

I SACAPP ROADMAP CONTINUED

Based on the RUP process, this appendix continues the SACAPP roadmap project started with the Appendix F, and introduces: the goals and priorities during Construction and Transition phases (Table I.1); the RUP models, their characteristics, and relationships (Figure I.1); the UML workflows (Figure I.2) and the business/system traceability (Table I.2); the Java object model (Figure 4.5), and the map of the UML diagrams to Java (Table 4.4).

Table I.1 Goals and priorities during Construction and Transition

RUP Phase	Construction	Transition
Key question	Am I building it?	Have I delivered it?
Focus	Functionality and Risks	Delivery and Risks
Milestone	Initial Operational Capability	Product Release

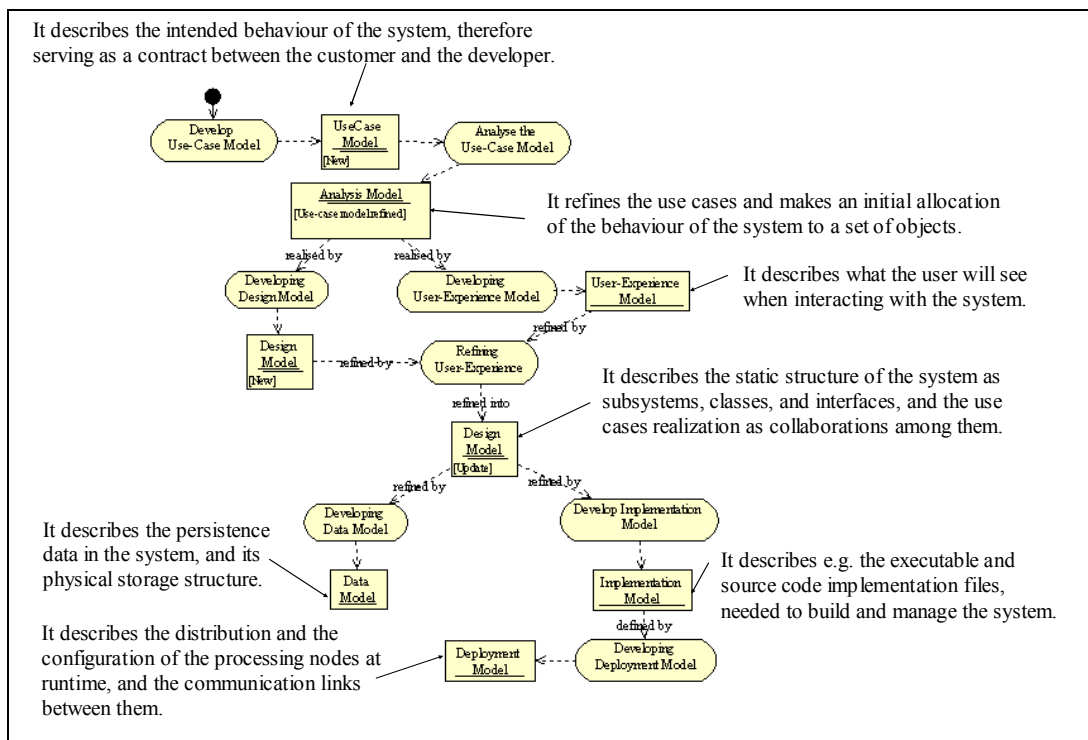


Figure I.1 RUP models and their relationships

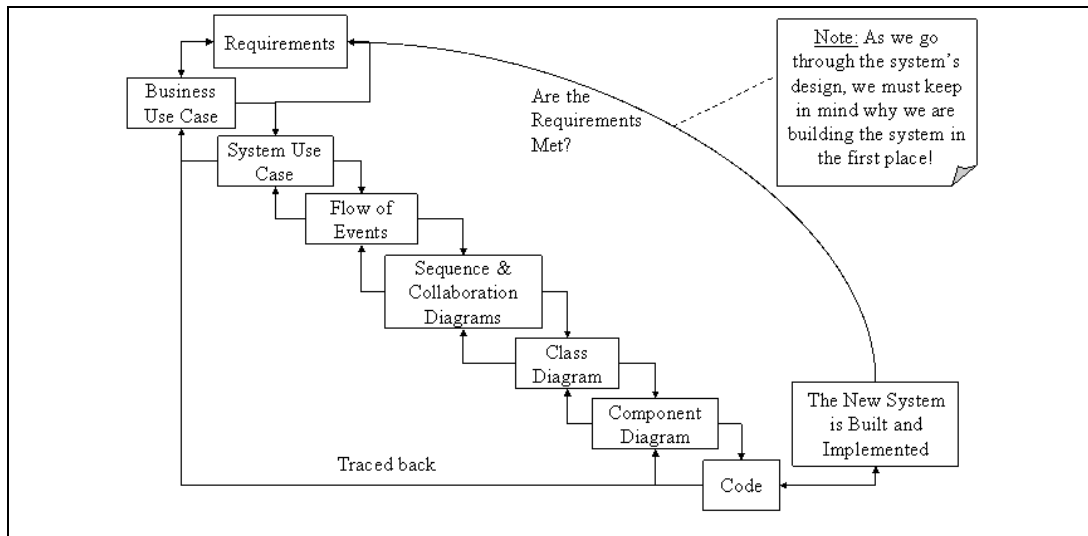


Figure I.2 UML workflow and its traceability, where, although with not a one-to-one mapping, each of the system use-case should be able to be traced back to a business use-case (Jacobson et al., 1999)

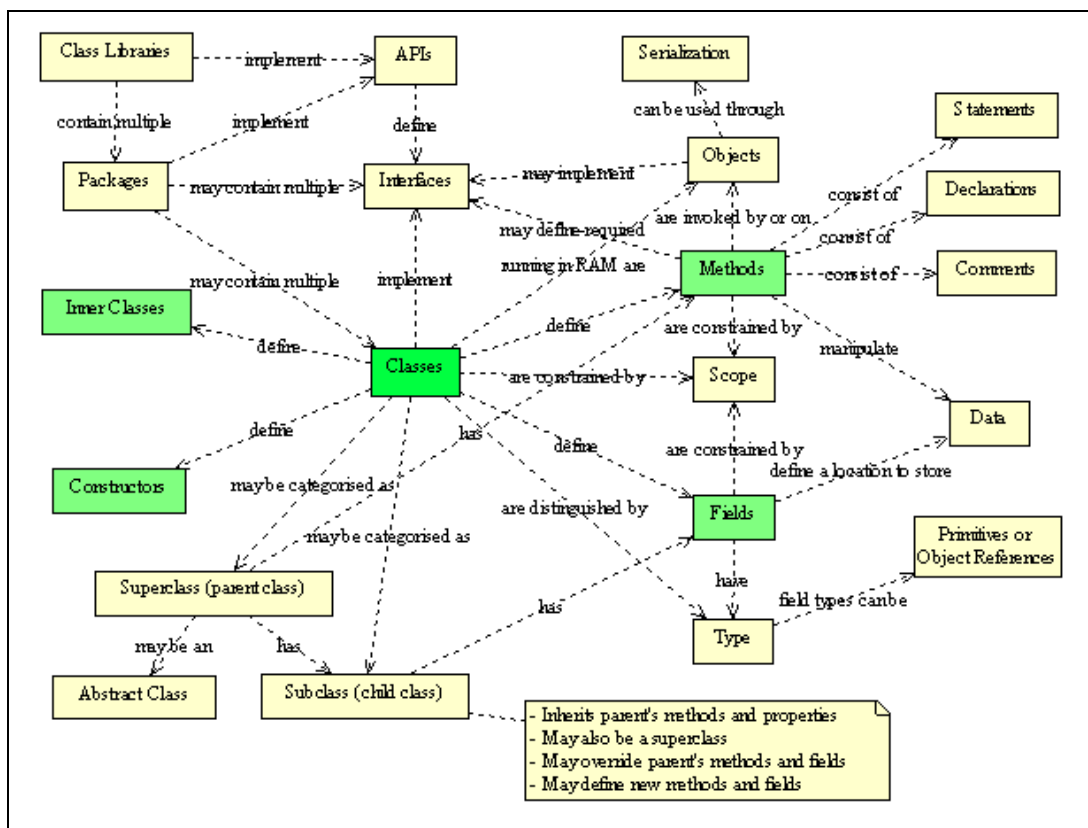


Figure I.3 Java object model

Then, the appendix presents the SACAPP Implementation activity diagram (Figure I.4), Implementation plan (Table I.5), Testing activity diagram (Figure I.5), Test plan (Table I.6), and finally, the Deployment activity diagram (Figure I.6) and the Deployment plan (Table I.7).

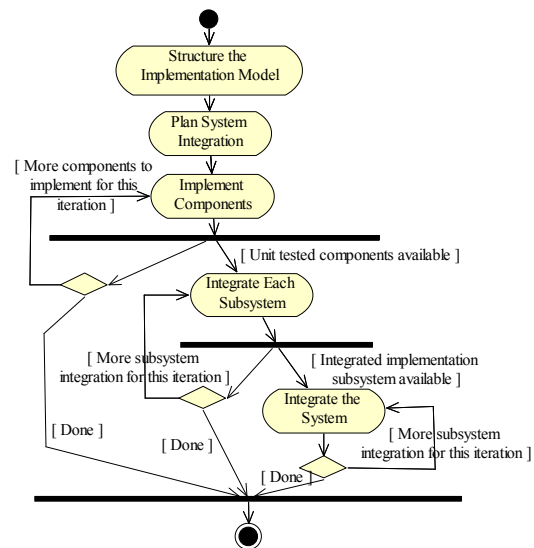


Figure I.4 Implementation activity diagram

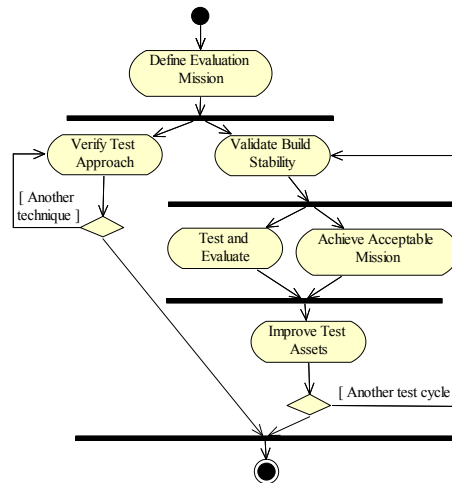


Figure I.5 Testing activity diagram

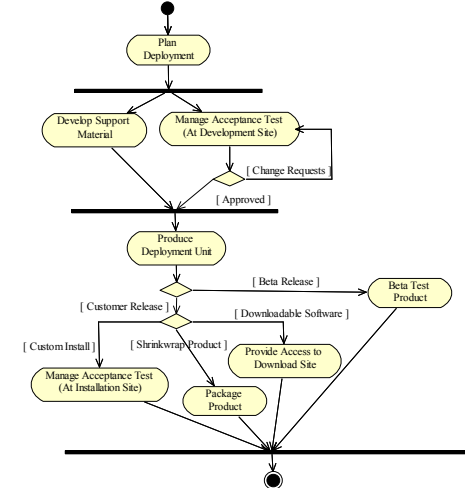


Figure I.6 Deployment activity diagram

Table I.2 Business and system functional requirements traceability

Business Use Case	System Use Case
Sales: Fill-in the IWO and Material Data Sheet	The SAS system: New, Save, and Edit IWO
Management: Decide processes	The SAM system defines the available process within the company
Engineering: Make engineering drawing	The SADwO system: New, Save, and Edit the engineering drawing data.
Process planning (CAPP): Make process plan	The SACAPP system: New, Save, Edit, and Print the process plans; sets a total number of 81 processes; sets technology constraints; sets and edit password, and uses COTS tools.

Table I.3 Mapping UML diagrams to Java (Reed, 2002)

UML Diagram	Specific Elements	Java Counterpart
Package	Instance of	Java packages
Use-case	Instance of	User interface artifacts in the form of pathways
Class	Operations	Operations/Methods
	Attributes/ Associations	Member variables and related accessor operations
Sequence/	Instance of	Operation in a controller class to coordinate flow
Collaboration	Message target	Operations in the target class
State	Actions/activities	Operations in the class being life- cycled

	Events	Operations in the class being life- cycled or in another collaborating class
	State variables	Attributes in the class being life- cycled
Activity	Action states	Method code to implement an operation or to coordinate the messaging of a use-case pathway
Component	Components	Typically one .java and/or one .class file
Deployment	Nodes	Physical, deployable install sets destined for client and/or server hosting

Table I.4 Testing steps

Testing	Characteristics to test
Verification	Does the system meet requirements? Am I building the system right? Assess phases' correct transition.
Validation	Do the GUI and the system meet the user's requirements? Am I building the right system? Test the functionality and the acceptability performance of the proposal. Test the object distribution, object storing and retrieving, object concurrency, and consider how well the system scales when new subsystems are incorporated.

Table I.5 Implementation plan

No	Task Name	Inception	Elaboration	Construction	Transition	Comments
1	Use case mass implemented	Small %	Less 10%	100%		
2	Structure the implementation model	Rudimentary	Initial	Complete		

3	Plan system/subsystem integration		Initial	Update	Complete	
4	Review code/Fix a defect		Initial	Update	Complete	
5	Perform unit tests		Initial	Update	Complete	
6	Integrate each subsystem		Initial	Update	Complete	
8	Integrate the system		Initial	Update	Complete	

Table I.6 SACAPP Test plan

No	Task Name	Inception	Elaboration	Construction	Transition	Comments
1	Plan test/Use case mass tested	Rudimentary/ Small %	Initial/ Less 10%	Update/ Near 100%	Complete/ 100%	
2	Design test packages and classes		Initial	Update	Complete	
3	Implement test components and subsystems		Initial	Update	Complete	
4	Achieve acceptable mission		Initial	Update	Complete	
5	Validate build stability		Initial	Update	Complete	
6	Verify test approach		Initial	Update	Complete	

Table I.7 SACAPP Deployment plan

No	Task Name	Inception	Elaboration	Construction	Transition	Comments
1	Develop deployment plan	Initial	Update	Update	Complete	
2	Develop support material		Preliminary	Guide for beta users	Complete	See thesis
3	Produce deployment unit				Complete	
4	Manage beta product acceptance test				Complete	
5	Package product and create product artwork				Complete	