Systems Development Models Cheat Sheet

by Natalie Moore (NatalieMoore) via cheatography.com/19119/cs/4239/

Activity Diagrams

Collect information sources	Use information already collected for the construction of use case diagrams
Find activities and actions	
Adopt actors from business use cases	And who is responsible for each action. Unit or person.
Connect actions	In Which Order are Actions Processed? Which conditions have to be met in order for an action to be executed? Where are branches necessary? Which occur simultaneously?
Refine activities	Do any other activity diagrams have to be added?
Verify the view	Is everything correct?

System Sequence Diagram

1. Define who will initiate the interaction. Draw an actor on the diagram to specify who kick starts the interaction within a system

2. Draw the first message to a sub-system. Specify the message sent from the actor who begins the interaction to the first point of contact in the system.

System Sequence Diagram (cont)

3. Draw message to other sub-systems. Send other messages between objects (i.e. lifelines) in the system.

4. Draw return message to actor. Send return messages back to the original callers upon receiving their messages.

5. Send/Respond to anonymous actors. Send messages to unknown receivers or receive messages from unknown senders.

Document a workflow

1. Identify the process.

2. Name your process

3. ID a clear start point and end point

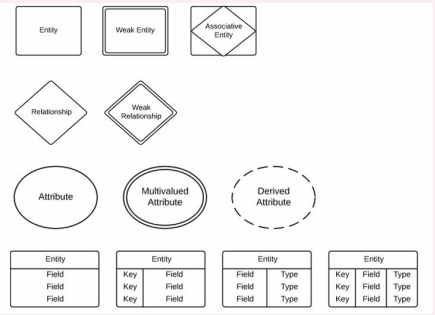
4. Identify your purpose for diagramming the workflow.

5. List or draw out a series of steps

6. Look for exceptions or rules

7. Use the symbols

ERD Shapes



Steps to create a Domain Model Class

1.Identify candidate conceptual classes
2.Draw them in a UML domain model
3.Add associations necessary to record the relationships that must be retained
4.Add attributes necessary for information to be preserved
5.Use existing names for things, the vocabulary of the domain

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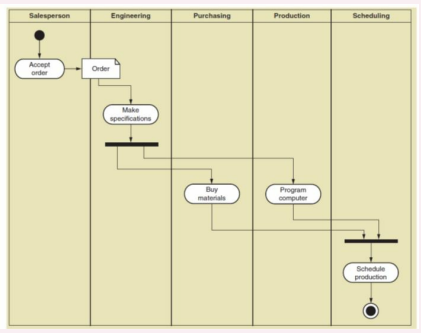
Common associations
•A is subpart/member of B. (SaleLineItem-Sale)
•A uses or manages B. (Cashier –Register, Pilot-airplane)
•A communicates with B. (Student - Teacher)
•A is transaction related to B. (Payment - Sale)
•A is next to B. (SaleLineItem-SaleLineItem)
•A is owned by B. (Plane-Airline)
•A is an event related to B. (Sale-Store)

Activity Diagram



Graphical representations of workflows of stepwise activities and actions with support for choice, iteration and concurrency. Show the overall flow of control. UML Diagram.



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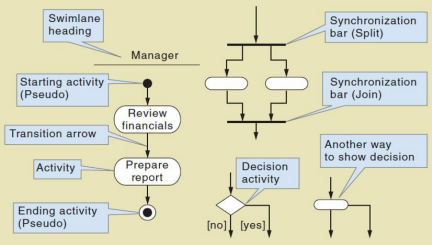
Activity Diagram Symbols



Class Diagrams - Top Down

Identify and model classes—Which classes do we need?

Identify and model associations—How are the classes connected?

Define attributes—What do we want to know about the objects?

Class Diagram - Bottom Up

List required queries and inputs—What does the IT system need to deliver and accept?

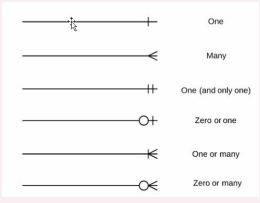
Formulate queries and inputs—How exactly should the display look?

Conduct information analysis—Which classes, associations, and attributes do we need?

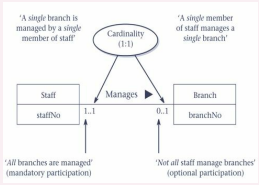
Consolidate class diagrams—How does everything fit together?

Verify the class diagrams—Is everything correct?

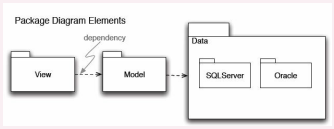
ERD crows leg meanings



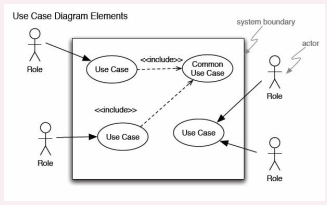
ERD example



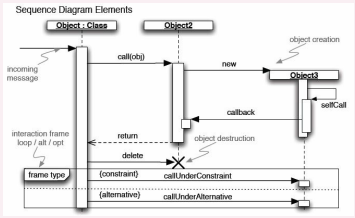
Package Diagram example



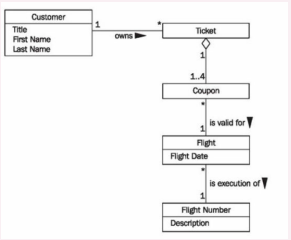
Use case diagram elements



Sequence Diagram elements



Class Diagram



ER Model

ID entities (Nouns, names)

ID relationships (verbs, conveys an action)

ID and associate attributes with entities or relationships

Determine candidate, primary and alternate key attributes

Check ER model for redundancy and remove if found

Check ER model supports user transactions

Review model with users

Create tables

Normalise structure

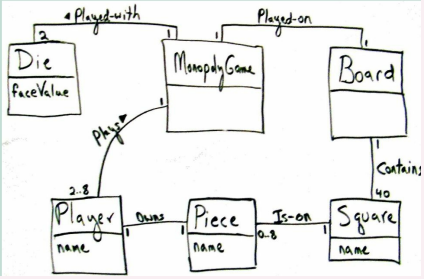
Check support user interactions

Check Business Rules

Review with users

Monopoly Game Domain Model

Monopoly Game domain model
Larman, Figure 9.28





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