory experiences .



Google class room



Udemy





Coursera



Edx



Graphic Design Software

-  Helps the user to make changes in visual data, images, and animation.
-  Includes many built in tools and features to make editing and illustrations easier.



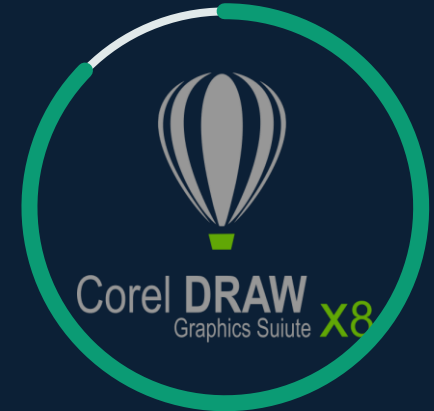
Adobe Illustrator



Adobe Photoshop



Gimp



Corel Draw



Database Software



Helps in creating and managing databases files and records.



Enables users to design a personalized database to meet their analytics and reporting needs.



Oracle Database



My Sql



Postgre SQL



**Microsoft Sql
Server**



Electronic Mail



E-mail is a software that is used to send and receive electronic messages between users.



Gmail



ZOHO Mail



Microsoft Outlook



Yahoo Mail



Instant Messaging



IM is used to send and receive electronic messages instantly to facilitate real time communication via desktop or mobile devices.



Service often have more features like voice record, video conference etc.



Whatsapp



Telegram



Skype



Signal



Business/Enterprise application Software



Softwares that the organization mainly uses for automating business processes and functions.



Improved productivity, efficiency, accuracy, and periodic reporting and business intelligence for business analysis.



Types Of Business/Enterprise Application Software



Enterprise Resource Planning (ERP)



Human Resource Management (HRM)



Customer Relationship Management (CRM)



Business Process Management (BPM)



Business Intelligence (BI)



Content Management System (CMS)/Enterprise Content Management (ECM)



Supply Chain Management (SCM)



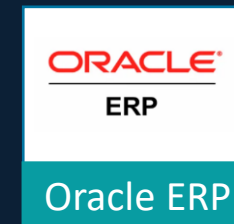
Enterprise Project Management (EPM)



Enterprise Resource Planning(ERP)



- ✓ Manages all the core activities and other business processes of an organization.
- ✓ Simplify business activities such as Procurement and accounting, risk management, project management, compliance, and supply chain management.





Customer Relationship Management(CRM)



- ✓ Manages the company's relationships and interactions with its current and potential customers.
- ✓ Helps in collecting, analyzing and strategizing a large amount of customer data for business growth.
- ✓ Goal is to improve business relationships.





Business Intelligence(BI)

Sales



Helps companies to take actionable business decisions based on data that come from various sources .



Marketing



Human Resources



Using these reports, business leaders can analyze them in real-time and take necessary steps at right time.



Manufacturing





Supply Chain Management(SCM)



Market Forecasting



Manufacturing

SCM
SUPPLY CHAIN
MANAGEMENT

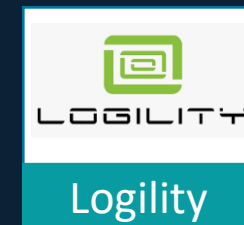
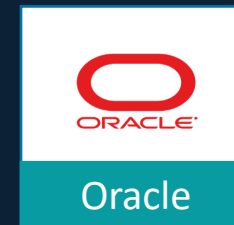


Inventory Control



Logistics

- ✓ Helps in handling the flow of goods, data, and finances related to a product or service.
- ✓ Allow businesses to monitor, marketing and sales performances, streamline processes, and boost profits.





Human Resource Management System(HRMS)



Set of software applications that support to automate HR processes throughout the employee life cycle.

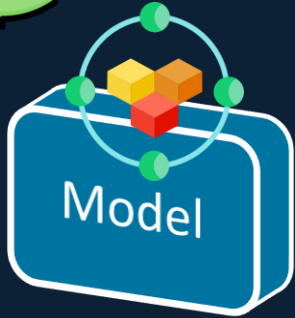


Increasing efficiency and more importantly , enabling you to better understand your workforce, and make more informed decisions around it.

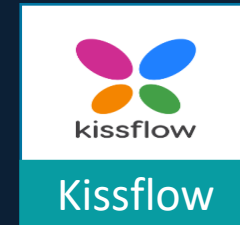




Business Process Management (BPM)

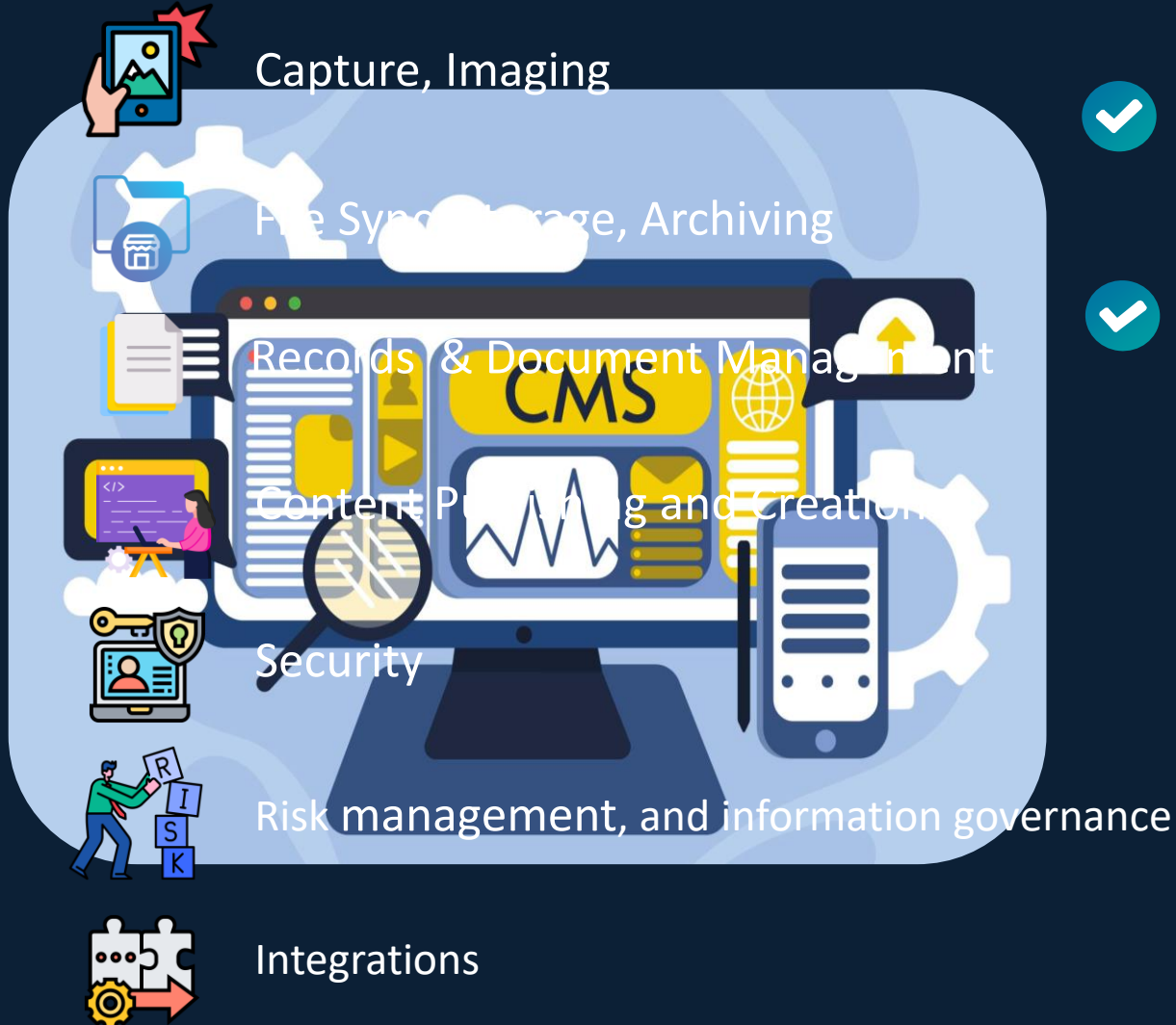


- ✓ These software solutions are designed to help businesses optimize their everyday business processes for maximum efficiency and productivity.





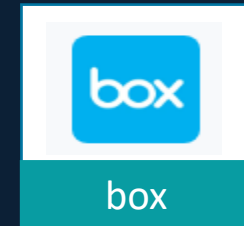
Enterprise Content Management(ECM)/ Content Management System(CMS)



Store, organize, and retrieve the organization's content smartly.

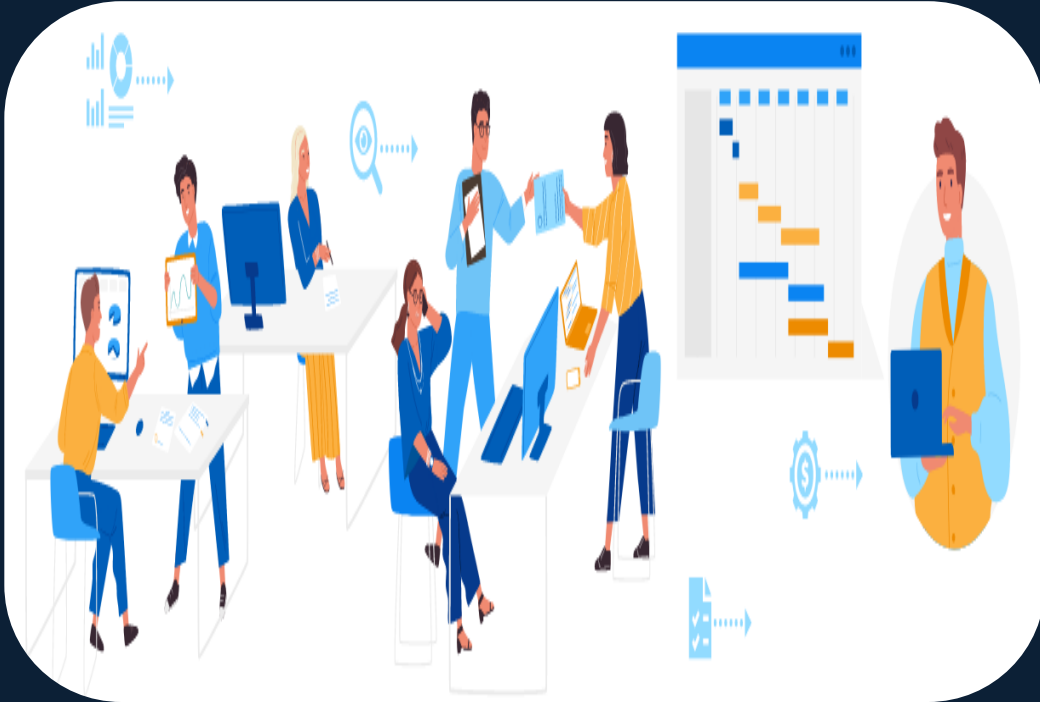


Secures content digitally in compliance with the policy.



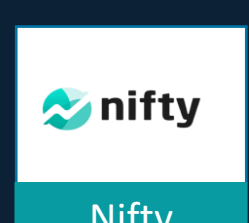


Enterprise Project Management(EPM)



✓ Helps organizations manage multiple projects.

- ☐ Get a 360-degree overview of the organization's progress.
- ☐ Align resources in line with the leadership's vision.
- ☐ Manage a portfolio of projects.
- ☐ Plan, track and manage a project's schedule.
- ☐ Communicate, collaborate, and execute a project.

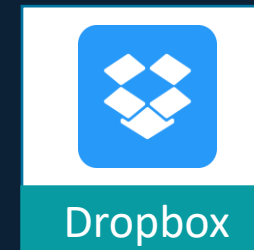




Internet Applications / Software as a Service(SaaS)



- ✍ Way of delivering applications over the Internet—as a service.
- ✍ Web-based software, on-demand software, or hosted software.
- ✍ SaaS applications run on a SaaS provider's servers.





Categories Of SaaS Applications



**Business to business(B2B)
SaaS Applications**



**Business to Consumer(B2C)
SaaS Applications**



**consumer to Consumer(C2C)
SaaS Applications**



Business to business (B2B) SaaS Applications



- ✓ B2B stands for business-to-business.
- ✓ Commercial transactions that takes place between one business and another business.



Google Ads



Salesforce



Google cloud



HubSpot



Slack



ServiceNow



Business to Consumer(B2C) SaaS Applications



- ✓ B2C stands for business-to-Consumer.
- ✓ Transactions that takes place between business and an individual as end customer.
- ✓ Commonly found in “app store”.



Canva



Dropbox



Google Docs



Asana



Booking.com



Shopify



C2C SaaS Applications



- ✓ C2C stands for Consumer to consumer.
- ✓ Build and manage online communities where their customers can engage with other users and learn about community events.



Olx



eBay



Trip advisor



Esty



craigslist



Uber



Application Delivery Models

- ✓ Application delivery means delivering content and functionality to end-users and can be delivered in a variety of ways.
- ✓ Require different levels of access to the internet , or other resources before they can be used. .



Desktop Applications



Web Applications



Tv Applications



Smart Watch Applications



Browser Plugins



Desktop Applications

- ✓ A desktop application is a software program that can be run on a standalone computer to perform a specific task by an end-user.



Skype



Adobe Photoshop



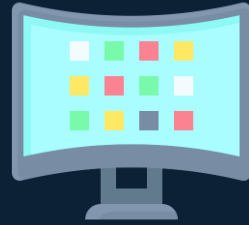
File Explorer



Web Applications

- ✓ A Web application (Web app) is an application program that is stored on a remote server and delivered over the Internet through a browser interface.
- ✓ They rely on internet access.





TV Applications

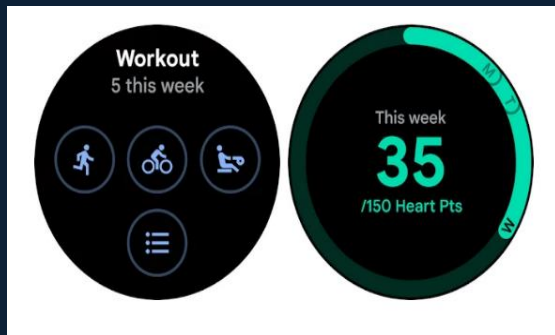
- ✓ Software program that runs on a smart TV platform



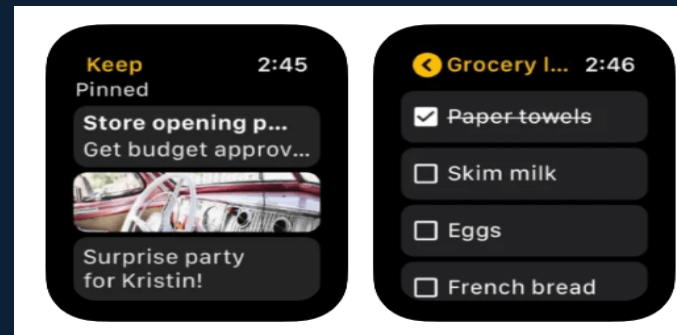


Smart watch Applications

- ✓ Simple software applications that run on watches.
- ✓ These can be standalone Wear OS apps, or extensions of existing mobile applications.



Google Fit



Google Keep



AccuWeather



Browser Plugins

- ✓ Plug-in refers to a piece of software that manages content that a browser is not designed to process(or add features to the existing system).



Adobe acrobat



Adobe flash

Congratulations!

You have explored Software Systems Overview. Deep dive into how to plan, design, develop and such applications in the coming lectures. All the best!."