Topic 2 Youth and Society

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Youth issues

The youth faces a lot of problems nowadays. Materialism is when you can’t stop shopping and amass a lot of objects around you. Offending/destructive behaviour is when you get out of social norms in public. Failure to succeed in education is when you don’t keep up with classes, have troubles in communication with your professors or groupmaters. Substance abuse is when you have addiction to illegal substances. Racism is when a person is treated unfairly based on race or some other parameter. Parental pressure is one of the most popular youth issue, when parents live through their children and expect them to achieve everything they wanted but did not have. Cyberbullying is another important issue, because on social networks people can hide their identity, be anonymous, and therefore many use it to insult or humiliate someone.

How to solve youth problems.

To solve materialism you would need to find other activities in your life other than shopping. To fix offensive behavior, this needs to be prevented at early stages by parents or supervisors. As for failures to succeed in education, first of all you should team up with your groupmates, as learning together is way easier than doing that alone. Also don’t hesitate to ask your lectors and other teachers for help, there’s nothing wrong in that. On the other hand, substance abuse is a way bigger problem. Here medical treatment is required. To resolve racism it is important to raise awareness of this issue worldwide, as well as to contact with other peers and community which suffered from such problems.

Tech addiction

Addiction is when you no longer have control over doing, taking, or using something to the point that is causing harm to you or those around you. Tech addiction is a problem when a person either cannot spend time without modern devices, or spends too much time in them. In the modern world, it is a real problem, as more and more people cannot imagine their lives without modern devices. It can be broadly defined as an inability to control one’s technology use due to a dependence developed through emotional, psychological, social, environmental, and biological factors.

Types of tech addiction are: video gaming, screen addiction, nomophobia (cellphone addiction), footage addiction, TV addiction. Types of Internet addiction are: online gambling, online shopping and cyber relationship, social media addiction.

Addiction has many negative effects. For example, people may develop vision problems, they may start to feel lonely, and it will also be difficult for them to focus on one task. Spending too much time on electronic devices may be preventing young people from in-person activities with their peers, what can lead to depression. They also experience new conditions like "fear of missing out" or FOMO, which further leads to feelings of loneliness and isolation.

There are many ways to cope with technical addiction. For example, you can install special programs that will limit the time of using the device. You can also turn off notifications to pay less attention to the phone. Another way is a special time during which it is forbidden to use the phone. Technical addiction is a real problem, but with enough effort it can be dealt with.

Generation gap

Generational gap is a problem when the cultural values of the younger generation are very different from the cultural and other values of the older generation. People born in different periods under different conditions have their views based on the circumstances they have been through. The patterns of life have been changing continuously according to time. Everyone wants to live and behave in his way and no one wants to compromise with his or her values and views.

There are five types of generations: Traditionalists (1925-1945) value conservative , hierarchical workplaces. Baby boomers (1946-1964) value flat, democratic, equal-opportunity, friendly workplaces. Generation X (1965-1979) value workplaces which are fast-paced, fun, informal and with access to leadership and information. Millenials (1980-1994) value workplaces which are collaborative, achievement-oriented, creative and continuously providing feedback. Generation Z (1995-2012) is motivated by security, more competitive, can multi-task, is more entrepreneurial and is digital-native.

It is always good to have a wide range of ideas, views, and opinions. It indicates how we are developing and advancing but sometimes this becomes worrisome when the views and ideas are not accepted by both generations. To prevent the generation gap we can keep an open mind, simply talk about each other’s day at the end of the day, understand each other.

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Topic 3 Career Path

Being a Successful Specialist.

Success may be defined by people in different ways, but being a dedicated employee, a strong leader, and an honest person can all make a big difference in making you a successful professional in any career. No matter how you determine your goals, strengthening your skills, building professional relationships, and being a self-motivated specialist can help you to achieve success and satisfaction in your career.

Success can be defined as the size of paycheck or having the corner office. It can be the feeling you get when you know you did a great job or the one you get when you know you helped someone. The one thing all of us have in common is that, given the amount of time we spend at work, we want to at least like what we’re doing every day. Life is either too long or too short to spend time in jobs we hate. Therefore, to become a successful specialist, first of all you need to decide what kind of work brings you pleasure. Your satisfaction with your career is strongly linked to whether you feel you have met your own goals. Soft skills, such as critical thinking, problem solving, communication skills, and hard skills, related to your field of work, will help you with this.

My Speciality.

Professional skills in IT are universal and allow a trained specialist to feel like a sought-after employee in any country of the world. I am studying in the specialty "computing machines, systems and networks", where all professional subjects can be divided in the following proportions: 30% - computer hardware, 30% - computer software, 25% - network technologies. The remaining 15% of disciplines are either basic universal subjects, such as "Discrete Mathematics", or highly specialized disciplines. For four years at the university, both low-level - Assembler and high-level - C/C++ Java programming languages have been studied in my specialty. After graduation, specialists can hold positions such as Software engineer, QA Engineer, Infrastructure Engineer, Web Developer and others.

Professional Development.

To stay competitive in our careers, we must not only do our jobs well today, but be prepared for how we’ll be doing our jobs well in two, five, ten years from now. The aim of personal and professional development is to help you to manage your own learning and growth throughout your career. CPD(Continuous professional development) is process of building, supporting and enhancing your knowledge and skills. CPD activities can range from formal educational activities such as training courses, workshops or seminars to more informal approaches such as work-based learning or mentoring.

There are some important skills and experience. Employees should place more emphasis on being able to deal with conflicts and deliver on strategy to achieve tangible benefits for the business. We can call them soft skills or emotional intelligence – employers are going to seek out this attribute more and more. Because of technological advances, shifts in society, and the many unknowns of the future, employees need to be open to new ideas, flexible to pivot with changing times, and ready to adapt to changes.

CPD helps to ensure that you have the knowledge and skills necessary to succeed as a professional. It helps you to build professional confidence and the reputation of the profession.

**Topic 4 ICT Concepts**

**digital revolution**

Information and communication technologies (ICT) are a **set of technologies** developed to improve the efficiency of information use and improve communication.

Thanks to ICT, it has become easier for people to communicate at a distance,

**quickly find** various information and learn something new.

The digital era has evolved through four phases,

**In the first phase** computers were huge, complex and expensive devices.

They **existed** in limited numbers, primarily housed in big corporations and government agencies.

**The second stage** was presented by personal computing which is characterized by small, standalone computers powered by local software.

**The third phase** of the digital revolution materialized as computers became networked and when the

Internet was opened to public use.

**Cloud computing** characterized the fourth phase of the digital revolution. Cloud computing provides access to information, applications, communications and storage over the Internet.

**Data refers** to the symbols that represent people, events, things, and ideas. In everyday conversation people use the terms data and information interchangeably.

295

connects each network device to many other net. devices**.** Partial mesh – some devices are connected to many others**.** Point-to-point – connected directly.

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**Types of inet connection**:

**Dial-up** – Inet connection that uses a voiceband modem and telephone lines to transport data between ur computer and ur ISP, slow speed.

**DSL** – uses nowadays – fast, broadband inet connection. **Cable** – uses cable TV conn,

fast, broadband inet conn**.** 3G/4G – wireless inet conn used by smartphones**.**

**Technologies** of the

Web: browser, URL (uniform resource location), HTTP, HTML (hypertext markup language – set of elements that author uses to mark up the document)**.**

**IoT** – physical digital devices, share data with other devices, makes analytics and decisions**.**

**IoT elements**: chips, platforms, analytics, sensors, gateway, apps**.**

**IoT apps**: smart home, industry energy production, medicine**.**

**Benefits** of IoT: enterprises benefit from using IoT when a component is likely to fail and to swap it out before it causes damage, make life smarter, more comfortable and easier (routine tasks)**.**IoT **challenges**:Lack of regulations ( government regulation often takes a long time to catch up with current state of technology**.**

Understanding IoT ( how to use it?)**.** Challenges with compatibility (not all devices can be connected with other)**.** Cloud attacks (cybercriminal, cloud servers can be attacked by hackers)**.**

Limited AI (people can’t use AI how they need, most of the current AI offerings on the market have substantial limits) (6)

**7. Information systems** are

combinations of hard, software and t

**elecommunication**s netws built to collect,

store and process data. There’re various types of inf syss: transaction processing syss,

**management** **inf** syss,

**decision-support** syss and

**executive support** syss. An inf sys

progresses through several phases as it’s developed, used, and finally retired. These phases encompass a **System**

**Development Life Cycle** (**SDLC).**

**1 Planning**. Assemble the project team, justify the project, choose the development methodology, develop a project schedule, produce a project development plan.

**2 Analysis**. Activities for anal. ph.:

study the current sys, determine the sys requirements and

write **requirements report***.* The project team

**determines** requirements by

**interviewing** users and studying successful inf syss that solve similar problems. Another way to determine requirements is to construct a prototype.

**3** **Design**. The project team must figure out how the new sys will fulfill the requirements specified in the

**Sys Requirements Report**. The project team chooses

**a solution**, **selects hard and software**, and designs

**detailed application specifications**.

**4 Implementation**. The project team supervises the tasks necessary to construct the new inf sys. The tasks of the impl. ph.: buy and install hard and/or software, create apps, test apps, finalize documentation, train users, convert data, convert to new sys.

**5 Maintenance**. The Maint. ph. is the last and the longest SDLC ph. and it lasts until the sys is retired. It involves day-to-day operation of the

sys, making modifications

to improve performance, and correcting problems. 3 key concepts ensure

good quality of maint. service:

*reliability, availability* and *serviceability*. Common

**threats** to corporate inf. syss: natural disasters, power outages, equipment failures, human errors, software failures, security breaches, acts of war and malware. When a company’s brand is used without authorization, the company has become a victim of

**identity theft.** Corporate identity attacks can undermine customer confidence,

overwhelm customer service, generate bad publicity and result in lost revenues. To help minimize risks the hard and software for most corporate inf syss are housed in

**data centers**.

A **d.c.** is a specialized facility designed to hold and protect computer syss and data. Most d.c. limit physical access using password protection and fingerprint identification syss. Several

**proactive measures** can protect inf syss from threats: deterrents, preventive countermeasures, corrective procedures and detection activities.

**Deterrents** reduce the likelihood of

deliberate attack. Both

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**physical deterrents**, such as

**limiting access** to critical servers, and common deterrents, such as

**multi-level authentication,**

**password protection, and**

**biometric identification** fall under this category.

**Preventive countermeasures** shield

**vulnerabilities** to render an attack unsuccessful or reduce its impact.

**Firewalls that prevent unauthorized access** to a system and encryption that makes stolen data

i**ndecipherable** are examples of preventive countermeasures.

**Corrective procedures** reduce the effect of an attack. Data backups, disaster recovery plans, and the availability of redundant hardware devices: examples of corrective procedures.

**Detection activities** recognize attacks and trigger preventive countermeasures or corrective procedures. Antivirus software

detects viruses entering a sys and can be configured to perform corrective procedures such as removing the virus and quarantining infected files.(7)

**8.** **Programming.** Computer programming – process of writing a source code**.**

Prog. languages - set of rules that are necessary to write a source code.Comp program – set of functions**.** The most popular prog ls today are python, java, javascript, c++, c#**.**

Statement – single line of code

that perform a specific task.

With prog we are giving directions to the comp.

**Prog paradigm** refers to a way

of conceptualizing and structuring the tasks a comp performs.

Today’s most common prog paradigms are:

**Event-driven** - focuses on choosing user interface elements and defining event-handling routines that are triggered by various mouse or keyboard activities. *Visual Basic, C#***.**

**Procedural -** focuses on linear steps that provide the computer with instructions on how to solve a problem or carry out a task. *BASIC, Ada, Pascal, Fortran, COBOL***.**

**Object-oriented -** describes programs as a series of objects and methods that interact to perform a specific task. *Smalltalk, C++, Java, Scratch***.**

**Declarative -** describes aspects of a problem that lead to a solution and help to solve problems for non-numeric data, including

words and concepts. *Prolog.* The prog l that uses just 0s and 1s is called a machine (low-lvl)*.* The prog l utilizing simple English words is called source(high lvl)*.*

A compiler/interpreter is a program that converts a high-lvl l into machine code.

A program written in one of high-lvl prog ls if often called a source program.There are some types of errors in programs:

**syntax error** - occurs when an instruction doesn’t follow the syntax rules, or grammar, of the prog l. **runtime er -** occurs when a program runs.

**logic er** – occurs when there is logic or design problem, such as using the wrong formula. There are 2 main **development methodologies:**

**A predictive**- focuses on rigorous development. Almost doesn’t change during the project. Used for large software development projects.

**An agile -** focuses on flexible developmen, that evolve as a project progresses. Programmers produce a subset of the project, show it to users, and then plan the next phase of development.

**Object-Oriented Prog –** it’s one of the main prog methodologies, which is based on the idea that a program is a set of objects, each belonging to a certain class and the classes build up an inheritance hierarchy. **Object** - is a data field that has unique attributes and behaviour.

**Class** - is a template for a group of objects with common characteristics.  
**Method** - is a segment of code that defines an action. **Message** - activates Method. The set of superclasses and subclasses that are related to each other is referred to as a **class hierarchy.**

**Pillars of OOP:** Encapsulation – break connection between objects. Inheritance – for using in future, avoid the repetitive coding work. Polymorphism – ability of object to take different forms. Abstraction – shows only necessary information (attributes).

**Artificial Intelligence (AI)** - is a method of prog a comp, robot, or other objects to think like a smart human. It’s becoming important in today’s world because it can efficiently solve problems in a variety of

297