

# Chapter 14

## Exercise 14.1

Consider the Web site of your university or company and examine the services it offers, classifying them according to the types discussed in Section 14.2

### Sol:

The web site of our university is: **[www.uniroma3.it](http://www.uniroma3.it)**.

This site offers only services of publication and consultation of information about the University.

It is divided into several sections, according to the faculty, the departments and the services offered by the university.

The site offers the possibility of downloads of documents and exercises for almost every course.

The only additional service present in that site is the possibility for the students of some departments to book the exams via Web.

The site is frequently updated, but the updates are made by modifying directly the web pages.

## Exercise 14.2

Find on the Internet one or more sites that fall in each of the categories discussed in Section 14.2 (“Publication and consultation”; “Transaction on the Web”; “Electronic Commerce”; “Co-operative and workflow applications”)

### Sol:

“Publication and consultation”:

**www.whitehouse.gov.**

The Web site of the White House in USA. It offers information about the President, his staff and their activity .

**www.senato.it.**

The Web site of the Italian Parliament; it offers information about the composition of the Parliament and the laws approved.

“Transaction on the Web”:

**www.fineco.it**

A site which offers services of trading on-line and possibly of investment via the Web

“Electronic Commerce”:

**www.amazon.com**

The most famous Web site of electronic commerce.

“Co-operative and workflow applications”:

**www.ups.com**

The web site of the famous international express courier

### **Exercise 14.3**

Find on the Internet a Web site that could be used as a source for a data farming activity.

**Sol:**

**[www.linuxberg.com](http://www.linuxberg.com)**

This Web site contains a collection of programs and drivers for the Linux Operating System.

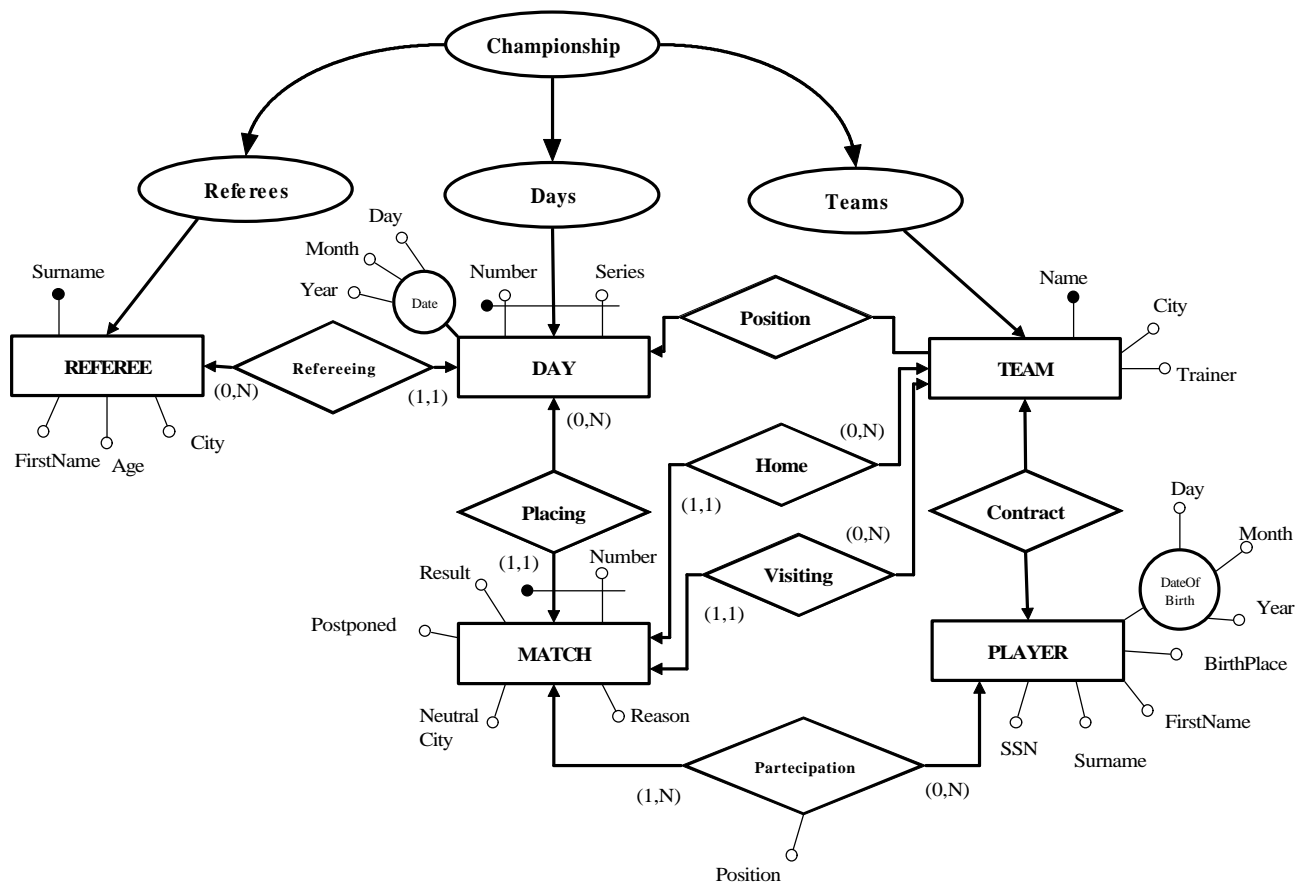
This site could be used as source for a data farming Web site; for example, it could be useful to create a Web site which indicates a collection of musical programs for the various operating systems.

## Exercise 14.4

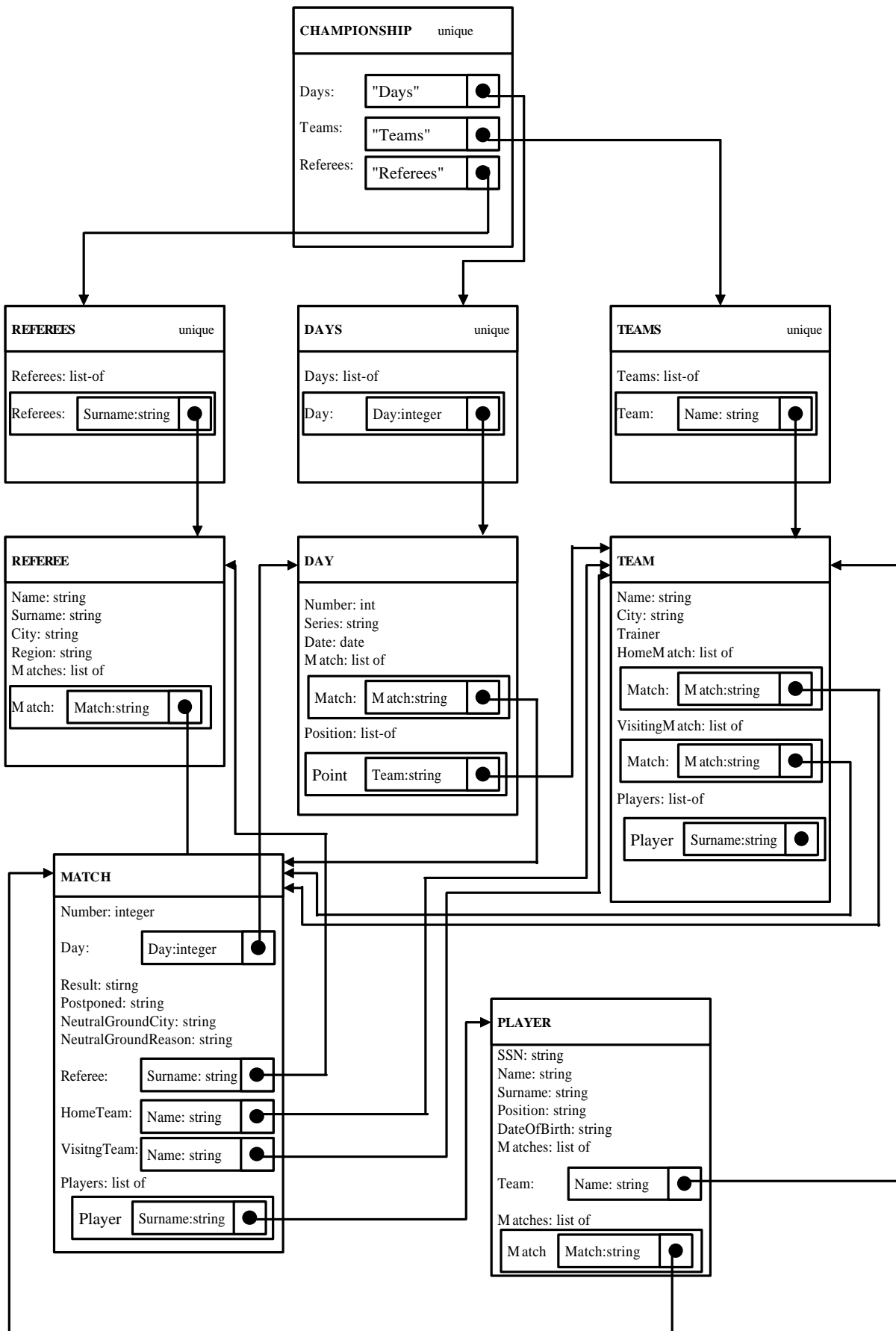
Consider the conceptual schema shown in Figure 5.26 and design a web site that can be used to publish the content of the database. Show both the conceptual and the logical schema of the hypertext.

**Sol:**

### Conceptual Schema



# Logical schema



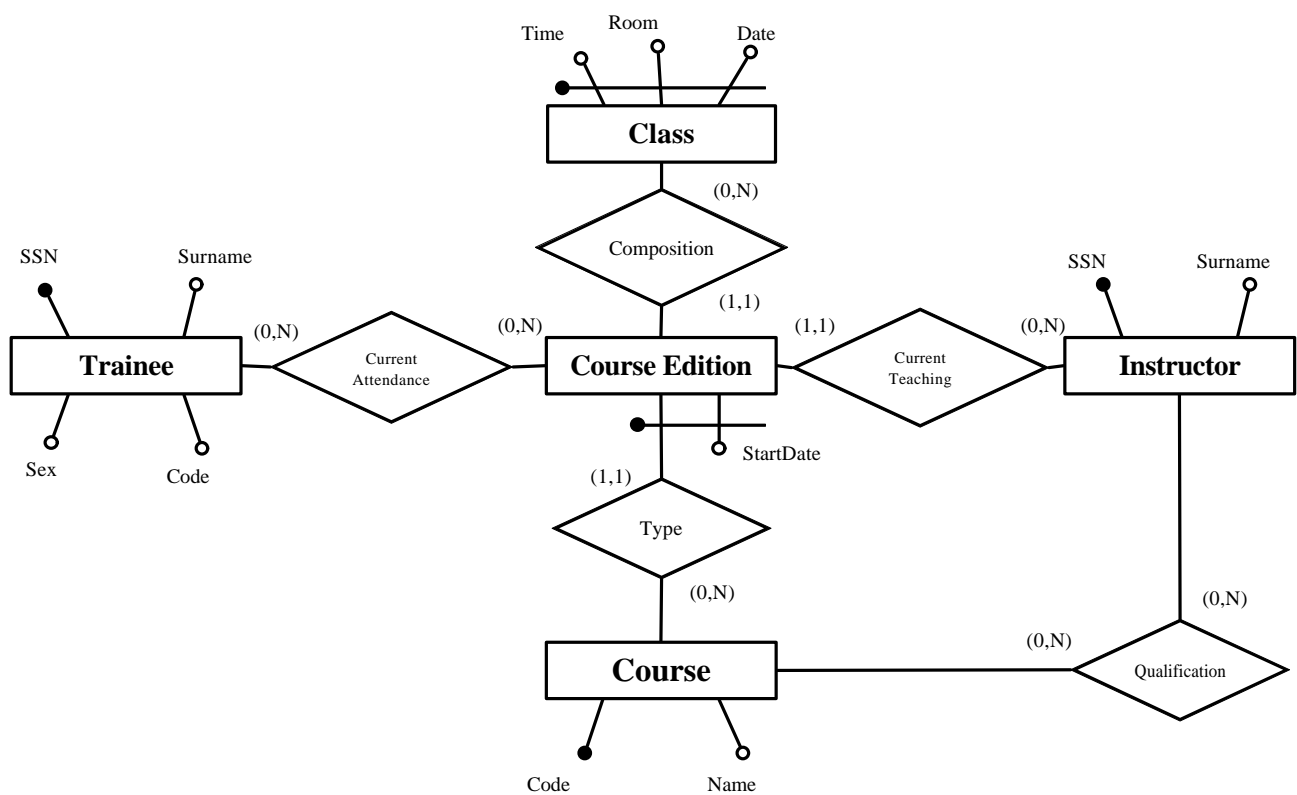
## Exercise 14.5

We want to build a web site for the training company example discussed in Chapter 6 and Chapter 7. Therefore:

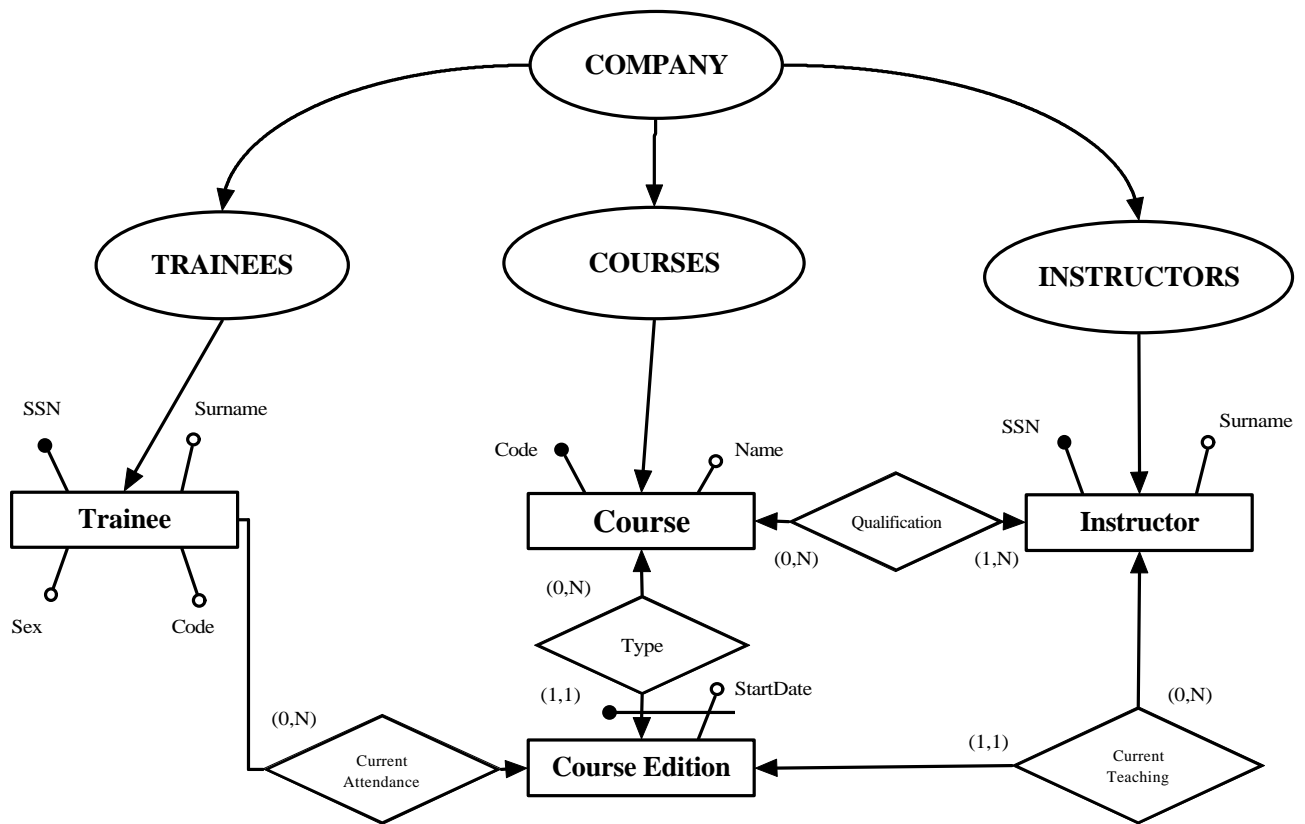
- find the user requirements for the site, by choosing the pieces of information that are interesting for the public (outside the company);
- design the conceptual schema of the hypertext;
- design the logical schema of the hypertext.

**Sol:**

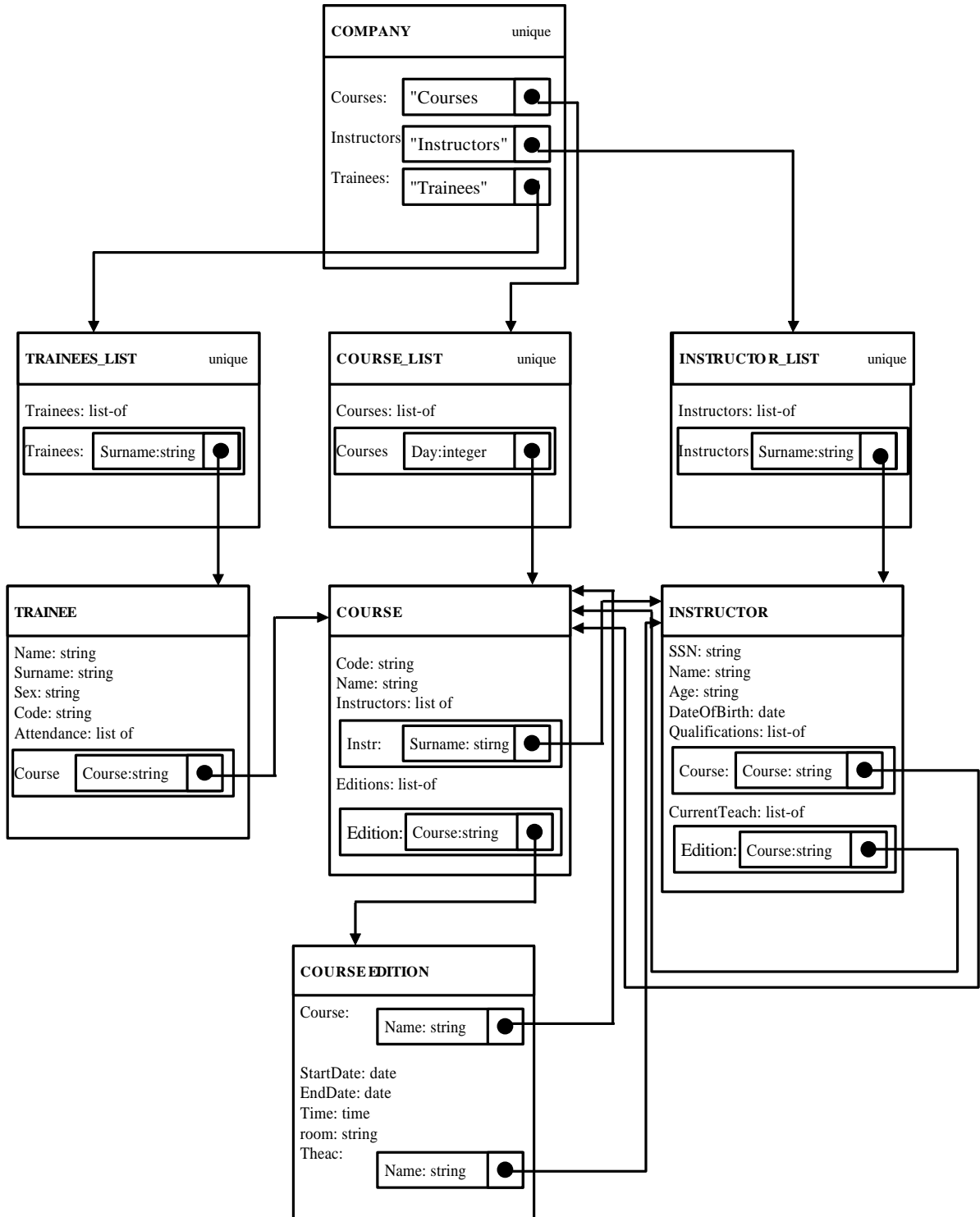
Portion of the ER schema which is relevant for publication:



Conceptual Schema:



Logical schema:





## **Exercise 14.6**

Following the same steps as in the previous exercise, design the Web site for the database whose E-R schema is shown in Exercise 5.6.

**Sol:**

The E-R schema is the same as in Exercise 14.4

## Exercise 14.7

Using the database for soccer games considered in Exercise 14.4 , write a CGI program that generates the list of games played by a given team in a specified period.

**Sol:**

```
main (char Team[], time Start, time End) {
    char h[30];
    char v[30];
    char r[10];
    int m;
    int d;
    $ open connection to Championship;
    $ declare t cursor for
        select Day, Number, Home, Visiting, Result
        from Match join Day on Match.Day=Day.Number
        where (Match.Home=:Team or Match.Visiting=Team)
        and Day.Date>=Start
        and Day.Date<=End;
    $ open t;
    printf("<html>\n<head><title> Games played by %s",Team);
    printf("</title></head><body>\n");
    printf("<h3> Day\t Match\t Home\t Visiting \t Result");
    printf("</h3>\n");
    $ fetch t into :d, :m, :h, :v, : r;
    while (sqlcode==0) {
        printf("%i\t %i\t %s\t %s\t %s\n");
        $ fetch t into :d, :m, :h, :v, : r;
    }
    printf("</body></html>");
    $ close cursor t;
    $ close connection;
}
```

## Exercise 14.8

Write a CGI program that generates a page for a course (whose code is given as an input parameter) offered by the training company, with a list of all the editions.

**Sol:**

```
main (char code[]) {
    char Name[30];
    time Start;
    time End;
    char Instr[30];
    int Part;
    int i=0 ;
    $ open connection to Company
    $ select Name into :Name
      from Course
      where Code=code;
    $ declare c cursor for
      select StartDate, EndDate, Instructor, NofPart
      from CourseEdition
      where Course=:code;

    printf("<html>\n<head><title> Edition of course: %s",code);
    printf("</title></head><body>\n");
    printf("<h3> Course: %s",name");
    printf("</h3>\n");
    printf("Editions: \n");
    printf("\t Start Date\t End Date \t Instructor\t
                                                    Partecipans\n");

    $ open c ;
    $ fetch c into :StartDate, :EndDate, :Instr, :Part
    while (sqlcode==0) {
        i++;
        printf("%i\t %s\t %s\t %s\t %i\n",i,StartDate,EndDate,Instr,
              Part);
    $ fetch c into :StartDate, :EndDate, :Instr, :Part
    printf("</body></html>\n");
    }
}
```