Information system is the set of interrelated components such as hardware, software, people, network and database. Hardware consists of input/output device, processor, operating system and media devices. The software consists of various programs and procedures. The database consists of data organised in the required structure. The network consists of hubs, communication media, and network devices. People consist of device operators, network administrators, procedures and system specialists. Any IS helps us to search, sort and store accurate, relevant and understandable information. To give some example IS are used in cash management, credit management, entarective marketing, billing, different entertainment system and so on.

There are 4 major types of information systems. Thirst of all it is TPC. It stands to transaction processing system. This system search, sort and store transactions. The next one is MIS or Management IS. It is used to derive various reports from transaction data that’s why this systems helps us to make reports. The third one is DSS or Decision support system. It helps people make decisions by directly manipulating data, accessing data from external sources. And the last one is expert system. This system is responsible for producing recommendations according to analysed data.

SDLS or system development life cycle is a number of phases through which information systems are implemented. It consists of 5 phases.

**№1** The 1 one is planning phase. The goal of these activities is to create a project development plan.

1. Project development plan is usually reviewed and approved by management. Depending on the scope of the problem an information systems project can be managed by an in-house information technology department or outsourced to a development firm. It can be system development project team, or project team for short.
2. Justifying a project often involves identifying problems and opportunities within an organization's current information system. By eliminating problems and taking advantage of opportunities, an organization can become more competitive. Project team members can identify problems and opportunities by interviewing users or studing current system.
3. Choosing a methodology includes choosing the platform, OOP language and approach.
4. Developing the schedule includes setting the deadlines for every step of the developing.
5. And in the end we can get whole the plan.

The planning documentation includes 4 pints:

1. Scoping or short description of the project
2. The project costs and potential financial benefits.
3. A list of project team participants;
4. A schedule for the project, including an deadlines of its phases.

**№2** The goal of the analysis phase is to produce a list of requirements for a new or revised information system and make requirement report. The main task is to study the current system.

1. Most new information systems are designed to replace a system that is already in place. It is important to study the current system to understand its strengths and weaknesses before designing a new system. Some members of the project team might have first- hand experience with the current system. They can often provide an overview of the system and identify key features, strengths, and weaknesses.
2. The next step is to determine system requirements. The project team determines requirements by interviewing users and studying successful information systems that solve problems. Another way to determine requirements is to construct a prototype as a trial version of an information system. Often the prototype is not a fully functioning system because it is designed to demonstrate only selected features that might be incorporated into a new information system. A systems analyst shows the prototype to users, who evaluate which features of the prototype are important for the new information system.
3. After the project team studies the current system and then determines what the new system should do, system requirements are incorporated into a document called a system requirements report.

**№3** Design phase. The main goal is to find appropriate solutions according to the requirements. There are hardware and software solutions.

Hardware solutions include 3 main components:

1. Level of automation. It shows how much human intervention is required.
2. Network technology. In includes type of connection that you use. For example it can be Bluetooth, Internet so on. All of the types depend on the requirement.
3. The last one is type of processing. It can be on the company’s server, so it will be in house. This option includes distributed and centralized processing. This way is better to store critical data, but the speed will be much slower. The second option is to use cloud processing. It will be much faster, but your data will be vulnerable.

Software solutions also have some options:

1. For example, you can select turnkey system and start use it immediately. In the same time you can purchase applications software. This 2 ways are fast, they offer some opportunities for customization, but the can’t satisfy all the requirements.
2. Other 2 ways are much slower, but offer a lot of flexibility according to the requirements. You can develop system from scratch(from minimum to the result system) or use application developing tools that offers preprogrammed modules for the developing.

**№4** Implementation phase includes coding as well as debugging, fixing bugs, testing and conversion.

Testing includes 5 main types:

1. Unit testing. It is nessasary to understand, how units work separately.
2. Integration testing, which shows how units work together.
3. System testing: How works whole the system and testing compatibility with the hardware.
4. Optional business testing, which includes how out system satisfy business requirements
5. Acceptance testing: Users test whole system with the real data

Conversion also includes some types:

1. Direct conversion(The fastest and the worst way for company. We lust deactivate old system and activate the new one)
2. Parallel conversion(One of the wort conversion in the term of resource consuming, because both systems work in the same time)
3. Pilot conversion(That means testing the new system at the one branch. This wat is good for big componies)
4. Phased conversion: The best way, because it is safely. We just activate new system by one module step by step.

**№5** Once the new system is in place the work doesn’t stop. During this phase the system is monitored to ensure that it's working properly and is meeting the goals established during the analysis phase. If any errors or bugs are found they are fixed in the maintenance phase. If the new need cannot be met by the original system, the cycle starts over to design a significant modification to the system or to implement a new system. It continues until a new system is in place that meet the needs of its users.

There 4 types of modifications during the maintenance phase:

1. Emergency modifications

They are periodically needed to correct software problems or restore processing operations quickly.

Major modifications

They include significant functional changes to an existing system, converting to a new system, and introducing new systems or data. They should be implemented following a wellstructured process similar to the SDLC

1. Routine modifications

They involve making changes to application or operating system software to improve performance, correct problems, or enhance security. They can be simple or complex, but are not of the magnitude of major modifications, and can be implemented in the normal course of business

1. Software patches

They are program modifications involving externally developed software. Their standards should include for identifying, evaluating, approving, testing, installing, and documenting changes

**Security**

Information systems security is responsible for the integrity and safety of system resources and activities. Most organisations in developed countries are dependent on the secure operation of their information systems. Multiple infrastructural grids including power, water supply, and health care — rely on it. Information systems are at the heart of intensive care units and air traffic control systems. Financial institutions could not survive a total failure of their information systems for longer than a day or two.

Information systems are vulnerable to a number of threats and require strict controls, such as continuing countermeasures and regular audits to ensure that the system remains secure.

Although instances of computer crime and abuse receive extensive media attention, human error is estimated to cause greater losses in information systems operation. Disasters such as earthquakes, floods, and fires are the particular concern of disaster recovery planning, which is a part of a corporate business continuity plan.

**Online Voting**

In the early days of the Internet, online voting looked easy; but the feasibility of an easy solution died with the advent of viruses, worms, bots and the growing threat of international terrorists.

Whether manual or electronic, there are six basic requirements for a voting system. Online voting meets some of these basic requirements better than current voting methods but faces challenges in adequately fulfilling other requirements.

Online voting has several advantages. It is convenient. Voters can cast ballots from home or work, or even while on vacation. It is quick. Casting an online ballot doesn't require driving to a polling station and waiting in line.

Because of its advantages, online voting has the potential to attract net-savvy young voters who historically have voted in lower numbers than other segments of the population. It also simplifies the voting process for elderly and homebound voters. The convenience of online voting might also increase participation in local elections.

Online voting has the potential to decrease the number of ballots that are invalidated because of procedural problems, such as checking more than one candidate on a paper ballot. Voting software can prevent voters from selecting more than one candidate and make sure that voters can revise their selections without invalidating their ballots.