Educational and Business Opportunities

Introduction to the Internet of Things v2.0

Chapter 6 - Sections & Objectives

- 6.1 Explain the challenges and opportunities that exist in the digitized world.

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  - Describe the educational opportunities and communities of interest related to IoT.

Where Can I Go from Here?

Become an Informed Consumer

- Technical gains, together with recent developments in automation and artificial intelligence, have created a highly digitized world.

- Digitization currently impacts every aspect of our daily lives and continues to provide new opportunities for professionals.

- The IoT provides an immeasurable amount of information that is readily available for consumption.

- Think about what else has changed in your life because of the IoT.

- The IoT is also freeing humans from the drudgery of routine and repetitive tasks such as restocking shelves and order fulfillment.

- How will you use the IoT to help improve the future?

Challenges in the Digitized World

- We are now faced with an ever expanding collection of new technology that we must master.

- Transformational technologies that we have experienced in recent history.

  - The development of the automobile allowed for greater mobility of the workforce and increased recreational activities.

  - The personal computer allowed the automation of many routine tasks and improved their accuracy and efficiency.

  - The Internet started to break down geographic barriers and improve equality between people on a global scale.

- Each perceived challenge opens up many new opportunities.

- Can you imagine how your life would be without a car, personal computer, or access to the Internet?

The Evolving Job Market

- Traditional jobs are being replaced with jobs that are designed to embrace this new world and all it offers.

- These jobs reflect skills spanning multiple disciplines that include computer science, computer engineering, and software engineering in the following areas:

  - Artificial Intelligence

  - Application Development

  - IoT Program Developer

  - IoT Security Specialist

  - Collaboration

  - Enterprise Networks

  - Data Center and Virtualization

The Evolving Job Market (Cont.)

- There are broad categories that summarize the job opportunities that exist in the evolving digitized world:

  - **Enablers** – These jobs develop and implement the underlying technology.

  - **Engagers** –These jobs design, create, integrate, and deliver IoT services to customers.

  - **Enhancers** – These jobs devise their own value-added services, on top of the services provided by Engagers, which are unique to the Internet of Things.

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CISCO

Entrepreneurs needed!

- New kind of IT specialist needed! Individuals with the knowledge and skillsets to develop new IoT-enabled products and process the data they collect.

- An entrepreneurial workforce is needed that specializes in both information science and software or computer engineering.

- People must collaborate and learn from each other to understand the things, the networks, and methodologies that harness the limitless potential of the IoT.
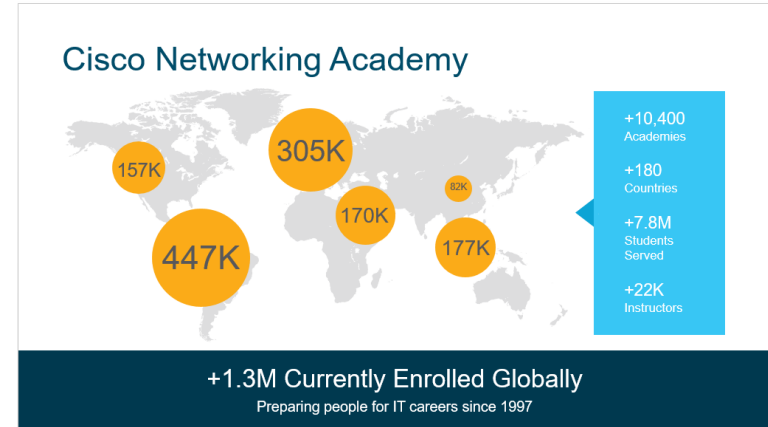
Lifelong Learning

- With the ever changing landscape of the digitized world, we must stay current in order to realize the full potential of what the IoT has to offer.

- The job market will continue to offer more opportunities as new technologies evolve.

- The skill sets required for these jobs will evolve at the same time, thus creating the need for lifelong learning.

Cisco Networking Academy

- There is a global shortage of people who are qualified to implement and maintain networking solutions.

- Cisco Networking Academy:

  - Helps individuals prepare for industry-recognized certifications and entry-level information and communication technology (ICT) careers in virtually every type of industry.

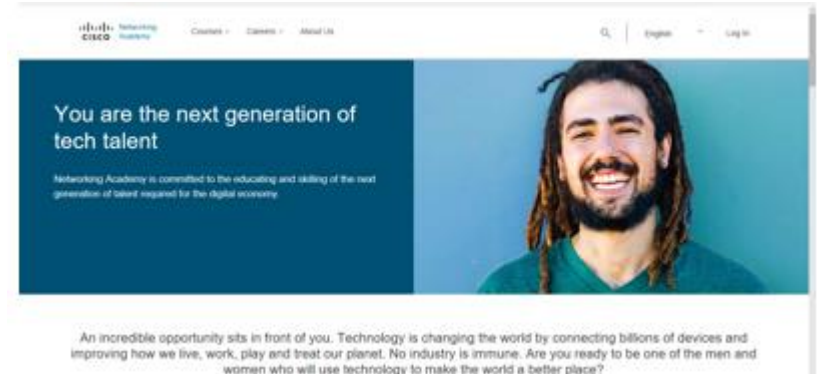 - Trained more than five million students to date.

Cisco Networking Academy

157K 305K 82K 170K 177K 447K

+10,400 Academies

+180 Countries

+7.8M Students Served

+22K Instructors

+1.3M Currently Enrolled Globally
Preparing people for IT careers since 1997

- Many graduates have gone on to successful IT careers in a variety of industries, while others have started their own businesses.

Networking Academy Curriculum

- Students complete hands-on learning activities and network simulations to develop practical skills that will help them find jobs in IT.

- These are some of the offerings of the Networking Academy:

  - **IoT Fundamentals**

  - **IT Essentials**

  - **Entrepreneurship**

  - **Introduction to Cybersecurity**

  - **CCNA Routing and Switching**

  - **CCNA Security**

  - **CCNP**

- For more information on our latest offerings, go to the Networking Academy website at www.netacad.com.

Communities of Interest

- A community of interest is a group of people who share a common interest or passion about a specific topic.

- IEEE and LinkedIn have an IoT community.

- Some communities are supported by industry and provide a place to help development of their products and technology, as well as those of their business partners. Two such communities provided by Cisco are the Cisco Learning Network and Cisco DevNet.

- Cisco Learning Network is designed for people who wish to develop their skills in various Cisco technologies and pursue Cisco certification. learningnetwork.cisco.com

- DevNet is a Developer Program from Cisco that consists of a website, an interactive developer community, coordinated developer tools, integrated discussion forums, and sandboxes. developer.cisco.com

Industry Certifications

- Industry certifications are highly respected by employers around the world and help validate the skills needed to launch successful careers in networking and IT.

- Certifications are achieved by passing an exam proctored by a certifying authority.

- There are two basic types of certification available: vendor-specific and vendor-neutral.

- Most often, certifications must be renewed over time.

Certification Tracks	Entry	Associate	Professional	Expert	Architect
Cloud		CCNA Cloud	CCNP Cloud		
Collaboration		CCNA Collaboration	CCNP Collaboration	CCIE Collaboration	
Cybersecurity Operations		CCNA Cyber Ops			
Data Center		CCNA Data Center	CCNP Data Center	CCIE Data Center	
Design	CCENT	CCDA	CCDP	CCDE	CCAr
Industrial		CCNA Industrial			
Routing and Switching	CCENT	CCNA Routing and Switching	CCNP Routing and Switching	CCIE Routing and Switching	
Security	CCENT	CCNA Security	CCNP Security	CCIE Security	
Service Provider		CCNA Service Provider	CCNP Service Provider	CCIE Service Provider	
Wireless	CCENT	CCNA Wireless	CCNP Wireless	CCIE Wireless	

- To explore all of the different Cisco career certifications, visit the following website: https://learningnetwork.cisco.com.

Additional Learning Resources

- Community college or university degrees can show that a person has gained a broad understanding in a field of study.

- A combination of industry certifications and university degrees provides a student with the best background, experience, and education to pursue a career with greater opportunities and higher salary.

- Look for a degree to pursue at a community college or university that will pertain to the skillsets needed for a career in IoT, watch for some of the following degrees:

Business Intelligence
Computer Information Systems
Computer Programming
Computer Science
Database Administration
Electromechanical Automation
Electronics Engineering
Linux Networking
Machining
Network Administration
System Analysis
Web Server Administrator

Lab – IoT Related Job and Learning Opportunities

Networking Academy (CISCO)

Lab: IoT Related Job and Learning Opportunities

Instructor Note: Red font color indicates text that appears in the instructor copy only.

Objectives

The purpose of this lab is to explore job and learning opportunities in the ever-evolving world of the internet of Things.

Part 1: Identify three IoT related jobs that interest you.

Part 2: Research the available job descriptions for these positions and identify the required skill sets.

Part 3: Identify learning opportunities available to you to obtain these skills.

Part 4: Share this information with your classmates to collectively compile a listing of IoT related job and learning opportunities in your region.

Background / Scenario

The Internet of Things is growing exponentially. New technologies and applications are being developed on a regular basis and this creates an abundance of new job opportunities each with its requisite skill sets. It is important to stay current with the skills required for this evolving job market and to take advantage of the many available learning opportunities currently available.

Chapter Summary

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