**Exer. 7.1**It would be possible to use CSMA/CD, which detects collisions by monitoring for interference during transmission, instead of MACA, if wireless devices could also detect collisions while transmitting, perhaps through additional hardware, but this typically isn't feasible. Additionally, all terminals would have to be within range of each other to ensure collisions can be detected by all participants, eliminating the problem of hidden terminals, but this is also unrealistic due to hardware limitations and spatial constraints in wireless networks. As a result of these constraints, protocols like MACA are often preferred to be used in wireless communications, since these protocols use mechanisms such as RTS (Request to Send) to avoid collisions, rather than detect them. Ultimately, this fulfills the capabilities and limitations typically posed by wireless networks better than CSMA/CD.

**Exer. 7.2**Two examples of computer applications where connection-oriented services are preferred are file transfer protocol (FTP) and email protocols (such as SMTP, IMAP). FTP is used to transfer files between a client and server, and a reliable connection is needed to ensure all file data is received completely and in the correct order. Email protocols also need a reliable connection to handle important data and email attachments, ensuring that messages are sent (SMTP) and received (IMAP) accurately and completely. Two examples of computer applications where connectionless services are preferred are voice over IP (VoIP) protocols and streaming media services. VoIP is used for communication in programs such as Discord, transmitting voice packets in real time. For these services, the goal is to minimize latency, so some packet loss is acceptable. For streaming media services, such as Spotify or Twitch, connectionless protocols are advantageous, since, likewise, minimizing latency is more sought after than a perfect delivery, as a slight loss of data has less noticeable impact than delays in the playback.

--Jason McCauley