```
telephoneNumber  - 7453
8   ou=Anatomy and Embryol@cn=D Becker
telephoneNumber  - 3293
9   ou=Computer Science@cn=Malcolm Booker
telephoneNumber  - +44-1-387-7050 x 3645
10  ou=Computer Science@cn=Imtiaz Bashir
telephoneNumber  - +44-1-387-7050 x 7304
11  ou=Computer Science@cn=Benjamin Bacarisse
telephoneNumber  - +44-1-380-7212 (work)
telephoneNumber  - 01 987 2746 (home)
12  ou=Surgery@cn=L Baker
telephoneNumber  - 82-5255
13  ou=History Of Art@cn=B A Boucher
telephoneNumber  - 7210
14  ou=Geological Sciences@cn=J R Baker
telephoneNumber  - 2382
15  ou=Secretary's Office@cn=I H Baker
telephoneNumber  - 3000
```

5.2 Example Usage

A typical sequence to find someone outside your organisation is now shown:

```
% osearch nott
Searching in country "gb" for Organisations matching "nott"
1   o=Nottingham University
telephoneNumber  - +44-0602-484848x2862
2   o=NPL
3   o=JNT
telephoneNumber  - +44-0235-445724
% psearch smith 1
Searching for People matching "smith" under:
countryName=GB
organisation=Nottingham University

4   ou=Computer Science@cn=Hugh Smith
telephoneNumber  - extn 2862 (Departmental Secretary)
% showentry 4
```

```
c=GB@o=Nottingham University@ou=Computer Science@cn=Hugh Smith
photo            - (See X window, pid 1076)
telephoneNumber  - extn 2862 (Departmental Secretary)
description      - lecturer
surname          - Smith
name             - Hugh.Smith
name             - Hugh Smith
```

5.3 Use of Nicknames

It is convenient to have nicknames (private aliases) set up for commonly accessed parts of the directory information tree. These can be set up in the QUIPU profile (see Section 5.6), which sets up the nickname "us". Two nicknames used in the examples are:

`ucl`: Country GB; Organsisation University College London.

`cs`: Country GB; Organsisation University College London; Organisational Unit Computer Science.

Aliases may be used as an alternative to sequence numbers.

5.4 SID Commands

The initial SID commands are:

`osearch`: (Organisation Search) Search for an organisation. The first argument is the organisation being searched for. For example:

```
% osearch nott
```

This searches for any organisations approximating to this string, or containing it as a substring.

The second (optional) argument is the two letter country code (e.g., GB, US, ES, etc). Use **clist** to find these codes. The default country is the previous one searched. Example:

```
% osearch psi us
```

`psearch:` (Person Search) Search for a person. The first argument is a key to identify the person. Approximate and substring matches are made. There are two ways of using psearch.

1. Search an identified organisation, using the second argument to osearch. Example where the organisation is identified by a nickname:

   ```
   % psearch kirstein ucl
   ```

   Example where the organisation is identified by a sequence number, returned by a previous osearch command.

   ```
   % psearch steve 29
   ```

2. Move explicitly to an organistion, and then use psearch with only one argument. This is useful when repeated searches will be made from one point. Example:

   ```
   % moveto  ucl
   % psearch kirstein
   ```

`clist:` (Country List) Used to give a list of countries, with friendly descriptions, as well as the two-letter code.

`ousearch:` (Organisational Unit Search) Search for an OU. Analogous to psearch. This is appropriate for use where organisations are large, and a full search takes too long.

`dlist:` (Directory List) This uses the search command to provide a listing of directory information, without a clutter of wild South American animals.

5.5 Standard DISH Commands

The following DISH commands are useful "as is" for normal users, and are considered to be a part of SID.

`showentry:` Show an entry. The single argument is typically the numeric key returned by a search. This will be used a lot, and it is likely to be worthwhile setting up an alias. The author uses ds (directory show). Example, using a sequence number returned by a search:

```
% showentry 36
```

`moveto:` Move to a defined location. Example of moving to a nickname defined location:

```
% moveto ucl
```

`modify:` To modify your own entry, this command is used with the single argument "me". For example:

```
% modify me
```

5.6 QUIPU Profile

This is a suggested template for *.quipurc*, note that this is very similar to the default file installed by *dishinit* described in Section 4.7.1.

```
username:c=GB@o=University College London@
    ou=Computer Science@cn=Steve Kille
me:c=GB@o=University College London@
    ou=Computer Science@cn=Steve Kille
password:steve

position:@c=GB@o=University College London@ou=Computer Science
notype: acl
notype: treestructure
notype: masterdsa
notype: slavedsa
notype: objectclass
notype: lastmodifiedby
notype: lastmodifiedtime
notype: userpassword
cache_time: 30
```

```
connect_time: 2

us: c=us
moveto: -pwd
showentry: -name
```

You must set the environment variable DISHPROC. This can be done by the following in the *.login* file (csh):

```
if (${?DISHPROC} == 0) then
        setenv DISHPROC "127.0.0.1 `expr $$ + 1000`"
endif
```

Chapter 6

DE

DE (which stands for **D**irectory **E**nquiries) is a directory user interface primarily intended to serve as a public access user interface. It is a successor to, and borrows something of the style of, the *dsc* interface released in a previous version. It is primarily aimed at the novice user, although more sophisticated users should find that it is flexible enough to answer the majority of queries they wish to pose.

DE has more features than those discussed below. However, the program has extensive on-line help as it is envisaged that it will often be used in environments where neither on-line help or paper documentation will be available.

6.1 Using DE

6.1.1 Starting up

On invoking the *de* interface, if the environment does not contain a terminal type, or if the terminal type is "dumb", the user is prompted to enter a terminal type. If requested, the interface will display a list of the terminal types supported. However, DE is designed to work adequately without terminal type information, assuming a screen size of 80 x 24.

6.1.2 Searching for a Person

The interface prompts the user for input with the following four questions:

```
Person's name, q to quit, * to list people, ? for help
:- kille
Dept name, * to list depts, <CR> to search all depts, ? for help
:- cs
Organisation name, <CR> to search 'ucl', * to list orgs, ? for help
:-
Country name, <CR> to search 'gb', * to list countries, ? for help
:-
```

Note from the above example that it is possible to configure the interface so that local values are defaulted: RETURN accepts "ucl" for organisation, and "gb" for country. The above query returns a single result which is displayed thus:

```
United Kingdom
  University College London
    Computer Science
      Steve Kille
        description           Researcher into Distributed
                              Applications and OSI
                              PP and QUIPU project leader
        telephoneNumber       +44 71-380-7294
        electronic mail       S.Kille@cs.ucl.ac.uk
        favouriteDrink        Pinta - Brakspears
        roomNumber            G24
```

If several results are found for a single query, the user is asked to select one from the entries matched. For example, searching for "jones" in "physics" at "UCL" in "GB" produces the following output:

```
United Kingdom
  University College London

Got the following approximate matches.  Please select one from the
list by typing the number corresponding to the entry you want.

    1 Faculty of Mathematical and Physical Sciences
    2 Medical Physics and Bio-Engineering
    3 Physics and Astronomy
    4 Psychiatry
    5 Psychology
```

Selecting "Physics and Astronomy" by simply typing the number 3, the search continues, and the following is displayed:

```
United Kingdom
  University College London
    Physics and Astronomy

Got the following approximate matches.  Please select one from the
list by typing the number corresponding to the entry you want.

     1 C L Jones     +44 71-380-7139
     2 G O Jones     +44 71-387-7050 x3468  geraint.jones@ucl.ac.uk
     3 P S Jones     +44 71-387-7050 x3483
     4 T W Jones     +44 71-380-7150
```

In this condensed format, telephone and email information is displayed.

6.1.3 Searching for other information

Information for organisations can be found by specifying null entries for the person and department.

Information for departments can be found by specifying null input for the person field.

Information about rooms and roles can be found as well as for people by, for example, entering "secretary" in the person's name field.

6.1.4 Interrupting

If the user wishes to abandon a query or correct the input of a query (maybe the user has mis-typed a name), *control-C* resets the interface so that it is waiting for a fresh query.

6.1.5 Quitting

Type "q" at the prompt for a person's name.

6.2 Configuration of DE

As DE is intended as a public access dua, it is only configurable on a system-wide basis. DE installs help files and the *detailor* file into a directory called *de/* under `ISODE`'s ETCDIR.

The *detailor* file contains a number of tailorable variables, of which the following are mandatory:

`dsa_address`: This is the address of the access point DSA.

```
dsa_address:MY-TCP=2005
```

`username`: This is the username which the DUA binds to the directory with. It is not strictly mandatory, but you are strongly encouraged to set this up. It will help you to see who is connecting to the DSA.

```
username:@c=GB@o=X-Tel Services Ltd@cn=Directory Enquiries
```

You will almost certainly want to set at least some of these to suit your local system:

`default_country`: This is the name of the country to search by default: e.g., "GB".

```
default_country:gb
```

`default_org`: This is the name of the organisation to search by default: e.g., "University College London"

```
default_org:University College London
```

`default_dept`: This is the name of the department (organisational unit) to search by default: e.g., "Computing". This will usually be null for public public access duas.

```
default_dept:
```

The following configuration options all concern the display of attributes. The settings in the *detailor* file will probably be OK initially.

`commonatt`: These attributes are displayed whatever type of object is being searched for, be it an organisation, a department, or a person.

```
commonatt:telephoneNumber
commonatt:facsimileTelephoneNumber
```

`orgatt:` These attributes are displayed (as well as the common attributes — see above) if an entry for an organisation is displayed.

```
orgatt:telexNumber
```

`ouatt:` These attributes are displayed (as well as the common attributes — see above) if an entry for an organisational unit (department) is displayed.

```
ouatt:telexNumber
```

`prratt:` These attributes are displayed (as well as the common attributes — see above) if an entry for a person, room or role is displayed.

```
prratt:rfc822Mailbox
prratt:roomNumber
```

`mapattname:` This attribute allows for meaningful attribute names to be displayed to the user. The attribute names in the quipu oidtables may be mapped onto more user-friendly names. This allows for language independence.

```
mapattname:facsimileTelephoneNumber fax
mapattname:rfc822Mailbox electronic mail
```

`mapphone:` This allows for the mapping of international format phone numbers into a local format. It is thus possible to display local phone numbers as extension numbers only and phone numbers in the same country correctly prefixed and without the country code.

```
mapphone:+44 71-380-:
mapphone:+44 71-387- 7050 x:
mapphone:+44 :0
```

`greybook:` In the UK, we use big-endian domains in mail names. By setting this variable on, it is possible to display email addresses in this order rather than the default little-endian order.

```
greyBook:on
```