Walk this way, talk this way.
Aerosmith

4 Relate

This chapter presents two compound components:
- Human-resource management
- Relationship management

4.1 Relate / Human Resource Management

What. Human resources are the people in the business. Human-resource management is about seeing those people fulfilled in their work assignments and rewarded for the results they produce.

Scope. Human-resource management begins with a position request and ends with payroll and expense payments.

Steps. Make position request. Find employees and other candidates. Hire new people. Establish compensation agreements. Build skills. Make position assignments. Make task assignments. Track employee activity. Assess performance. Calculate and pay payroll and expenses.

Links. Fulfill human resource requests for an project-activity request; complete human resource activities for a project activity (project-activity management). Post payroll and expense payments (accounting management).

Mirror images. In material-resource management, we move things into the business. In human-resource management, we marshal the people to accomplish results for the business.

Components. The components within human-resource management are (Figure 4-1):
- Employment
- Position request
- Position assignment
- Work and payment
- Skill acquisition

Moment-intervals. The main moment-intervals for human-resource management are (Figure 4-2):
- Employment, compensation agreement
- Position request
- Position assignment, task assignment, and performance assessment
- Employee work, payroll payment, and expense payment
- Skill-acquisition program, participation, and skill rating

Interactions. The components work together to get things done. An example of inter-component interaction, "list qualified candidates for a job", is shown in Figure 4-3. A sender asks a blue job to list qualified candidates. It asks each of its blue skill-level descriptions to find skilled ones at that level. A skill-level description asks its corresponding blue skill description to list skilled ones at a given level. A skill description asks each of its pink skill ratings to list a skilled one at a given level. If the skill level and skill rating values match, then a skill rating object gets the yellow employee-as-resource or applicant and returns it. Ultimately, a job takes the lists it gathers, intersects the lists to come up with a list of qualified candidates, and returns the result to the sender.

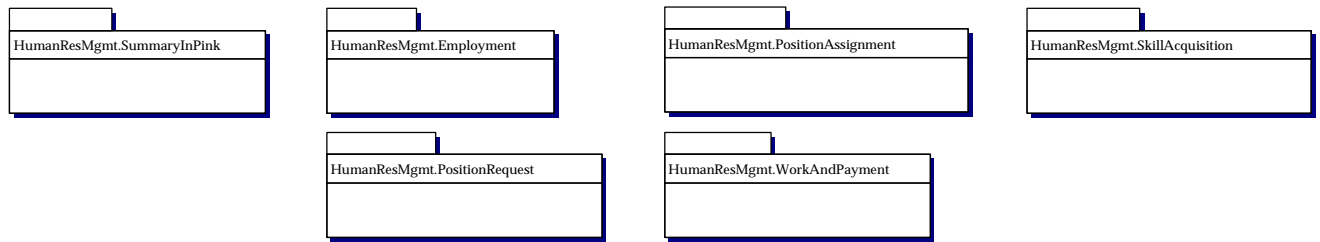Expansion. One could expand this compound component with added support for employee compensation and benefits.
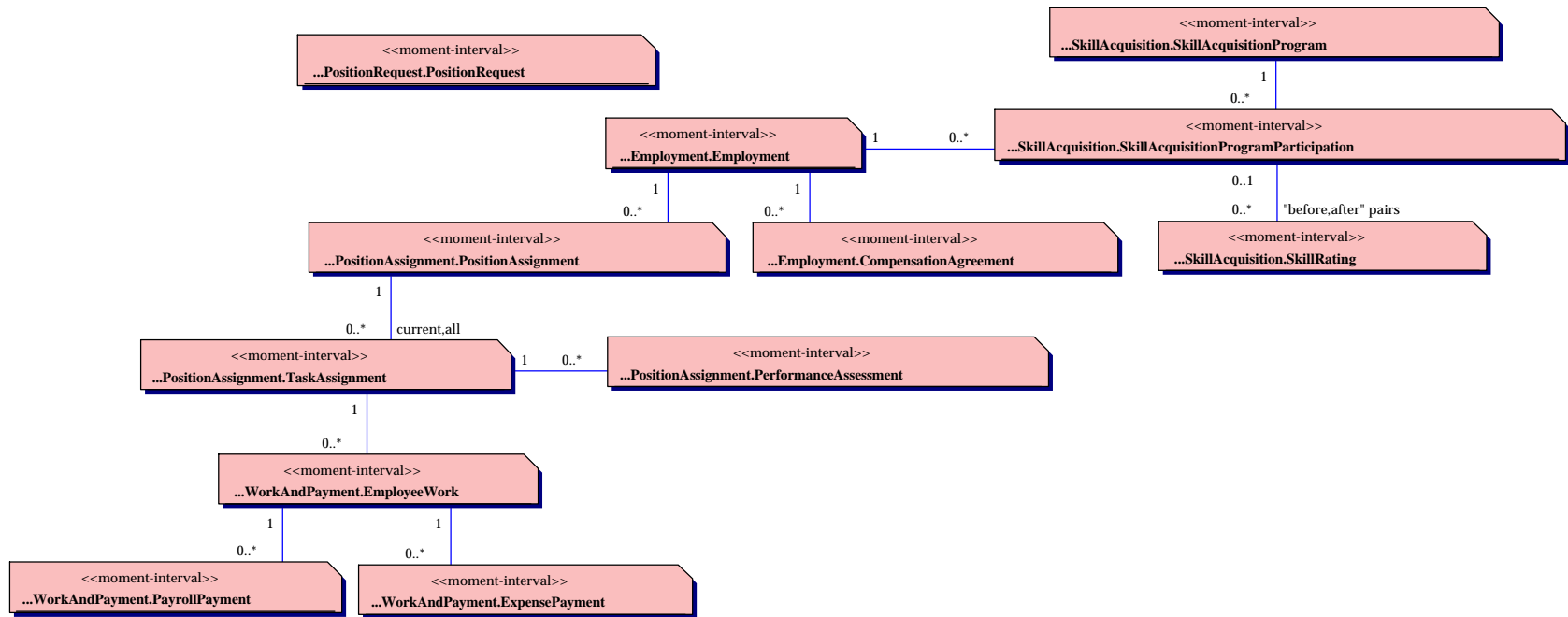
| HumanResMgmt.SummaryInPink | HumanResMgmt.Employment | HumanResMgmt.PositionAssignment | HumanResMgmt.SkillAcquisition |

| HumanResMgmt.PositionRequest | HumanResMgmt.WorkAndPayment |

Figure 4-1. Human resource management components.

<<moment-interval>>
...PositionRequest.PositionRequest

<<moment-interval>>
...SkillAcquisition.SkillAcquisitionProgram

1
0..*

<<moment-interval>>
...Employment.Employment

1   0..*

<<moment-interval>>
...SkillAcquisition.SkillAcquisitionProgramParticipation

1   1

0..*   0..*

0..1

0..*   "before,after" pairs

<<moment-interval>>
...PositionAssignment.PositionAssignment

<<moment-interval>>
...Employment.CompensationAgreement

<<moment-interval>>
...SkillAcquisition.SkillRating

1

0..*   current,all

<<moment-interval>>
...PositionAssignment.TaskAssignment

1   0..*

<<moment-interval>>
...PositionAssignment.PerformanceAssessment

1

0..*

<<moment-interval>>
...WorkAndPayment.EmployeeWork

1   1

0..*   0..*

<<moment-interval>>
...WorkAndPayment.PayrollPayment

<<moment-interval>>
...WorkAndPayment.ExpensePayment
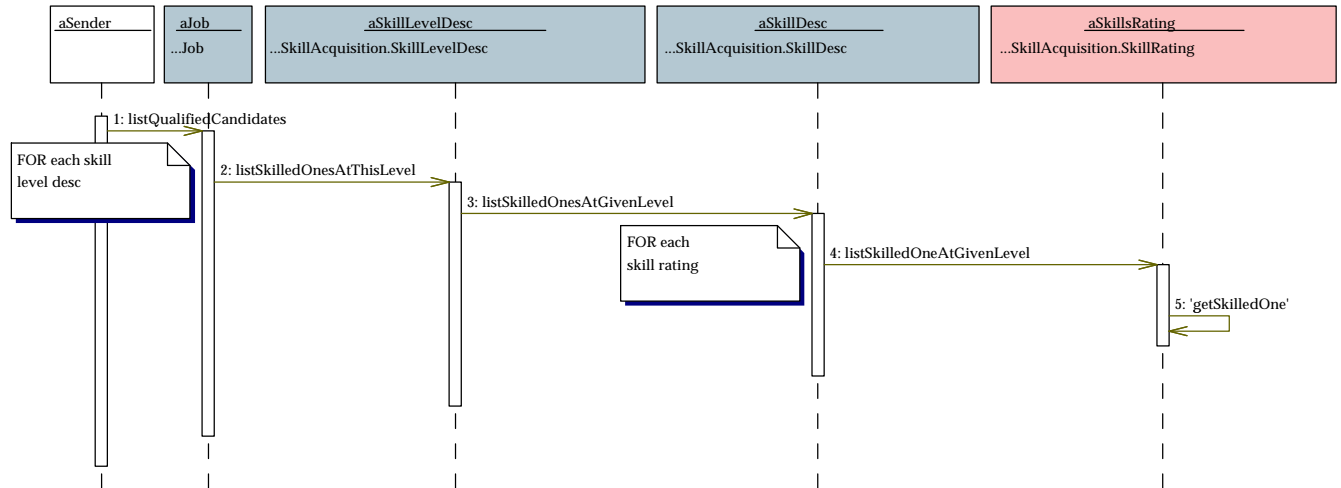
Figure 4-2. Summary in pink.

Figure 4-3. List qualified candidates for a job.

4.1.1 *Relate / Human Resource Management / Employment*

Guided tour. The employment component has two pink moment-intervals, linked together: employment and compensation agreement.

Employment. A pink employment links to a yellow "employee as compensated one". It also links to a pink compensation agreement.

Compensation agreement. A pink compensation agreement links to three yellow roles: employee as compensated one (derivable), employer as compensation source, and compensation-agreement approver. It also links to pink compensation-agreement detail(s).

Compensation-agreement detail. A pink compensation-agreement detail specifies an amount and its unit of measure. A compensation-agreement detail links to a blue pay-rules description (for example: hourly, no paid overtime). Or it might link to a green benefit account (with a balance), which in turn links to a blue benefit-account description (for example, vacation time).

Before and after. For employment, the subsequent pink moment-intervals are position assignment and skill-acquisition program participation.

Methods. Key methods include make employment, make compensation agreement, notify when a benefit-account balance reaches its warning-level value, and calculate total compensation.

The employment component is shown in Figure 4-4.

Interactions. The "calculate compensation defined by a compensation agreement" sequence is shown in Figure 4-5. A sender asks a pink compensation agreement to calculate its compensation (for some interval of time). It asks its pink *salary* "compensation agreement details" to calculate its compensation. Then it asks each of its pink *benefit* "compensation agreement details" to calculate the compensation it represents; each benefit asks its corresponding blue benefit-account description to estimate its value given current compensation level. In the end, a compensation agreement object tallies up the numbers and return its result to the sender.
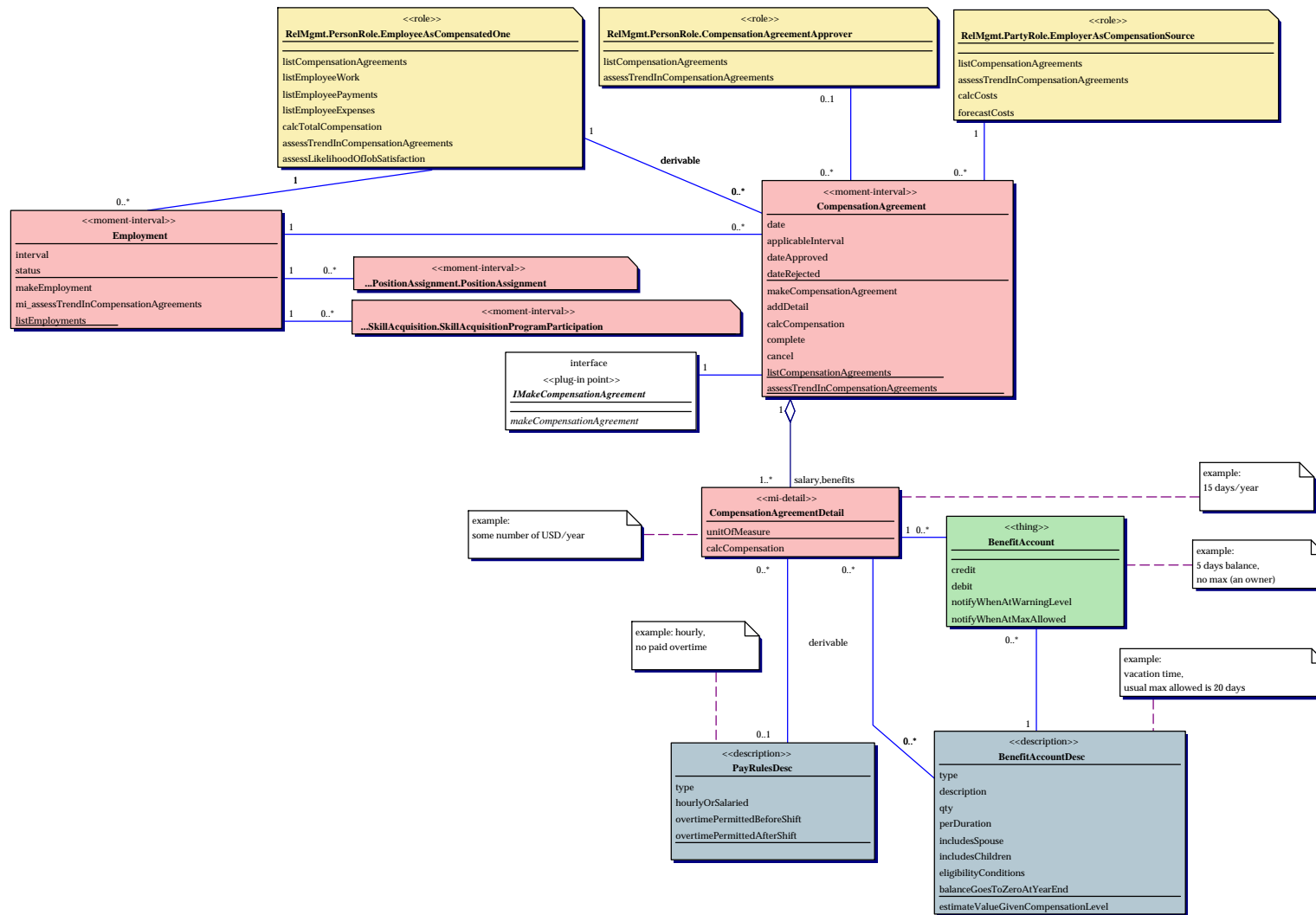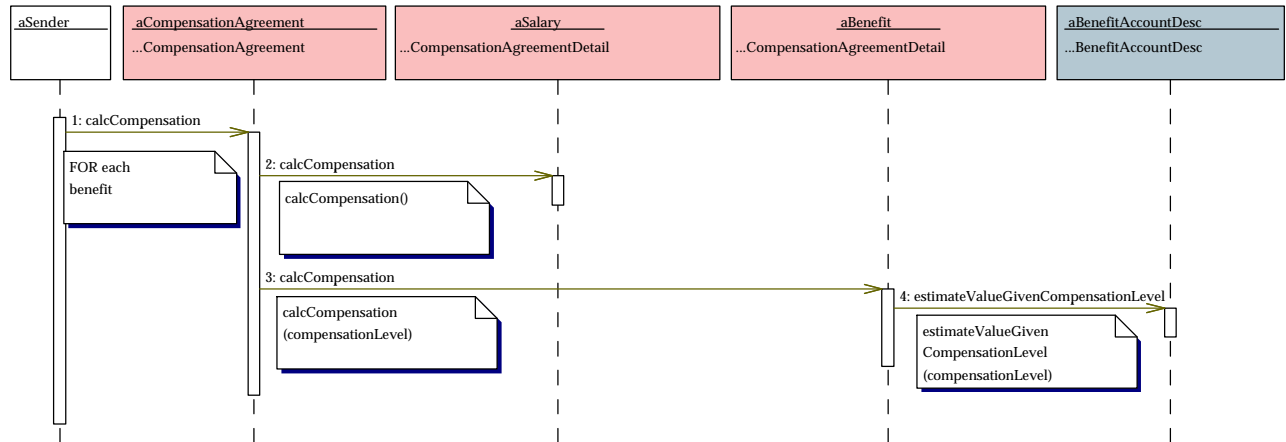
Figure 4-4. Employment component.

Figure 4-5. Calculate total compensation defined by a compensation agreement.

4.1.2 Relate / Human Resource Management / Position Request

Guided tour. The position-request component has one pink moment-interval, position request.

Position request. A pink position request links to three yellow roles: position requester, position authorizer, and organization entity with a position to fill. It also links to pink position-request detail(s).

Position-request detail. A pink position-request detail specifies the quantity and interval (start date-time and end date-time) for one part of an overall request. It links to a blue job (in effect, a job is what we might otherwise call a "position description").

Job, skill-level description, and skill description. A trio of blue descriptions define what skills and skill-levels are required or "nice to have" for a job. Here's an example:
- Job: developer
- Skill level: B (on an ABC scale)
- Skill description: Java programming

Note that job links to skill level, then skill level links to skill description. This is not a typo! It's the only way to follow the links. Otherwise, if you go from job to skill description, you don't have a way to link to the right skill level for that job.

Tip. Link to a description and an "at this level" description? Link first to the "at this level" description let the "at this level" description link to the description itself.

To assist model reviewers, we usually add a derivable link, in this case from job to skill description. The other two links are essential, not derivable.

Before and after. For position request, the preceding pink moment-interval is project-activity request detail (in project-activity management). For position-request detail, the subsequent pink moment-interval is position assignment.

Methods. Key methods include make position request, list required skills and skill levels, and estimate cost to fulfill a position request

The position-request component is shown in Figure 4-6.

Interactions. The "estimate cost to fulfill a position request" sequence is shown in Figure 4-7. A sender asks a pink position request to estimate the cost to fulfill that request. The request then asks each of its pink request details to estimate its cost. Each pink request detail asks its linking job to calculate its salary-range midpoint, then uses that number plus quantity and interval to calculate a result, and returns it. The request totals the estimate and returns the estimate to the sender.
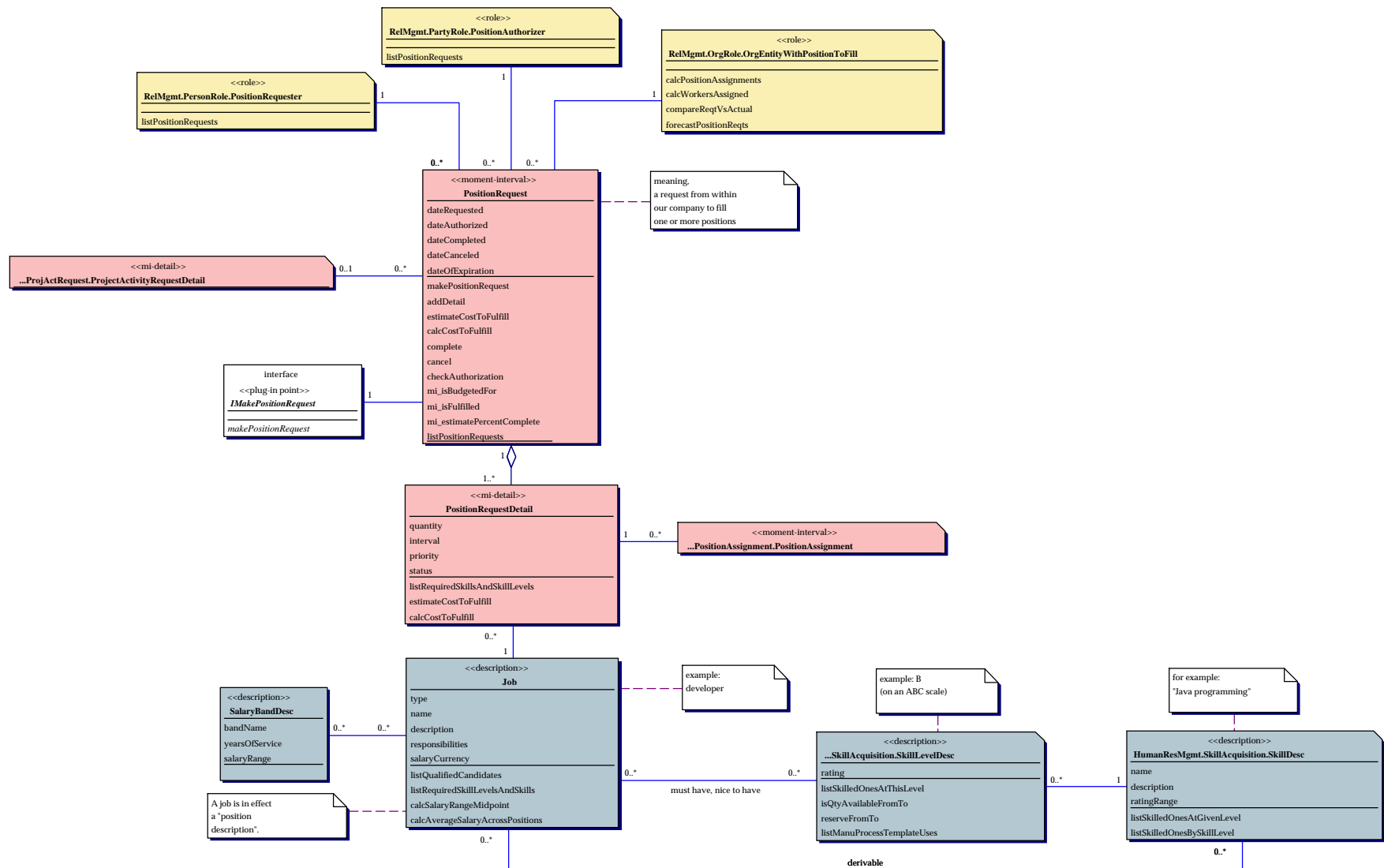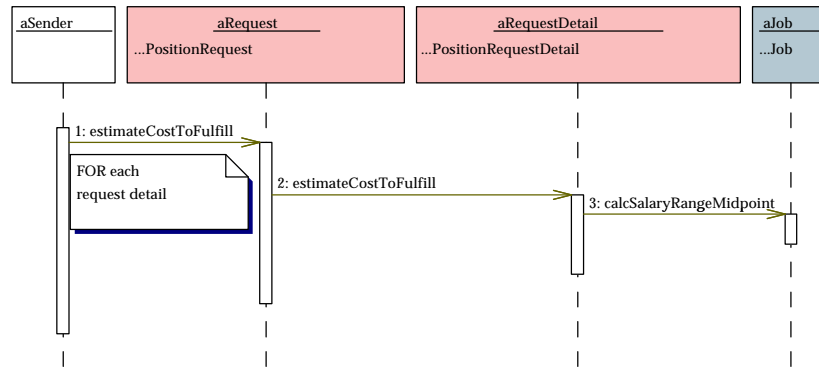
Figure 4-6. Position-request component.

Figure 4-7. Estimate cost to fulfill a position request.
Figure 4-11. Post the payroll paid during pay period (by cost center).
Figure 4-12. Skill-acquisition component.

For more, read *Java Modeling in Color with UML.*
Order from amazon.com (search: java color).

4.2 Relate / Relationship Management

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