Reward Dining: The Course Reference Domain

**2. Domain Overview**

The Domain is called Reward Dining. The idea behind it is that customers can save money every time they eat at one of the restaurants participating to the network.

For example, Keith would like to save money for his children's education.

Every time he dines at a restaurant participating in the network, a contribution will be made to his account which goes to his daughter Annabelle for college.

See the visual illustrating this business process below:

**3. Reward Dining Domain Applications**

This next section provides an overview of the applications in the Reward Dining domain you will be working on in this course.

**3.1. The Rewards Application**

The "rewards" application rewards an account for dining at a restaurant participating in the reward network.

A reward takes the form of a monetary contribution to an account that is distributed among the account's beneficiaries. Here is how this application is used:

1. When they are hungry, members dine at participating restaurants using their regular credit cards.

2. Every two weeks, a file containing the dining credit card transactions made by members during that period is generated. A sample of one of these files is shown below:

AMOUNT CREDIT\_CARD\_NUMBER MERCHANT\_NUMBER DATE

-------------------------------------------------------------------------------------------------------------------------------

100.00 1234123412341234 1234567890 12/29/2010

49.67 1234123412341234 0234567891 12/31/2010

100.00 1234123412341234 1234567890 01/01/2010

27.60 2345234523452345 3456789012 01/02/2010

3. A standalone DiningBatchProcessor application reads this file and submits each Dining record to the rewards application for processing.4. Reward Dining Database Schema

A RewardNetwork rewards an account for dining by making a monetary contribution to the account that is distributed among the account's beneficiaries.

The sequence diagram below shows a client's interaction with the application illustrating this process:

Diagram

Description automatically generated

In this example, the account with credit card 1234123412341234 is rewarded for a $100.00 dining at restaurant 1234567890 that took place on 12/29/2010.

The confirmed reward 9831 takes the form of an $8.00 account contribution distributed evenly among beneficiaries Annabelle and her brother Corgan.

**3.1.2. Internal Application implementation**

Internally, the RewardNetwork implementation delegates to domain objects to carry out a rewardAccountFor(Dining) transaction. Classes exist for the two central domain concepts of the application: Account and Restaurant. A Restaurant is responsible for calculating the benefit eligible to an account for a dining. An Account is responsible for distributing the benefit among its beneficiaries as a "contribution".

This flow is shown below:

Diagram

Description automatically generated

**Supporting RewardNetworkImpl Services**

Account and restaurant information are stored in a persistent form inside a relational database. The RewardNetwork implementation delegates to supporting data access services called 'Repositories' to load Account and Restaurant objects from their relational representations. An AccountRepository is used to find an Account by its credit card number. A RestaurantRepository is used to find a Restaurant by its merchant number. A RewardRepository is used to track confirmed reward transactions for accounting purposes.

Diagram, table

Description automatically generated

The full rewardAccountFor(Dining) sequence incorporating these repositories is shown below:

The Reward Dining applications share a database with this schema:

Diagram

Description automatically generated