System analysis

Summary on lec 5 part2

introduction to Requirement Modeling Before Agile

System Analysis phase overview

1- Requirement Modeling

2- Data and Process Modeling

3-object Modeling

4- Development Strategy

Joint Application Development (jad)

Rapid Application Development (rad)

الحاجات اللي معمول عليها هيليت هي اللي المحاضره بتناقشها

Requirements Modeling

Customers often find it difficult to clearly describe what they want the system to do When they do list the requirements, the result tends to be an unprioritized set ofconflicting capabilities.

هنا بيقول ان العميل مش بيعرف يصف بشكل دقيق اي هي متطلبات السيستم او الapp اللي هو عايز يعمل واي اهم الحاجات اللي عايز يعملها في السيستم وليها اولولية.

System Analysis

It may be tempting to "just do something" to give the appearance of productivity, but a systems project that does not satisfy business requirements serves no useful purpose

البروحكيت اللي مش not satisfy business requirements فهوبيعطي شكل او شعور الانتاجيه بس في الحقيقه ملوش غرض مفيد

System analysis phase overview

The overall objective of the systems analysis phase is to understand the proposed project. build a solid foundation for system development

. The systems analysis phase includes the four main activities:

1- Requirements Modeling

2-Data and Process Modeling

3-Object Modeling

4-Development Strategy

Requirement Modeling

Practicing fact-finding to describe the current system and identification of the requirements for the new system, such as:

(Outputs ;Inputs ; Processes ;Performance ; Security)

في Requirement Modeling يتم تقصي الحقائق لوصف النظام الحالي وتحديد متطلبات النظام الجديد ، مثل:

(المخرجات ؛ المدخلات ؛ العمليات ;الاداء ; الأمن)

علشان نفهم السيستم بشكل افضل

The Requirements can represented in 3 ways:

1-For Structured Development: Software Requirements Specification SRS is a document that describes the nature of a project.

2- For Object Oriented development: Use Case diagram and other diagrams.

3- For Agile development: Personas and User Stories. The team can also use combinations of them to simplify every problem in the project.

DATA AND PROCESS MODELING

How to represent graphically system data and processes using traditional structured analysis techniques. Structured analysis identifies the data flowing into a process, the business rules that transform the data, and the resulting output data flow. DFD Data flow Diagram, is the best tool for such modeling

هنا بيحاول يشوف الدتا بيحصلها اي اثناء العمليات وبيركز علي dataflow

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While structured analysis treats processes and data as separate components. Object-oriented (O-O) analysis combines data and the processes that act on the data into things called objects.

Analysts often use both modeling (Data & Process + Object modeling) methods to gain as much information as possible. Class Diagram is the famous tool

DEVELOPMENT STRATEGIES

Various development options and prepares for the transition to the systems design is something about Make or Buy

. Include software trends and architectures (Microservices, Service Oriented Architecture SOA, Monolithic or traditional software) acquisition and development alternatives, outsourcing, and formally documenting requirements for the new system

A systems analyst needs strong analytical and interpersonal skills to build an accurate model of the new system

Analytical skills Enable the analyst to identify a problem, evaluate the key elements, and develop a useful solution.

مهارات التحليل

Interpersonal skills Especially valuable to a systems analyst who must work with people at all organizational levels

مهارة التعامل مع الآخرين

Team-Based Techniques: JAD, RAD, and Agile Methods System

developers view users as partners in the development process. Greater user involvement usually results in better communication, faster development times, and more satisfied users

مطورو النظام بيجعلوا المستخدمين كشركاء في عملية التطوير.

عادة ما تؤدي مشاركة المستخدم الأخير إلى تواصل أفضل وبناء سيستم اسرع وارضاء المستخدم

Joint application development (JAD)

is a popular fact-finding technique that brings users into the development process as active participants.

-Users have a vital stake in an information system, and they should participate fully in the development process.

-Successful systems must be user-oriented, and users need to be involved, formally or informally, at every stage of system development.

الjad بتعتمد علي تقصي الحقائق و ويحتاج المستخدمون إلى المشاركة ، بشكل رسمي أو غير رسمي ، في كل مرحلة من مراحل تطوير النظام.

JAD PARTICIPANTS AND ROLES

JAD project leader Develops an agenda, acts as a facilitator, and leads the JAD session

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Top Management Provides enterprise-level authorization and support for the project

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Managers Provide department-level support for the project and understanding of how the project must support business functions and requirements

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users Provide operational-level input on current operations, desired changes, input and output requirements, user interface issues, and how the project will support day-to-day tasks.

System Analyst & other IT staff members Provide technical assistance and resources for JAD team members on issues such as security, backup, hardware, software, and network capability

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Recorder Documents results of JAD sessions and works with systems analysts to build system models and develop CASE tool documentation

JAD Pros and Cons

JAD cons is more expensive and can be cumbersome if the group is too large relative to the size of the project

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JAD pros allows key users to participate effectively in the requirements modeling process.

JAD pros can result in a more accurate statement of system requirements, a better understanding of common goals, and a stronger commitment to the success of the new system

Phases Of RAD(rabid application development):

-To cut development time and expense by involving users in every phase of systems development. Because it is a continuous process

- It is especially important to limit the cost of changes that typically occur in a long, drawn out development schedule.

-RAD also helps a development team design a system that requires a highly interactive or complex user interface

RAD Pros and Cons

RAD pros Systems can be developed more quickly with significant cost savings.

مميزات الRAD

يتم تطوير أنظمة بسرعة أكبر مع توفير كبير في التكاليف

RAD cons stresses the mechanics of the system itself and does not emphasize the company's strategic business needs. A system might work well in the short term

عيوب الRAD

يشدد على آليات النظام نفسه ولا يؤكد على احتياجات الأعمال الاستراتيجية للشركة. قد يعمل النظام بشكل جيد على المدى القصير

إن أصبت فمن الله، وإن أخطأت فمن نفسي والشيطان .

سبحانك اللهم وبحمدك، أشهد أن لا إله إلا أنت، أستغفرك وأتوب إليك.

“

قيل: أنّ مَن أمضى يومًا من عمره في غير حقٍ قضاه، أو فرضٍ أدّاه، أو مجدٍ شيّده، أو حمدٍ حصّله، أوخيرٍ أسَّسه، أو علمٍ اقتبسه؛ فقد عقَّ يومه وظلم نفسه.

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