**Feasibility Study and Project Plan**

CIS 4911 – Senior Project U01

Virtual Job Fair 3.0

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**ABSTRACT**

The Feasibility Study and Project Plan document gives an introduction to the Virtual Job Fair 3.0 System. Chapter 1 gives basic information about the Virtual Job Fair 3.0, including the problem definition, background on the problem, definition of important terms, and an overview of the document. Chapter 2, the Feasibility Study chapter, provides a description of the current system used worldwide and introduces the purpose of our system, and states the list of high-level user requirements. Finally, this chapter includes an analysis of alternative solutions to the problem.

Chapter 3, Project Plan, introduces project management concepts of the project, such as personnel organization, hardware and software resources used for the project, and a list of tasks, milestones, and deliverables. Chapter 4, the appendix, contains miscellaneous charts and information, such as an AgileZen table with the division of the project task, a feasibility matrix, a cost matrix, and a diary of meetings. Finally, Chapter 5 contains references to external documents that have been used for reference.

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# 1. Introduction

The introductory chapter gives some background information about the Virtual Job Fair v3.0 system. Firstly, the chapter states the problem definition, and scope of the system. Next, the design methodology used is identified. This methodology includes the software process models and the types of models used. Moreover, definitions, acronyms, and abbreviations of terms that will be used in this deliverable are introduced and explained. Finally, it contains an overview of the whole project, which explains the information contained on each chapter.

## 1.1. Problem definition

Employers looking for talent are always interested in filling out positions with the best possible candidates. In order to accomplish this task, the most effective method to date is to tap local talent, whether it is at universities or job fairs. Given the increasing globalization trend, and the fact that not all employers have the financial or the time capabilities to be registering on every website to seek for potential candidates in different locations. In addition, the current solution provided by universities and job sites is less than ideal.

Our solution to this problem, we will provide FIU Computer Science students with a user-friendly interface where students will be able to get job matches from different job search sites, and not just from the employers who register in the VJF site. This way the students do not need to go looking in different sites, he or she can find everything on our site. Also students will receive notification of jobs matching his/her saved search criteria, so that way the students will know as soon as an opportunity is available. Therefor providing the employer and potential employee a more easy and friendly way to find their match.

## 1.2. Background

The Virtual Job Fair project was introduced by Dr. Masoud Sadjadi as one of the assigned projects for the Senior Project class in the spring of 2013. It was initially developed by a team of five students, along with the overview and guidance of Dr. Sadjadi and Juan Caraballo. Then the project was continue in the fall of 2013 by another group that were assigned with the task of improving on the existing application and of developing additional functionality that will aid in the process of interviewing prospective employees.

After forth month in fall of 2013 the project was reintroduced to our team. Each students were assigned with the task of improving or providing a new features that will greatly benefit the student’ user experience in the VJF website. In addition, improve the way that the system communicate with employers and students.

## 1.3. Definitions, Acronyms, and Abbreviations

**Definitions**

- **Student**: an individual who is currently enrolled in the School of Computing & Information Sciences FIU

- **Job:** an activity done in exchange for payment

- **Full-time:** requiring 40 hours or more hours per week

- **Part-time:** requiring less than 40 hours per week

- **Paid internship:** an internship for which a student will receive compensation

- **Unpaid internship:** an internship for which the student will not receive compensation

- **Benefits:** non-salaried compensation for employees, such as insurance, tuition reimbursement, and retirement benefits

- **Work authorization:** current legal work status of a student. Categories include U.S. Permanent Resident and U.S. Citizen

- **Grade point average:** a number out of 4.0 which gives a representation of a student’s grades in his/her classes throughout his/her college career

- **Salary:** a periodic payment made to an employee in exchange for services provided. Salaries are provided in yearly terms.

- **Résumé:** a document which describes a student’s qualifications, skills and education

- **Cover Letter:** a document which is used by students to introduce themselves to the companies that they are applying to. It usually goes together with a résumé

**Acronyms**

- **VJF**: Virtual Job Fair

- **FIU:** Florida International University

- **GPA:** Grade point average

- **SCIS:** School of Computing & Information Sciences

**Abbreviations**

As of right now, there are no abbreviations for this project.

## 1.4. Overview of document

The Feasibility Study and Project Plan covers several aspects of the Virtual Job Fair 3.0 project. In Chapter 1, general information such as problem statement, background information on this specific project and definitions is found. Chapter 2 contains the actual feasibility study, with description and limitations of the current system, and an overview of the system that will be implemented. Also, alternatives are analyzed and discussed. Moreover, in Chapter 3, project organization is detailed, with specific roles for each of the members assigned. Moreover, hardware and software requirements are specified. Chapter 4 contains the Appendix, in which miscellaneous information, such as charts and tables, are specified. Finally, Chapter 5 contains works used as references.

# 2. Feasibility Study

The feasibility study chapter explores the idea of a virtual job fair from a practical point of view. Firstly, it considers the limitations of the current system, which was the project developed last spring and improve on fall 2013. Also, it explains the purpose of the Virtual Job Fair, explaining how the features of VJF will improve on current problems. Then, high-level user requirements are described. Moreover, alternatives to certain aspects of VJF are considered and analyzed, with quantitative data used to support the fact that these alternatives were not used.

## 2.1. Description of Current System (Limitations and Constraints)

The current system was modified in the fall 2013 semester. As it is, it allows students to search for jobs, and get emails with jobs based on their skills. The current system also allows employers to post jobs for students to browse and apply. Moreover, it offers a messaging system, through which employers and students can communicate privately.

The current system also has standard functionality, allowing users to login and logout, to register in the system, to edit their profiles, to change their passwords and to retrieve forgotten passwords.

**Limitations and Constraints**

As implemented, the current system has the following limitations/constraints:

**- Aimed towards FIU Computer Science students**: the scope of the system is geared towards students who are both FIU students and Computer Science majors. However any Computer Science student can greatly benefit from this site.

**- Limited FIU Seniors:** even though the current system does not restrict any user from signing in, an easy way to register should be given to FIU Seniors, given that this project was born from an FIU SCIS Senior course and it is has been strongly suggested by the faculty to include this feature in the system.

- **Limited students registration:** even though the current system does contain a form that allow student to register, the current system lack a way for the students to register using third party accounts like (Google, LinkedIn, FIU Mail, Senior Project web).

- **Limited students’ login:** the current system lacks a way for the students’ user to login using a third party account like (Google, LinkedIn, FIU Mail, Senior Project web).

- **Limited students linking capabilities**: the system lack the ability to provide student a way to link all their third party accounts together into one account. Also the system lack a wizard interface where the student can choose between link conflicts. Example, the student should be able to choose between the name that he or she has on file, and the name that is coming from the third party accounts.

- **Student limitation:** the system lack a way to guide the student when he try to register with an e-mail that is already in the system. In addition; the student should be told that the e-mail is already in the system, and provide the student with some option of what to do next.

- **Inability for student to merge accounts:** the current system lacks a feature that allow student to merge two accounts into one.

**- Students search for job is restricted:**The current system only provides search by skills or search by company and job type.

**- Student job email notification based on skills:** student will only get notified of jobs matching their skills.

**- Student are not allow to save job search queries:** after students query the system for jobs, they are able to save query to future search.

**- Job posting limited to registered employers:** job posting are only available from registered employers only.

- **Limited student notification:** the current system does not allow student to enable/disable their notification. The student’s user is not able to say if he or she is looking for jobs. Since a student’s user may already be employ and want job notification to stop show in his or her e-mail.

- **Limited student job notification:** the current system do not provide the student’s user with job’s notifications base on their skillset.

- **Limited student notification based on saved custom job queries:** the current system does not allow student’s user to save their job search and receive notification base on it.

- **Limited admin setting notification:** the current system does not allow the admin to toggle between enable/disable notifications globally.

- **Limited employer notification:** the current system does not allow employers to receive notification of students matching job posting description.

- **Not API implement:** the current system lacks an API that allow external sources (CareerPath) to push job posting into the VJF system.

- **Limited admin API management:** the current system lacks to allow administrators to control all aspects of the implemented VJF API through an intuitive interface.

- **Limited admin interface:** the current system lacks an administrative interface to bulk import jobs from the FIU SCIS CareerPath system, using a provided CareerPath API endpoint.

**- Limited interview functionality:** the system lacks for video interviews and live chat, limiting the interaction between students and employers to a very basic level.

**- Limited Document Collaboration functionality:** the current system has a very limited collaboration ability. It lacks the ability to have users of the system collaborate on documents in real-time which is a crucial part of an interview process.

**- Inability to share images between students and employers:** the current system lacks an image-sharing feature which allows students and employers to exchange pictures which can enhance the interview experience.

- **No drawing feature:** the current system does not have any type of drawing feature that may allow students and employers to brainstorm, exchange drawings or jot down ideas while interviewing.

**- Reminder system:** the current system lacks a way of reminding students or employers of upcoming interviews.

**- Users are not allowed to delete their accounts:** once registered, students and/or employees are not allowed to remove themselves from the system’s database.

**- Employers are not able to contact students through other means other than by email:** The current implementation makes it very hard to keep both students and employers connected outside of it.

**- Students and employers are not reminded of important deadlines:** The current system does not have any functionality that alerts users of new events.

## 2.2. Purpose of New System

Given the fact that not all employers have the financial or the time capabilities to be registering on every website to seek for potential candidates in different locations. Also given that current solution provided by universities and job sites is less than ideal.

This new system, we will provide FIU computer science students with an easy to use interface where students will be able to get job matches from different job search sites, and not just from the employer who are register in the VJF site. This way the students don’t need to go looking in different sites he or she can find everything on our site. Also the register students will receive notification of jobs that may pick his or her interest, so that the student will know as soon as an opportunity is available. Therefor providing the employer and potential employee a more easy and friendly way to find there match.

In addition, the main purpose of the new system is to add functionality and new features to the current system, which will greatly benefit all users (students, recruiters and administrators).

**New System’s Features**

The following functionality will be added to the system:

**- Expand Job Search Sources:** students will be able to make use of Indeed.com, CareerBuilder.com, and FIU SCIS CareerPath.

**- Advanced Search:** students will be provide with a job search that will mimic Google Advanced Search since from the students’ perspective it is intuitive, easy to use, and provide the most thorough search.

**- Register using third party accounts:** students will be able to register using third party accounts like (Google, FIU Mail, Senior Project Web Site, and LinkedIn).

**- Save Query:** students will be allow to save query from the advanced search form, using a “Save Query’ button. Then students will have the ability to name the query to their desired name, and allow students to select/unselect which query to receive email notifications from; as well as the email preference of daily, weekly, or monthly.

**- Merging accounts:** students will be able to merge two accounts together, and give the student the choice to keep the information that he wants when a merge conflict happens.

**- Registration wizard:** students when trying to register with an e-mail that is already in the database. The system will provide the student with a view form that let the student know. The email is in the database and gives him or her some choices of what to do next. Like getting his or her forgotten password, go to the login page, or go to the register page to register with a different email.

**- Linking accounts:** students will be able to link his or her third party accounts into one account. Also let the student know which of the third party accounts the student is already link, and which of the third party accounts the student is not link. Last, let the student choose what information they what to keep in case of a merge conflict happened when linking accounts.

**- API for external sources:** Make use of external sources like “CareerPath” by providing them with an API to VJF. The VJF API will allow this external sources to push job postings into the VJF system. In addition, the administrator will be able to control all aspects of the implemented VJF API through an intuitive interface. Last, provide the administrator with an interface to bulk import jobs from the FIU SCIS CareerPath system, using a provided CareerPath API endpoint.

**- Administrator features and interface improvements:** Administrator will be provided with a new and improve interface with the addition of new features to it.

**- Student Notification:** students will be able to enable/disable the notification that they received. Also students can decide if they want to keep receiving notification of job match or not. In addition, the system should allow students to receive jobs notification based on saved custom job search queries to third party job websites.

**- Admin setting notification:** the administrator will be able to enable/disable the notification globally.

## 2.3. High-level Definition of User Requirements

**Current System’s User Requirements**

The current system…

Requires users and employers to register

Requires users and employers to validate their account

Allows users and employers to edit their profile

Allows users and employers to participate in a video interview

Allow students to upload a resume and video resume

Allows users and employers to interact with a text chat tool

Allows students to include LinkedIn profiles

Allow students and employers to upload an image for their profile

Allow students to associate skills to their profile

Allows employers to search for candidates based on skills

Allows employers to view candidate profiles

Allows employers to send messages candidates

Requires Administrators to validate employers

Requires user name and password to log in

Allows users to reset forgotten passwords if validation challenge is successful

Requires login to view user profiles

Hashes and salts passwords prior to storing in database

Sanitizes SQL queries to prevent SQL injections

Allow users to create a new shared document.

Allow students and employers to start using the whiteboard functionality

Allow students and employers to upload an image to share during an interview

Allow students to view images uploaded by the other party in an interview

Allow students and employers show or restore a whiteboard session

Allow students and employers to select an image to upload to the server for sharing purposes

Allow students and employers to draw using the whiteboard

Allow students and employers to change the color of the drawing pencil tool

Allow students and employers to type text into the whiteboard

Allow students and employers to clear the drawings of the whiteboard

Allow students and employers to partially erase drawings from the whiteboard

Allow users to create a new document.

Allow users to invite another user to a shared document.

Allow users to delete a shared document.

Allow users to import a document.

Allow users to export a document.

Allow users to rename a document.

Allow users to save a shared document.

Maintain access boundaries between non-collaborating accounts.

Allow FIU Computer Science Seniors to login using their FIU SCIS credentials.

Allow students and employers to share their screens

Allow student and employers to view each other’s screen.

Allows employers to contact students through SMS

Allow FIU Computer Science Seniors to login using their FIU SCIS credentials

Allow FIU student to login using their FIU credentials

Allow student to login using their Google credentials

Allow student to login using their LinkedIn credentials

**New System’s User Requirements:**

The new system shall…

Allow students to search for jobs based on skills, company name, job type, and position on navigation bar.

Allow students to search for jobs based on skills, company name, job type, position, and location on the advanced search.

Allow students to search for jobs based on skills, company name, job type, position, and location on the advanced search.

Allow job search results from Indeed.com.

Allow job search results from CareerBuilder.com.

Allow students to receive email notification with expanded job search results.

Prompt student to enter name for query to be save.

Allow students to save queries to their profiles.

Allow students to active / deactivate saved queries.

Allow students to delete saved queries.

Allow FIU Computer Science Seniors to login using their FIU SCIS credentials.

Allow FIU student to login using their FIU credentials.

Allow students to link their third party accounts into one

Allow students to choose between their current information and the information coming in from their third party accounts when linking accounts.

Guide the students to recover his or her password; when trying to register with an e-mail that is already in the system.

Allows external sources (SCIS CareerPath) to push job postings into the VJF system.

Allow administrators to control all aspects of the implemented VJF API through an intuitive interface.

Provide an administrative interface to bulk import jobs from the FIU SCIS CareerPath system, using a provided CareerPath API end-point.

Allow administrators to maintain the system’s job skills database.

Allow an interface for administrators to manage users.

Allow an interface for administrators to manage job postings.

Allow the administrator to manage the notification system.

Allow the administrator to manage the notification system.

Allow students to enable/disable if he/she is looking for jobs.

Allow admin users to enable/disable notifications globally.

Allow students to receive jobs notification based on saved custom job search queries to third party job websites.

Allow students to receive jobs notification based on their skillset.

Allow employers to receive notification of students matching job posting description.

# 2.4 Description of Alternatives and Solutions

Below, alternative implementations for this project are mentioned and discussed:

**New System’s Features Alternatives**

* **Expand Job Search Sources**

**Alternative 1**

Make use of the Indeed.com web service in order to add more job posting to the job search results.

**Alternative 2**

Make use of the CareerBuilder.com web service in order to add more job posting to the job search results.

**Alternative 3**

Make use of the FIU SCIS CareerPath API in order to add more job posting to the job search results.

**Alternative 4**

Make use of the Monster.com API in order to add more job posting to the job search results.

* **Advanced Search**

**Alternative 1**

Expand the existing search to include company name, job type, skills, and position name on an exact match against the database.

**Alternative 2**

Make the advanced search to mimic Google Advanced Search in order to expand the search and make it more intuitive.

* **Navigation Bar Job Search**

**Alternative 1**

Expand job search from just skills to search by keyword using company name, job type, skills, and position name against the database.

**Alternative 2**

Expand search from just skills to search by keyword using company name, job type, skills, and position name against the database using full text, which provide sort by relevance.

* **Save Query**

**Alternative 1**

Allow students to save query from the advanced search form, using a “Save Query’ button. Then providing students the ability to name the query to their desired name, and allowing students to select/unselect which query to receive email notifications from; as well as the email preference of daily, weekly, or monthly.

* **Register using third party accounts**

**Alternative 1**

Make use of the Google API and fix what is not working from the previews version. (The same with the FIU Mail).

**Alternative 2**

Make use of the LinkedIn API, and fix what is not working from the previous version.

**Alternative 3**

Make use of the Senior Project Web Site API and fix what is not working from the previews version.

* **Login using third party accounts**

**Alternative 1**

Make use of the user ID number provide by the FIU Mail to keep track of the student, so when the student login with the Google login link. The system will look for the ID number of the student, and login the student to his or her account. (The same with the Google login link)

**Alternative 2**

Make use of the user ID number provide by the LinkedIn API to keep track of the student, and fix what is not working from the previous version.

**Alternative 3**

Make use of the user ID number provide by the Senior Project Web Site API to keep track of the student, and fix what is not working from the previous version.

* **Merging accounts**

**Alternative 1**

Provide the student with a view form to input the username and password of the other account. Then validate the information give, and if the information is verified. Merge the two accounts by comparing the student information that he or she has in the database. And give the user a choice to keep the information that he wants went a merge conflict happens.

* **Registration wizard**

**Alternative 1**

When a student try to register with an e-mail that is already in the database. The system will provide the student with a view form that let the student know. The email is in the database and gives him or her some choices of what to do next. Like getting his or her forgotten password, go to the login page, or go to the register page to register with a different email.

* **Linking accounts**

**Alternative 1**

Make use of the login links using third party accounts to let the student link all his or her third party accounts into one account.

**Alternative 2**

Make use of the profile page to give the student the option of link his or her third party accounts in two the current account the he or she is in. Also let the student know which of the third party accounts the student is already link, and which of the third party accounts the student is not link.

* **API for external sources**

**Alternative 1**

Make use of external sources like “CareerPath” by providing them with an API to VJF. The VJF API will allow this external sources to push job postings into the VJF system. In addition, the administrator will be able to control all aspects of the implemented VJF API through an intuitive interface. Last, provide the administrator with an interface to bulk import jobs from the FIU SCIS CareerPath system, using a provided CareerPath API endpoint.

* **Administrator features and  interface improvements**

**Alternative 1**

Make use of the current system administrator page, and provide features that improve the administrator interface. This task will requires to learn Yii framework and the Bootstrap version that is being used by the system. The extent of this task will depend on the time frame that will be given to it.

* **Student Notification**

**Alternative 1**

Make use of the current system notification and improve it. First task being to familiarize with the current system code a see what are the restriction that it has. Then research way to implement a way so that student's user can enable/disable the notification that they received. Also give the student’s user the choice of deciding if they want to keep receiving notification of job match or not. Since student may not want to keep receiving notification of new job if he is already employ or vice versa. In addition, the system should allow students to receive jobs notification based on saved custom job search queries to third party job websites.

* **Admin setting notification**

**Alternative 1**

Make use of the admin page and provide a setting that enable/disable the notification globally. In order to accomplish this task the developer needs to be familiarize with the Yii framework and the Bootstrap version that is in used. In addition, the developer need to be very constable with the notification code already implemented.

## 2.4.1. Selection Criteria

The criteria that we used for the consideration of the environment software suite alternatives are operational feasibility, technical feasibility, organizational feasibility, and economic feasibility. Each of these criteria is described below:

● **Operational Feasibility**

Deals with the ability of the users, developers and those involved with the project to use and support the proposed system.

● **Technical Feasibility**

Deals with the reliability of the software and hardware and its capability to provide the intended functionality of the system

● **Organizational Feasibility**

Deals with the system’s ability to support the goals of the organization

● **Economic Feasibility**

Deals with the ability of the system to cover its development and maintenance costs after its completion

## 2.5. Recommendation with explanation of why the solution was selected.

**New System Feature Analysis**

* **Expand Job Search Sources**

The following section contains analysis of the Expanded Job Search Sources alternatives that were proposed on May 2014 and which have been revised at several points throughout the lifetime of the project.

**Alternative 1**

This alternative was selected since Indeed.com web service is free with registration, thus providing real time job search and results.

**Alternative 2**

This alternative was selected since CareerBuilder.com web service is free with registration, thus providing real time job search and results.

**Alternative 3**

After the development of the FIU SCIS CareerPath API, this alternative was selected, thus providing real time job search and results.

**Alternative 4**

This alternative was not selected because Monster.com does not provide a public API, however they do have an RSS feed which provides job search results but its capacities are very limited.

* **Advanced Search**

**Alternative 1**

The expanding of the existing search to include company name, job type, skills, and position name on an exact match against the database alternative was given extensive consideration, but it was decided against since it capacities were very limited and did not provide a broad enough search.

**Alternative 2**

The advanced search to mimic Google Advanced Search in order to expand the search and make it more intuitive alternative was selected since it prove to be the best possible solution because from the user perspective it is intuitive, easy to use, and provide the most thorough search.

* **Navigation Bar Job Search**

**Alternative 1**

The expand job search from just skills to search by keyword using company name, job type, skills, and position name against the database alternative was rejected due to the limited options it provided.

**Alternative 2**

The expand search from just skills to search by keyword using company name, job type, skills, and position name against the database using full text, which provide sort by relevance was selected since it provided a better solution and more accurate alternative.

**Save Query**

**Alternative 1**

This alternative was chosen since it proved to be efficient and sufficient for the purpose of this requirement.

* **Register using third party accounts**

**Alternative 1**

Make use of the Google API to get the student information. In order to create a new account for the student with the information provided by the Google API. (The same with the FIU Mail).

**Alternative 2**

Make use of the LinkedIn API. In order to create a new account for the student with the information provided by the LinkedIn API.

**Alternative 3**

Make use of the Senior Project Web Site API. In order to create a new account for the student with the information provided by the SPWS API.

* **Student login using third party accounts**

**Alternative 1**

Make use of the user ID number provide by the Google API to keep track of the student, so when the student login with the Google login link the system will look for the ID number of the student, and login the student to his or her account. (The same with the FIU Mail login link)

**Alternative 2**

Make use of the user ID number provide by the LinkedIn API to keep track of the student, so when the student login with the LinkedIn login link the system will look for the ID number of the student, and login the student to his or her account.

**Alternative 3**

Make use of the user ID number provide by the Senior Project Web Site API to keep track of the student, so when the student login with the SPWS login link the system will look for the ID number of the student, and login the student to his or her account.

* **Merging accounts**

**Alternative 1**

Provide the student with a view form to input the username and password of the other account. Then validate the information given, and if the information is verified, merge the two accounts by comparing the student information that he or she has in the database. And give the student user the choice to keep the information that he/she wants when a merge conflict happens.

* **Registration wizard**

**Alternative 1**

When a student try to register with an e-mail that is already in the database, the system will provide the student with a view form that let the student know the email is in the database and gives him or her some choices of what to do next. For instance, getting his or her forgotten password, go to the login page, or go to the register page to register with a different email.

* **Linking accounts**

**Alternative 1**

Make use of the login links using third party accounts to let the student link all his or her third party accounts into one account.

**Alternative 2**

Make use of the profile page to give the student the option of link his or her third party accounts into the current account the he or she is in. Also, let the student know which of the third party accounts the student have already linked, and which of the third party accounts the student is have not linked.

* **API for external sources**

**Alternative 1**

Make use of external sources like “CareerPath” by providing them with an API to VJF. The VJF API will allow this external sources to push job postings into the VJF system. In addition, the administrator will be able to control all aspects of the implemented VJF API through an intuitive interface. Last, provide the administrator with an interface to bulk import jobs from the FIU SCIS CareerPath system, using a provided CareerPath API endpoint.

* **Administrator features and interface improvements**

**Alternative 1**

Make use of the current system administrator page, and provide features that improve the administrator interface. This task will requires to learn Yii framework and the Bootstrap version that is being used by the system. The extent of this task will depend on the time frame that will be given to it.

* **Student Notification**

**Alternative 1**

Make use of the current system notification and improve it. First task being to familiarize with the current system code a see what are the restriction that it has. Then research ways to implement a way so that student user can enable/disable the notification that they received. Also give the student user the choice of deciding if they want to keep receiving notification of job match or not. Since student may not want to keep receiving notification of new job if he is already employ or vice versa. In addition, the system should allow students to receive jobs notification based on saved custom job search queries to third party job websites.

* **Admin setting notification**

**Alternative 1**

Make use of the admin page and provide a setting that enable/disable the notification globally. In order to accomplish this task the developer needs to be familiarize with the Yii framework and the Bootstrap version that is in used. In addition, the developer need to be very constable with the notification code already implemented.

# 3. Project Plan

The project plan chapter introduces VJF from a project management perspective. Firstly, the project organization is described, with the roles for each member listed. Then, hardware and software requirements for the development of the project will be listed. After that, milestones, tasks, and deliverables will be listed.

## 3.1. Project Organization

For this project, each of the four members will be in charge of adding at least two pieces of functionality to the system.

Ana L. Hernandez will be responsible for creating a Google like advanced search which will allow student to search for jobs within our database (CareerPath jobs), and/or using external sources (Indeed & CareerBuilder). Also, she will expand the navigation bar search to search by keywords. In addition, she will be responsible for the integration for the Indeed.com and CareerBuilder.com API for the expansion of the job search for both the advanced search and the navigation bar search. Moreover, she will implement a save query feature which will allow students to save any query they just searched for, and then modify its preference to receive email notification with the saved queries.

Manuel Bouza will be responsible for the login and registration pages. He will find what it is wrong with the third party accounts links, and he will find a solution that will prevent this from happening again. In addition he will provide the student’s user with a wizard that will guide the student through the registration page when the student try to register with an email that is already in the database. Also Manuel will be responsible for finding a way so that the student’s user can link all their third party accounts into one account. Manuel will change the profile page so it lets the student’s user know to which third party account the student’s user is link, and to which the student’s user is not link. Finally Manuel will be responsible for providing in the toolbar of the student’s user a button to merge two accounts. Furthermore; Manuel has to provide the student’s user with a wizard that will allow student to choose which information the user want to keep when a merge conflict happens, or when linking accounts.

Enio Pena Navarro will be responsible for adding this next features. First, Enio will designing an API that allows external sources (SCIS CareerPath) to push job postings into the VJF system. Second, he will provide the administrators a way to control all aspects of the implemented VJF API through an intuitive interface, and provide an administrative interface to bulk import jobs from the FIU SCIS CareerPath system, using a provided CareerPath API endpoint. Third, Enio will allow the administrators to maintain the system’s job skills database, and provide the administrators with an interface to manage job posting and users. In general, improve the administrator’s interface.

Tomas Acosta will be responsible of adding two main features to the system. First, Tomas will provide a user Interface settings in user’s profiles that enables the users to activate/deactivate notifications. Second, Tomas is responsible of Job Matching Notification Engine: This engine is in charge of sending students and employers notifications of job listings and students matches respectively.

### 3.1.1. Project Personnel Organization

Below is a table which represents the roles of each of the members:

|  |  |  |
| --- | --- | --- |
| **Team Member** | **Primary Task** | **General Task** |
| Ana L. Hernandez | Developer  Document Editor | Additional shared tasks |
| Tomas Acosta | Developer  Document Editor | Additional shared tasks |
| Manuel Bouza | Developer  Document Editor | Additional shared tasks |
| Enio Pena Navarro | Developer  Document Editor | Additional shared tasks |

### 3.1.2. Hardware and Software Resources

**Hardware**

In order to start developing the project, our team will need computers with at least the following specifications:

**- Processing Power:** Pentium IV 2.0 GHz processor or better

**- RAM Memory:** 1GB 133MHz SDRAM

**- Available space on hard drive:** 5GB

**Other Devices**

- **Input devices**

a) Standard wired/wireless K120 keyboard

b) Standard wired/wireless trackball/optical mouse

- **Output devices**

a) Standard VGA/DVI/HDMI monitor display

**Software**

**1) Google Chrome 30.8:** last, most updated version of the Chrome browser that will be used to test Virtual Job Fair.

**2) StarUML:** UML software platform that will be used to create diagrams for the document

**3) Yii Framework 1.1.14:** last, most updated version of Yii Framework, an MVC-based, PHP framework used for development. It will be used to develop the front-end and back-end of Virtual Job Fair.

**4) phpMyAdmin:** a DBMS (integrated into Yii) that will be used to manually manipulate the database when necessary

**5) PhpStorm (IDE):** software platform for front-end design that will be used to create backbone of the user interface.

**6)** **VMWare:** virtual machine software that will be used for the deployment of the software.

## 3.2 Identification of Tasks, Milestones and Deliverables (work breakdown)

Below is a list of all different tasks, milestones, and deliverables for the project:

|  |  |  |
| --- | --- | --- |
| Week | Date | Task, Milestones, Deliverables |
| 2 | 5/20/14 | Feasibility Study & Project Plan, &  Requirement Document, & Design Document  Design Milestone |
| 3 | 5/27/14 | Implementation: Unit Testing  Testing Milestone |
| 4 | 6/3/14 | Debugging & Code Refinement |
| 5 | 6/10/14 | Debugging & Code Refinement |
| 6 | 6/17/14 | Debugging & Code Refinement |
| 7 | 6/24/14 | Implementation: System Testing  Testing Milestone |
| 8 | 7/1/14 | Debugging & Code Refinement |
| 9 | 7/8/14 | Debugging & Code Refinement |
| 10 | 7/15/14 | Debugging & Code Refinement |
| 11 | 7/22/14 | Debugging & Code Refinement |
| 11 | 7/25/14 | Final Presentation, & Final Deliverable, &  Project Deployment  Documentation Milestone |

# 4. Appendix

The Appendix chapter will introduce four important aspects of the program. First, a Gantt chart, with the schedule for the work of the project is presented. Then, a feasibility matrix, with scores for the alternative implementations, is shown. Thirdly, a cost matrix, which estimates the total cost for the project, is shown. Finally, a diary of meetings presents information about group meetings.

## 4.1. Appendix A - Project Performance (AgileZen Table)

## 4.2. Appendix B – Feasibility Matrix

|  |  |
| --- | --- |
| Operational Feasibility | The scope of the proposed system covers each of the problems outlined in section 1.1. Each feature of the overall solution is specifically targeted to one of the outlined problems. This observation, together with the mentors’ validation of the proposed system, makes it operationally feasible. |
| Technical Feasibility | All the resources needed to develop the proposed system (refer to section 3.1.2) are available to the project team. Furthermore, the practicality of the technologies used (e.g., php, MySQL) has been proven based on their widespread use both in industry and academia, in small and large enterprise projects. |
| Schedule Feasibility | Due to graduation requirements, it is not possible to extend the project deadlines; they have to be met. The project team and the mentors have agreed on the feasibility of the proposed system based on the time requirements. |
| Economic Feasibility | There will be no development costs to the team given the open sourced nature of the technologies that are going to be used. |

## 4.3. Appendix C – Cost Matrix

|  |  |
| --- | --- |
| **Item** | **Item Cost** |
| Yii Framework | $0.00 |
| Twitter Bootstrap | $0.00 |
| Easy RTC | $0.00 |
| Hardware | $1200.00 |
| Development | $0.00 |
| Testing | $0.00 |
| Contingencies | $240.00 (~20% of total cost) |
|  | **Total:**$1200.00 |

## 4.4. Appendix D - Diary of Meetings

During the duration of the project, our team did daily conference call stand ups with project manager, Rolando Vicaria to ensure adequate progress and discuss any problems we had encounter, as well as to receive feedback from our project manager.

**Meeting 1:**

**Date:** May 13, 2014

**Start Time:** 6:00PM

**End Time:** 8:00PM

**In Attendance:** Manuel Bouza, Ana Hernandez, Enio Pena, Tomas Acosta.

**Agenda:** Read documentation, and get familiar with the code.

**Meeting 2:**

**Date:** May 15, 2014

**Start Time:** 7:00PM

**End Time:** 9:00PM

**In Attendance:** Manuel Bouza, Ana Hernandez, Enio Pena, Tomas Acosta.

**Agenda:** Set up of the local environment.

**Meeting 3:**

**Date:** May 18, 2014

**Start Time:** 2:00PM

**End Time:** 4:00PM

**In Attendance:** Manuel Bouza, Ana Hernandez, Enio Pena, Tomas Acosta.

**Agenda:** Re-Install IDEs for local environment. Setup BitBucket for code control.

**Assigned Tasks:**

* **Manuel B. :** Install PHPStorm, configure HTTP server, install local server WAMP, setup MySQL Workbench, setup git.
* **Ana H. :** Install PHPStorm, configure Apache, setup mysql command line interface, setup git.
* **Enio P. :**Configure IntelliJ, configure HTTP server, configure local mysql server, setup git.
* **Tomas A. :** Configure HTTP server, configure local mysql server, setup git.

**Meeting 4:**

**Date:** May 20, 2014

**Start Time:** 7:00PM

**End Time:** 9:00PM

**In Attendance:** Manuel Bouza, Ana Hernandez, Enio Pena, Tomas Acosta.

**Agenda:** Move bitbucket repo to Gitlab, and set up local branches.

**Meeting 5:**

**Date:** May 22, 2014

**Start Time:** 7:00PM

**End Time:** 9:00PM

**In Attendance:** Manuel Bouza, Ana Hernandez, Enio Pena, Tomas Acosta, Rolando Vicaria.

**Agenda:** Create tentative schedule and requirements.

**Assigned Tasks:**

* **Manuel B. :** Fix broken links in application.
* **Ana H. :** Remove search result page and research generalize search by keyword.
* **Enio P. :**Research existing SCIS job posting system.
* **Tomas A. :** Research existing notifications.

**Meeting 6:**

**Date:** June 3, 2014

**Start Time:** 7:00PM

**End Time:** 9:00PM

**In Attendance:** Manuel Bouza, Ana Hernandez, Enio Pena, Tomas Acosta

**Agenda:** Check local branch integration with development branch and admin to production mode.

**Meeting 7:**

**Date:** June 11, 2014

**Start Time:** 6:00PM

**End Time:** 8:30PM

**In Attendance:** Manuel Bouza, Ana Hernandez, Enio Pena, Tomas Acosta

**Agenda:** Automate deployment of MySQL DB schema. Evaluate using Yii migrations if not design another method.

**Meeting 8:**

**Date:** June 17, 2014

**Start Time:** 6:00PM

**End Time:** 9:00PM

**In Attendance:** Manuel Bouza, Ana Hernandez, Enio Pena, Tomas Acosta

**Agenda:** PerformIntegrationtesting, and document problems.

**Meeting 9:**

**Date:** June 20, 2014

**Start Time:** 6:00PM

**End Time:** 8:00PM

**In Attendance:** Manuel Bouza, Ana Hernandez, Enio Pena, Rolando Vicaria.

**Agenda:** Arrange AgileZen work schedule based on priorities discussed during class presentation.

**Meeting 10:**

**Date:** June 22, 2014

**Start Time:** 2:00PM

**End Time:** 4:00PM

**In Attendance:** Manuel Bouza, Ana Hernandez, Enio Pena.

**Agenda:** Discuss requirement progress, problems, and tentative schedule for the remaining requirements.

**Meeting 11:**

**Date:** June 27, 2014

**Start Time:** 6:00PM

**End Time:** 9:00PM

**In Attendance:** Manuel Bouza, Ana Hernandez, Enio Pena, Tomas Acosta.

**Agenda:** Discuss development repo problems, and agreed on approaches to avoid further problems with the development branch.

**Meeting 12:**

**Date:** July 3, 2014

**Start Time:** 5:00PM

**End Time:** 8:00PM

**In Attendance:** Manuel Bouza, Ana Hernandez, Enio Pena, Tomas Acosta.

**Agenda:** PerformIntegrationtesting, and document problems. Discuss development progress, and updated AgileZen.

**Meeting 13:**

**Date:** July 10, 2014

**Start Time:** 6:00PM

**End Time:** 8:00PM

**In Attendance:** Manuel Bouza, Ana Hernandez, Enio Pena, Tomas Acosta.

**Agenda:** Discuss local branches integration issues, work on current requirements, and do debugging.

**Meeting 14:**

**Date:** July 13, 2014

**Start Time:** 3:00PM

**End Time:** 8:00PM

**In Attendance:** Manuel Bouza, Ana Hernandez, Enio Pena, Tomas Acosta, Rolando Vicaria.

**Agenda:** Work on finalization of requirements, integration testing, and poster presentation.

**Meeting 15:**

**Date:** July 17, 2014

**Start Time:** 6:00PM

**End Time:** 8:00PM

**In Attendance:** Manuel Bouza, Ana Hernandez, Enio Pena, Tomas Acosta.

**Agenda:** Discuss final requirements progress, and uploaded documents to Google Drive to be able to share the work more efficiently.

**Meeting 16:**

**Date:** July 18, 2014

**Start Time:** 6:00PM

**End Time:** 8:00PM

**In Attendance:** Manuel Bouza, Ana Hernandez, Enio Pena, Tomas Acosta.

**Agenda:** Work on final documentation, and final PowerPoint presentation.

**Meeting 17:**

**Date:** July 19, 2014

**Start Time:** 12:00PM

**End Time:** 8:00PM

**In Attendance:** Manuel Bouza, Ana Hernandez, Enio Pena, Tomas Acosta.

**Agenda:** Work on final documentation, and final PowerPoint presentation.

**Meeting 18:**

**Date:** July 20, 2014

**Start Time:** 12:00PM

**End Time:** 10:00PM

**In Attendance:** Manuel Bouza, Ana Hernandez, Enio Pena, Tomas Acosta.

**Agenda:** Work on final documentation, and final PowerPoint presentation.

**Meeting 19:**

**Date:** July 21, 2014

**Start Time:** 4:00PM

**End Time:** 11:00PM

**In Attendance:** Manuel Bouza, Ana Hernandez, Enio Pena, Tomas Acosta.

**Agenda:** Work on final documentation, finalization of requirements.

**Meeting 19:**

**Date:** July 22, 2014

**Start Time:** 10:00AM

**End Time:** 2:30PM

**In Attendance:** Manuel Bouza, Ana Hernandez, Enio Pena, Tomas Acosta.

**Agenda:** Work on final documentation, finalization of requirements.

**Meeting 20:**

**Date:** July 23, 2014

**Start Time:** 10:00AM

**End Time:** 11:00PM

**In Attendance:** Manuel Bouza, Ana Hernandez, Enio Pena, Tomas Acosta.

**Agenda:** Work on final documentation, finalization of requirements, fixing PowerPoint presentation, poster.

**Meeting 21:**

**Date:** July 24, 2014

**Start Time:** 10:00AM

**End Time:** 11:00PM

**In Attendance:** Manuel Bouza, Ana Hernandez, Enio Pena, Tomas Acosta.

**Agenda:** Work on final documentation, finalization of requirements, fixing PowerPoint presentation, poster. Rehearsal of final presentation.

# 

# 5. References

1. Feasibility Study & Project Plan Document v1.0. Fall 2013.
2. Feasibility Study & Project Plan Document v2.0. Spring 2013.
3. Requirement Document v1.0. Fall 2013.
4. Requirement Document v2.0. Spring 2013.
5. Design Document v1.0. Fall 2013.
6. Design Document v2.0. Spring 2013.
7. Final Deliverable v1.0. Fall 2013.
8. Final Deliverable v2.0. Spring 2013.
9. "Bootstrap." *2.2.2 Documentation*. N.p., n.d. Web. 24 July 2014. <http://bootstrapdocs.com/v2.2.2/docs/>.
10. "Documentation." *Yii PHP Framework: Best for Web 2.0 Development*. N.p., n.d. Web. 24 July 2014. <http://www.yiiframework.com/doc/>
11. Chacon, Scott. *Pro Git*. Berkeley, CA: Apress, 2009. Online. <http://git-scm.com/book/en/Getting-Started>