Question for Midsem - NATO 1969

How was the term ‘Large Programming System’ defined in NATO conference of 1969?

A large programming system is a structured aggregate of elements that satisfies a set of functional and performance specifications and requires more than 25 programmers, more development time and more than one level of management.

What does system design consists of?

System design consists of defining the components and their interactions.Detailed design consists of defining the subsequent lower levels of the structures until each unit is described in terms of its function and performance.Detailed design of a single unit is done by the implementing programmer.

In NATO conference of 1969, what does system development life cycle show? Choose most precise answer.

a) Theoretical approach to development of software
b) New innovations in the software development
c) Activities that must take place in system development and the level of manpower required to do the job.
d) People and technologies involved in the software development.

In quantitative estimation method, why system design resources are negligible compared to total compared?

System design resources are negligible compared to total resources because the quantitative method does not consider system design resource requirements explicitly since they can be ignored for practical purposes.

What are things that system development life cycle include and does not include?

The life cycle chart includes all the manpower resources needed to do a specific job. It includes management and clerical support assigned to the job but does not include other manpower that may have an occasional responsibility in the project. Neither does it include overhead activities, such as machine operations, publications, etc., which are used as a service.

In order of desirability, what are the methods that are required in estimating resources for large system.

1. Conventional, Qualitative, Substitute
2. **Experience, Quantitative, Constraint, Units of Work.**
3. Analogy, Cooperative,Comparison, Substitute
4. Time Analogy, Constructive, Management

Complete the questions given below in referring to the figure 2 about system development life cycle published in NATO conference of 1969 .

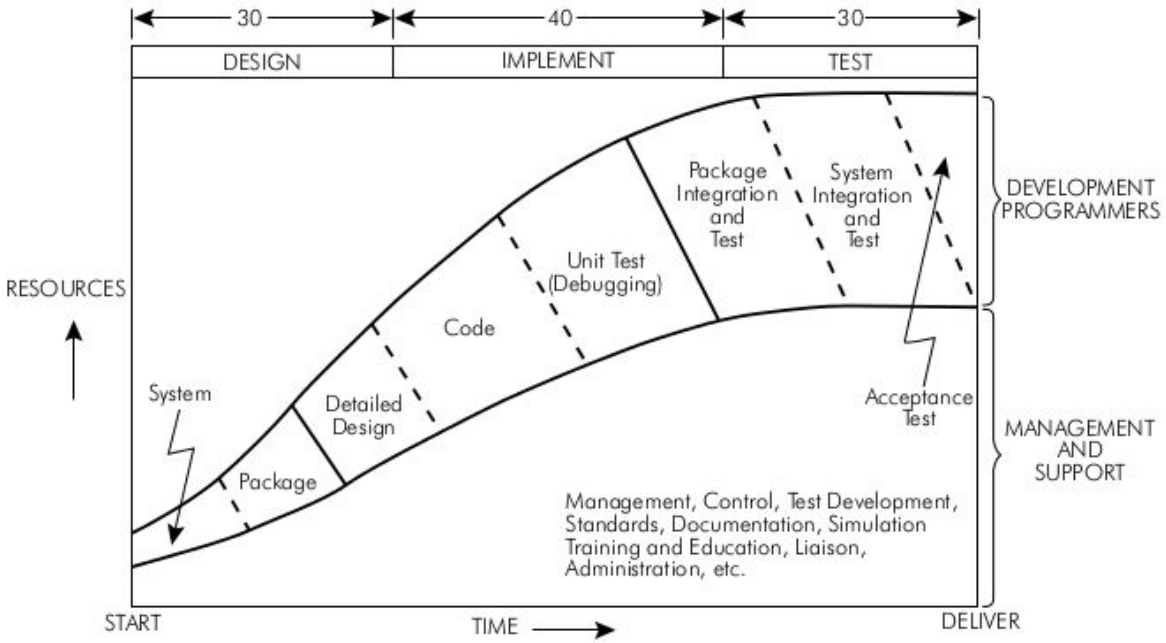

Figure 2. System Life Cycle

1. What does the slope of the boundaries in the upper half of the chart represents it represents that some of the activities overlap.

2. Compared to the first waterfall method, what are the steps that are omitted in this life cycle.
   concept formulation at the beginning and maintenance and improvement at the end.

What is the major problem in Experience method required for estimating resources for large systems?

The major problem in this experience method is that it does not work on systems larger than the base used for comparison. System complexity grows as the square of the number of system elements; therefore, experience with a small system cannot account for all the things that will have to be done in a large system

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What is the main difference between Experience, Quantitative, Constraint methods for estimating resources in order of desirability?(NATO conference of 1969)

The Major difference is that the Experience Method and the Quantitative Method assume that specifications are fixed and that the man-months are estimated to satisfy the specification whereas the Constraint Method, if properly used, holds the man-months fixed and varies the specification to fit.

After the first step of system design,Write some of the process steps later involved in the Quantitative estimating procedure?

After the first step of system design, the process proceeds to:

- ➔ Estimate number of deliverable instructions
- ➔ Estimate difficulty of programs and duration of project
- ➔ Determine man-months for programming
- ➔ Adjust for higher-level language
- ➔ Extrapolate man-months for the project
- ➔ Adjust result
- ➔ Schedule effort.