



# Welcome to this session: Introduction to Software Engineering

**The session will start shortly...**

Questions? Drop them in the chat.  
We'll have dedicated moderators  
answering questions.





# What is Safeguarding?

Safeguarding refers to actions and measures aimed at protecting the human rights of adults, particularly vulnerable individuals, from abuse, neglect, and harm.



**To report a safeguarding concern reach out to us via email:**  
**[safeguarding@hyperiondev.com](mailto:safeguarding@hyperiondev.com)**

## Live Lecture Housekeeping:

- The use of disrespectful language is prohibited in the questions, this is a supportive, learning environment for all - please engage accordingly.
- No question is daft or silly - ask them!
- For all non-academic questions, please submit a query:  
[www.hyperiondev.com/support](http://www.hyperiondev.com/support)
- To report a safeguarding concern reach out to us via email:  
[safeguarding@hyperiondev.com](mailto:safeguarding@hyperiondev.com)
- If you are hearing impaired, please kindly use your computer's function through Google chrome to enable captions.



# Stay Safe Series:

Mastering Online Safety One Week/step at a Time

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While the digital world can be a wonderful place to make education and learning accessible to all, it is unfortunately also a space where harmful threats like online radicalisation, extremist propaganda, phishing scams, online blackmail and hackers can flourish.

As a component of this BootCamp the **Stay Safe Series** will/is designed to guide you through essential measures in order to protect yourself & your community from online dangers, whether they target your privacy, personal information or even attempt to manipulate your beliefs.

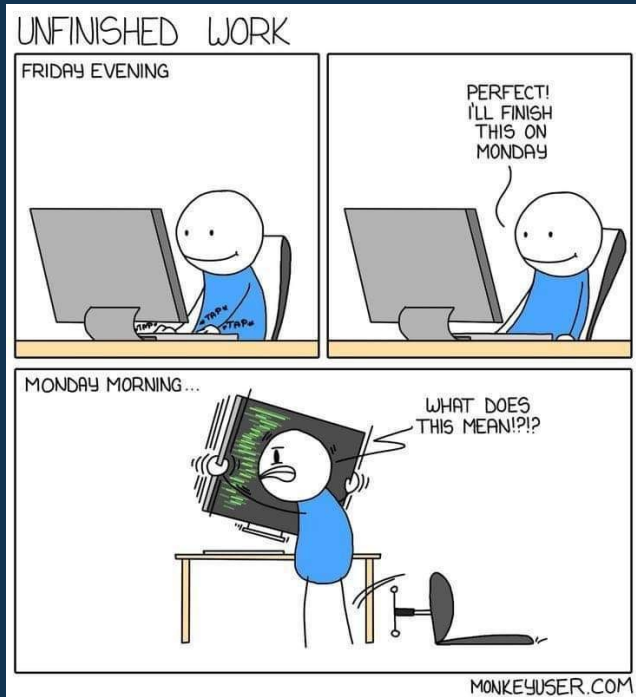
## Trustworthy Websites: How to Spot Secure Sites

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- Look for the padlock.
- Check if there is a valid SSL/TLS certificate.
- Look for a site seal.
- Check if the URL is legitimate.
- Pop-up and Redirection ads are a red flag.



# Software Engineering



## Learning Outcomes

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- ❖ Explain software engineering is and its importance.
- ❖ Identify the key attributes of good software.
- ❖ Differentiate between software engineering and programming.
- ❖ Explain the roles and responsibilities of software engineers.
- ❖ Discuss the various application areas of software engineering.



# Software Engineering

What do you think software engineering involves?





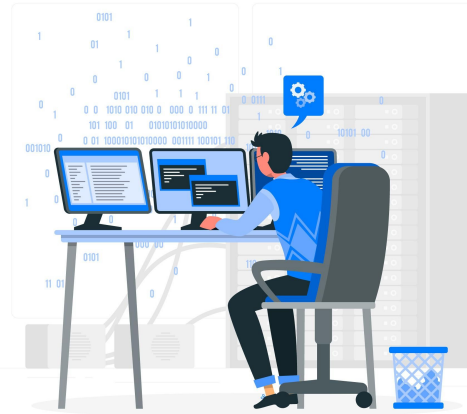
# Software Engineering

Have you ever written or debugged code?



# Software Engineering

- Systematic approach to designing, developing, maintaining, and managing software.
- Solving real-world problems using technology.



# Software Engineering

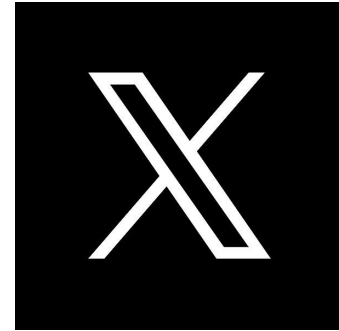
- Software engineering vs. programming:
  - Programming focuses on writing code
  - Software engineering involves broader activities like requirements, design, and testing.

# Software Engineering

facebook



Uber



# Software Engineering

The screenshot displays the RXNT Patient Dashboard for Kristin Miller. The interface includes a top navigation bar with a home icon, a welcome message, and search fields. Below this is a secondary bar with tabs for Home, Messages, Tasks, and Today's Appointments. The main content area is divided into a left sidebar with navigation links (Chart Summary, Encounters, Medications, Problems, Allergies, Procedures, Labs, Notes, Patient Documents, Alerts) and a central panel. The central panel shows the patient's profile, insurance information, and a 'CHART SUMMARY' section with checkboxes for various medical data points. A 'Patient' section displays key information in a table-like format. The 'Active Medications' section lists current prescriptions with their dosages and schedules.

**RXNT** Welcome Jones, Peter

Menu Utilities Setup 34 Home 5 Messages 1 Tasks Today's Appointments EHR Version 7.2 Install Date: Oct 2019 ©1998 - 2019 CPT copyright 2017 American Medical Association. All rights reserved. 12:03

### Patient Dashboard

← BACK

Patient #: 45868049 Name: Miller, Kristen DOB: 06/09/1989 Chart Number: KM12345

Insurance: Default (Blue Care Family/Anthem Medicaid), State Farm (State Farm), Hennepin Health (Hennepin Health)

#### CHART SUMMARY

Complete Chart Current Summary SEND

Select All

- ☒ Active Medications ☒ Allergies ☒ Problems ☒ Immunizations ☒ Procedures ☒ Lab Results
- ☒ Notes ☒ Profile ☒ Favorite Pharmacies ☒ PFSH
- ☐ Encounter (FAX only)
- ☐ Referral (FAX only)

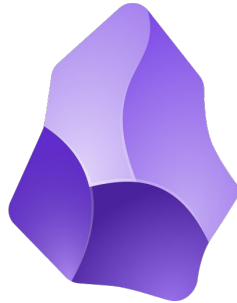
Patient:

Patient Name	Miller, Kristen	DOB	06/09/1989	Chart	KM12345
Address	213 23rd Street No.1 Address 2 LOS ANGELES, CA 90001	Phone	410-555-5554		

Active Medications:

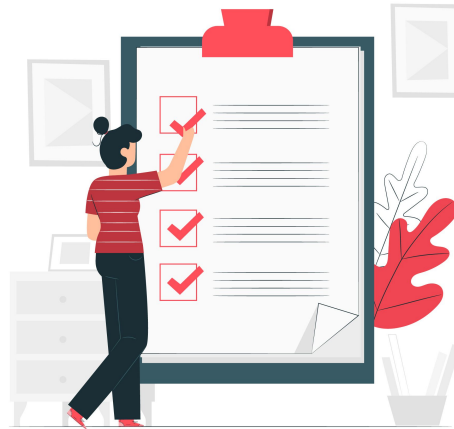
- No Active Meds Start Date: 09/11/2019
- Abraxane 100 mg intravenous suspension infuse 50 mg over 15-20 minute(s) by intravenous route every 8 hours Qty/Dur: 1 Intravenous Bag Refills: 0 Start Date: 05/30/2019
- oxycodone 20 mg IR tablet Take 1 pill after breakfast Qty/Dur: 15 Tablets Refills: 0 Start Date: 05/29/2019
- metoprolol tartrate ER tablet Take 1 Tablet(s) by oral route EVERY TWELVE HOURS Qty/Dur: 0 Tablets Refills: 1 Start Date: 05/13/2019

# Software Engineering



# Attributes of Good Software

- Functionality
  - Does the software meet all the requirements?





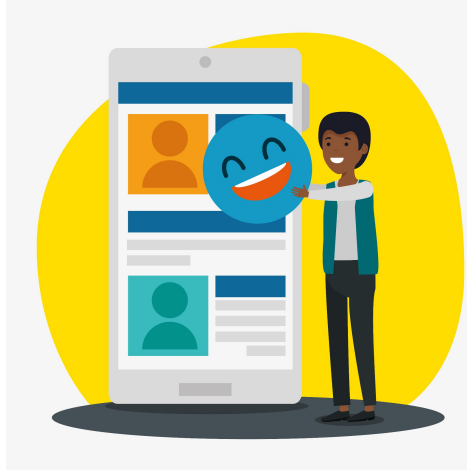
# Attributes of Good Software

- Reliability
  - How does the system perform under specified conditions?



# Attributes of Good Software

- Usability
  - How user-friendly is our software?



# Attributes of Good Software

- Maintainability
  - How easy is our software to update and fix?



# Attributes of Good Software

- Efficiency
  - How efficiently does our software use resources?



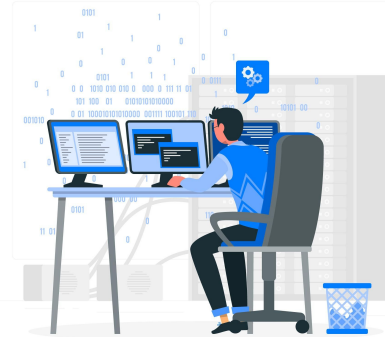
# Attributes of Good Software

Think of some of the software that you use daily.

Can you see some of these qualities/attributes in the software?

# Roles

- Software Developer
  - Designs, writes, and maintains code to create software applications or systems.



# Roles

- Systems Analyst
  - Evaluates business needs and develops technical solutions to improve processes and systems.





# Roles

- Quality Assurance Engineer
  - Tests and ensures the software meets quality standards and functions as intended.



# Roles

- DevOps Engineer
  - Bridges development and operations by automating and streamlining software delivery processes.



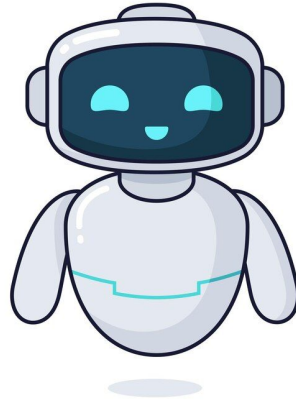
# Roles

- Project Manager
  - Plans, organises, and oversees software projects to ensure they are completed on time, within budget, and meet objectives.



# Roles

- AI Engineer
  - Designs, develops, and deploys artificial intelligence and machine learning models.



# Roles

Which role do you find the most interesting?

- Software Developer
- System Analyst
- Quality Assurance Engineer
- DevOps Engineer
- Project Manager

# Roles

Where does software engineering play a role in your everyday life?



# Polls

Please have a look at the poll notification and select an option.

What is the primary goal of software engineering?

- A. Writing as much code as possible
- B. Systematic development of software that meets user needs
- C. Avoiding collaboration with a team
- D. Focusing only on debugging programs



# Polls

Please have a look at the poll notification and select an option.

Which of the following is NOT a key attribute of good software?

- A. Maintainability
- B. Usability
- C. Inefficiency
- D. Reliability

# Polls

Please have a look at the poll notification and select an option.

Which of these is an example of software engineering in healthcare?

- A. Writing prescriptions
- B. Designing a patient record management system
- C. Treating patients
- D. Building hospital infrastructure

# Recap

- Software plays a large part in everyday life with software being used in all industries including medical, financial, entertainment, transport, etc.
- Software needs to be reliable and efficient.

# Q & A SECTION

**Please use this time to ask  
any questions relating to the  
topic, should you have any.**

Thank you  
for attending



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