The new Wheels system must:

R1 keep a complete list of all bikes and their details including bike number, type, size, make, model, daily charge rate, deposit (this is already on the Wheels system)

R2 keep a record of all customers and their past hire transactions

R3 work out automatically how much it will cost to hire a given bike for a given number of days

R4 record the details of a hire transaction including the start date, estimated duration, customer and bike, in such a way that it is easy to find the relevant transaction details when a bike is returned

R5 keep track of how many bikes a customer is hiring so that the customer gets one unified receipt not a separate one for each bike

R6 cope with a customer who hires more than one bike, each for different amounts of time

R7 work out automatically, on the return of a bike, how long it was hired for, how many days were originally paid for, how much extra is due

R8 record the total amount due and how much has been paid

R9 print a receipt for each customer

R10 keep track of the state of each bike, e.g. whether it is in stock, hired out or being repaired

R11 provide the means to record extra details about specialist bikes.

Chapter summary

This chapter provides more details about the Wheels bike hire system that is used as a source of examples in the rest of the book. The chapter also introduces the three stages of requirements engineering: elicitation, when requirements are gathered from clients and users of the system; specification, when the requirements are documented; and validation, when the requirements documentation is checked to ensure that the clients' and users' needs and wishes have been accurately recorded. The chapter illustrates some of the techniques from each of these stages by showing how they can be applied to the Wheels case study system. It also provides a summary of the requirements for Wheels which form a starting point for the object-oriented development described in the rest of the book.