UML Diagrams for Chapter 6 of Analysis Patterns

Drawn by Jennifer Hansen, checked formatted by Martin Fowler

Jennifer drew up the following diagrams into UML. As with all the others, my sincere thanks to her for her efforts.

However, for this chapter, remember that there is a more up to date discussion of patterns in accounting at [http://martinfowler.com/apsupp/accounting.pdf](http://martinfowler.com/apsupp/accounting.pdf) The patterns there supersede the patterns in the Analysis Patterns book.

Figure 6.1

{Constraint: balance=sum(entries.amount)}

```
<table>
<thead>
<tr>
<th>Account</th>
<th>Entry</th>
</tr>
</thead>
<tbody>
<tr>
<td>balance: Quantity</td>
<td>amount: Quantity whenCharged: Timepoint whenBooked: Timepoint</td>
</tr>
</tbody>
</table>
```

Figure 6.2

```
<table>
<thead>
<tr>
<th>Account</th>
<th>Entry</th>
<th>Transaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>amount: Quantity</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
```

{Constraint: Sum(entries.amount) = 0}
Figure 6.3

\[
\text{Account} \quad 1 \quad * \quad \text{Entry} \quad 2..* \quad 1 \quad \text{Transaction}
\]

amount: Quantity

\{\text{Constraint:} \quad \text{Sum(entries.amount) = 0}\}\]

Figure 6.4

\[
\text{Derivation:}
- \text{sum(withdrawals)}
- \text{sum(deposits)}
\]

\[
\text{Account} \quad 1 \quad * \quad \text{Transaction} \quad 1
\]

Balance

\[
\text{quantity} \quad 1 \quad 1
\]

\[
\text{Timepoint} \quad 1
\]

Figure 6.5

\[
\text{components (hierarchy)} \quad * \quad \text{Account}
\]

\[
\text{Summary Account} \quad 0..1
\]

\[
\text{Detail Account} \quad 1 \quad * \quad \text{Entry} \quad 2..* \quad 1 \quad \text{Transaction}
\]

Overload: Entries is derived as components. entries
Figure 6.10

State 1

State Tax PR

method.calculateFor()

Method

calculateFor()

MA Tax 1

calculateFor()

CA Tax 1

calculateFor()

NY Tax 1

calculateFor()

Method: calculation method

Figure 6.12

State 1

State Tax PR

+ calculateFor()
- calcMA()
- calcCA()

Method: Case (State)
MA: calcMA()
CA: calcCA()
...

Figure 6.13

State 1

State Tax PR

+ calculateFor()
rate

Number 1

Method: multiply by rate
Figure 6.26

```
Posting Rule * * 1 Accounting Practice
.users accounting practice type

Accounting Practice Type 1
* Accounting Practice

Object
```

Figure 6.27

```
Posting Rule 0..1 creator

Entry * 1 Transaction
  * * consequences
  * * sources

Transaction
```

Figure 6.28

```
Account

Balance Sheet Account
  Asset Account
  Liability Account

Income Statement Account
  Income Account
  Expense Account
```
Figure 6.32

Figure 6.34

Figure 6.34