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***University of mustansiriyah /College of Education***

***Computer Science Department***

***Software Engineering 3rd Class***

### Topic:

**Chapter 4**

**Formal Requirements**

**منهج المتطلبات**

### **AnalysisModel**

* 1. **AnalysisModelObjectives and ElementsofAnalysisModel**
  2. **DataModel**
  3. **CreatinganEntity/RelationshipModel**
  4. **CreatingaDataFlowModel**

4.1 Analysis Model

The analysis model ,actually a set of models, is the first technical representation of a system .Overtheyearsmanymethodshavebeenproposedforanalysismodeling,however,twonowdominate.Thefirst,structuredanalysisisaclassicalmodelingmethodandisdescribedinthischapter.Theotherapproach,objectorientedanalysis.

## 4.2 AnalysisModelObjectives:

Theanalysismodelmustachievethreeprimaryobjectives:

1. todescribewhatthecustomerrequires,
2. toestablishabasisforthecreationofasoftwaredesign,and
3. todefineasetofrequirementsthatcanbevalidatedoncethesoftwareisbuilt.Toaccomplishtheseobjectives,theanalysismodelderivedduringstructuredanalysistakestheformillustratedinFigure(4.1)

## Figure4.1:Thestructureoftheanalysismodel

**ElementsofAnalysis Model(Componentsforstructureoftheanalysismodel)**

### 1-Datadictionary

2-Entityrelationdiagram(ERD)

3-Dataflowdiagram(DFD)

4-Statetransitiondiagram(STD)

Atthecoreofthemodelliesthe*datadictionary:*isanorganizedlistingofalldataelements that''arepertinenttothesystem,withprecise,rigorousdefinitionssothatbothuserandsystemanalystwillhaveacommonunderstandingofinputs,outputs,componentsofstoresand[even]intermediatecalculations.

Or*datadictionary*arepositorythatcontainsdescriptionsofalldataobjectsconsumedorproducedbythesoftware