Western Australian Certificate of Education
Examination, 2015

COMPUTER SCIENCE
Stage 3

SOURCE BOOKLET
This information relates to questions in Section Two.

Refer to this case study to answer Questions 21 and 22.

Many public and private organisations seek to improve efficiency by implementing computerisation. Medical practices are no exception, given that accurate patient data is important for effective, safe diagnosis and treatment. The secure storage of patient records is important for patient privacy.

One medical practice seeks to add to its existing patient records system. Part of the new system functionality will be a tablet app that will run on both the Android and iOS operating systems. The app will allow patients to view general information about the practice and send a request for an appointment with a doctor.

When a new patient makes an appointment with the medical practice, the following procedure is followed for consultations that require checking on blood pressure:

1. The patient creates an account on the app with their details stored in the Patient database.
2. Using the app, an appointment is made, which is recorded in the Appointment database.
3. A doctor is assigned the appointment, with their details being taken from the Doctor database.
4. The medical practice sends an email confirming the appointment to the patient.
5. During the consultation, the doctor takes two blood pressure readings - ‘S’ and ‘D’. These results are stored in the Blood Pressure Reading database.
6. Once the doctor checks the results and patient’s history, a Medical Summary and a Medical Script for any medications are produced. The script is created and given to the patient.
7. A bill is generated for the consultation, which is recorded in the Billing database. Medical insurance pays for most of the bill. Any ‘gap’, costs above what medical insurance pays, is met by the patient.
8. Using the app, an invoice is sent to the patient for the gap amount.
9. Once the patient pays the gap, a receipt is sent within the app confirming payment.
10. Each month the office manager of the practice also receives a Monthly Blood Pressure Readings Summary.

During the consultation, the doctor may use specific equipment (in this case a blood pressure monitor) to take readings from a patient. These readings are sent via Bluetooth from the device to the doctor’s computer.
# Patient records

<table>
<thead>
<tr>
<th>PatientID</th>
<th>GivenName</th>
<th>FamilyName</th>
<th>Address</th>
<th>Suburb</th>
<th>Postcode</th>
<th>Telephone</th>
<th>Email</th>
<th>Gender</th>
<th>DOB_Year</th>
<th>DOB_DM</th>
</tr>
</thead>
<tbody>
<tr>
<td>098765</td>
<td>Anil</td>
<td>Patient</td>
<td>1 Short St</td>
<td>Kallaroo</td>
<td>6025</td>
<td>08 7300 1616</td>
<td><a href="mailto:AP@my.mail.com">AP@my.mail.com</a></td>
<td>Male</td>
<td>1970</td>
<td>30/07</td>
</tr>
<tr>
<td>096143</td>
<td>Susan</td>
<td>Valid</td>
<td>12 Long Rd</td>
<td>Rossmoyne</td>
<td>6148</td>
<td>08 7313 0099</td>
<td><a href="mailto:SUV@our.mail.com">SUV@our.mail.com</a></td>
<td>Female</td>
<td>1966</td>
<td>24/12</td>
</tr>
<tr>
<td>094888</td>
<td>Jeremy</td>
<td>Concise</td>
<td>1B Round Bnd</td>
<td>North Perth</td>
<td>6006</td>
<td>08 7200 7653</td>
<td><a href="mailto:JC@my.mail.net">JC@my.mail.net</a></td>
<td>Male</td>
<td>1954</td>
<td>19/05</td>
</tr>
<tr>
<td>094767</td>
<td>Carey</td>
<td>Ballast</td>
<td>3452 North Hwy</td>
<td>Bindoon</td>
<td>6502</td>
<td>08 7554 7854</td>
<td><a href="mailto:CB@the.mail.com">CB@the.mail.com</a></td>
<td>Male</td>
<td>1943</td>
<td>11/11</td>
</tr>
<tr>
<td>100002</td>
<td>Bernice</td>
<td>Black</td>
<td>32 Dark Lane</td>
<td>Bullcreek</td>
<td>6149</td>
<td>08 7410 7809</td>
<td><a href="mailto:BBB@rightmail.net">BBB@rightmail.net</a></td>
<td>Female</td>
<td>1979</td>
<td>01/03</td>
</tr>
<tr>
<td>101895</td>
<td>Barry</td>
<td>Boan</td>
<td>37 Myers Cove</td>
<td>Wanneroo</td>
<td>6065</td>
<td>08 7400 9999</td>
<td><a href="mailto:BUB@amail.com">BUB@amail.com</a></td>
<td>Male</td>
<td>1991</td>
<td>23/04</td>
</tr>
</tbody>
</table>