Exam #1 Preparation

Data Management

Baxter Aviation

Many of the questions on your first exam will be based on the database environment described in this document. You do not need to design the database—in fact, you don’t have enough information to do so—but you do need to be familiar with the requirements and scope of the database as described below.

Baxter Aviation is a privately owned air charter company located in Kotzebue, Alaska. Operated by Amanda Baxter since 1986, Baxter Aviation has three single-engine airplanes, one twin-engine plane, and two helicopters. All aircraft fly on demand within an area ranging from Nome, though Kotzebue, and north to Barrow. In particular, Baxter provides both cargo and passenger service to the villages of Selawik, Noorvik, Shungnak, Noatak, Kiana, Ambler, Kivalina, Buckland, Deering, and Kobuk. During the summer, these villages are accessible only by water and by air; during the winter, they can be reached by snowmobile (over frozen rivers) and by air. The air charter service therefore provides a vital service to the region.

In 2002, Amanda Baxter’s son William brought a desktop computer back with him from Anchorage. At that time, there was very little business software available that was designed for such a small business. William, who had a great aptitude for programming, decided to write the software for his mother’s business himself using Visual Basic.

William’s system, still in use today on a new computer purchased in 2007, performs four separate functions for Baxter Aviation:

• Pilot tracking: information about the pilots who fly for Baxter Aviation and the airtime logged by each pilot.

• Aircraft tracking: information about the aircraft the company owns, maintenance performed on the aircraft, air time on the engine, and so on.

• Customer tracking: information about the customers who charter aircraft.

• Scheduling of past and future charters: Each charter is booked by one customer, although more than one person may be on the flight. The computer does not store information on passengers and/or the type of cargo being carried, however. A charter can go to many villages and over time, a village will be the destination of many flights.

*Note:* Because Baxter Aviation is a charter service, it has no regular flight schedule. All flights are scheduled at the request of a customer.

Since he first installed his system in early 2002, William has continued to read and learn about PC database management. Although his mother continues to insist that the machine purchased in 2007 does everything she needs, William is concerned with some of the compromises they have to make with the current system. He therefore hires a systems analyst to provide a more up-to-date solution, including new hardware and a true database system.

The analyst identifies the following major entities for the database:

Pilot Flight

Aircraft Customer

Village (the destination of a flight)