

CS2102 Project Report: [Adspace]

BY PASCAL CHATTERJEE A0075885L AND JOAKIM CARSELIND A0075840A

Group 34

October 31, 2010

1 Software

We used the Sinatra web framework for the Ruby language, with our DBMS being MySQL. To interface with the database we used the Sequel library which allowed us to write execute SQL queries directly from our Ruby code. We configured Sinatra to use the WEBrick web server and the ERB server page language. We did not use the Zone.

We used git for version control and our code is hosted at http://www.github.com/pascalc/database_project.

2 Relational Schema

```
-- Table dbproject.Users
CREATE TABLE IF NOT EXISTS dbproject.Users (
  username VARCHAR(16) NOT NULL ,
  password VARCHAR(16) NOT NULL ,
  email VARCHAR(32) NOT NULL ,
  creation_date TIMESTAMP NOT NULL DEFAULT CURRENT_TIMESTAMP,
  PRIMARY KEY (username) )
ENGINE = InnoDB;

-- Table dbproject.Categories
CREATE TABLE IF NOT EXISTS dbproject.Categories(
  name VARCHAR(32) PRIMARY KEY)
ENGINE = InnoDB;

-- Table dbproject.Ads
CREATE TABLE IF NOT EXISTS dbproject.Ads (
  id INT NOT NULL AUTO_INCREMENT,
  title VARCHAR(128) NOT NULL ,
  description TEXT NOT NULL ,
  fk_category VARCHAR(32) NOT NULL ,
  FOREIGN KEY (fk_category) REFERENCES dbproject.Categories(name)
  ON DELETE CASCADE ON UPDATE CASCADE,
  creation_date TIMESTAMP NOT NULL DEFAULT CURRENT_TIMESTAMP ,
  fk_username VARCHAR(16) NOT NULL,
  FOREIGN KEY (fk_username) REFERENCES dbproject.Users(username)
  ON DELETE CASCADE ON UPDATE CASCADE,
  PRIMARY KEY (id))
ENGINE = InnoDB;
```

3 Sample SQL Code

3.1 List all the ads in a certain category

```
ads = DB["SELECT * FROM Ads WHERE fk_category = ? ORDER BY creation_date  
DESC",cat]
```

3.2 Search for an ad

```
ads = DB["SELECT * FROM Ads WHERE fk_category = ? AND (title LIKE ? OR  
description LIKE ? OR fk_username LIKE ?)", category, "%#{query}%",  
"%#{query}%", "%#{query}%"]
```

3.3 Create a new ad

```
DB["INSERT INTO Ads (id, title, description, fk_category, creation_date,  
fk_username) VALUES (null, ?, ?, ?, null, ?)", title, description,  
category,session["username"]].insert
```

3.4 Show an ad

```
ad = DB["SELECT * FROM Ads A, Users U WHERE A.id = ? AND U.username =  
A.fk_username",id]
```

3.5 Delete an ad

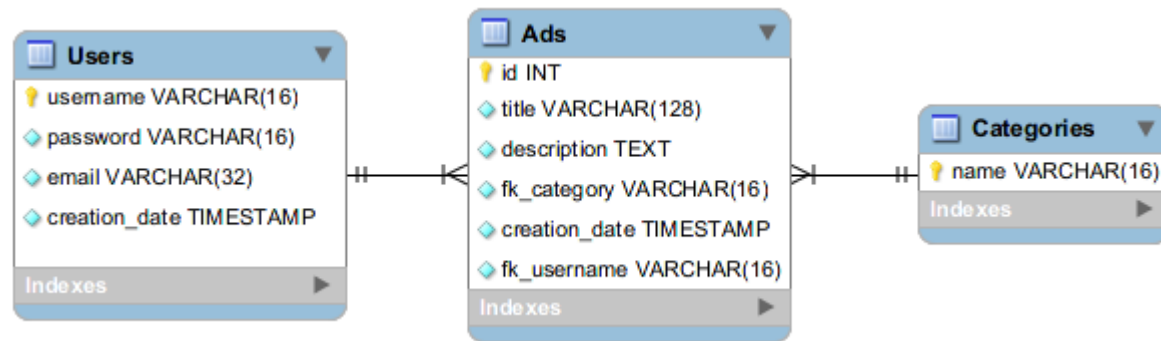
```
DB["DELETE FROM Ads WHERE id = ?", id].delete
```

3.6 Update an ad

```
DB["UPDATE Ads SET title = ?, description = ?, fk_category = ? WHERE id =  
?",title, description,category,id].update
```

3.7 Find how many ads a user has posted

```
num_ads_query = DB["SELECT COUNT(*) AS number FROM Ads WHERE fk_username =  
?", username]
```



ER Diagram

[ADSPACE]

Username:

Password:

Login

Search

Category

Appliances ▼

Search

Welcome to ADSPACE, your place for ads on the web! Free of charge, unlimited amounts of ads and many visitors make this the ideal place for peer-to-peer business online!

If this is the first time for you, we hope that it will be many more, so please register a new account and start making your self and other people happy!

We here at ADSPACE wish you a happy day and hope you will be back

- » Appliances
- » Books
- » Electronics
- » Housing
- » Jobs
- » Personal

[ADSPACE]

[Logout](#)

[Back to main page](#)

[Create new ad](#)

[Show my ads](#)

Search

Category

Appliances ▼

[Search](#)

Welcome to ADSPACE pascal!

Registered for

0 days

Number of ads

2 ads

- » [Appliances](#)
- » [Books](#)
- » [Electronics](#)
- » [Housing](#)
- » [Jobs](#)
- » [Personal](#)

[ADSPACE]

[Logout](#)

[Back to main page](#)

[Create new ad](#)

[Show my ads](#)

Search

Category

Appliances ▼

[Search](#)

Title *

Introduction to Database S

Books ▼

Description *

A really good book that helped us write this app. Perfect condition.

[Submit](#)

- › Appliances
- › Books
- › Electronics
- › Housing
- › Jobs
- › Personal

[ADSPACE]

Logout

Back to main page

Create new ad

Show my ads

Search

Category

Appliances ▼

Search

Edit ad

Title *

Introduction to Database S

Category: Appliances ▼

A really good book that helped us write this app. Perfect condition.

Submit

- › Appliances
- › Books
- › Electronics
- › Housing
- › Jobs
- › Personal

[pascal's Ads]

Welcome to ADSPACE pascal!

Created a new ad!

[\[Home\]](#) [\[Dashboard\]](#) [\[My Ads\]](#) [\[Appliances\]](#) [\[Books\]](#) [\[Electronics\]](#) [\[Housing\]](#) [\[Jobs\]](#) [\[Personal\]](#) [\[Logout\]](#)

Title	Category	Creation Date	Action
Bromachine!!	appliances	Sun Oct 31 17:35:25 +0800 2010	[Edit] [Delete]
bla	appliances	Sun Oct 31 17:42:51 +0800 2010	[Edit] [Delete]
Introduction to Database Systems	books	Sun Oct 31 20:16:02 +0800 2010	[Edit] [Delete]

[Results for "database"]

Welcome to ADSPACE pascal!

[\[Home\]](#) [\[Dashboard\]](#) [\[My Ads\]](#) [\[Appliances\]](#) [\[Books\]](#) [\[Electronics\]](#) [\[Housing\]](#) [\[Jobs\]](#) [\[Personal\]](#) [\[Logout\]](#)

Title	Category	Creation Date	Posted by
Introduction to Database Systems	books	Sun Oct 31 20:16:02 +0800 2010	pascal

Introduction to Database Systems

Welcome to ADSPACE pascal!

[\[Home\]](#) [\[Dashboard\]](#) [\[My Ads\]](#) [\[Appliances\]](#) [\[Books\]](#) [\[Electronics\]](#) [\[Housing\]](#) [\[Jobs\]](#) [\[Personal\]](#) [\[Logout\]](#)

ID: 503

Category: books

Date: Sun Oct 31 17:30:00 +0800 2010

Posted by: pascal

Contact email: jkjlj

A really good book that helped us write this app. Perfect condition.

[ADSPACE]

Username:

Password:

Login

Search

Category

Appliances ▼

Search

Goodbye pascal!

Welcome to ADSPACE, your place for ads on the web! Free of charge, unlimited amounts of ads and many visitors make this the ideal place for peer-to-peer business online!

If this is the first time for you, we hope that it will be many more, so please register a new account and start making your self and other people happy!

We here at ADSPACE wish you a happy day and hope you will be back

- » Appliances
- » Books
- » Electronics
- » Housing
- » Jobs
- » Personal