

Project Proposal

ISM 4243
C# Project Class

05/27/03

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Team Members:

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Proposed URL:

www.jobs4u.com

Reason for Project:

Our client has requested a web site that will help his job recruiting firm to connect his clients with potential employees. The firm charges a fee for each position posted, job prospects are not charged for this service. The firm's customers will post new jobs and be able to search through potential résumé's posted by prospects. In addition, job prospects will have the ability to search through the job list to find positions that match their interests and apply for such positions.

Functional Requirements:

Job Search Web Site

Audience:

There are three audiences for the application.

Audience	Function
Firm	The recruiting agency (our customer). The firm maintains the list of employers.
Employer	The revenue source for our customer. Employers post open positions with job requirements.
Prospect	Anyone who accesses the web site looking for a position. Registration is optional; the prospect may also apply to positions.

Firm:

The recruiting firm has access to create new employers and manage employer accounts.

Processes job search agents (assumes availability of a mail server and time permitting)

Generate monthly billing report (Crystal or XML)

Employer:

Employers are charged a fee for each position they post. Once posted, the position details are visible to all job prospects via the prospect search form(s).

As prospects apply for positions, they appear on the applicant list for the posted position.

The employer may also search prospect resumes for matching skill sets and send interest e-mails to the prospects.

Prospects:

Prospects find the site via web search engines and advertisements posted by the recruiting firm.

Prospects may search the database without logging in or registering.

Optionally, prospects may register in order to receive promotional materials, post a resume or receive search agent results.

Security:

Complete login security will be provided in order to identify a user and their required functionality.

Firms and Employers must login prior to accessing supporting forms. Prospects must register prior to creating custom search agents.

An MS SQL Server database will be used to secure the data via appropriate password and restriction of rights.

Other

Useful links presented to provide access to news and job search related articles.

Paid advertisements appear on home page in banner form.

Tables:**Master Tables**

Table	Description
Employer	List of employers
Job	Jobs offered by employers
Applicant	Prospects that have applied for jobs
Prospect	Job searchers
Agent	Search agents with emailed results

Control Tables

Table	Description
Areas	Northeast, Atlantic, Southeast etc.
States	with area notation
Job Types	auto repair, info systems, hospitality etc.
Educations	BA, MA, High school
Employee types	contract, fulltime, part time etc
Settings	general firm settings and options

Jobs4u Class Interfaces

ISM 4243
C# Project Class

4/14/2005

Project Team: Dave Peters
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Jobs4u Business Logic and Data Access Interfaces

Prospect Class

File: components\Prospect.cs

Properties:

ProspectID	set or get prProspect.prID of Prospect
UserName	set or get usUser.usUserName of User
Password	set or get usUser.usPassword
LastName	set or get prProspect.prLName of Prospect
FirstName	set or get prProspect.prFName of Prospect
Address1	set or get prProspect.Address1 of Prospect
Address2	set or get prProspect.Address2 of Prospect
City	set or get prProspect.prCity of Prospect
State	set or get prProspect.prState of Prospect
ZipCode	set or get prProspect.prZIP of Prospect
EmailAddress	set or get prProspect.prEmail of Prospect
HomePhone	set or get prProspect.prHomePhone of Prospect
WorkPhone	set or get prProspect.prWorkPhone of Prospect
WorkExtension	set or get prProspect.prWorkExt of Prospect
FaxPhone	set or get prProspect.prFAX of Prospect
CoverLetter	set or get prProspect.prCoverletter of Prospect
ResumeText	set or get prProspect.prResumeText of Prospect
HomePage	set or get prProspect.prWebpage of Prospect
EducationLevel	set or get prProspect.edID of Prospect
YearsExperience	set or get prProspect.prYearsExperience of Prospect

Constructors:

Name:	Prospect()
Input Parameters:	<i>none</i>
Description:	Default constructor for creating an instance of a new prospect user.
Calls:	<i>none</i>
Called By:	applyposition.aspx.cs, privacyconfirm.aspx.cs

Name:	Prospect()
Input Parameters:	prospectID
Description:	Overloaded constructor for creating an instance of a returning user.
Calls:	RetrieveUserInfo()
Called By:	demographics.aspx.cs

Methods:

Name:	ValidateNewUser
Input Parameters:	<i>none</i>
Output Parameter:	bool
Description:	Verifies that userName is not already in use. If not, the userName and password are added to the User table. If prospect aborts registration process, the userName is removed by the destructor (database connection). Returns false if the username is already in use (i.e. the new user can't be assigned the username), or true if not in use.
Calls:	usUserInsProc
Called By:	privacyconfirm.aspx.cs

Name:	AddNewUser
Input Parameters:	<i>none</i>
Output Parameter:	bool
Description:	Passes information from this instance of Prospect to the database. Returns true if all procedures complete properly and the user's information is added, or false if not.
Calls:	prProspectInsProc
Called By:	coverletter.aspx.cs

Name:	RetrieveUserInfo
Input Parameters:	<i>none</i>
Output Parameter:	<i>none</i>
Description:	If the user is a registered user, this method will retrieve the prospect's personal information from the prProspect table. It can be used either by an employer user to view the prospect's details, or by the prospect himself to update his info.
Calls:	prProspectSelProc
Called By:	privacyconfirm.aspx.cs

Name:	UpdateUserInfo
Input Parameters:	<i>none</i>
Output Parameter:	<i>none</i>
Description:	If the user has changed any of his personal information including his resume or cover letter, this method will connect to the database and update the prProspect table.
Calls:	prProspectUpdProc
Called By:	coverletter.aspx.cs

Name:	SendInterestMail <i>(not implemented)</i>
Input Parameters:	<i>none</i>
Output Parameter:	<i>none</i>
Description:	Sends a form-generated email expressing interest in setting up an interview to a prospect.
Calls:	apApplyUpdProc
Called By:	interestmail.aspx.cs

Name:	ApplyForPosition
Input Parameters:	jbID, prID
Output Parameter:	bool
Description:	Connects to the database and adds a record to the apApplication table with the details of the prospect's application.
Calls:	spCustomerDetail
Called By:	applyposition.aspx.cs

Name:	ToString
Input Parameters:	<i>none</i>
Output Parameter:	string
Description:	Creates a string containing all the values entered by the user so far during the registration process. WARNING! This string can be quite lengthy!
Calls:	<i>none</i>
Called By:	<i>none</i>

Jobs4u Business Logic and Data Access Interfaces

Personalizer Class

File: Personalizer.cs

Properties:

cXMLFile	File name of XML personalization data.
cLocationCookie	Value to search for such as a state.

Methods:

Name:	Personalize
Input Parameters:	
Output Parameter:	
Description:	Retrieves personalization data from specified XML source file and sets hperlink urlink accordingly.
Calls:	
Called By:	Default.aspx

Name:	cXMLFile
Input Parameters:	
Output Parameter:	
Description:	Get and set routines to access private _cXMLFile variable
Calls:	
Called By:	Default.aspx

Name:	cLocationCookie
Input Parameters:	
Output Parameter:	
Description:	Get and set routines to access private _cLocationCookie variable
Calls:	
Called By:	Default.aspx

```
/* FILE SAMPLE
*
<?xml version="1.0" encoding="utf-8" ?>
<personalizer>
<key>
<state>FL</state>
<linkurl>http://www.miami.com/mld/miamiherald/living/education/6137381.htm</linkurl>
<linktext>Miami News</linktext>
</key>
<key>
<state>CA</state>
<linkurl>http://www.mylink4.com</linkurl>
<linktext>california news</linktext>
</key>
<key>
<state>NY</state>
<linkurl>http://www.mylink3.com</linkurl>
<linktext>ny news link</linktext>
</key>
<key>
<state>DEFAULT</state>
<linkurl>http://www.mylink2.com</linkurl>
<linktext>default news</linktext>
</key>
</personalizer>
```

***Jobs4u* Business Logic and Data Access Interfaces**

Tools Class

File: tools\Tools.cs

Properties:

<i>none</i>	<i>none</i>
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Methods:

Name:	SetFocus
Input Parameters:	ControlToFocus
Output Parameter:	string
Description:	set the focus to a control that you pass
Calls:	<i>none</i>
Called By:	login.aspx.cs

Jobs4u Business Logic and Data Access Interfaces

Customers Class *****Incorporated into the web service WebJobSearch.asmx*****

File: components\JobSearch.cs

Properties:

SearchString	get the current strSQL command text
Keywords	get the keywords to search for in jbJob.jobDescription
Location	get the jbJob.stState to search on
PositionType	get the jbJob.jtID to search on

Constructors:

Name:	JobSearch()
Input Parameters:	keywords, positionType, location
Description:	The default constructor receives the search keys from controls within a form object.
Calls:	ConstructSearchString()
Called By:	default.aspx.cs, srchresults.aspx.cs

Methods:

Name:	ConstructSearchString
Input Parameters:	<i>none</i>
Output Parameter:	string
Description:	The ConstructSearchString method creates the SQL statement which will be run against the jbJob table.
Calls:	<i>none</i>
Called By:	JobSearch()

Name:	ExecuteSearch
Input Parameters:	<i>none</i>
Output Parameter:	DataSet
Description:	The ExecuteSearch method runs a query against the database and returns a DataSet object containing the results of the search.
Calls:	<i>none</i>
Called By:	srchresults.aspx.cs

Jobs4u Business Logic and Data Access Interfaces

Customers Class

File: components\ResumeSearch.cs

Properties:

SearchString	get the current strSQL command text
Keywords	get the keywords to search for in <code>jbJob.jobDescription</code>
Location	get the <code>jbJob.stState</code> to search on
PositionType	get the <code>jbJob.jtID</code> to search on

Constructors:

Name:	ResumeSearch()
Input Parameters:	keywords, positionType, location
Description:	The default constructor receives the search keys from controls within a form object.
Calls:	ConstructSearchString()
Called By:	empsrch.aspx.cs, empresult.aspx.cs

Methods:

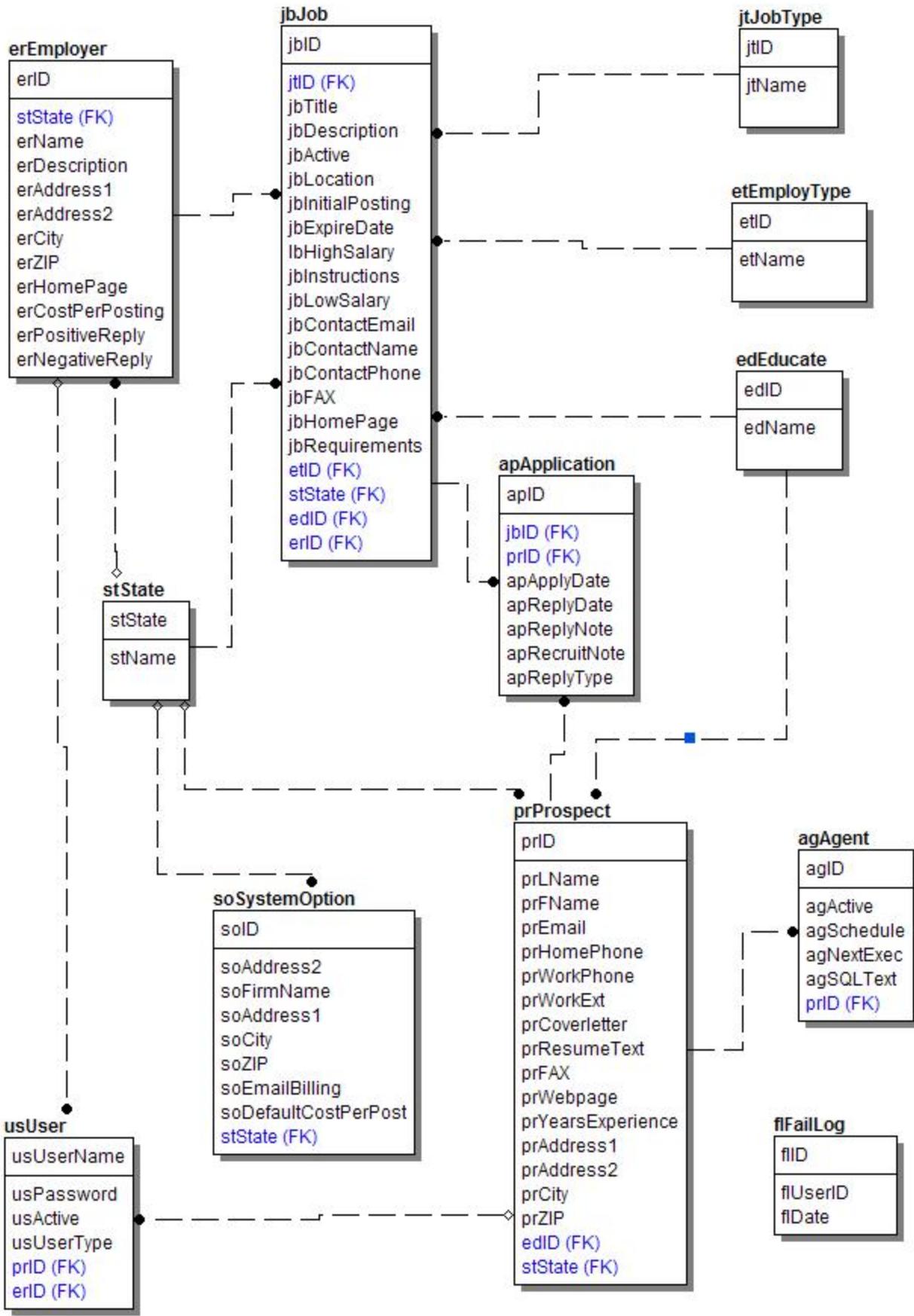
Name:	ConstructSearchString
Input Parameters:	<i>none</i>
Output Parameter:	string
Description:	The ConstructSearchString method creates the SQL statement which will be run against the <code>jbJob</code> table.
Calls:	<i>none</i>
Called By:	ResumeSearch()

Name:	ExecuteSearch
Input Parameters:	<i>none</i>
Output Parameter:	DataSet
Description:	The ExecuteSearch method runs a query against the database and returns a DataSet object containing the results of the search.
Calls:	<i>none</i>
Called By:	empresult.aspx.cs

***Jobs4u* Business Logic and Data Access Interfaces**

Classes Not Implemented or Implementation Currently In Progress:

components\User.cs	Incorporated into login.aspx.cs
components\BillingReport.cs	<i>in progress</i>
components\JobPosting.cs	Incorporated into positionedit.aspx.cs
components\SearchAgent.cs	Incorporated into web service WebJobSearch.asmx



Jobs4u Data Model

Database Name
Jobs4u

Database Tables

etEmployType

Field Name	Field Type	Length	Description	Key
etID	uniqueidentifier	16	row id (identity)	primary
etName	varchar	20	Type of employment	

jbJob

Field Name	Field Type	Length	Description	Key
jbID	uniqueidentifier	16	row id (identity)	primary
jbTitle	varchar	30	Title of posted position	
jbDescription	text	16	Description of posted position	
jbActive	char	1	Status of posted position	
jbLocation	varchar	20	State position is available in	
jbInitialPosting	datetime	8	Date active on website	
jbExpireDate	datetime	8	Date closed/removed from website	
jbHighSalary	money	8	Highest salary to be paid	
jbInstructions	text	50	How to apply for position	
jbLowSalary	money	8	Lowest salary to be paid	
jbContactEmail	varchar	30	Contact email address	
jbContactName	varchar	30	Contact name	
jbContactPhone	char	12	Contact phone number	
jbFax	char	12	Contact fax number	
jbHomePage	char	12	Homepage of employer	
jbRequirements	text	100	Requirements for position	
etID	uniqueidentifier	16	Employment type	
stState	char	2	State employer is located	
jtID	uniqueidentifier	16	Job type category	
edID	uniqueidentifier	16	Education level	
erID	uniqueidentifier	16	Employer	

jtJobType

Field Name	Field Type	Length	Description	Key
jtID	uniqueidentifier	16	row id (identity)	primary
jtName	varchar	20	General job type category	

stState

Field Name	Field Type	Length	Description	Key
stState	char	2	State identifier	Primary
stName	varchar	20	State name	

soSystemOption

Field Name	Field Type	Length	Description	Key
soID	uniqueidentifier	16	row id (identity)	primary
stState	char	2	row id	foreign
soFirmName	varchar	30	Name of owner of website	
soAddress1	varchar	30	Mailing address1 of owner	
soAddress2	varchar	30	Mailing address2 of owner	
soCity	varchar	20	Mailing city of owner	
soZip	char	10	Mailing zip of owner	
soEmailBilling	varchar	30		
soDefaultCostPer Post	money	8	Default cost per position posting	

erEmployer

Field Name	Field Type	Length	Description	Key
erID	uniqueidentifier	16	row id (identity)	primary
stState	char	2	row id	foreign
erName	varchar	30	Name of employer	
erDescription	text	50	Description of company	
erAddress1	varchar	30	Mailing address1	
erAddress2	varchar	30	Mailing address2	
erCity	varchar	20	Mailing city	
erZip	char	10	Mailing zip code	
erHomePage	varchar	50	Homepage of company	
erCostPerPosting	money	8	Cost per position posting	

prProspect

Field Name	Field Type	Length	Description	Key
prID	uniqueidentifier	16	Row id (identity)	primary
stState	char	2	State resident in	
edID	uniqueidentifier	16	Education Level	Foreign
prLName	varchar	20	Last name	
prFName	varchar	20	First name	
prEmail	varchar	50	Email address	
prHomePhone	char	12	Home phone number	
prWorkPhone	char	12	Work phone number	
prWorkExt	char	4	Work extension number	
prCoverLetter	text	150	Cover letter information	
prResumeText	text	200	Resume	
prFax	char	12	Fax number	
prWebpage	varchar	50	Personal webpage	
prYearsExperience	int	4	Years of experience	
prAddress1	varchar	30	First address line	
prAddress2	varchar	30	Second address line	

prCity	varchar	20	City	
prZip	char	10	Zip Code	

usUser

Field Name	Field Type	Length	Description	Key
usUserName	char	10	Selected user name	primary
erID	uniqueidentifier	16	Employer	Foreign
prID	uniqueidentifier	16	Prospect	foreign
usPassword	char	10	Selected password	
usActive	char	1	Status of user access	
usUserType	char	1	Type of user gaining access	
usPWQuestion	varchar	30	Question for password reminder	
usPWAnswer	varchar	20	Answer for password reminder	

agAgent

Field Name	Field Type	Length	Description	Key
agID	uniqueidentifier	16	row id (identity)	primary
prID	uniqueidentifier	16		
agActive	char	1	Status of posted position	
agSchedule	char	1	Schedule to send saved queries	
agNextExec	datetime	8	Date to send saved queries	
agSQLText	text	16	Text to be sent in email	

apApplication

Field Name	Field Type	Length	Description	Key
apID	uniqueidentifier	16	row id (identity)	primary
jbID	uniqueidentifier	16	Posted position	foreign
prID	uniqueidentifier	16	Prospect	foreign
apApplyDate	datetime	8	Date applied for position	
apNotes	text	16		
apReplyDate	datetime	8		
apReplyNote	text	16		
apRecruitNote	text	16		
apReplyType	char	1		

edEducate

Field Name	Field Type	Length	Description	Key
edID	uniqueidentifier	16	row id (identity)	primary
edName	varchar	20	Formal school level	

Stored Procedures

agAgentDelProc

This stored procedure adds a new Customer to the system. It does so by adding a row to the Customer table with the customer's first name, last name, username and customer's password. It returns the newly added CustomerID as an Out parameter. This procedure is used on the Register.aspx.cs page.

```
/*
 * PROCEDURE: agAgentDelProc
 */

CREATE PROCEDURE agAgentDelProc
(
    @agID          uniqueidentifier)
AS
BEGIN
    BEGIN TRAN

    DELETE
        FROM agAgent
        WHERE agID = @agID

    IF (@@error!=0)
    BEGIN
        RAISERROR 20002 'agAgentDelProc: Cannot delete because foreign keys
still exist in agAgent '
        ROLLBACK TRAN
        RETURN(1)
    END

    COMMIT TRAN

    RETURN(0)
END
GO
```

spProductDetail

This stored procedure accepts a ProductID as an input parameter and returns product information to the caller in the form of output parameters. This procedure is used on the ProductDetails.aspx.cs page.

```
CREATE Procedure spProductDetail
(
    @ProductID      int,
    @ModelNumber    nvarchar(50) OUTPUT,
    @ModelName      nvarchar(50) OUTPUT,
    @Description    nvarchar(3800) OUTPUT,
    @ProductImage  nvarchar(50) OUTPUT,
    @UnitCost       money OUTPUT
)
AS
SELECT
    @ProductID      = ProductID,
```

```

        @ModelNumber = ModelNumber,
        @ModelName   = ModelName,
        @Description  = Description,
        @ProductImage = ProductImage,
        @UnitCost     = UnitCost

FROM
    Products

WHERE
    ProductID = @ProductID

```

spOrdersList

This stored procedure accepts a CustomerID as input and returns a list of all the user's orders in the Orders table. This procedure is used on the OrdersList.aspx.cs page.

```

CREATE Procedure spOrdersList
(
    @CustomerID int
)
As

SELECT
    Orders.OrderID,
    Cast(sum(orderdetails.quantity*orderdetails.unitcost) as money)
                                                as OrderTotal,
    Orders.OrderDate,
    Orders.ShipDate

FROM
    Orders
    INNER JOIN OrderDetails ON Orders.OrderID = OrderDetails.OrderID

GROUP BY
    CustomerID,
    Orders.OrderID,
    Orders.OrderDate,
    Orders.ShipDate

HAVING
    Orders.CustomerID = @CustomerID

```

agAgent

Entity Name agAgent
Entity Type Dependent
Primary Keys agID
Definition
Notes

Attributes

Attribute/Role Name	Domain	Datatype	Null	Definition
agID/		NUMERIC (18, 0)	ID	
prID/ prID		NUMERIC (18, 0)	N	
agActive/		CHAR(1)	N	
agSchedule/		CHAR(1)	N	
agNextExec/		DATE	Y	
agSQLText/		TEXT	Y	

Defaults, Rules and Check Constraints

Attribute	Type Default	Name	Restriction
-----------	-----------------	------	-------------

Relationships

Parent Entity	Child Entity	Type	Relationship Name
prProspect	agAgent	Non-Identifying	

Keys

Name	Type	Keys
PK5	Primary Key	agID

apApplication

Entity Name apApplication
Entity Type Dependent
Primary Keys apID
Definition
Notes

Attributes

Attribute/Role Name	Domain	Datatype	Null	Definition
apID/		NUMERIC (18, 0)	ID	
jbID/ jbID		NUMERIC (18, 0)	N	
prID/ prID		NUMERIC (18, 0)	N	
apApplyDate/		DATE	N	
apNotes/		TEXT	Y	
apReplyDate/		DATE	Y	
apReplyNote/		TEXT	Y	
apRecruitNote/		TEXT	Y	
apReplyType/		CHAR(1)	N	

Defaults, Rules and Check Constraints

Attribute	Type Default	Name	Restriction
-----------	-----------------	------	-------------

Relationships

Parent Entity	Child Entity	Type	Relationship Name
prProspect	apApplication	Non-Identifying	
jbJob	apApplication	Non-Identifying	

Keys

Name	Type	Keys
PK3	Primary Key	apID

edEducate

Entity Name edEducate
Entity Type Independent
Primary Keys edID
Definition
Notes

Attributes

Attribute/Role Name	Domain	Datatype	Null	Definition
edID/		NUMERIC (18, 0)	ID	
edName/		VARCHAR (20)	N	

Defaults, Rules and Check Constraints

Attribute	Type Default	Name	Restriction
-----------	-----------------	------	-------------

Relationships

Parent Entity	Child Entity	Type	Relationship Name
edEducate	jbJob	Non-Identifying	
edEducate	prProspect	Non-Identifying	

Keys

Name	Type	Keys
PK9	Primary Key	edID

erEmployer

Entity Name erEmployer
Entity Type Dependent
Primary Keys erID
Definition
Notes

Attributes

Attribute/Role Name	Domain	Datatype	Null	Definition
erID/		NUMERIC (18, 0)	ID	
stState/ stState		CHAR(2)	Y	
erName/		VARCHAR (30)	N	
erDescription/		TEXT	Y	
erAddress1/		VARCHAR (30)	Y	
erAddress2/		VARCHAR (30)	Y	
erCity/		VARCHAR (20)	Y	
erZIP/		CHAR(10)	Y	
erHomePage/		VARCHAR (50)	Y	
erCostPerPosting/		MONEY	Y	

Defaults, Rules and Check Constraints

Attribute	Type Default	Name	Restriction
-----------	-----------------	------	-------------

Relationships

Parent Entity	Child Entity	Type	Relationship Name
stState	erEmployer	Non-Identifying	
erEmployer	jbJob	Non-Identifying	
erEmployer	usUser	Non-Identifying	

Keys

Name	Type	Keys
PK1	Primary Key	erID

etEmployType

Entity Name etEmployType
Entity Type Independent
Primary Keys etID
Definition
Notes

Attributes

Attribute/Role Name	Domain	Datatype	Null	Definition
etID/		NUMERIC (18, 0)	ID	
etName/		VARCHAR (20)	N	

Defaults, Rules and Check Constraints

Attribute	Type Default	Name	Restriction
-----------	-----------------	------	-------------

Relationships

Parent Entity	Child Entity	Type	Relationship Name
etEmployType	jbJob	Non-Identifying	

Keys

Name	Type	Keys
PK10	Primary Key	etID

flFailLog

Entity Name flFailLog
Entity Type Independent
Primary Keys flID
Definition
Notes

Attributes

Attribute/Role Name	Domain	Datatype	Null	Definition
flID/		NUMERIC (18, 0)	ID	
flUserID/		VARCHAR (50)	Y	
flDate/		DATETIM E	Y	

Defaults, Rules and Check Constraints

Attribute	Type Default	Name	Restriction
-----------	-----------------	------	-------------

Relationships

Parent Entity	Child Entity	Type	Relationship Name
---------------	--------------	------	-------------------

Keys

Name	Type	Keys
PK15	Primary Key	flID

jbJob

Entity Name jbJob
Entity Type Dependent
Primary Keys jbID
Definition
Notes

Attributes

Attribute/Role Name	Domain	Datatype	Null	Definition
jbID/		NUMERIC (18, 0)	ID	
jbTitle/		VARCHAR (30)	N	
jbDescription/		TEXT	Y	
jbActive/		CHAR(1)	N	
jbLocation/		VARCHAR (20)	Y	
jbInitialPosting/		DATE	Y	
jbExpireDate/		DATE	Y	
lbHighSalary/		MONEY	Y	
jbInstructions/		TEXT	Y	
jbLowSalary/		MONEY	Y	
jbContactEmail/		VARCHAR (30)	Y	
jbContactName/		VARCHAR (30)	Y	
jbContactPhone/		CHAR(12)	Y	
jbFAX/		CHAR(12)	Y	
jbHomePage/		CHAR(12)	Y	
jbRequirements/		TEXT	Y	
etID/ etID		NUMERIC (18, 0)	N	
stState/ stState		CHAR(2)	N	
jdID/ jdID		NUMERIC (18, 0)	N	
edID/ edID		NUMERIC (18, 0)	N	
erID/ erID		NUMERIC (18, 0)	N	

Defaults, Rules and Check Constraints

Attribute	Type Default	Name	Restriction
-----------	-----------------	------	-------------

Relationships

Parent Entity	Child Entity	Type	Relationship Name
---------------	--------------	------	-------------------

erEmployer	jbJob	Non-Identifying
edEducate	jbJob	Non-Identifying
jtJobType	jbJob	Non-Identifying
stState	jbJob	Non-Identifying
etEmployType	jbJob	Non-Identifying
jbJob	apApplication	Non-Identifying

Keys

Name	Type	Keys
PK2	Primary Key	jbID

jtJobType

Entity Name jtJobType
Entity Type Independent
Primary Keys jdID
Definition
Notes

Attributes

Attribute/Role Name	Domain	Datatype	Null	Definition
jdID/		NUMERIC (18, 0)	ID	
jtName/		VARCHAR (20)	N	

Defaults, Rules and Check Constraints

Attribute	Type Default	Name	Restriction
-----------	-----------------	------	-------------

Relationships

Parent Entity	Child Entity	Type	Relationship Name
jtJobType	jbJob	Non-Identifying	

Keys

Name	Type	Keys
PK8	Primary Key	jdID

prProspect

Entity Name prProspect
Entity Type Dependent
Primary Keys prID
Definition
Notes

Attributes

Attribute/Role Name	Domain	Datatype	Null	Definition
prID/		NUMERIC (18, 0)	ID	
stState/ stState		CHAR(2)	Y	
edID/ edID		NUMERIC (18, 0)	N	
prLName/		VARCHAR (20)	N	
prFName/		VARCHAR (20)	N	
prEmail/		VARCHAR (50)	N	
prHomePhone/		CHAR(12)	Y	
prWorkPhone/		CHAR(12)	Y	
prWorkExt/		CHAR(4)	Y	
prCoverletter/		TEXT	Y	
prResumeText/		TEXT	Y	
prFAX/		CHAR(12)	Y	
prWebpage/		VARCHAR (50)	Y	
prYearsExperience/		INTEGER	Y	
prAddress1/		VARCHAR (30)	Y	
prAddress2/		VARCHAR (30)	Y	
prCity/		VARCHAR (20)	Y	
prZIP/		CHAR(10)	Y	

Defaults, Rules and Check Constraints

Attribute	Type Default	Name	Restriction
-----------	-----------------	------	-------------

Relationships

Parent Entity	Child Entity	Type	Relationship Name
edEducate	prProspect	Non-Identifying	
stState	prProspect	Non-Identifying	
prProspect	apApplication	Non-Identifying	

prProspect
prProspect

agAgent
usUser

Non-Identifying
Non-Identifying

Keys

Name	Type	Keys
PK4	Primary Key	prID

soSystemOption

Entity Name soSystemOption
Entity Type Dependent
Primary Keys soID
Definition
Notes

Attributes

Attribute/Role Name	Domain	Datatype	Null	Definition
soID/		NUMERIC (18, 0)	ID	
stState/ stState		CHAR(2)	Y	
soFirmName/		VARCHAR (30)	N	
soAddress1/		VARCHAR (30)	Y	
soAddress2/		VARCHAR (30)	Y	
soCity/		VARCHAR (20)	Y	
soZIP/		CHAR(10)	Y	
soEmailBilling/		VARCHAR (30)	Y	
soDefaultCostPerPost/		MONEY	N	

Defaults, Rules and Check Constraints

Attribute	Type Default	Name	Restriction
-----------	-----------------	------	-------------

Relationships

Parent Entity	Child Entity	Type	Relationship Name
stState	soSystemOption	Non-Identifying	

Keys

Name	Type	Keys
PK11	Primary Key	soID

stState

Entity Name stState
Entity Type Independent
Primary Keys stState
Definition
Notes state id code

Attributes

Attribute/Role Name	Domain	Datatype	Null	Definition
stState/		CHAR(2)	N	
stName/		VARCHAR (20)	N	

Defaults, Rules and Check Constraints

Attribute	Type Default	Name	Restriction
-----------	-----------------	------	-------------

Relationships

Parent Entity	Child Entity	Type	Relationship Name
stState	jbJob	Non-Identifying	
stState	erEmployer	Non-Identifying	
stState	prProspect	Non-Identifying	
stState	soSystemOption	Non-Identifying	

Keys

Name	Type	Keys
PK7	Primary Key	stState

usUser

Entity Name usUser
Entity Type Dependent
Primary Keys usUserName
Definition
Notes

Attributes

Attribute/Role Name	Domain	Datatype	Null	Definition
usUserName/ erID/ erID		CHAR(10) NUMERIC (18, 0)	N Y	
prID/ prID		NUMERIC (18, 0)	Y	
usPassword/ usActive/ usUserType/		CHAR(10) CHAR(1) CHAR(1)	N N N	

Defaults, Rules and Check Constraints

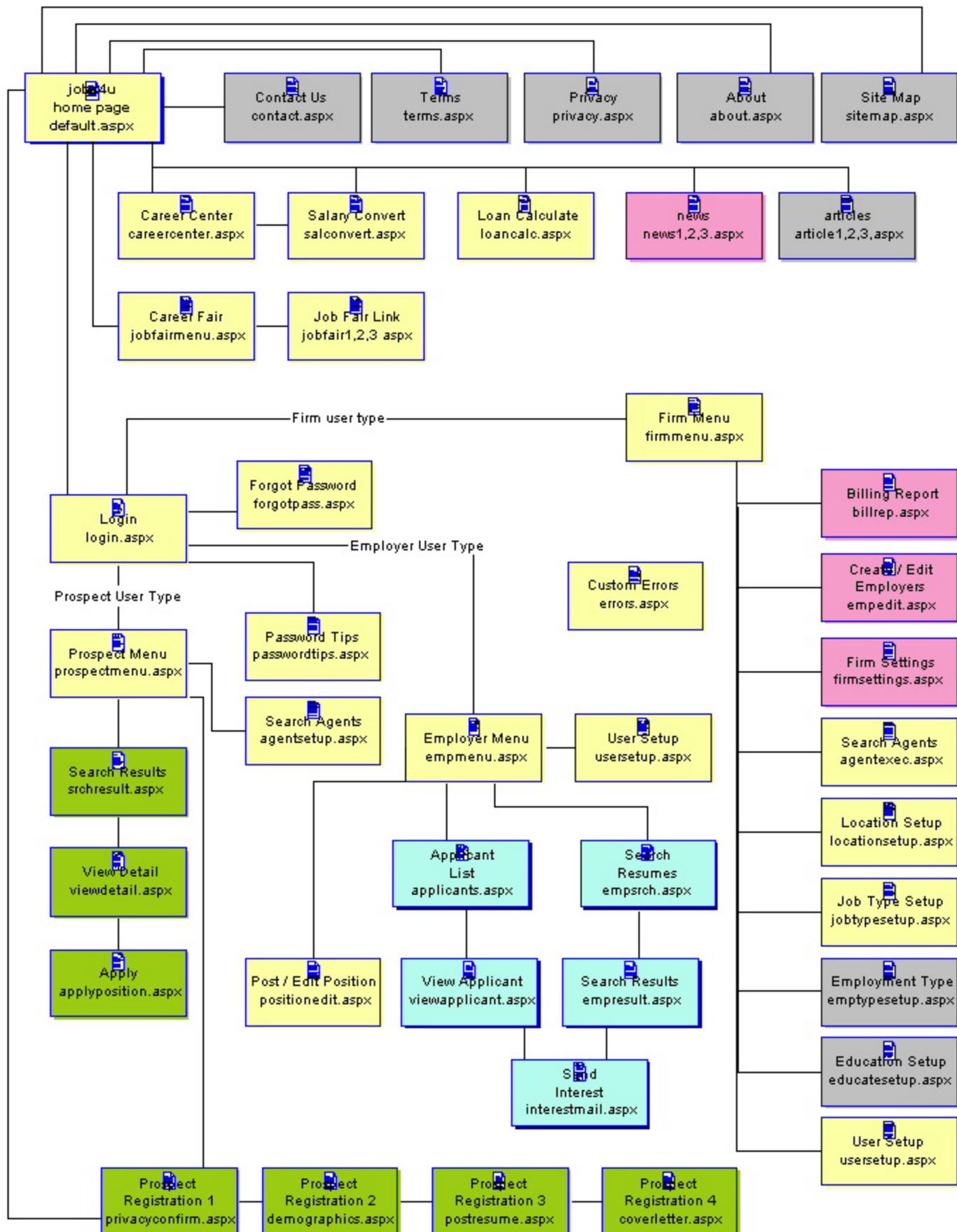
Attribute	Type Default	Name	Restriction
-----------	-----------------	------	-------------

Relationships

Parent Entity	Child Entity	Type	Relationship Name
prProspect erEmployer	usUser usUser	Non-Identifying Non-Identifying	

Keys

Name	Type	Keys
PK13	Primary Key	usUserName



Jobs4u User Manual

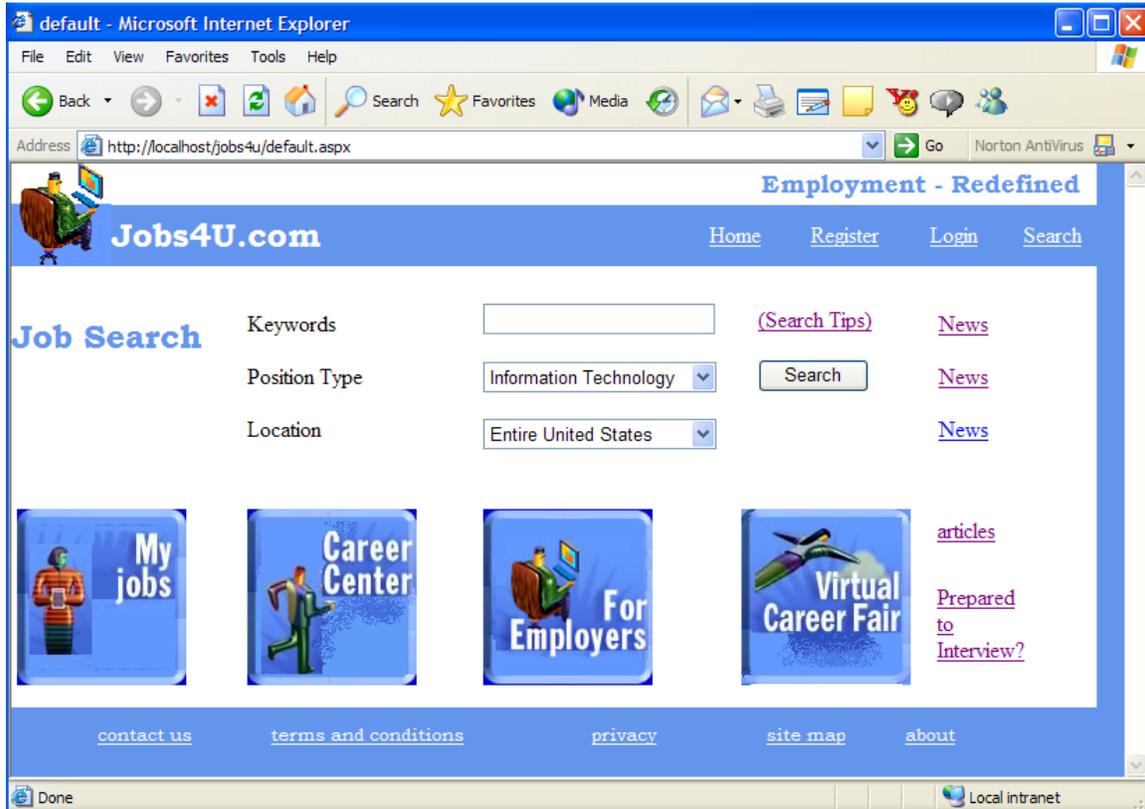
ISM 4243
C# Project Class

4/14/2005

Project Team: Bradley Korn
Dave Peters
Kim Alonso
Patrick Hollander
Nick Phung

Public Content

Homepage



The root of the Jobs4u website is the homepage (default.aspx). From here, visitors may visit the publicly available content, which is housed in the Career Fair (staticforms/jobfair.aspx) and the Career Center (staticforms/careercenter.aspx). Also available from the homepage is a user login page for registered users, either prospect users or employer users. As well, there are links to search tips (staticforms/searchtips.aspx), and a number of news items (staticforms/news1.aspx, staticforms/news2.aspx, staticforms/news3.aspx, etc.) and job search-related articles (staticforms/articles.aspx).

Any visitor to the site also has the ability to perform a keyword search of job postings, right from the homepage. The visitor simply enters keywords (i.e. “developer”, “administrator”, “carpenter”, etc.) into a text box, selects a position type from a drop-down box, and selects a location from a drop-down box.

Career Center and Job Fair

The Career Center (staticforms/careercenter.aspx) offers visitors links to various news items (staticforms/news1.aspx, staticforms/news2.aspx, staticforms/news3.aspx, etc.) and job search-related articles (staticforms/article1.aspx, staticforms/article2.aspx, staticforms/article3.aspx, etc.). From here, there is an external link to a salary conversion tool (<http://www.homefair.com/homefair/calc/salcalc.html>). The Career Center is also the launching point for the Jobs4u Loan Calculator (staticforms/loancalc.aspx), where an existing openly accessible web service will assist visitors with calculating loan payments.

The Job Fair (staticforms/jobfair.aspx) provides external links to various job fair sites (<http://www.jobfairohio.com>, <http://www.jobfairs.iupui.edu>, <http://www.psijobfair.com>, <http://www.mcjf.org>, etc.).

Header Links

Displayed on every page throughout the Jobs4u site is the header user control (controls/header.ascx), providing links to often-visited pages. There is a link to return to the homepage (default.aspx), a link to register as new prospect user (prospect/privacyconfirm.aspx), a link to the user login page (login.aspx), and a link to the job search page (default.aspx).

Footer Links

In addition to the header, a footer user control (controls/footer.ascx) is also displayed on every page, providing links to general content. From here, one can visit the Contact Us page (staticforms/contact.aspx) to send correspondence to the Jobs4u Webmaster, view the Jobs4u Terms and Conditions (staticforms/terms.aspx), read the Jobs4u Privacy Statement (staticforms/privacy.aspx), browse the Jobs4u sitemap (staticforms/sitemap.aspx), or learn about Jobs4u (staticforms/about.aspx).

Register

New User Registration Page 1 - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://localhost/jobs4u/prospect/privacyconfirm.aspx> Go Norton AntiVirus

Employment - Redefined

Jobs4U.com Home Register Login Search

First Things First...

Please enter a UserID and Password. If the UserID you have entered is already in use, you will be prompted to choose another UserID. Remember that UserID's and Passwords are case-sensitive.

UserID

Password

Confirm Password

Users of Jobs4u.com must agree to the [Terms and Conditions](#) and the [Privacy Statement](#) of Jobs4u before registering. Registering will allow you to post your resume and apply for jobs online.

I have read and agree to the [Terms and Conditions](#) of Jobs4u.

I have read and agree to the [Privacy Statement](#) of Jobs4u.

Once you have read and agreed to the [Terms and Conditions](#) and the [Privacy Statement](#), you may continue the registration process. You may at any time view either the [Terms and Conditions](#) or the [Privacy Statement](#) from the links provided at the top of the page.

Continue Cancel Registration

[contact us](#) [terms and conditions](#) [privacy](#) [site map](#) [about](#)

Local intranet

The Register area of Jobs4u is where job search prospects come to begin the process of finding a new career. During the course of registration, the prospect may submit his or her entries by clicking the 'Continue' button, or discard the registration at any time by clicking the 'Cancel' button.

The first page of the registration process (prospect/privacyconfirm.aspx) asks the prospect to enter a Username and Password, and to read and agree to the Terms and Conditions (staticforms/terms.aspx) and the Privacy Statement (staticforms/privacy.aspx) of Jobs4u. The prospect must agree to the Terms and Conditions and the Privacy Statement in order to access the full benefits of Jobs4u. Jobs4u will then check to see if that Username has been used, and, as long as the Username is available, the registration process continues.

The next page of the registration process (prospect/demographics.aspx) collects all the prospect's personal information, including first name, last name, address, city, state, zip code, home phone, work phone, fax, email address, homepage, highest level of education,

and years of experience. The data is collected by means of textboxes and drop-down lists. Once the prospect's information has been validated, the registration process continues.

On the third page of the registration process (prospect/postresume.aspx), the prospect must post his or her résumé. A multi-line textbox is provided, into which the prospect must paste his or her résumé. Once the prospect has done so, the registration process continues.

On the fourth page of the registration process (prospect/coverletter.aspx), the prospect must post his or her cover letter. A multi-line textbox is provided, into which the prospect must past his or her cover letter. Once the prospect has done so, clicking the 'Complete Registration' button will complete the registration process. The registered user is then redirected to the job search page (prospectsrch.aspx).

Login

The screenshot shows a web browser window titled "Login - Microsoft Internet Explorer". The address bar displays "http://localhost/jobs4u/login.aspx". The page features a blue header with the "Jobs4U.com" logo and navigation links for "Home", "Register", "Login", and "Search". The main content area contains a login form with two text input fields: "Username" and "Password". To the right of the "Username" field is a "Login" button. To the right of the "Password" field is a "Cancel" button. Below these buttons is a "Forgot my password" button. A message below the buttons reads: "If you have registered, your password will be sent to you via email. If you have not registered, you may do so by clicking 'register' at the top of this page." The footer contains links for "contact us", "terms and conditions", "privacy", "site map", and "about".

This is the gateway to all the content that Jobs4u has to offer. Here the user completes the login process by entering his or her Username and Password, and clicking the 'Login' button. The user may also abort the login process by clicking the 'Cancel' button.

If the user has forgotten his or her password, he or she may click the 'Forgot My Password' button, which will link to the Forgotten Password page (forgotpass.aspx). Here the user may enter his or her email address to have the password associated with that

email address sent there. Here there is also a link to the Password Tips page (staticforms/passwordtips.aspx).

Depending upon the user's type (prospect, employer, or firm), the login process will redirect the user to the correct menu page. For prospects, this will be the Prospect Menu (prospect/prospectmenu.aspx). Employer users will be redirected to the Employer Menu (employer/empmenu.aspx), and firm users will be redirected to the Firm Menu (firm/firmmenu.aspx).

Error Page

Any time an error is encountered which prevents a page from executing on the server, before being transmitted to the user, the Custom Errors page (errors.htm) is displayed.

Restricted Content

Prospect Users

Prospect Menu

Once logged-in, a prospect has three choices from the Prospect Menu (prospect/prospectmenu.aspx). He or she may choose to perform a job search (prospectsrch.aspx), setup search agents (prospect/agentsetup.aspx), or update his or her personal information (prospect/privacyconfirm.aspx).

Job Search

A prospect may search job postings from the Job Search page (prospectsrch.aspx). There, he or she may execute a job search by entering keywords (i.e. "entry-level", "administrator", "part-time", etc.) into a text box, selecting a position type from a drop-down box, and selecting a location from a drop-down box. The job search is submitted and compared against the existing job postings.

The results of the search are returned on a Search Results page (srchresult.aspx). Here, the resulting job postings matching the entered criteria are displayed in a data grid control, with each posting represented by a link. Clicking on a job posting will take the prospect user to the detailed job posting (viewdetail.aspx). The prospect may execute a new search by clicking the 'New Search' button.

A detailed Job Posting page (viewdetail.aspx) contains all the pertinent information about the posting, including employer information, position description, and application instructions. The prospect may also apply for the position by clicking on the 'Apply For This Position' button. This will send the prospective employer notice of the prospect's application, and display the Position Applied For page (applyposition.aspx).

From the Position Applied For page (applyposition.aspx), the prospect may choose to return to the Prospect Menu (prospectmenu.aspx), or perform another job search (prospectsrch.aspx).

Search Agents

The Setup Search Agents page (prospect/agentsetup.aspx) allows the prospect to create agents that will automatically (from the prospect's point of view) send him or her job posting results matching certain criteria. On this page, the prospect enters the required information to construct a new search agent, including keywords, position type, and location. The prospect's current agents are displayed in a data grid structure, allowing he or she to remove, disable, or enable existing agents.

Update Personal Information

New User Registration Page 2 - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://localhost/jobs4u/prospect/demographics.aspx> Go Norton AntiVirus

Employment - Redefined

Jobs4U.com [Home](#) [Register](#) [Login](#) [Search](#)

Now We Need to Know a Little About You...

Let us know about who you are, so you can begin using the best features of Jobs4U.

First Name Last Name

Address

Address Cont'd

City State Zip Code

Home Phone

Work Phone Ext.

Fax Phone

Email

Website

Education Experience

[contact us](#) [terms and conditions](#) [privacy](#) [site map](#) [about](#)

Done Local intranet

The update personal information process takes a prospect through the registration pages ([prospect/privacyconfirm.aspx](#), [prospect/demographics.aspx](#), [prospect/postresume.aspx](#), and [prospect/coverletter.aspx](#)) that he or she completed during his or her initial registration. The values that the prospect has on file will be entered into the various web form controls (text boxes, drop-down lists, and check boxes), and the prospect has the ability to make any changes to the information. By clicking the 'Continue' button, the prospect submits any changes made to the information. Once the update personal information process is complete, the prospect is redirected to the Prospect Menu ([prospect/prospectmenu.aspx](#)).

Employer Users

Employer Menu

Once logged-in, the employer user is presented with the Employer Menu (employer/empmenu.aspx), where he or she has the choice of setting up users for his or her firm (employer/usersetup.aspx), posting new positions or editing current postings (employer/positionedit.aspx), searching through prospect résumés (employer/emprschr.aspx), or viewing the list of applicants (employer/applicants.aspx).

User Setup

The screenshot shows a web browser window titled "usersetup - Microsoft Internet Explorer". The address bar displays "http://localhost/jobs4u/firm/usersetup.aspx". The page features a blue header with the Jobs4U.com logo and the slogan "Employment - Redefined". Navigation links for Home, Register, Login, and Search are visible. The main content area is titled "USER" and contains a "Create New User" form. The form includes input fields for User Name, Employer ID, Prospect ID, User Password, User Active, and User Type. Below the form are "Save" and "Cancel" buttons. The footer contains links for contact us, terms and conditions, privacy, site map, and about.

The User Setup page (employer/usersetup.aspx) is where an employer may add different users, agents of the employer who are authorized to make decisions regarding employment (such as posting positions, editing postings, and setting up interviews with applicants and prospects). The current users for this employer are displayed in a data grid, for viewing, editing, or deleting.

Position Posting

On the Position Posting Page ([employer/positionedit.aspx](#)), an employer may post new positions, edit current postings, deactivate or reactivate postings, or delete postings. To add a new posting, the user must enter all the pertinent information in various text boxes, including the position title, description, location, valid dates, salary range, contact information, requirements, and application instructions. Current postings are displayed in a data grid, where they may be edited or deleted.

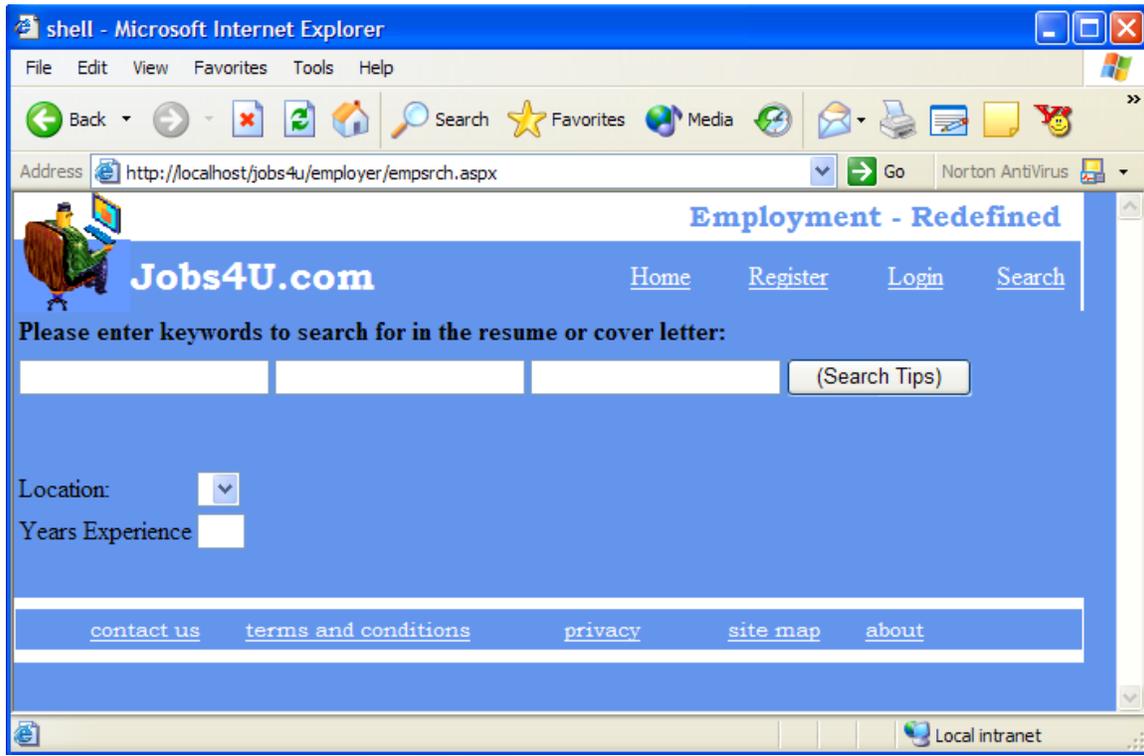
Applicant List

On the Applicant List page ([employer/applicants.aspx](#)), the user views a list of current applicants for each job posting the employer currently has. The user chooses the posting for which to view applicants from a drop-down list, and the applicants are displayed as hyperlinks in a data grid. By clicking the hyperlink for a specific applicant, the user will be taken to the View Applicant page ([employer/viewapplicant](#)).

On the View Applicant page ([employer/viewapplicant](#)), the user views the applicant's details, including his or her résumé and cover letter. If the employer decides to proceed with the application process, the user can click on the 'Email Applicant' button. This will redirect the user to the Send Interest Mail page ([employer/interestmail.aspx](#)).

From the Send Interest Mail page ([employer/interestmail.aspx](#)), the user may send the applicant an email message attempting to setup an interview, by clicking the 'Send' button. The user may also abort the process at any time by clicking the 'Cancel' button, which will redirect he or she to the previous page.

Search Résumés



On the Search Résumés page (`employer/empsrch.aspx`), the user will be able to execute a search of the current prospective employees. The user may enter keywords to search for, as well as specifying the prospect's location and years of experience. By clicking the 'Search Tips' (`staticforms/searchtips.aspx`) button, the user can view hints for creating better searches. Clicking the 'Search' button executes the search and displays the results in a Search Results page (`employer/empresult.aspx`).

The Search Results page (`employer/empresult.aspx`) displays a list of applicants as hyperlinks in a data grid. By clicking the hyperlink for a specific applicant, the employer may proceed with the application process by clicking on the 'Send Email' button. This will redirect the user the Send Interest Mail page (`employer/interestmail.aspx`).

From the Send Interest Mail page (`employer/interestmail.aspx`), the user may send the applicant an email message attempting to setup an interview, by clicking the 'Send' button. The user may also abort the process at any time by clicking the 'Cancel' button, which will redirect he or she to the previous page.

Firm Users

Firm Menu

Once a firm user is logged-in, the Firm Menu (firm/firmmenu.aspx) is displayed. From here there are several options, including view billing reports (firm/billrep.aspx) and executing search agents (firm/agentexec.aspx). All the other options available from the Firm Menu relate to editing database tables.

Execute Search Agents

The Execute Search Agents page (firm/agentexec.aspx) is the interface that allows Jobs4u to provide prospects with the ability to receive job postings via email. The execute search agents process must be run daily to ensure the timeliness of the information that reaches the prospect. There are Daily, Weekly and Monthly Agents. Once the execute button has been clicked, the agents will be run against the current job postings, resulting in a number of matches for each prospect. The results will then be emailed to each prospect automatically.

Edit Database Tables

All the other options available from the firm menu involve editing the database tables that support the Jobs4u website. The options include Maintain Employers (firm/empedit.aspx), Firm Settings (firm/firmsettings.aspx), Maintain Job Types (firm/jobtypesetup.aspx), Maintain Locations (firm/locationsetup.aspx), Maintain Employment Types (firm/emptypesetup.aspx), Maintain Education Levels (firm/educatesetup.aspx), and Maintain Users (firm/usersetup.aspx). Each table's current contents are displayed in a data grid control, with an 'Edit' and 'Delete' button for each record. There are also a number of data entry controls at the top of the page for entering new records.

Billing Report

billrep - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://localhost/jobs4u/firm/billrep.aspx> Go Norton AntiVirus

Employment - Redefined

Jobs4U.com Home Register Login Search

Billing Report

Beginning Date

June 2003						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
25	26	27	28	29	30	31
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	1	2	3	4	5

End Date

June 2003						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
25	26	27	28	29	30	31
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	1	2	3	4	5

Local intranet

Once the firm user has chosen the Billing Report page (firm/billrep.aspx), he or she may compile an invoice, which can be either printed for postal mail or emailed directly to an employer. The user chooses the employer from a drop-down list, and specifies the dates for which to compile the report from calendar controls. Clicking the 'Preview' button will display the report, in a new window, in a printable format.

Project Participation Report

Project Site: Jobs4U

ISM 4243
C# Project Class

Bradley A. Korn

April 14, 2005

Project Team: Dave Peters
Kim Alonso
Patrick Hollander
Bradley Korn
Nick Phung

Team Lead

1.0 Personal Contribution

For each successive project assignment, my personal contribution increased. I did not personally contribute much to the first project assignment, the project proposal. I was unable to attend the first group meeting, and as a consequence, I was left out of the decision-making process that led to the project proposal. However, I must emphasize that I agreed with all of the decisions made by my colleagues in my absence.

I also did very little for the second project assignment, the site map. Our team leader provided us with a site map already constructed, and we, the other team members, merely created blank pages with links, in order to form the skeleton of the application.

By the third project assignment, the site prototype, I was starting to contribute more and more. I implemented the ideas I had been forming, adding as much static content as I could think of at the time. At this point in the site development process, I had ownership of a collection of pages, for which I was primarily responsible for constructing. It was also during the work on the prototype that I authored the first version of the site's user guide. Before the team submitted the prototype and the user guide, the team leader revised the guide to produce the second version of the user guide.

For the next project assignment, the data model and class interfaces, I began to contribute as much as the team leader. All but one of the class interfaces were my work, or directly based on my work. The team leader, with the extensive assistance of one other team member, prepared the data model and its documentation.

During the completion of the fifth project assignment, the preliminary project code, I contributed extensively. Not only did I code and test all my own pages and classes, but I also assisted my other colleagues with their coding. My coding responsibilities included the registration forms, which double as the user profile administration pages, the core job search functionality, the pages that deal with a job search, and the classes that deal with a prospect user, a job search, and an employer billing report. I was also responsible for the site's only style sheet. Eventually, I migrated some of the functionality of the job search class to a web service.

2.0 Team Evaluation

At times the team seemed to work very well together, at others, not so well. Each team member, including myself, needs to work on his or her communication skills. It also did not help that the team members' knowledge was unevenly distributed. The team leader and myself have previous coding experience, therefore the other team members repeatedly and constantly asked for assistance. The fact that they were requesting assistance was not so much a detriment as the constant barrage of questions often precluded me from spending a good amount of time on my own work. I feel that most of my teammates were not well prepared to take this class.

There were bright spots, however. The team met as often as possible and developed a consensus on how to proceed, as opposed to the team leader directing the group in a specific manner. Certain individuals volunteered to complete code sections and documents. The team leader's knowledge and experience were invaluable assets to the completion of this project. We, the team members, all owe him a debt of gratitude that can probably never be repaid.

3.0 Lessons Learned

As for myself, I continued to develop my interpersonal communication skills. I helped my colleagues to the best of my abilities, at times almost to my own detriment. I would have to say that during the course of this project, I have learned a great deal, probably more than in any other college class up to this point in time.

4.0 Project Evaluation

We were able to implement the majority of our ideas in the construction of this application. A few were left with limited functionality.

The areas that need more work include: the employer billing report, the various database table administration pages, the style sheet, and the user guide. Unfortunately, these areas had to be hastily assembled. Many of the database table administration pages do not contain validation controls, and if they do, the controls function improperly. Many of the same pages contain no easy way of navigating back to the firm menu page. The employer billing report page generates a report properly, but there was no time to implement report printing or emailing functionality, which would require yet another alteration to a database table. Lastly, the styles defined in the style sheet are very basic. Had there been more time, the team could have better developed the aesthetic appeal of the site. It would also be nice if there were a way to logoff of the site.

5.0 Course Comments

The course itself employs a well-intentioned curriculum. To its detriment, most students will be ill equipped to complete this course once they reach it. In the courses preceding this class there was not enough time spent on object-oriented application development, nor was there a class required in website development. The university has already acted on the lack of course work regarding object-oriented application development, and hopefully this should allow more time in this project course for website development.

The path that a student takes to complete his or her management information systems major curriculum is confusing and not well defined. The College of Business advising office issues recommendations that conflict with the information presented in the undergraduate catalog. To make matters worse, the Information Technology and Operations Management department has just changed the curriculum again, and the published program is still in conflict with the information doled out by the advisors. The entire department should consider getting its act together within the College of Business.

I do feel this course will assist the student in finding employment. As a consequence of this course, I feel prepared to work in positions requiring knowledge of websites and object-oriented programming in the .NET framework.