**Report**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date:** | **11 July 2020** | **Name:** | **Safiya Banu** |
| **Course:** | **CISCO – IOT** | **USN:** | **4AL16EC061** |
| **Topic:** | **Chapter 6 :**  **Educational and business opportunities** | **Semester & Section:** | **8th sem “B”section** |
| **Github Repository:** | **Safiya-Courses** |  |  |

|  |
| --- |
|  |

|  |
| --- |
| Challenges in the Digitized World  The IoT provides many benefits but at the same time it presents many challenges. Since the IoT is a transformational technology, we are now faced with an ever expanding collection of new technology that we must master. The IoT is changing every aspect of our lives.  This is not the first time we have experienced a technological development that has such an impact. Mechanization on the farm allowed increased productivity of available farmland and started the migration of the population from rural to urban areas. 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 with improved accuracy and efficiency. The Internet started to break down geographic barriers and improve equality between people on a global scale. These are only a few of the transformational technologies that we have experienced in recent history.  Every one of these technologies presented major changes to an established society and was met with initial fear and apprehension. After the initial fear of the unknown was overcome and the technology was embraced, the inherent benefits became obvious. Each perceived challenge opens up many new opportunities. Entrepreneurs needed! The IoT is also creating a demand for a new kind of IT specialist. These are 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.  Additionally, operational technologies and information technologies are converging in the IoT. With this convergence, people must collaborate and learn from each other to understand the things, the networks, and methodologies that harness the limitless potential of the IoT. Networking Academy Curriculum The Networking Academy delivers a comprehensive, 21st century learning experience. Students develop the foundational IT skills needed to design, build, and manage networks, along with career skills such as problem solving, collaboration, and critical thinking. Students complete hands-on learning activities and network simulations to develop practical skills that will help them find their place among networking professionals around the world. These are some of the offerings of the Networking Academy:   * **IoT Fundamentals** – This series of courses teaches you about the IoT and how it can be used to enhance society. This series continues to evolve. It currently includes courses and activities to develop your skills for securely collecting data and connecting sensors to the cloud, analyzing big data, and creating your own IoT solution. * **IT Essentials**- IT Essentials covers the fundamentals of computer hardware and software. It also introduces more advanced concepts, such as security, networking, and the responsibilities of an IT professional. * **Entrepreneurship**- The Entrepreneurship course teaches critical business skills, financial skills, attitudes, and behaviors to help students develop an entrepreneurial mindset which can empower them to improve their overall quality of life. * **Introduction to Cybersecurity** - The Introduction to Cybersecurity course covers trends in cybersecurity and demonstrates the need for cybersecurity skills in various industries. * **CCNA Routing and Switching** – Cisco Certified Networking Associate (CCNA) Routing and Switching provides a comprehensive overview of networking concepts and skills. It covers skills and knowledge required for administrators of devices in small to medium-sized networks. This curriculum has an emphasis on practical application, work-force readiness, and soft-skills development. * **CCNA Security** - CCNA Security introduces the core security concepts and skills needed to install, troubleshoot, and monitor a network to maintain the integrity, confidentiality, and availability of data and devices. * **CCNP –** The Cisco Certified Networking Professional (CCNP) curriculum is the next step for people who have completed the CCNA Routing and Switching courses.  Summary This chapter began by discussing the challenges and opportunities in the digital world. Digitization continues to provide new opportunities for professionals who are trained to develop and support the technology that is used to deliver the IoT.  In IT, opportunities may be specific to fog computing, developing new processes, or a specialization in a discipline that has not yet been realized. These jobs reflect skills spanning multiple disciplines that include computer science, computer engineering (a blend of computer science and electrical engineering), and software engineering. 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.  An entrepreneurial workforce is needed that specializes in both information science and software or computer engineering. The Cisco Networking Academy Program has trained more than five million students to date. Many graduates have gone on to successful IT careers in a variety of industries, while others have harnessed the entrepreneurial spirit and knowledge they acquired to start their own businesses and create new jobs. Go to [www.netacad.com](http://www.netacad.com/) to see the variety of courses offered.  There are two basic types of certification available: vendor-specific and vendor-neutral. Vendor-specific certifications are tailored to technologies offered by a company to prove that an individual is qualified to deploy and manage that technology. Vendor-neutral certifications are offered by many different organizations. Certifications can show an employer that an individual has the appropriate skills for a job. Community college or university degrees can show that a person has gained a broad understanding in a field of study. This broad understanding creates a solid foundation for emerging career opportunities in the IoT. |