Figure 7.6   State diagram for the Job Application class

We work through the events and states in the list and add them to the diagram, until every item on the list has been included, then we go back to make sure that we have not forgotten any of the guards or actions that should be included in transitions. It is worth noting here that actions can also be contained in states (indicated by the keyword 'do/...' in the state label). This type of action is usually referred to as an activity; it is ongoing (not instantaneous) and can be interrupted by an event. For example, there might be an activity 'send for references' associated with the 'Shortlisted' state.

The state diagram at this stage is shown in Figure 7.6.

There is still one event that we have not included in the diagram. The description of the behaviour of the Job Application class states that an applicant may withdraw at any time. In order to include this in the diagram in Figure 7.6, we would need to add a third stop state and draw transitions to it with the event 'applicant withdraws' from each of the four states on the diagram. This would make the existing diagram cluttered and very difficult to read. In order to avoid clutter, we can draw a superstate round the main body of the diagram, and show a single 'applicant withdraws' transition from it, indicating that an applicant can withdraw at any time during the application process.

Finally, we need to check the completed diagram against the original description of the behaviour of the Job Application class, in order to confirm that it is an accurate representation. The completed diagram with the superstate is shown in Figure 7.7.