

LinkedOut

Requirements Analysis and System Design

Group 14

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Version: 1.5

03-25-2016

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Website Links

Github: <https://github.com/MaddenMark1495/Career-Based-Social-Network>

Google Drive: https://drive.google.com/open?id=0B0t_K_ZGld4eSV9mUGlhRkVLQkE

Database Deployment

MySQL database deployed on Azure in tandem with Ubuntu Virtual Machine for website development hosting.

DDL for base database tables:

https://drive.google.com/open?id=0B_Rbp0XRbRZETFBdTzJkVnBzZmM

Link to website: <http://swegroup14.centralus.cloudapp.azure.com/>

Changelog

V0.1	2-25-2016	Requirement analysis rough draft created
V1.0	3-20-2016	Initial requirement analysis document completed
V1.5	3-25-2016	Sprint 1: database deployment, testing, & user interface

Glossary

Activity Feed - Displays activity from your network, such as comments and profile changes.

Company Page - A page for companies to share information about their business and to make updates.

Connection - An indication that someone has accepted an invitation to connect, allowing the viewing of each other's profiles.

Degrees – How you are connected to others through people or groups.

Follow – A way to see updates in your news feed from people you are interested in.

Group - Allows users to come together and meet on a single page to communicate about a common subject.

Headline – Informative and concise information about your prospects.

Inbox - A place where messages can be sent, received, and viewed.

Introduction - A way for someone to bring two people who are not connected together.

Invitation - A notification to a user to join a network and form a new connection.

Mention - A tag that links a person or company in a post to their corresponding page.

Message - A private form of communication between two connected users.

Network - A group of users that one is connected to and can contact.

Profile - A page for users to share information about themselves, their job history, and experience.

Recommendation - A comment intended to commend someone, based on their experience, to viewers of their profile.

Update - Status changes and posts that appear on activity feeds.

Project Summary

The project's name is LinkedOut and it is a career-based social network designed for the professional business community. The goal of this site is to have users establish connections with other users on a professional level. A user has the option to create a profile page where they can display their professional experience and achievement, such as education and employment history. A user can then connect to other users and share this information with them.

LinkedOut has many features, but one of its main features is a messaging tool that allows users who are connected to communicate with each other privately. The application as a whole can be used in such a way that a user can create a professional brand for themselves. By doing so, a user can pursue their career passion by browsing profiles and connecting with professionals in their field, turning professional relationships into opportunities.

Functional & Non-Functional Requirements

Functional requirements:

- User can create accounts:
 - Users can set up account type
 - Users can edit account profile
- Job board:
 - Users can post jobs:
 - Users can post job descriptions/requirements
 - Users can make jobs displayed on the job board:
 - Users can make the posted jobs sorted by time or type
 - Users can save Jobs
- Apply:
 - Users can send Resume

Non-functional requirements:

- Security:
 - Users can has identification number
- Notifications:
 - Users can receive email notifications
- Search engine:
 - Users can search by university
 - Users can search by interests
 - Users can search by location
- File Review Online:
 - Users can review/edit resume online
 - Users can review/edit job descriptions
- Comments:
 - Users can post comments to company
 - Users can post comments to person

User & System Requirements

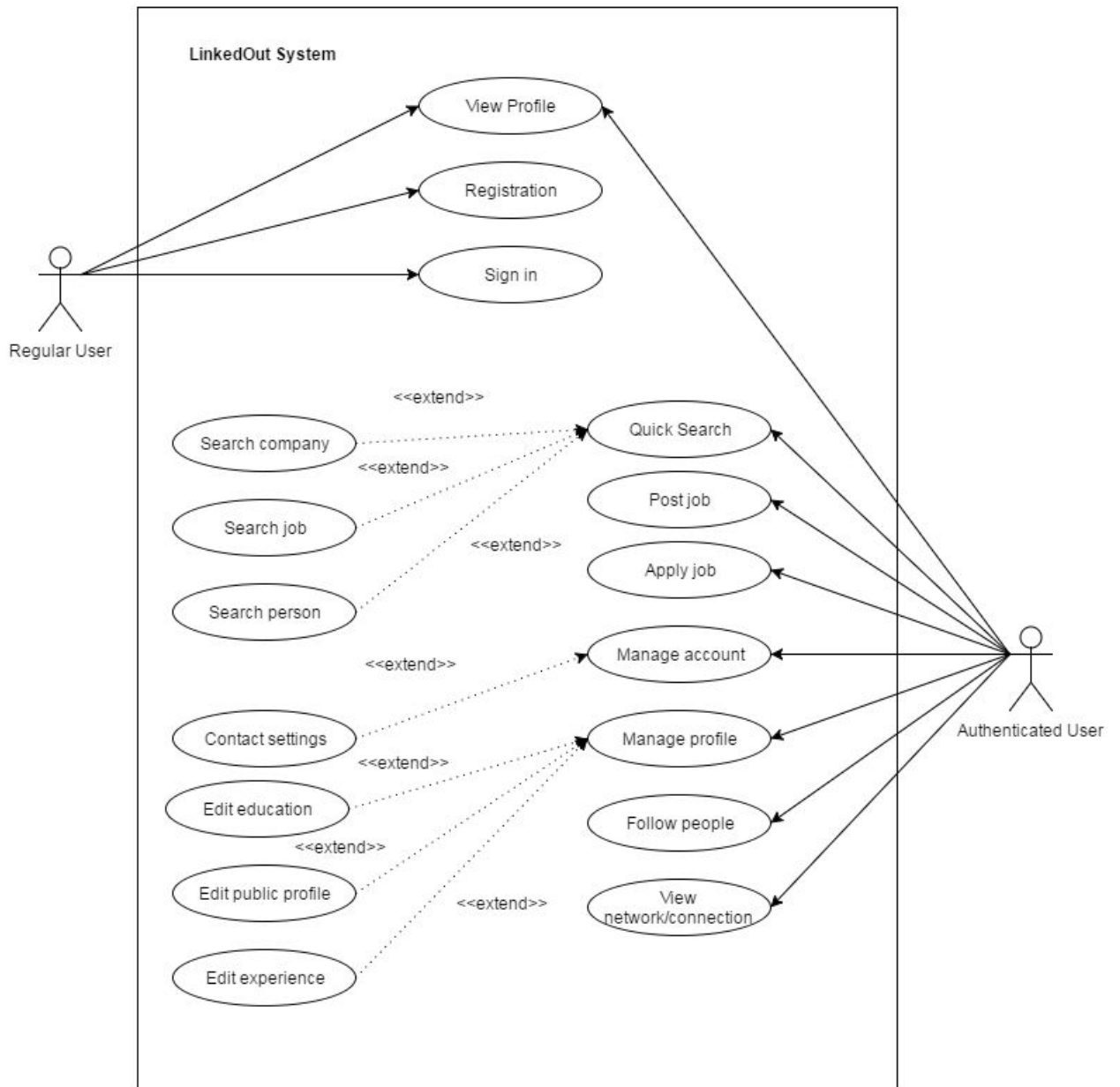
User Requirements:

- The software needs to limit what users can or cannot see based on their being logged in or not and/or linked with someone or not.
 - Use \$_SESSION variables to track users' status across application usage.
 - Data - usernames, hashed passwords, links table ("friends").
- The software needs to provide registered users the ability to post resume-like work experience and education information.
 - Work experience table
 - Education table
- The software needs to allow user to search jobs.
 - The job information table
- The software needs to allow to use part of functionality without login

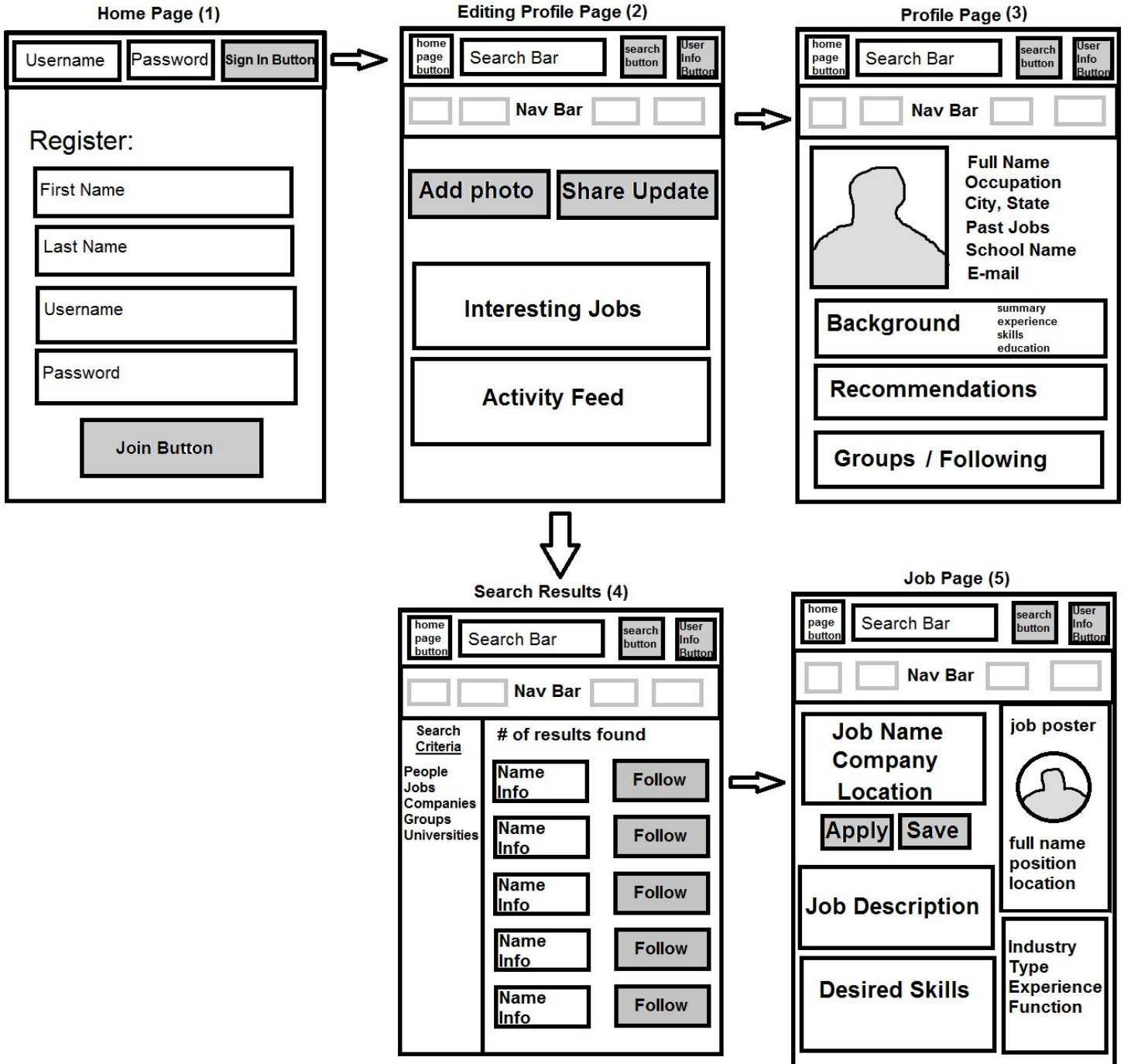
System Requirements:

- MySQL Database
- Web server with PHP enabled
- Javascript Libraries - jQuery, D3.js
- HTML, CSS

Use Case Diagram



Design (Screen Sketches)



Above are the different types of screens that a user can see. On the first page, which is the home page, signing in with a correct username and password by clicking the sign in button will take you to the second page. The second page is your the version of your profile page that you can edit. A user is then able to view the actual profile page by pressing a button on the navigation bar, taking you to the third page. From the second or third page, a user is able to use the search bar. This takes the user to the fourth page, allowing them to see the search results. Clicking on one of the search results takes you to the last page, displaying its info.

This is a preview of what the first web page will actually look like.

username password sign in

Register

First Name

Last Name

Username

Password

Join

Software Component (UML Diagram)

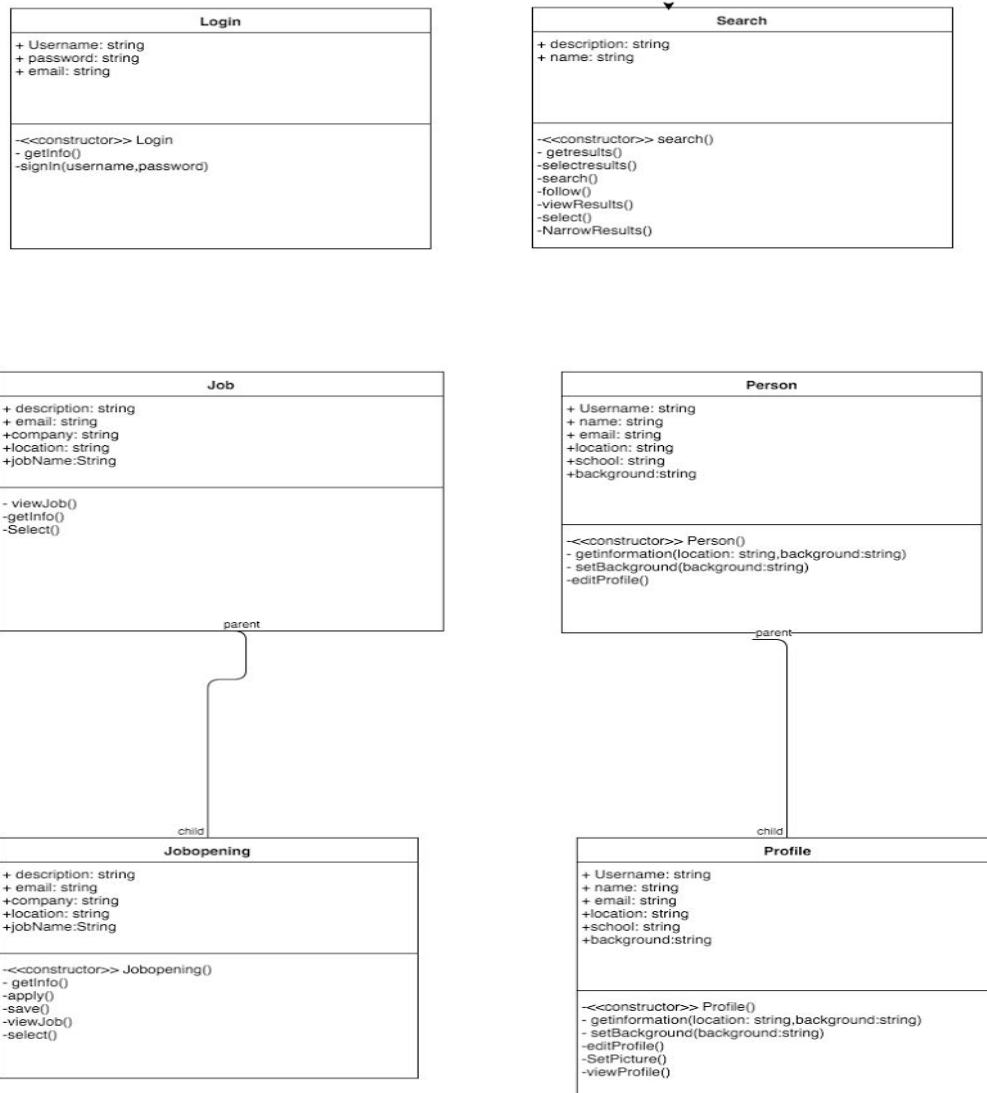
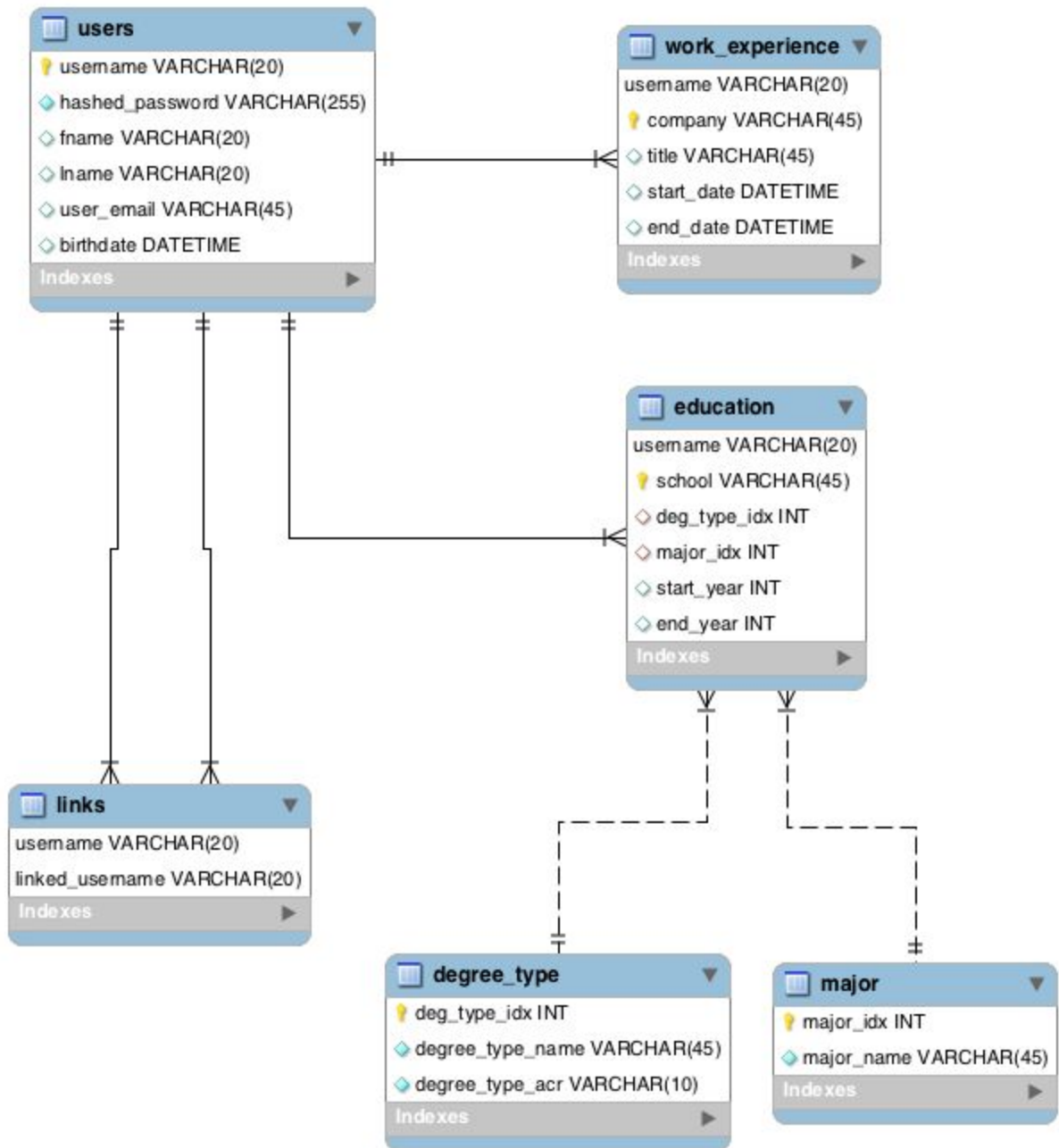


Table List (ERD)



Links table is a relation table for many to many relationship of users with other users. Lookup can go both ways (i.e. if user 1 is linked to user 2, no need to link user 2 to user 1 as a separate entry in the table). User 1 is linked to everyone where user 1 is the username and where user 1 is the linked_username.

Testing Scenarios

Activity	Testing Content	Result
Create several different accounts with different types	Account create	
Check the functionalities for different type account	Account type	
Add, remove content for profile	Edit profile	
Post job information with description and requirements	Job description/requirements	
Sort job board	Sort by Time/Type	
Login with correct username and password, correct username, wrong password.	User Identification	
Search keyword by the university name	University search	
Search keyword by the zip code	Location search	
Open resume online then edit it	Resume review/edit	
Make comment for person	Person comment	
Use the system without login then login the system, find out the differences	Limit user based on their being login or not Allow user use part of functionalities without login	
After login, post resume-like work experience and education information	The software needs to provide registered users the ability to post resume-like work experience and education information	
Check the work experience table and education table in the database		

Unit Testing

For Model: Database Testing

- ❖ Check the ERD of the database, find out anything incorrect with relationship.
- ❖ Insert, delete, edit data for the cell of each table in database.
- ❖ Using SQL to output the data in the database.

For Controller: PHP code

- ❖ Using php compiler to find the main problem of the code.
- ❖ Writing the test function to check each function output correctly.
- ❖ Using framework such as PHPUnit to help with unit test.
- ❖ Input data into database from website and check that it was stored properly.

Regression Testing

Regression testing is a type of software testing that verifies that software that was previously developed and tested still performs correctly after it was changed or interfaced with other software. Changes may include software enhancements, patches, configuration changes, etc. During regression testing new software bugs or *regressions* may be uncovered. Sometimes a software change impact analysis is performed to determine what areas could be affected by the proposed changes. These areas may include functional and nonfunctional areas of the system. --Wikipedia

Testing Plan:

Determining what is changed in the code and what that change means in the implementation of the view. Run the program to check whether the implementation is the same as expected. Do this regression testing every time a change is big change is added to fix bugs or make enhancement to the code.

Integration Testing

This test is to test program components that have been integrated so that users can interact with them as expected. We will use bottom up testing to perform integration testing. Bottom up testing is an approach to integrated testing where the lowest level components are tested first, then they are used to facilitate the testing of higher level components. This process is repeated until the component at the top of the hierarchy is tested. All the bottom or low-level modules, procedures, or functions are integrated and then tested. After the integration testing of lower level integrated modules, the next level of modules will be formed and can be used for integration testing.

We may make the integration testing after the unit testing because we need to make some components integrated. For example, PHP integrates with database, PHP integrates with HTML, various function integrates with database in HTML, functional requirements integrate with non-functional requirements.

Verification tests: Unit Testing
Regression testing
Integration testing

Validation tests: User acceptance testing