

BBM 382 Reading Assignment 1

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SOFTWARE SYSTEM ENGINEERING: A TUTORIAL

Software systems are constantly growing day by day. Every day, softwares gain new features. Therefore their complexity and size are increasing.

We must manage a development project easily. Nowadays we need tools to make healthy controls. System engineers help us to supply the tools.

SYSTEM AND SYSTEM ENGINEERING

A system is a combination of hardware, software, people, facilities and processes. System engineering is a combination of several disciplines that are science, engineering, management.

System engineers determine the tools to be used in many subjects such as risk management, interfaces, products from the beginning to the end of the project. They also prepare documents about project's lifecycle. System engineering includes five functions which are problem definition, solution analysis, process planning, process control, and product evaluation.

WHAT IS SOFTWARE SYSTEM ENGINEERING?

Software system engineering(SwSE) is managing the whole technical management of the system and the verification of the final product. SwSE's tasks are the requirements analysis, architectural design, and final software-system testing.

Software system engineering and software engineering(SwE) are almost doing the same job, but SwE also produces software component, SwSE does not.

SwSE, SwE and project management have a relationship with each other. Project management has permission about the project and commits resources. SwSE is interested in technical things. SwE deal with developing software things.

THE FUNCTIONS OF SOFTWARE SYSTEM ENGINEERING

There are five functions of SwSE. These are requirement analysis, software design, process planning, process control, and verification, validation and testing. SwSE functions establish a connection with system engineering.

When we are starting the project, the first thing is determining the requirements that a user needs because we build our project on these requirements. The second thing is software design that is selecting an optimal way for the software system. The third thing is process planning. In this step, we define who will what to do, todo lists, deadlines of tasks. The next thing is process control. We check our plannings are done on time. We control is there any problem with the project. The last thing is verification, validation, and testing (VV&T). Verification and Validation answer the question "Is the product I developed right?". T is checking is there any error in the product.