SCS 3214 / IS 3113: Group Project II
2021

Project Proposal

Proposed Project Title: UCSC Virtual Career fair Management system

Project Group Details

1. Group number: G25
2. Group members:

Name	Reg. Number	Index Number	Email address	Mobile Phone
(i)P. H. Mallikarachchi	2018CS099	18000991	praveen.himantha@gmail.com	0712523497
(ii)H.T.P.C. Sooriyabandara	2018CS164	18001645	2018CS164@stu.ucsc.cmb.ac.lk	0714706525
(iii)H. P. N. Aravinda	2018CS015	18000152	2018cs015@stu.ucsc.cmb.ac.lk	0710932336
(iv)W.G.S.L.Bandara	2018CS023	18000231	swelikotuwa@gmail.com	0767822840
(v)R. L. Udayanga	2018IS085	18020852	rl.udayanga96@gmail.com	0779107462

Details of Project Supervisor, Co-supervisor, Advisors and Clients

Proposed Project Supervisor (Academic Staff of UCSC):

Name of the supervisor: Dr (Ms) L N C De Silva

Signature of the supervisor:

Date:

Proposed Project Co-Supervisor (Assigned by Course Coordinator):

Name of the co-supervisor: Mr.Roshan Abeyweera

Signature of the co-supervisor:

Date:

Project Advisors: (External industry advisors, if any)

(Please provide, Name, Organization, email address, and institute)

1. ……...

2. ……...

3. ……..

The client of the Project

Name of the client: Ms. Nimali Wasana Hettiarachichi

Address of the client: Professional Development Center, UCSC

Contact person at client:

Contact number of the contact person:

e-mail address of the contact person:

Project Details:

1. Project Title:

UCSC Virtual Career Fair Management System

2. The Goal and Objectives

The UCSC Career fair is a vital student activity conducted annually by fourth-year undergraduates in collaboration with the Professional Development Center (PDC). Due to the social distancing regulations in the current pandemic situation, organizing a physical career fair had become tedious and unrealistic during the past year.

Hence our primary goal is to make a platform where virtual career fairs can be organized and conducted amidst the current situation in the country while adhering to physical distancing. The virtual nature will also allow a broader community, both companies, and candidates to participate in the event without any significant restrictions.

We intend to achieve the main goal through the following sub-objectives.The intended platform will

- connect all stakeholders, including companies, PDC, final year undergraduates, and graduates,
- handle candidate and company registration,
- facilitate the graduates and the final year undergraduates of UCSC to submit CVs, receive information relevant to job vacancies, and apply for related job vacancies,
- CV shortlisting and facilitate companies to schedule and conduct career interviews during a specific period (Career Week),
- generate numerous reports required by PDC for decision-making purposes and increase the traceability within the whole process.

3. Tentative Problem Definition

The current pandemic situation created a drastic impact on the physical activities conducted by the universities. There is an existing career fair system in ucsc and it can only upload the Cv and companies can post the advertisement and it only allows registration for both student and company.

And that system is not enough to conduct the virtual career fair. The career fair organized by the fourth-year students and PDC is one such activity that had a significant impact due to the banning of gatherings and social distancing.

During the past few years, the career fair was done physically at UCSC in the presence of limited resources. There is a high demand among the companies to participate in this event. However, due to the space limitations in the physical setting, a limited number of companies were given the opportunity to participate in the career fair as well.

The UCSC Career fair program consists of several activities as mentioned below,

- Request for the registrations from the interested companies to participate in the career fair program.
- Send an invite for the respective candidates to register for the career fair.
- Call and handle job advertisements from the respective companies
- Allow candidates to apply for the job adverts within a specified time.
- Process the CVs by the respective company and call the candidates for interviews.
- Publish the interview schedules and conduct the interviews online.
- Notify the candidates regarding the selection process.
- Make the candidates' CVs unavailable once they were selected and the candidate consent was provided.

The above-mentioned UCSC career fair process is mainly done through physical meetings and a simple mobile application. The existing mobile application is developed by the students at UCSC and is used mainly to handle the CVs submitted by the candidates and thereby to make them available for the registered companies. However, best to our knowledge, it does not handle the entire process if this is to be carried out virtually.

Conducting a virtual career fair is the best solution in the current context. Thereby, it should have a proper platform connecting the major parties in this process to organize the event successfully. This will also address the issue of limiting the number of participants including both candidates and companies in the physical setting.

Our solution to this problem is developing a complete software system connecting PDC, IT companies, graduates, and the final year undergraduates to virtually handle the UCSC career fair program.

4. A brief introduction to the project

The essential goal is to conduct and manage the UCSC virtual career fair for the PDC of UCSC. This system is to handle the UCSC career fair program by connecting all the stakeholders, including companies, PDC, final year undergraduates, and graduates.We are going to offer a web-based software program system for PDC to handle candidate and company registration,companies can publish their advertisements and the system facilitate the graduates and the final year undergraduates of UCSC to submit CVs, receive information relevant to job vacancies, and apply for related job vacancies,After uploading their CVs to the system,companies process the CVs and invite students for the interviews.System facilitate companies to schedule and conduct career interviews during a specific period (Career Week).After all of that the system generate numerous reports required by PDC for decision-making purposes and increase traceability within the whole process.

5. The scope of the project

In Scope

A web-based application will be developed to connect the following stakeholders of the system.

- Final year undergraduates and graduates of UCSC who are looking for a job placement
- IT-based Companies who are willing to recruit new candidates
- Professional Development Center(PDC) who is responsible for handling the annual career fair.
- Career fair organizing committee members who will facilitate the organizing of the event.

The Final year undergraduates and graduates of UCSC shall be able to

- request to register for the career fair,
- view all advertisements for company vacancies,
- filter advertisements based on their preferences,
- apply for the vacancies by uploading their CVs,
- get notifications once being called for the interviews,
- accept/reject the job offer based on the preference.

The relevant companies shall be able to

- Request to register for the career fair,
- Upload video/other materials about the company and resources for candidates,
- Upload advertisements for company vacancies,
- View candidate CVs of those who applied for the job vacancies,
- Schedule and notify candidates for interviews based on their availability,
- Notify candidate selection,
- Update the current status of the vacancy.

The PDC shall be able to,

- authorize companies and students requested a registration,
- notify companies and candidates regarding the events,
- send invitations about the inauguration ceremony of the career fair,
- view all registered companies and their profiles,
- view all registered candidates and their profiles/CVs,
- view all candidates who got/not selected from companies,
- view the interviews scheduled by the respective companies,
- Receive complete reports about the whole process.

Out Scope

- Facilitate video meeting conferences.

Users (possible actors) of the system:

1. Administrator
The administrator is the person who can handle all the activities in the system. Admin can view all the details of other parties, contact IT companies, accept registrations of companies and students
2. Students of UCSC
Students can register in system
Students can upload their CVs to the system according to their preferences on job roles and IT companies.
3. IT Companies
Any IT company can register in the UCSC through this system and publish their vacancy advertisements on the system. And also They can receive student CVs through the system.
Companies can update about current status on their vacancies.

Main functionalities of the system:

We are planning to provide these functionalities through the system,

- Company Registration
- Student Registration
- Collecting vacancy advertisement from registered companies
- Sorting collected advertisements according to the job role
- Interface to interact with registered students
- Allow students to upload their CVs according to their preferences
- Update about current status on job vacancies.
- Update about current status on each student's availability.
- Create reports about each process
- Make notifications about interviews.

6. Tentative Technologies

We have decided to use the following technological resources to carry out our project within the given time period. We will be using a web framework to make the project code more organized and easy to work with. And by using a framework it will be easy to identify the security holes in the system.

React

We intend to use React javascript framework for the frontend. React is a javascript framework that comes with a helpful developer toolset. React is faster than the other related web frameworks and it guarantees stable code. There will be user interacting interfaces in our system and the React offers a better user experience and very fast performance.

Node and Express

Since the system will interact with the database most of the time and there will be concurrent users in our system(students,undergraduates and companies), it is important to have a non-blocking code. Node.js facilitates the non-blocking concurrent connections.Express.js is a Node framework that allows us to write reusable code.We have to ensure the safety of private data of companies and candidates such as email,phone numbers,etc.ExpressJS is allows us to build secure and very fast software with JavaScript on the server-side by giving JavaScript newfound back-end functionality. And it is a minimal and flexible Node.js web application framework. Unlike its competitors like Rails and Django, which have an opinionated way of building applications.

MySQL

We have identified that the database of the system is well structured because any unexpected data will not be input to the database and there will be relations between records. And also the consistency of data is very important. So we identified that a relational database is well suited for our project.MySql is a relational database management system based on SQL which satisfies the requirements.

GitHub

We will use GitHub as our version controlling system for the project with GitHub,

- We can track changes in our code across versions.
- We can work in the same repository
- GitHub is secured storage that we can store our project

Trello

Trello will be used as a project management tool for the project.

- Trello provides its core features for free.
- It keeps the project organised and focused.
- We can set due dates for essential tasks.
- We can keep our project files together

7. Feasibility Study

Operational Feasibility

The career Fair system is an existing problem for the PDC. Our new system will fulfill these requirements. At present, a career fair for the students is done physically. We propose a web-based system for this problem.

Nowadays, graduate students come to the physical career fair and companies come too. Students can apply for job vacancies and companies can conduct interviews. In our system, they can do almost all of those things online. They don't meet physically but they do all of that through their interviews and online from home.

Companies can register in our system and PDC will verify them. Also, students can register in our system. PDC verifies them too. companies can advertise their vacancies via a system and students can apply for those vacancies.

At present students hand over their CVs to UCSC. Then PDC checks those and sends them to the related companies. Our purpose is that students can send their CVs through the system and companies can review their CVs and give some responses to them. and companies can select students as their preference or they can arrange interviews via the system. After that companies can inform selected students via the system to UCSC and the students. After all these, we think we can fulfill these problems. so this is operationally feasible. Because now all those things are done manually. We are supposed to do it in a virtual environment. Therefore this is very feasible.

Virtual career fair management System is a web-based system that we hope to implement using React due to the curiosity of our team members to learn new teams.

For the database, MySQL will be used. Because it is relative and well structured. We use GitHub for version control. There is a secure store and we can all contribute to the same repo.

We all covered the basic programming concepts of the study session and gained knowledge of coding through our second-year group project. You can also get help with online tutorials for our project. Also, the Wi-Fi connection of an existing simple laptop / desktop computer and open source software is not sufficient to build the proposed system. All users associated with our proposed system are from IT backgrounds. So they use the system without any difficulty. Therefore, the proposed method is technically feasible.

Legal and Ethical Feasibility

Data protection is becoming an increasingly vital issue for the users of websites. As our system is also designed to acquire personal details of the users e.g.: names, addresses, email addresses and phone numbers so,We ensure that private and confidential information is only visible to administrators.The interests and the details of the students and companies are confidential and these data won't be used for any other purpose or to be sold.We try not to violate any rules under the law. If we can do that this system is legally and ethically feasible.

Schedule Feasibility

This feasibility test examines whether project deadlines can be achieved under technical specificity. Our proposed scheme will take five months to complete from May to September as follows.

Task	Plan Duration (Weeks)	Present Completed	May				June				July				August				September			
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17		
Finding Project	2	100%																				
Requirement Gathering	4	50%																				
Feasibility Study	2	50%																				
Studying Technologies	8	20%																				
Project approval process	2	50%																				
Use case modelling	2	0%																				
Planning basic system Architecture	2	0%																				
Designing user interfaces	4	0%																				
Implement user interfaces	8	0%																				
Implement database design	10	0%																				
Connecting UI and databases	8	0%																				
Testing	2	0%																				
deployment	1	0%																				

Complete

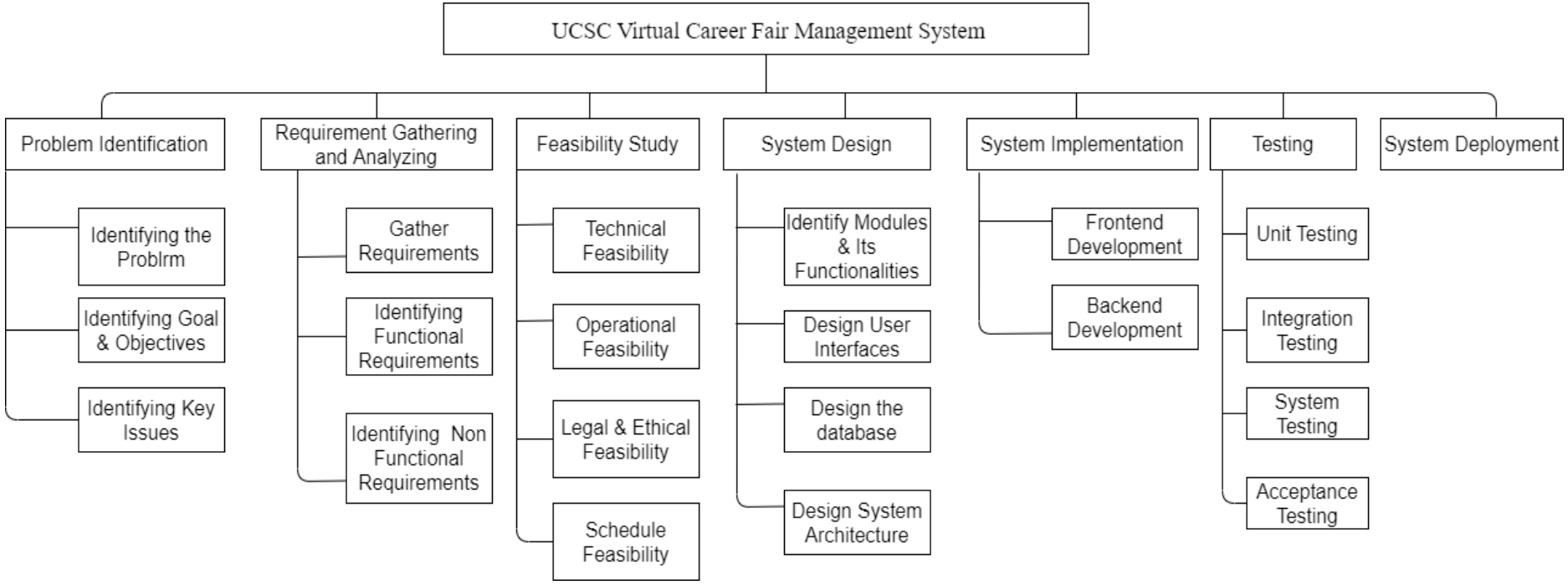
Not Complete

8. Main deliverables of the system

Complete web-based software which can be used to manage all the activities of the career fair of UCSC

The Project Plan We are going to complete our project by the end of September. Work breakdown structure and Gantt chart with the timeframe and milestones for the project are as follows.

9. The Project Plan



Task	Plan Duration (Weeks)	Present Completed	May				June				July				August				September			
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17		
Finding Project	2	100%																				
Requirement Gathering	4	50%																				
Feasibility Study	2	50%																				
Studying Technologies	8	20%																				
Project approval process	2	50%																				
Use case modelling	2	0%																				
Planning basic system Architecture	2	0%																				
Designing user interfaces	4	0%																				
Implement user interfaces	8	0%																				
Implement database design	10	0%																				
Connecting UI and databases	8	0%																				
Testing	2	0%																				
deployment	1	0%																				

Complete

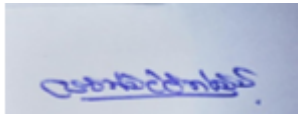
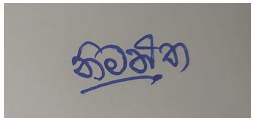
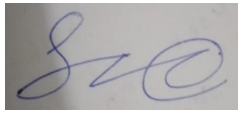
Not Complete

10. References

- https://ucsc.cmb.ac.lk/pdc/
- https://reactjs.org/docs/getting-started.html
- https://developer.mozilla.org/en-US/docs/Learn/Server-side/Express_Nodejs/Introduction
- https://dev.mysql.com/doc/mysql-getting-started/en/

11. Declaration

We as members of the project titled UCSC Virtual Career Fair Management System , certify that we will carry out this project according to guidelines provided by the coordinators and supervisors of the course as well as we will not incorporate, without acknowledgement, any material previously submitted for a degree or diploma in any university. To the best of our knowledge and belief, the project work will not contain any material previously published or written by another person or ourselves except where due reference is made in the text of appropriate places.

Name	Signature
(i)P. H. Mallikarachchi	
(ii)H.T.P.C. Sooriyabandara	
(iii)H. P. N. Aravinda	
(iv)W.G.S.L.Bandara	
(v)R. L. Udayanga