

بسم الله الرحمن الرحيم

Isra University College of Information Technology



جامعة الاسراء كلية تكنولوجيا المعلومات

# Isra Community IC

مشروع تخرج مقدم لكلية تكنولوجيا المعلومات في جامعة الاسراء للحصول على درجة البكالوريوس في تخصص هندسة البرمجيات

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### Abstract

This project is a Social Network for a University Alumnus, it is intended to provide means for alumnus to communicate share and benefit from each other, it also include Instructors and Admins too, the main point of this project is to help students after graduation to :

- See his old friends
- Share his things with them
- Find his instructors
- Communicate with his/her instructors
- Find new job openings
- Be updated with the university news and events

This project also enables the university to follow up its students after graduation and let them communicate throw its monitoring and management, so admins will be employed from the university and instructors are included as project user.

This project include many facilities for his users, student can post comments, send messages, ask for friend ship and share images and updates, instructors can see their students and communicate with other instructors, and also post comments, send messages, ask for friend ship and share images and updates, and the project also provide admins with facilities to add, manage, maintain users : students and instructors .

The project also will be a center for job openings and university news and events, it will be as a window for alumnus to keep up with the university news and it will serve as a door to their future by catching the right job opening which they fit in .

The project help alumnus in their preparation for work and give them the right equipments for the after graduation life, and this done by feeding them with the right knowledge about Cv's and how to write them, step by step walkthrough and CV's Examples for each major, and the project provide information about interviews and how to pass them safely, and what questions may be asked during these interviews .

### Introduction

We always hear the alumnus complaint about how life make it hard to find and communicate with their friends, and how every body is just so busy to catch their chances in a good careers, we also hear how they all concerns about how to make good Cv's and to make good interviews, and from all the previews, the idea of a solution became vital, so this project became to solve these problems.

So I started to see alumnus and ask them about : "what things do you need as you're graduated now, what do you want the university to provide ?", and it all became clear that's there is no doubt we need a social network for our alumnus, and also to provide them with means of communication that keep up with newly used ways of communication, and provide them with a trusted source for job openings and preparation for job applying guidance.

I instantly started to search for the right objectives for this project, as we all know that the good projects comes with the right goals, so after a wise thinking and asking expert people we knew that the project should do the following main things :

- Simple but powerful (have all alumnus needs, just alumnus)
- Event and news section
- Job openings section
- Communicate with Instructors
- Add friends, Share images and texts
- Include messages facilities
- Easy to use
- Admin monitoring
- Cv's guidance
- Interviews guidance
- Alumnus search facilities
- Provide friend finder tools

So these are the core objectives of the project and to accomplish that I'll use the newest technologies, tools and standards, to keep the project at a good quality level. This project will have four users :

- 1) Alumnus
- 2) Instructor
- 3) Admin
- 4) Head Admin

Each of them will have his own interface and his own tools and his own facilities, the Alumnus can see friends, communicate and share, see jobs and university news, instructor have same things that the alumnus have but not all, the admin cant do much of what an alumnus do, but he can maintain users information and manipulate users as required, the head admin can do what an admin does but in addition he can manipulate admin users (add, delete, ....).

To make testing easier I will use some coding standards and guidelines , and the functionality will be divided to models each with a particular thing to do . and then each section will be tested and reviewed against errors .

The whole system will be tested against prepared data output, and actual users will then be examining the system for the users usage, reports will be written and actions will be taken, and testing is going to be conducted again tell we get it right.

During the project possible risks and limitations may arise , such risks :

- Time won't be enough
- Shortage in tools used to develop the project
- Health problems
- And unaccepted risks .

I will talk in details about project objectives and requirements next

Analysis and design have their own chapters, screen shots will be provided, models and figures will be demonstrated.

### Main Problem

The problem is how to provide a system that will help university alumnus to find, communicate and shre with each other, as well as to benefit from the job offerings and keep up with the university updates.

### The main objective

The main objective is to build the system that will allow alumnus to find, communicate and share with each other, as well as to benefit from the job offerings and keep up with the university updates.

### The detailed objectives

- To provide alumnus with means to communicate
- To enable sharing and files sending
- To enable messages transferring between users
- To include instructors in the system
- Allow instructors to communicate with alumnus and with each other
- To keep all the activities under the university responsibilities
- To provide a search facilities for other alumnus and instructors
- Allow the university to make reports about users
- The system should be secure against unauthorized access
- To provide an easy and organized interface
- To keep familiarity within the system (what the users are custom to use)
- To maintain an academic and interesting environment for the users

### Project importance and features

This project is important as it is the mean by witch alumnus will keep in touch with the university and with each other and also the university with them .

This project include the following additional features against other projects :

- It includes facilities to provide an easy and fast communication
- It has a section for university news and events
- It has a section for job offerings
- It has a section for job applying guidance
- It has an easy and beautiful interface

### Procedures

This project will be divided to smaller functionalities and each will be done by a control (Web Control), this will help us in reusability and in maintainability, the project will be decomposed into these controls which carry out the system functionality.

The database access will be performed by using a class that manages data of a particular table so we'll have a class for each table, which means that we will have 22 class for 22 table in the database .

There will be a coding standard witch specify a particular way of naming variables and objects , and to define witch functions belong to what calss .

I will use the iterative method to accomplish this project, which is the best way as its fixable and it allow us to change things that we finished and let us do correct what is wrong .



### Tools and devices

Tools:

Microsoft Visual Web Developer 2008

SQL Server 2008

Class Creator

Languages :

ASP.Net, VB.net, JavaScript, HTML, CSS

# Design

### **Design Introduction**

In this chapter I will talk about database design, what are the tables, what data should the tables store, the relation between these tables , and I will also provide a detailed data dictionary for every table in the database to define what are the attributes, what is the type for each one and is it null able or not .

This chapter will also include some design models such as Class diagram, database diagram and Data Flow Diagrams, and I will show what Architecture Style to use and why .

#### This chapter includes :

- Architecture Style
- Data dictionary
- Database diagram
- Class Diagram
- DFD (Data Flow Diagram)

# **Implementation and Testing**

### Implementation and Testing Introduction

In the Design chapter I talked about data base design and classes and there relations and attributes , in this chapter I will talk a bout how to implement these things and using what tools (Software and languages), I will also talk about system interfaces .

Also in this chapter I will talk about testing , what testing techniques I used and what results I had and I will place some of the project test cases .

This chapter includes :

- How to implement
- System interfaces
- System testing
- Future Work

### How to implement

Implementation will be done in three levels :

#### Level 1

is about database and the relations between its tables, and I will implement it using the SQL Server 2008 DBMS as it's a good will functioning system that can deal with a lot of traffic .

#### Level 2

is to implement system interfaces using Microsoft Visual Web Developer 2008, ASP.net and VB.net, and I will use them as they are easy to use and have many useful tools.

#### Level 3

is to connect the database with the system interfaces , and to integrate all the components of the system to reach the whole functionality .

## System Testing

In this section I will talk about system testing, what techniques did I use , what was the results and what test cases I used .

Testing was conducting in a multi level way :

• Unit testing :

Every single class and every single user web control was tested by inspection and walkthrough, until they were clear from errors and full functioning .

• Integration testing :

Include testing how components work together, and manage the relations between classes and controls, in a way that will ensure the logical data flow within the system.

• System testing :

To test the system as a whole, how it works , does it function right ? does it satisfy the user ?

Testing goals :

- To detect design and code errors .
- To correct the detected errors
- To develop a check list for the up coming projects, so we don't repeat our mistakes a gain .
- To maintain a good software quality that satisfies the user

• To develop a good and well functioning system, that will serve for along time .

Now Testing Techniques  $\rightarrow$ 

I used two testing techniques to test this system :

1) Black Box Testing, Using prepared Test cases

Using prepared test cases hat we expect what the system response should be is a good way to test systems, and to ensure the right process I used a template to tune this operation.

2) The Usability Testing, by its users (think load technique)

I bring candidate users and made them try this system, and thinking load when doing this, to let me know what problems may counter the user during his work with the system. (will not mention it here as it has its own Reports)

now lets see some of the system test cases :

### **Future Work**

There is some things that I wanted to do in this project but I couldn't due time restrictions, but I have the intention to do them later, and they are :

- Include AJAX
- Make the website Multi language (especially Arabic language)
- Introduce many interfaces styles
- Include chatting facilities

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