statement is just a starting point for understanding the problem, not an immutable document. The purpose of the subsequent analysis (next chapter) is to fully understand the problem and its implications. There is no reason to expect that a problem statement prepared without a full analysis will be correct.

11.3.1 The ATM Case Study

Figure 11.3 shows a problem statement for an automated teller machine (ATM) network.

![ATM network diagram]

Figure 11.3 ATM network. The ATM case study threads throughout the remainder of this book.

Design the software to support a computerized banking network including both human cashiers and automatic teller machines (ATMs) to be shared by a consortium of banks. Each bank provides its own computer to maintain its own accounts and process transactions against them. Cashier stations are owned by individual banks and communicate directly with their own bank’s computers. Human cashiers enter account and transaction data.

Automatic teller machines communicate with a central computer that clears transactions with the appropriate banks. An automatic teller machine accepts a cash card, interacts with the user, communicates with the central system to carry out the transaction, dispenses cash, and prints receipts. The system requires appropriate recordkeeping and security provisions. The system must handle concurrent accesses to the same account correctly.

The banks will provide their own software for their own computers; you are to design the software for the ATMs and the network. The cost of the shared system will be apportioned to the banks according to the number of customers with cash cards.

11.4 Chapter Summary

The first stage of a project is to devise a new idea. The idea can involve a new system or an improvement to an existing system. Before investing time and money into development, it is