UNIVERSIDAD NACIONAL AUTÓNOMA DE MÉXICO

FACULTAD DE ESTUDIOS SUPERIORES ARAGÓN

INGENIERÍA EN COMPUTACIÓN

INGENIERÍA DE SOFTWARE

TAREA 1

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1.1
Software is an information transformer as (operating systems), (networks), and (software tools and environments). Software transforms personal data, it manages business information to enhance competitiveness and provides the means for acquiring information in all of its forms.

The lone programmer of an earlier era has been replaced by a team of software specialists, each focusing on one part of the technology.

1.1.1 Defining Software
Software is:
(1)instructions (computer programs) that when executed provide desired function and performance, (2) data structures that enable the programs to adequately manipulate information, and (3) documents that describe the operation and use of the programs.

Many other environmental maladies and the hardware, simply begin to wear out.
Undiscovered defects will cause high failure rates early in the life of a program.
However, these are corrected and the curve flattens as shown.
Software doesn't wear out, but it does deteriorate!
The software maintenance tasks that accommodate requests for change involve considerably more complexity than hardware maintenance.

1.1.2 Software Application Domains

System: collection of programs written to service other programs.
Application: solve a specific business need.
Engineering/scientific: a broad array of "number-crunching"
Embedded: features and functions for the end user and for the system itself.
Product-line: reusable components for use by many different customers.
Web/mobile apps: network-centric software category spans a wide range of software that resides on mobile devices.
Artificial intelligence: use of heuristics to solve complex problems that are not amenable to regular computation or straightforward analysis.

1.1.3 Legacy Software
Often present in legacy software—poor quality.
The software must be adapted, enhanced, extended, and re architected.
The goal of modern software engineering is to "all must interact and cooperate with each other".

1.3
Process is a collection of activities, actions, and tasks that are performed when some work product is to be created. An activity strives to achieve a broad objective. An action encompasses a set of tasks that produce a major work product. A task focuses on a small, but well-defined objective that produces a tangible outcome.

1.3.1 The Process Framework

establishes a small number of framework activities that encompasses a set of umbrella activities. generic process framework: communication, planning, modeling, construction, and deployment are applied repeatedly through a number of project iterations.

1.3.2 Umbrella Activities
Software project tracking and control: maintain the schedules
Risk management: assess risks Assesses risks that may affect the quality or the outcome.
Technical reviews: remove errors
Measurement.
Software configuration management.
Reusability management.
Work product preparation and production.

1.3.3 Process Adaptation
often present in legacy software—poor quality.
The software must be adapted, enhanced, extended, and re-architected.
The goal of modern software engineering is to "all must interact and cooperate with each other”

1.5 HOW IT ALL STARTS
Every software project is precipitated by some business need to correct a defect in an existing application, to adapt a “legacy system”, to extend the functions and features, or the need to create a new product, service, or system.
Example of SafeHome’s business dialogue