**Information system design process**

**Introduction**

The presence of an information system in a company and in the present government is crucial. This IT technology provides advantages especially in improving efficiency and effectiveness of performance, such as accelerating bureaucracy, faster decision making, optimizing resources, saving operational costs, and others. In line with these benefits, the need for information system development also increased. An information system will be more complex in order to further simplify the tasks performed by human labor. Thus, in the end more human energy will be used to complete more substantial affairs.

**What is Information System?**

The system is a collection of various elements or entities that are used to process input into an output. Inputs and outputs can be either raw or intact data into information — depending on the processing designed to work in the system. Meanwhile, information is the result of data processing used for a particular purpose. As for what data means is raw facts that have not been processed and can not provide stimulus for users to take action. Thus, an information system can be interpreted as a set of interconnected elements to process a given input into a particular output produced. The next stage of an information system is a MIS (Management Information System) which has a higher complexity with the final goal being used for the needs of analysis and decision making.

**What is Information Systems Development?**

As the name suggests, information system development or commonly known as SLC (Systems Life Cycle) or SLDC (Software Development Life Cycle) is a process of making and changing the system and the model and methodology used. In other words, an SDLC is the preparation of a new system to replace the old system, both in whole and only partially.

Development of information systems is generally done because of problems that cannot be accommodated by the old system. For example, the hospital where you work make an overhaul SIMRS (Sistem Informasi Manajemen Rumah Sakit/Hospital Management Information System) because of applications that previously could not do bridging with BPJS. Considering the fact that the government has required it, then inevitably the hospital must adjust the SIMRS it already has.

As for carrying out an information system development, the related team will consist of several personnel, namely the project coordinator, system analyst and design, network designer, programmer, technician (hardware), administrator, software tester, graphic designer, and documentary.

**Information System Development Stages**

An information system development consists of six important stages, it is system survey, needs analysis, design, implementation, testing, change and maintenance.

**System Survey**

The SLDC phase also consists of three main points: system identification, selection, and system planning.

**System Identification**

This process is to identify the problems facing the company and the system it has. The team will look for any opportunities that can be done to overcome this.

**Selection**

The selection phase will apply evaluation points to the development project to ensure the solutions are created in accordance with the company’s expected targets.

**System Planning**

This step is the step of developing a formal plan to start working on and implementing the information system development concept that has been chosen.

**Needs Analysis**

System requirements analysis is a technique for solving problems by decomposing the components of the system. The aim is none other than to find out more about how each component works and the interaction between one component with other components.

Some aspects that need to be targeted in the needs analysis in the development of information systems include business users, job analysis, business processes, agreed rules, problems and solutions, business tools, and business plans.

**Design**

The design or design of system development is intended to provide a complete blueprint as a guideline for the IT team (especially programmers) in making applications. Thus the IT team no longer makes decisions or works in a sporadic way.

**Implementation**

The stage of developing this information system is to work on a previously designed development.

**Testing**

A system needs to be tested to ensure that the development carried out is appropriate or not with the expected results. Tests that are applied are various, such as performance, input efficiency, syntax (program logic), output, and so on.

This information system development stage requires preparation of various supporting aspects. In addition to applications, hardware readiness and several other related facilities also need to be prepared. As for implementation, several activities carried out include data migration (conversion), training for users, and trials.

**Change and Maintenance**

This step covers the whole process in order to ensure the continuity, smoothness and improvement of the system. In addition to monitoring the system at a certain time, maintenance also includes activities to anticipate minor bugs (bugs), system improvements, and anticipation of some risks from factors outside the system.