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MIS Case Study Overview

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MODULE 3



In module 3

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You will learn:

- Business Case Studies


Topics in other modules:

- Module 1: Why and When Measure Functional Size
- Module 2: COSMIC Key Concepts and Definitions
- Module 4: Real-Time SW case study overview
- Module 5: COSMIC NFR
- Module 6: Early sizing overview
- Module 7: Estimation process



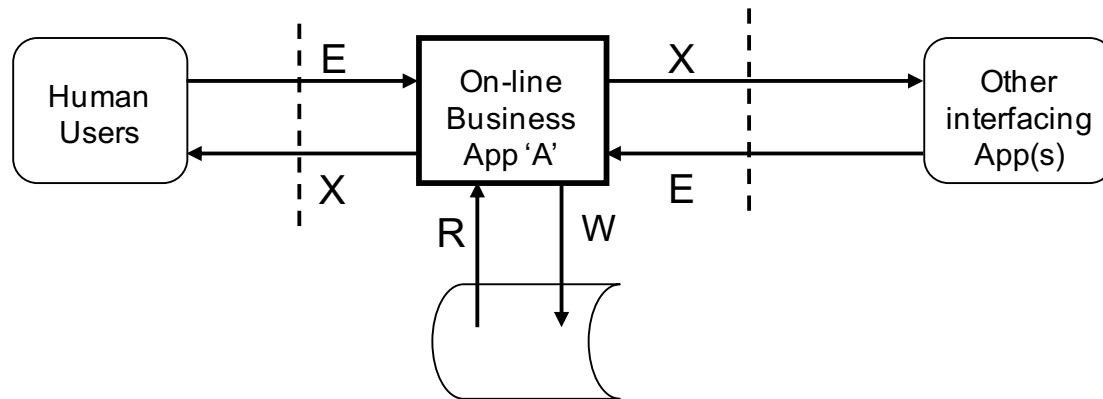
COSMIC Measurement Parts

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- The COSMIC Measurement Manual consists of different parts:
 - Part 1: Principles, definitions & rules
 - Part 2: Guidelines
 - Part 3: Examples of COSMIC concepts and measurements, consisting of:
 - Part 3a Standard Measurement Strategy Examples
 - Part 3b Real-time Examples
 - Part 3c MIS Examples.
-  ▪ This presentation is about the MIS (business) examples

Standard strategy for whole on-line business applications

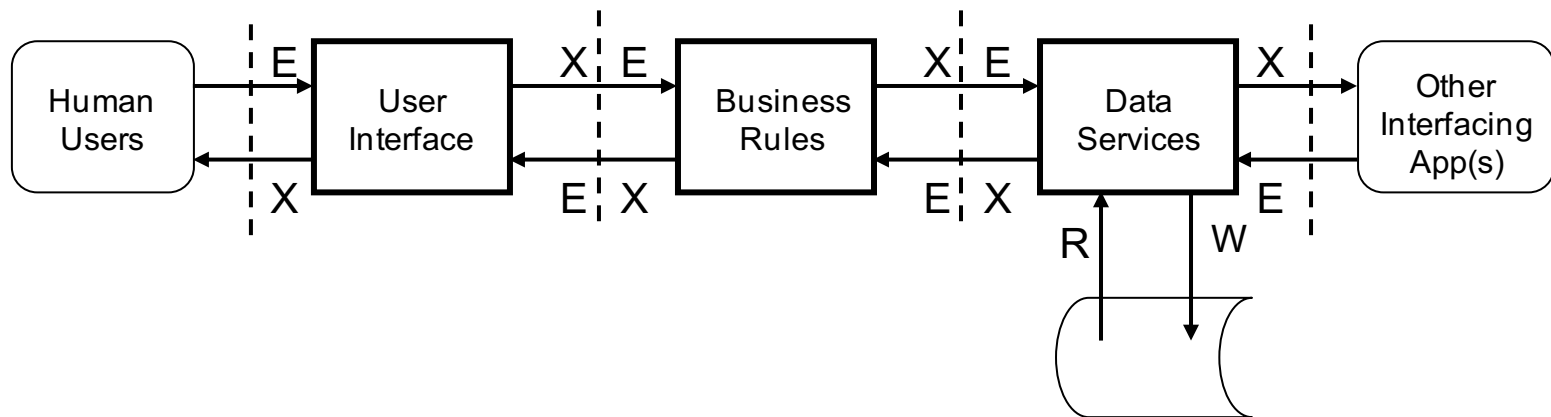
The Functional User Requirements (FUR) of any on-line business application define the functionality needed by the business, including the human interface requirements for the customer of the software.



The FUR do not describe functions provided by the operating environment or by 'control commands'.

Standard strategy for major components of on-line business applications

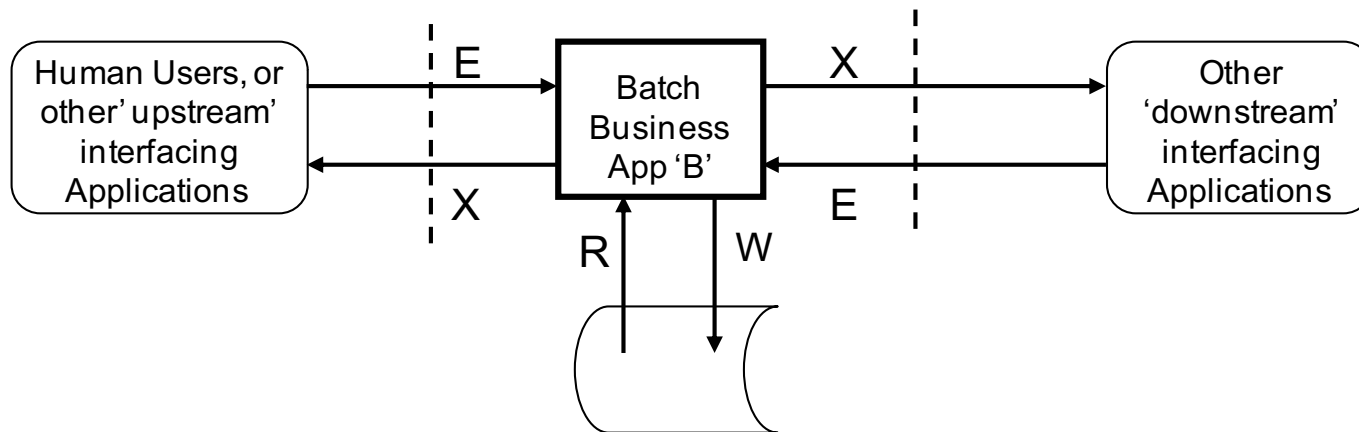
The context diagram for an on-line business application that is developed using a multi-layer (or multi-tier) architecture with the common three major components User Interface (UI), Business Rules (BR) and Data Services (DS).



The two boundaries shown between these major three components coincide with the interfaces between the three layers (or tiers) in which these components reside.

Business application processed in batch mode

Any human users of a batch process do not interact directly with the software. However, human users provide the input data for the functional processes of the application and receive the output data from the batch processing.



Example of A MIS functional processes

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- FUR might specify *separate* functional processes to update the data of a person for each of the possible transitions that needs to be done between the status of single, married, widowed and divorced:
 - Add
 - Modify
 - Delete
 - Query
- Each action is a different need for the user

Example of an enquiry

Suppose a requirement for an enquiry to display a list of employee names, selected from a file of employee data, by any combination of three input parameters:

- Age
- Gender
- Education level
- The three parameters must also be output
- If no employees meet the selection criteria, an error message must be displayed

Number of data movements for the Enquiry

The 5 data movements (CFP) of this functional process are given in the table below:

DM	Key Attributes	Data Group
Entry	Age, Gender code, Education-level	Employee selection parameters
Read	Employee ID	Employee data
Exit	Age, Gender code, Education-level	Employee selection parameters
Exit	Employee ID	Employee name
Exit	Error ID	Error/confirmation message

Multi item order example

The FUR specifies a functional process that enables the entry of a multi-item order into a database which already has persistent data about clients and products with the following attributes:

- Order header (Order ID, client ID, client order reference, required delivery date, etc.)
- Order item (Item ID, product ID, order quantity, etc.)
- The key attributes Order ID and Item ID are generated automatically by the software
- The client ID and the product ID must be validated on entry
- The entered data must be validated and confirmed, or an error message is displayed

Solution of the multi-item order (7 CFP)

DM	Object of interest	Data Group (Attributes)
Entry	Order ID)	Order data (Client ID, client order reference, required delivery date, etc.)
Read	Client ID	Client data
Entry	Item ID	Order-item data (Product ID, order quantity, etc.)
Read	Product ID	Product data
Write	Order ID	Order data (Order ID, client ID, client order reference, required delivery date, etc.)
Write	Item ID	Order-item data (Item ID, product ID, order quantity, etc.)
Exit	Errors	Error/confirmation messages



Batch processing

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- The batch stream for an order-processing system might contain functional processes to add new clients, add new and delete obsolete products, enter new orders, enter order cancellations, etc.
- Each of these different functional processes should be analyzed 'end-to-end' and independently of any other functional process in the same stream.
- Each functional process is triggered by its own triggering Entry and should be analyzed as if the data (including other possible non-triggering Entries needed by the functional process) were being entered on-line by the human functional user.



Batch processing: an example

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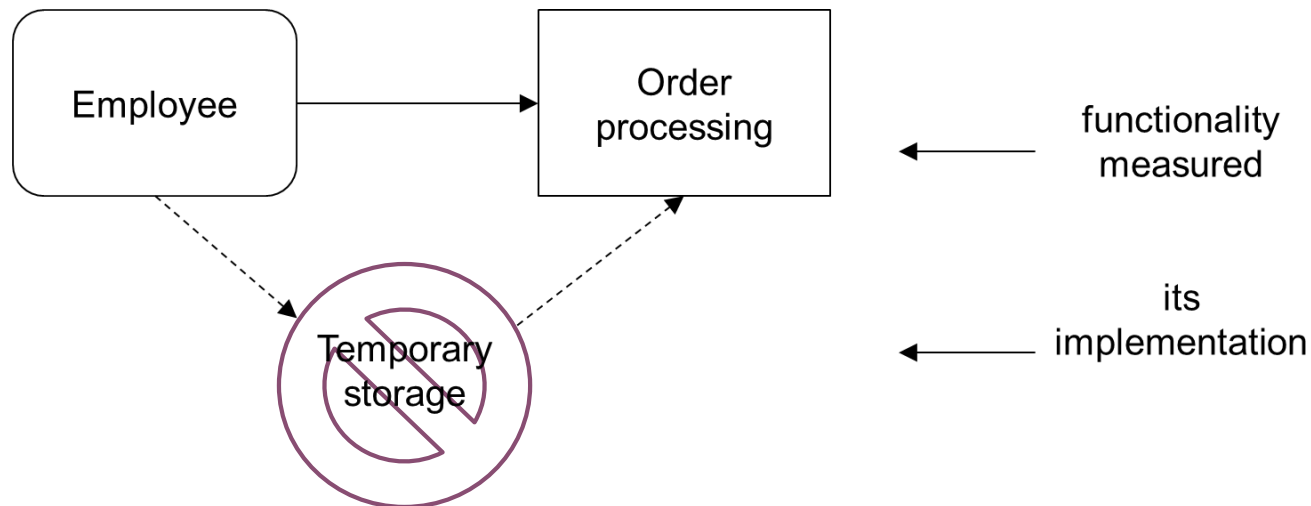
For processing the employee data, assuming a 'create' functional process:

DM	Key Attributes	Data Groups
Entry	Employee ID	Employee data
Write	Employee ID	Employee data
Exit	Errors ID	Error/Confirmation Messages

Note: when sizing an application that requires data to be entered via one or more batch interface files, all using the utility, the utility functional process should be counted once for the application (IF it is within the measurement scope)

Batch processing with a temporary storage

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The temporary storage is not a 'data group' it is a way to implement the functionality. It cannot be considered in the measurement.



Conclusion

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There are many other possibilities.

Please refer to the COSMIC Measurement Manual for ISO 19761, Part 3c: MIS Examples.

<https://cosmic-sizing.org/publications/measurement-manual-v5-0-part-3c-mis-examples/>



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