Career Recommender Application(Carichoice)

Enrol. No. - 13103544 , 13103613 , 13103716

Name of Student - Shivam Gupta , Sachin Agarwal , Sakshi Dubey

Name of supervisor(s) - K. Rajalakshmi

December - 2016

Submitted in partial fulfillment of the Degree of

Bachelor of Technology

in

Computer Science Engineering

DEPARTMENT OF COMPUTER SCIENCE ENGINEERING & INFORMATION TECHNOLOGY

JAYPEE INSTITUTE OF INFORMATION TECHNOLOGY, NOIDA

TABLE OF CONTENTS

DECLARATION

We hereby declare that this submission is our own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which has been accepted for the award of any other degree or diploma of the university or other institute of higher learning, except where due acknowledgment has been made in the text.

Place: **Signatures:**

Date: **Name: Shivam Gupta, Sachin Agarwal, Sakshi Dubey**

Enroll. No: 13103544, 13103613, 13103716

CERTIFICATE

This is to certify that the work titled **Career Recommender Application(Carichoice)** submitted by **Shivam Gupta, Sachin Agarwal, Sakshi Dubey** in partial fulfillment for the award of degree of **B. Tech** of Jaypee Institute of Information Technology University, Noida has been carried out under my supervision. This work has not been submitted partially or wholly to any other University or Institute for the award of this or any other degree or diploma.

Signature of Supervisor : _____

Name of Supervisor : **Ms K. Rajalakshmi**

Designation : _____

Date : **21/12/2016**

ACKNOWLEDGEMENT

The revolutionizing thought of creating an educational platform for the young brains has given us a feeling of doing something worth in the domain of Computer Sciences. The entire credit of this ideology of including major projects in the undergraduate curriculum goes to our honourable Head of the Department **Prof Sanjay Goel Sir** whose initiation & guidance had lead the students to think out of the box & practically implement their theoretically earned knowledge.

The bridge between the first igniting thought & a smooth running running app with one touch required went through a long span of testing ideas. This project could not have reached its zenith without the guidance of our respected supervisor **Ms K. Rajalakshmi Ma'am** whose constant support and valuable guidance added a concrete value to this project. We extend our sincere thanks for her involvement & cooperation.

Last but not the least, we thank our nears and dears who provided a helping hand in testing our sample data sets.

Signature of the Student :

Name of Student : Shivam Gupta, Sachin Agarwal, Sakshi Dubey

Enrollment Number : 13103544, 13103613, 13103716

Date : December 21, 2016

SUMMARY

This major project is an effort to integrate a dynamic education platform for the students. The project " Career Recommender Application- Carichoice" is an app which predicts the best fit job for a person. The Android app basically works in two phases. The first phase revolves around the objective of finding a perfect profession for an individual. This can be done either by manually entering the desired job which in turn will give the skill set required for the profession or it can be achieved by analyzing one's general attitude towards life. It comprises of an inbuilt questionnaire in the database of general day to day questions. On behalf of the answered questions the result is analyzed on behalf of six characteristics namely conventional,artistic,realistic, investigative, enterprising,social. Then comes the second phase of the android app. Once a profession is decided using the concept of weighted average & hash tables, we provide a platform to the user to search for a specific domain. The calculations are done to match one's innate abilities with the skill sets of various works. The highest calculated answer reflects the best suitable workplace for an individual.

Signature of Student	**Signature of Student**	**Signature of Student**
Name – Shivam Gupta	**Name –** Sachin Agarwal	**Name-** Sakshi Dubey
Date: December 21,2016	**Date:** December 21,2016	**Date:** December 21, 2016

Signature of Supervisor

Name –Ms. K. Rajalakshmi

Date: December 21,2016

LIST OF FIGURES

LIST OF TABLES

LIST OF SYMBOLS & ACRONYMS

S.No.	Acronym	Abbreviation
1.	ROR	Ruby on Rails
2.	API	Application Programming Interface
3.	GUI	Graphical User Interface
4.	ASCII	American Standard Code for Information Interchange
5.	GPS	Global Positioning System
6.	SQL	Standard Query Language
7.	UML	Unified Modelling Language

Chapter-1 Introduction

1.1 General Introduction

The project ‘Carichoice’ revolves around the career choice platform of a student. In today’s era what matters for a student most is the selection of a right career. Our Android app aims for a fresh mind to explore his interests, to check his excel area & to pursue a profession what is most suitable according to his interests. This App is entirely a fresh idea & this kind of integration of career help doesn’t exist in present scenario. Carichoice App will work in several stages. Very first will be the online test to explore one’s interests. The set of questions will be chosen in such a way that it can reflect the interests of a person. On the behalf of the score & types of answers given by the individual app will suggest suitable professions in the second layer. Once some suitable career choices are made available to the user our third layer of implementation will reflect the job requirements from scratch. Job requirements will include both the technical & non -technical skill sets. Apart from this it will be assisted by the elaborated database of institutes offering the same course & required exams to get admission. This App can also be presented from a different angle. This three layer sets can be represented by four different age groups. On throwing some light to it, four different stages will be a student of junior section to choose a high school domain, a X standard student to choose a stream in senior secondary school, a XII standard student to pursue a undergraduation and graduation according to his choice & finally in fourth level a college student can give this test to go for the most suitable job. As stated once the test is done, our app will suggest the suitable career choice & further a ladder is provided how to get admitted into that suitable choice.

1.2 List some relevant current/open problems

- Normalisation of the data on jobs. Different jobs have different criteria and detail set. Compiling the data of all the jobs into one common set is a problem.
- A common test to gauge the best job set for the user. The study of research papers have provided many types of surveys and tests to distinguish between different personalities or general career path but there is not a single test which the user can take to accurately tell the best job for the user. Combining the different tests and surveys to produce the desired result will pose a problem.
- Parameters required to suggest the improvement or addition of skill set for a particular job are not defined. These parameters will also vary with different jobs. Thus, analysis of such parameters will be difficult.
- Crawling may slow down the application's performance.

1.3 Problem Statement

In india, due to lack awareness and knowledge only few careers are widely known. Most of the students don't even know the skill sets and eligibility criterias required for majority of the jobs. Although there are some career counseling services but most of these services are paid. So there is a need for a software solution that can guide the students to choose their ideal career and also give an exposure to wide variety of existing careers and some of the new possibilities. Also, even for professionals there is a need for a software that can help them improve their skill sets and gain new skills so as to reach a higher level of their profession.

1.4 Overview of proposed solution approach and Novelty/benefits

To create a Mobile application which can provide details of all areas of careers including eligibility criteria to the user. The user can access this data on-the-go as it will be readily available on the mobile. The app will help the user in choosing their career domain by providing suggestions on basis of personality/aptitude/skill tests submitted by the user. The app will also provide user an option to subscribe to alerts pertaining to a specific area of job. This option will provide user with notifications regarding the job. The users can also search for institutions which provide courses for particular skill near them. The app will require the data set of the jobs to be normalised. Also the skill set values common for all jobs will have to be generated to calculate the result of the tests.

Chapter-2 Background Study

2.1 Literature Survey

2.1.1 List of all the sources for formulation of problem statement

After a meticulous study of various carrier making journals, apps, websites our knowledge and direction for developing this app got better vision. Some of the sources used for our survey are listed below:

Research Papers

1. Matching Skills of Individuals and Firms along the Career Path

http://www.hwwi.org/fileadmin/hwwi/Publikationen/Research/Paper/HWWI_ResearchPaper_165.pdf

2. Career choices in academia

http://www.foreurope.eu/fileadmin/documents/pdf/Workingpapers/WWWforEurope_WPS_no036_MS64.pdf

3. Career Planning Beginning in Middle School

http://www.macalester.edu/educationreform/actionresearch/ChenAR.pdf

Websites

4. www.targetstudy.com
5. www.careerguide.com
6. www.indiaeducation.net
7. www.mindtools.com

Android Apps

8. Career Guide
9. Career Assist
10. Career Counselor
11. Career Guidance Test
12. Linked In Job Search

2.1.2 Summary of relevant papers

Paper 1:

Title of Paper : **Matching Skills of Individuals and Firms along the Career Path**

Authors: Elisabeth Bublitz

Year of Publication: July 2015

Publishing Details: HWWI Research Paper Hamburg Institute of International Economics (HWWI) Heimhuder Str. 71 | 20148 Hamburg | Germany

Summary: This paper presents a psychological correlation of an occupation with a human mindset. The survey came up with surprising end results that how human psychology can increase or decrease the output capability. This paper divides firm human capital into a specific and a general component to investigate the relationships between firm- and occupation-specific human capital and job switches. Applying the task-based approach, the results show that the degree to which firm knowledge is portable depends on tasks similarities between the firms. In the case of switches, less experienced workers travel longer tasks distances between firms than more experienced workers. Firm- and occupation-specific knowledge are negatively related to wages in a new job but achieving a good occupational, instead of firm, match is most important for employees. The amount of specific knowledge on the firm level, called occupational intensity, decreases with experience and leads to higher wages for higher qualification levels.

WebLink:http://www.hwwi.org/fileadmin/hwwi/Publikationen/Research/Paper/HWWI_ResearchPaper_165.pdf

Paper 2:

Title of paper : **Career Planning Beginning in Middle School**

Authors: Lulu Chen

Year of Publication: 2002

Publishing details: Educational Studies 480 Urban Education in Theory, Policy and Practice

Summary: This research paper gives emphasis on how students of junior section perceive for their future education. The School Administration decided to take a survey where they included aptitude test, general interests MCQ & in some cases they took student interviews. After analyzing the student report, they characterized the student's data in following categories namely Realistic, Investigative, Artistic, Social, Enterprising and Conventional. It gave the students a brief idea on how to plan for their future. The surveys result were quite shocking. There was a noticeable difference in before and after the survey results. After first survey the school gave a brief introduction to students on how can they plan their senior secondary & undergraduate education. The Analysis report let students decide on which section they need to focus in SAT & ACT Test. The survey divided the students caliber in spatial, acuteness ,verbal, numerical & critical dissection & threw a light on their strengths & weaknesses.

Web link: http://www.macalester.edu/educationreform/actionresearch/ChenAR.pdf

Paper 3:

Title of paper: **A Study on Employees Career Planning and Development**

Authors: Dr. A. R. Kanagaraj, S. Archana, K. Malathi

Year of Publication: July 2014

Publishing details: Department of Corporate Secretaryship, Dr NGP Arts and science college, Coimbatore-48

Summary: The biggest challenge of IT industry is not to hire the professionals from a talented domain but to hold them in their organization. Retention rate is exponentially rising these days & hence this research paper revolves around the analysis that how a present employee can be motivated for his growth in the organization and will continue to serve. The main objective of the study is to improve the employee personal skills/ work skills to update the latest skill existing in the market. The HR department should give counseling to each employee's who was not fully cooperative to achieve the organization goals. For the purpose of the career planning and development the study is conducted to find out whether the devising point of the organizational system of career movement and growth opportunities from the point of an individual in employment to the point of retirement.

Web link: http://worldwidejournals.com/gra/file.php?val=July_2014_1405430425__70.pdf

Paper 4:

Title of Paper: **Algorithms and Methods in Recommender Systems**

Authors: Daniar Asanov

Publishing Details: Berlin Institute of Technology, Berlin, Germany

Summary: In the present scenario data is rising with an exponential rate. All we need to do is to convert that unstructured data into structured data. Today, there is a big variety of different approaches and algorithms of data filtering and recommendations giving. In this paper we describe traditional approaches and explain what kind of modern approaches have been developed lately. All the paper long we will try to explain approaches and their problems based on a movies recommendations. In the end we will show the main challenges recommender systems come across. This includes content based filtering, collaborative filtering, hybrid recommendation approaches while the Modern Recommendation approaches include Content-Aware Approaches, Semantics Based Approaches, Cross -Domain approaches, peer to peer approaches & Cross Lingual Approaches.

WebLink:

https://www.snet.tu-berlin.de/fileadmin/fg220/courses/SS11/snet-project/recommender-systems_asanov.pdf

2.1.3 Integrated summary of the literature studied

The grandiose survey of various research papers, websites, android apps & journals finally came up with a single notion being analyzation and then systematically improve. Right from the above mentioned Research papers to the famous android apps there are following things we wish to highlight:

- Surveys are the initial step of almost all the analytical techniques. These could be simply basic interviews, a true or false questionnaire, a general interest MCQ & top it all a quiz which indicates the innate behaviour of an individual. The survey was conducted in the first research paper to measure the productivity according to the distance while the next research paper talked about the survey on junior level students about future education. Finally the desired third research paper talks about the survey to search about the causes of employee retention.
- Almost in all the above mentioned referrals and surveys, results are analyzed with specific tools to guide the user. The numeric test scores and answers are converted into the soft skills parameters of spatial, acuteness, verbal, numerical, critical dissection, etc. Further on the basis of score report they can form a theme on the person's behaviour. Themes include conventional, artistic, realistic, investigative, enterprising & social. In the mentioned referral text person's will to work at far places is checked in first paper. On the other hand, second paper gives a clear picture of good and bad domains of junior students. Similarly, the survey to avoid retention comes up with the introvert and extrovert nature of an employee.
- The final step of the Carichoice Ladder App takes the inspiration from the final step of all the surveyed research papers & the end results of the mentioned websites. All of these are meant to suggest the right carrier or job profession to a professional according to his interests and abilities. The major question arises how to resolute to the suitable profession's demands. According to first paper, people who are introvert tend to work at nearby places. Second paper reveals that the junior students who are good at communication skills can go for journalism,law while core mathematicians can target engineering in their graduation. Similarly, third paper and other android apps throw light on the fact that staff's designation should be provided not only on behalf of their academic interviews but also on behalf of their emotional intelligence to extract best work out of them and to avoid switching.

2.2 Details of Empirical Study (Field Survey, Existing Tool Survey, Experimental Study)

Field survey of Websites

1. www.targetstudy.com

This website is main data hub. Most of the career related data will be fetched from this site via web scraping and crawling techniques.

We are targeting the following data to be fetched:

Institutions

Courses

Entrance Exams

Career Options

Alerts

Coaching Centers

Articles

2. www.careerguide.com

This site provides consultancy services related to career choosing and development. It also provides analysis of users skills and interests via conducting a quiz.It also suggests some career options but this service is paid.

We will fetch the question set used by this site and refine the question set by combining the techniques and questions collected from research papers and field survey.

3. www.ndiaeducation.net

This site can provide some good articles and data related to institutions , career , courses and study plans if needed.

4. www.mindtools.com

Mindtools.com provides some tests related to skills , interests and apptitute. In our project we can use this for collecting questions for testing.

Summary of the field survey of websites: None of the sites provide the complete solution as we desire, so we are trying to gather data from various sources and after normalization of the gathered data we will store data in our databases and some of the dynamic data will be fetched on run time via crawlers.

Field Survey of Android Apps

1. **Career Guide:**

This app provides general data on different types of jobs with their description and eligibility requirements.We can use the basic design of the app which divides the description of job into different parts to make data more readable.

2. **Career Assist:**

A basic aptitude test app to help user improve in the job selection process. The app also provides data on jobs available in the industry. Our app emphasises on suggesting the user about job sectors which the user is more comfortable with and providing data on different types of jobs rather than improving the aptitude of user.

3. **Career Counselor:**

It is an app which provides experts of different areas for the user to take advice regarding career related decisions. Our app provides tests instead of experts. The user can obtain advice from the test results and suggestions made by the app based on the results of the tests taken by the user.

4. **Career Guidance Test:**

This app provides a test to user to gauge the personality of the user and suggests job sectors related to the personality of the user. We will be further enhancing the level of tests in our project and we will also include tests to gauge the skill set of the user.

5. **Linked In Job Search:**

Provides tools to find jobs related to the skill set of the user in the market. Connects employers to prospective unemployed professionals. Rather than providing tools for job selection, our app provides tools and data to improve the user portfolio.

Summary of the field survey of apps: Although there are many apps to help user get a job, there are not many apps which help the user enhance their skill set. Thus, we are aiming to create an app which not only provides data to the user about different kinds of jobs, but also helps the user to select a particular job sector which matches their skill and personality portfolio. The app will also help the user to improve their skill set and help them gain better position in a particular profession.

Chapter 3 Analysis, Design and Modeling

3.1 Overall description of the project

After a thorough analyzation of the Literature work and a cryptic view on the practical explanations, we came up with an idea of designing a carrier helping Android App specifically meant to guide the ignorant user what is suitable for him/her in laymen terms. The whole process calls for practical algorithms, precise analyzation & perfect domain of professional options.
The project starts with a user who will interact will the virtual Counselor. Initially an intelligent user can directly search for the details of a particular profession or an ignorant user can simply switch to some model tests to begin with the first step. After a varieties of general basic tests, our systems will be embedded to convert the statistical score of the survey to some set of technical and non-technical skills. From here onwards pie charts or bar graphs will be presented to give a clear reflection on the strong & weak domains of the user. One should obviously choose a profession with the strong domain or if, otherwise one is interested only in a specific profession & he is weak a particular required trait then he should start focussing on that trait. This will give a clear picture of what is required & what is supposed to be improved. Once analyzed results of surveys are flashed, a domain of suitable professions will be displayed. This catalogue will include all the required information to pursue this profession right from the V std. It will be broken in four segments, i.e, for a junior kid, for a tenth graded student, for senior secondary individual & for a college level professional. They will be provided with the step by step prerequisites like institutes offering the course, entrance exams for admission , financial structure for the stream to pursue the desired profession. As stated this step can be directly reached by the user if he/she straight forwardly searches for a particular profession by exempting the initial rounds of surveys & analytics.

3.2 Requirements Specifications

Hardware:

Laptop (Linux/Windows/mac environment) with at least 4 GB RAM.

Software:

Platform used: **Android**

3.3 Functional and Nonfunctional requirements

FUNCTIONAL REQUIREMENTS:

1. Provide Career guide data to user which includes description of job, eligibility criteria, selection process, institutions, future career and salary.
2. Provide Alerts about specific job sector on subscription to user. These alerts include exams, jobs, skills related to the job set.
3. Provide domain related educational blogs to the user.
4. Provide institutes near user location to enhance their skill set.
5. Input user profile data and interests.
6. Provide tests to user to determine set of skills, interests, aptitude and personality of user.
7. Provide test reports to the user.
8. Provide suggestions to user on basis of profile of user.
9. Provide suggestions to user on basis of skill set.
10. Provide suggestions to user on basis of popularity.

NON FUNCTIONAL REQUIREMENTS:

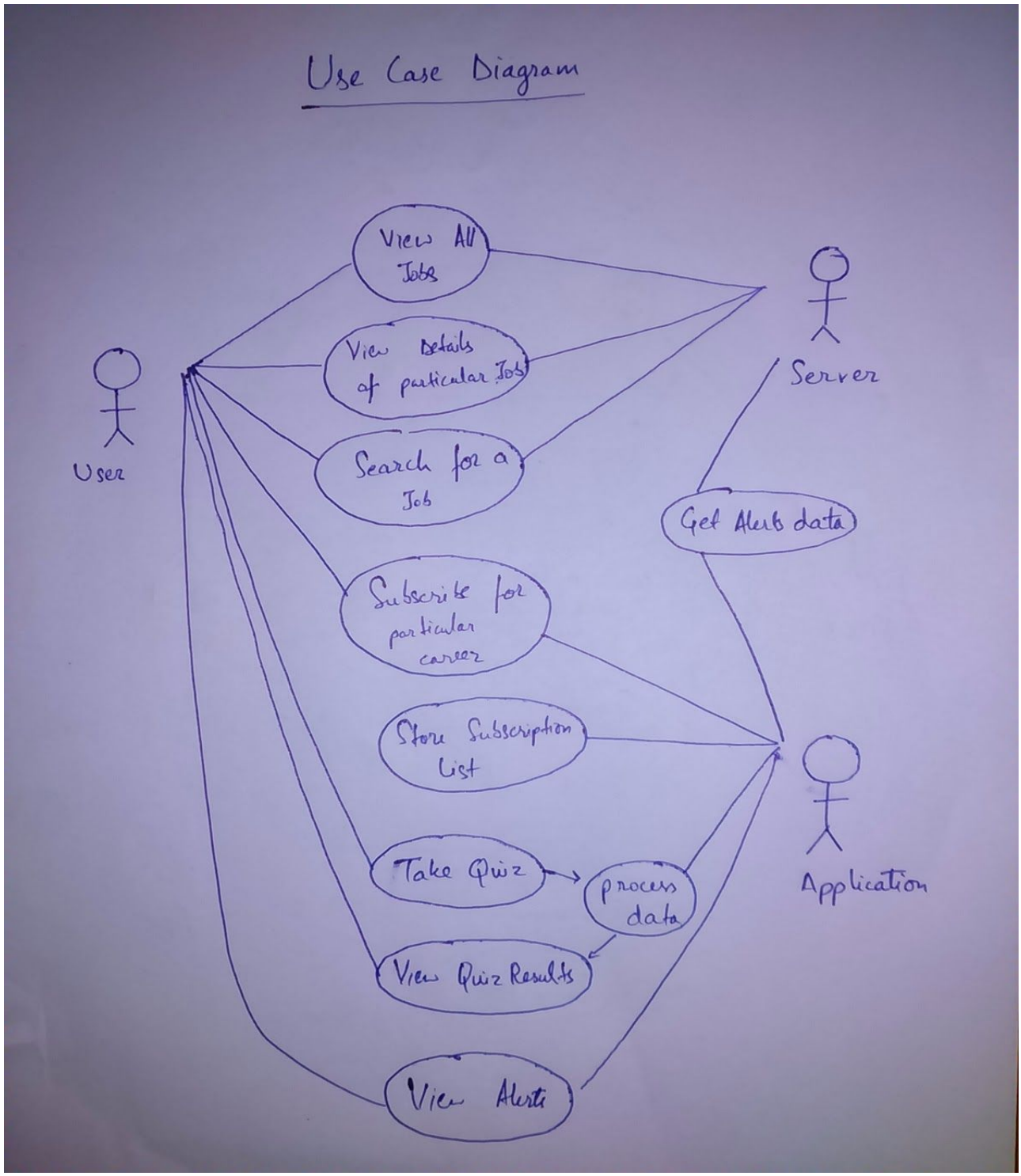
1. Each career description must have minimum 2 key skills.
2. The suggestion test must show at least 2 results.
3. App must require net connection.
4. Each career must have a base category.
5. The tests must have at least 10 questions.
6. For recommendation system suggestions, the user is required to build profile first.
7. For providing location based results, location permission is required.

3.4 Overall architecture with component description and dependency details

The android app architecture comprises of taking manual inputs from the user and then analyzing them with respective algorithms. The entire architecture is setup for analyzing the user's abilities through which he/she can contribute one’s best. The architecture also provides an option to match the given skill set to a profession. In nut shell, all the performed calculations are directly or directly dependent on the user's input. The dependency details calls for the stored weightage of every attribute within the database and hence every single profession is dependent on the algebraic sum of the weighted average of all the attributes.

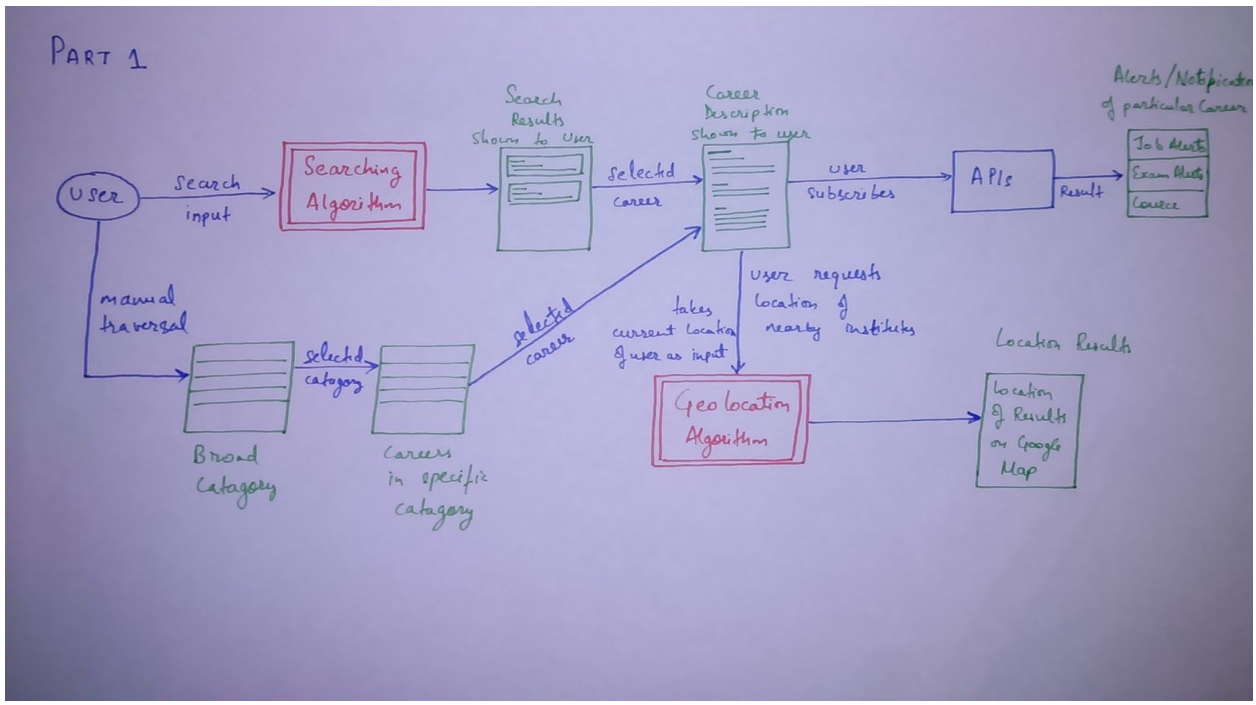
3.5 Design Documentation

3.5.1 Use Case diagrams

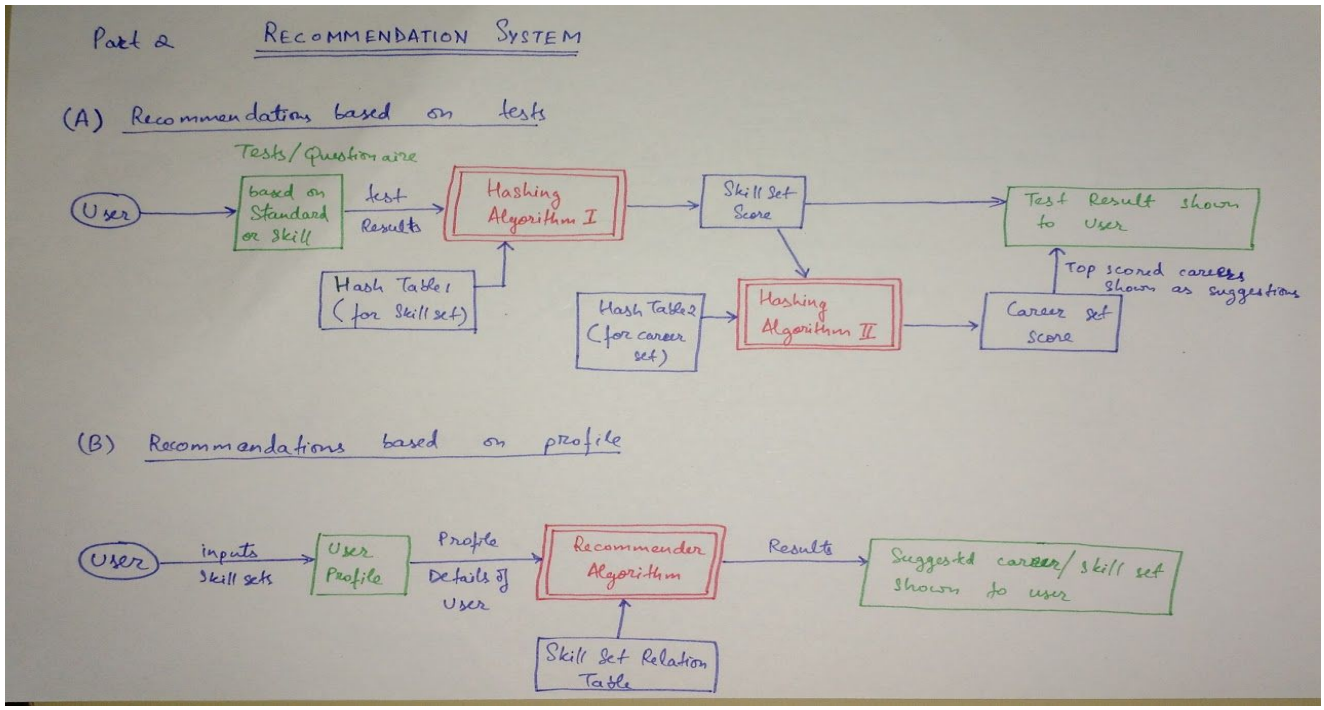


(Fig.1)

3.5.2 Control Flow Diagrams

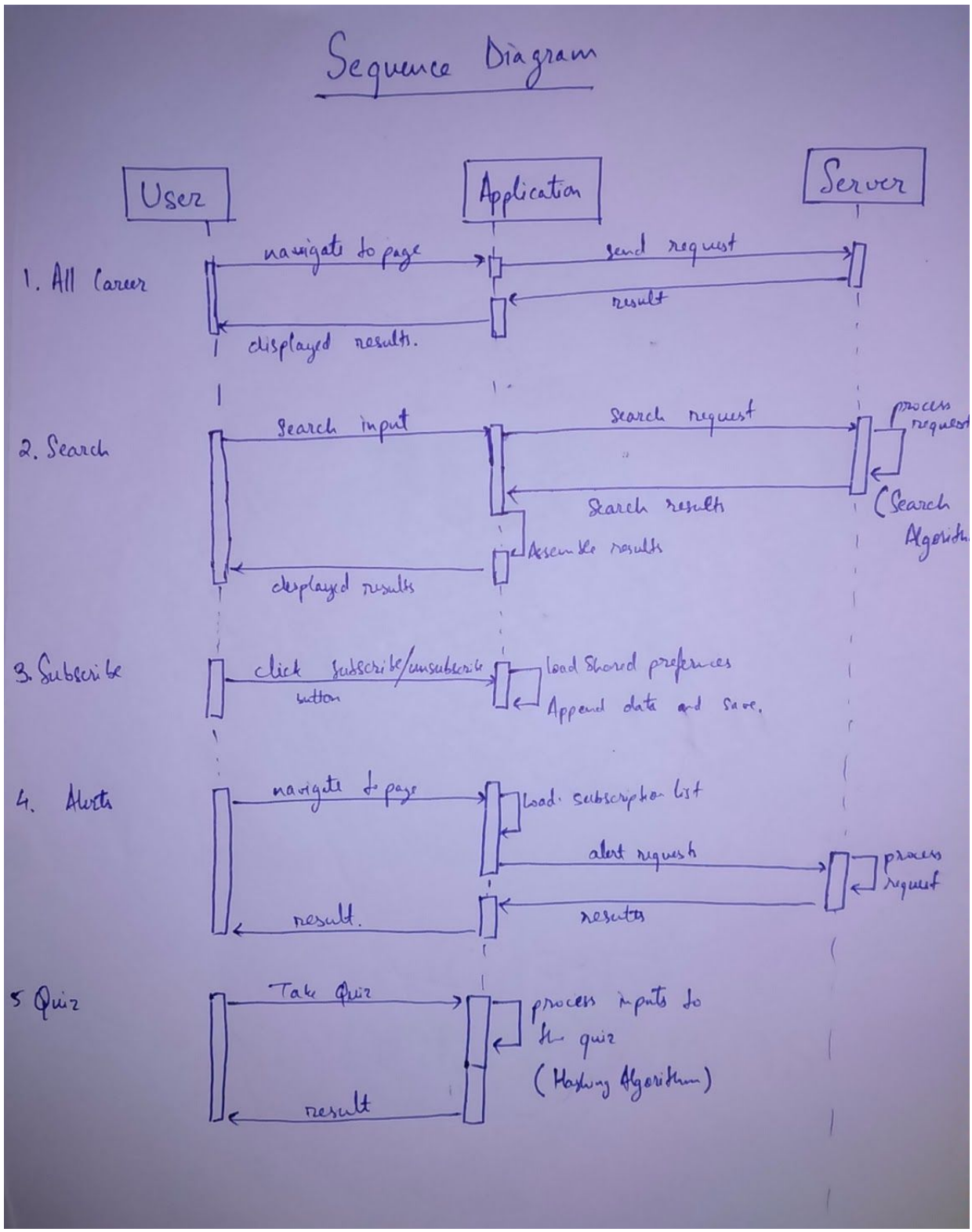


(Fig.2)



(Fig.3)

3.5.3 Sequence Diagram



(Fig.4)

3.5.4 Data Structures and Algorithms / Protocols

Data Structures

- Java Object to store data of one career.
- ArrayList to store list of objects of career.
- String to store URL for JSON requests.
- JSONArray and JSONObject to store result of JSON request.
- ArrayList and Sharedpreferences to store list of Subscriptions.
- Java Object to store details of one career
- Java Class to store data of one quiz.
- ArrayList to store list of Questions
- ArrayList of Objects to store key values of options of answer.
- MultiArray to store hash tables.
- ArrayList to store result.

ALGORITHMS

- Score based Searching algorithms
- Matching algorithm using hashing table
- Aggregation algorithms

3.6 Risk Analysis and Mitigation Plan

Risk ID	Description of Risk	Risk Area	Probability (P)	Impact (I)	RE (P*I)	Risk selected for Mitigation	Mitigation Plan	Contingency Plan
1	Information related to career changes frequently.	Database	0.5	H	2.5	Y	Crawling to update data regularly.	-
2	User might not attempt quiz genuinely.	Algorithm	0.1	L	0.1	N	-	Improving algorithm after testing.
3	Learning curves lead to delays	Resource and team	0.3	H	1.5	Y	Periodic Gantt chart rescheduling	-
4	Technology components aren't fit for purpose	Technology	0.2	L	0.2	Y	Shifting to better server.	-
5	Dependencies are inaccurate	Database	0.8	M	2.4	Y	Data normalisation.	-
6	Resources are inexperienced	System	0.1	L	0.1	N	-	Consulting mentors.

(Tab.1)

Chapter-4 Implementation and Testing

4.1 Implementation details and issues

ANDROID APPLICATION

- The application is created using **Android Studio**
- Implemented in Native JAVA language.
- The app uses Android Volley for JSON requests to get data from the server.
- Navigation Drawer is implemented to provide user friendly access to different sections of the application.
- Search Bar is used for searching the database for particular careers.
- View Holder and handler are implemented for dynamic allocation of data.
- CardView library and ListView are used for displaying results.
- Shared Preferences are used to store Subscription details.
- Alert Dialog boxes are used to interact with the user.

BACKEND AND APIS

- APIs and Backend code is implemented in ROR.
- Job search API : crawling data from various sources using skills or career name and location and respond results in JSON format
- Career data is crawled from various sources and stored in Postgresql database ,we use this database as it is a relation database and pre configured on heroku for ROR, we used HEROKU as our web service platform.
- API for searching careers
- We face hard time crawling data from web and normalize the data in our standard as it arranged on very different structure on different places.
- As we found that there is no free API for job alerts we implemented by crawling data from various well respected sources like Naukri.com etc.

4.2 Testing

4.2.1 Testing Plan

Type of Test	Will test be performed?	Comments/Explanation	Software Component
Requirements Testing	Yes	Done manually	-
Unit	Yes	ROR unit testing	ROR unit testing
Integration	No	-	-
performance	No	-	-
stress	No	-	-
security	Yes	Done by ROR security testing tools	ROR
Load	No	-	-

(Tab.2)

Test Team Details

ROLE	NAME	Specific Responsibility
Documents and data testing	Sakshi Dubey	Test the data used in application.
Software testing	Shivam Gupta	API testing and Backend Testing.

(Tab.3)

4.2.4 Limitations of the solution

- Assigning skills perfectly to their respective careers is cumbersome. The assignment is made as close as possible.
- The key values used in hash tables for calculating results for the quiz cannot be perfectly accurate because of many environment variables. The key value used are based on tested results from different sources and are expected to return results as good as possible.
- Since careers are forever proceeding, the skill set related to them keep on changing with time. This behaviour is very difficult to map.
- The details of careers vary a lot with respect to different fields. So it is hard to express all the details of the career.
- If the user does not take the quiz wholeheartedly, then it is difficult to provide good results because of limitations of technology.
- Since many professions share common skill sets, there is always a possibility of thin differences between the desired results.
- Coherence is quite important for the accurate analysis. The answer variation in similar objective questions can increase the error rate.
- Every question has a different weightage. Hence it's difficult to analyze on a partial data set.
- Since the app has picturized on the major six characteristics of a person. There can always be a possibility of any unexplored characteristic beyond these six characteristics.
- The values stored in a database are always bound to a certain limit.

Chapter-5 Findings & Conclusion

5.1 Findings

- On the basis of calculations, it has been observed that people are who are more realistics & investigative tend to go for Administrative Services.
- Similarly, training & education department deals with public exposure. Hence the ones who are outspoken & amiable have bright chance in educational services.
- If an individual wants to pursue a career in medicine then the first requisite for this precision is to be strong hearted. Practical & realistic people have fair chances.;
- One of the finest findings of this project reflects that the most successful persons in corporate sector are outspoken & enterprising.
- It also reveals that sometimes can pay you much more than you ever expected. Creative people have a bright chance in Interior Designing.
- Another interesting feature includes the analysis of Engineering services. THe highest weightage of Engineering Services goes to the Realistic attribute.

5.2 Conclusion

The android app helps in evaluating a person's capability and lets him find what is suitable for him or her. The project reveals the key ladder of a profession. We can draw a conclusion which broadly divides the professions on the basis of introvert and extrovert, imaginary and realistic, enterprising and conventional, artistic and pratical etc. Hence its get pretty easy for an individual to match his characteristics with a job where he can work efficiently.

5.3 Future Work

We are planning to improve our Data Set of occupations and careers. We will refine the skill assignment to career options. The Profile section of the application will be created and new Skill Test section will be added. User can take these tests to add skills to their profile. Algorithm to provide career suggestions based on the acquired skills will be added.

Google Maps will be added which will provide user features like searching for nearby institutions to improve their skills. Location query will be added to alerts so the user gets more relevant alerts on subscribed careers.Machine Learning may be used to make career recommendation more accurate and adaptable. UI of Android Application will be redesigned to make it more user friendly.

References

A. Janger Jurgen(WIFO), Nowotny Klaus(WIFO) "Career Choices in Academia" Working Paper no 36 August 2013
<http://www.foreurope.eu/fileadmin/documents/pdf/Workingpapers/WWWforEurope_WPS_no036_MS64.pdf>

B. Adekola Bola "Career Planning And Career Management as Correlates For Career Development And Job Satisfaction A case Study of Nigerian Bank Employees" Australian Journal of Business and Management Research May-2011
<http://ajbmr.com/articlepdf/PLAGIARISM%20ISSUE%20AND%20COPYRIGHT%20VIOLATION.pdf>

C. Chen Lulu "Career Planning Beginning in Middle School" Educational Studies 480 Urban Education in Theory, Policy and Practice 2002
<http://www.macalester.edu/educationreform/actionresearch/ChenAR.pdf>

D. Rani K. Sudha, Ananda T., Krishnaveni M. "Career Guidance Counseling Needs of Graduate Students-A Study in India" Sri Venkateshwara University
<http://www.worldwidejournals.com/gra/file.php?val=March_2013_1364041197_76191_18..pdf>

E. Bublitz Elisabeth "Matching Skills of Individuals and Firms along the Career Path" HWWI Research 165 2015
<http://www.hwwi.org/fileadmin/hwwi/Publikationen/Research/Paper/HWWI_ResearchPaper_165.pdf>

F. Firkola, Peter "Career Planning Trends in Japanese Companies" Economic Journal of Hokkaido University,34 : 233-242 July 2007 <http://hdl.handle.net/2115/5405>

G. Borchert Michael "Career Choice Factors of High School Students" The Graduate School University of Wisconsin-Stout Menemonie, WI 54751 <https://core.ac.uk/download/pdf/5066035.pdf>

H. Arsanov Daniar "Algorithms and Methods In Recommender Systems" Berlin Institute of Technology <https://www.snet.tu-berlin.de/fileadmin/fg220/courses/SS11/snet-project/recommender-systems_asanov.pdf>

I. Patrick Harold Andrew, Kumar Amit "Career Management, Employee Development and Performance in Indian Information Technology Organizations" Business Management Dynamics Vol.1 No.5 pp. 24-31 Nov 2011 <http://bmdynamics.com/issue_pdf/bmd110166_India_24_31.pdf>

J. Morris Marian, Rickinson Mark, Davies Deborah National Foundation for Educational Research Research Report RR296 <http://dera.ioe.ac.uk/4646/1/RR296.pdf>

K. Hooley Tristram, Dodd Vanessa "Promoting Social Mobility, Achievement and Economic Well-Being" Careers England July 2015 <https://cica.org.au/wp-content/uploads/Careers-England-Research-Paper-The-Economic-Benefits-of-Career-Guidance-July-2015.pdf>

L. Frank MurrayZ., Shen Tao "Investment and the Weighted Average Cost of Capital" March 22,2013 <http://www.tc.umn.edu/~murra280/WorkingPapers/WACC.pdf>

M. Bimrose Jenny, Barnes Sally-Anne, Brown Jamie "A Systematic Literature Review of Research into Career-related Interventions for Higher Education" Institute for Employment Research, University of Warwick Nov 2005
http://www.hecsu.ac.uk/assets/assets/documents/Literature_review.pdf

N. Mckenzie B.J., Harries R., Bell T. "Selecting a Hashing Algorithm" Department of Computer Science, University of Canterbury
<http://www.cosc.canterbury.ac.nz/research/reports/TechReps/1989/tr_8910.pdf>

O. Gardner John, McGowan Jr. Carl, Moeller Susan "Calculating the weighted average cost of capital for the telephone industry in Russia" Journal of Case Research in Business and Economics <http://www.aabri.com/manuscripts/10528.pdf>

P. Murugami Wangui Margaret, Nel M. Norma "A development Career Guidance and Counseling Process for learners with disabilities: Preparation for Employment" Educational Research (ISSN: 2141-5161) Vol. 3(4) pp. 362-370 April 2012

<http://www.interesjournals.org/full-articles/a-developmental-career-guidance-and-counselling-process-for-learners-with-disabilities-preparation-for-employment.pdf?view=inline>

Appendices

S. No.	Appendix	Description
1.	Testing Team Details	Table 3
2.	Architecture of the project	Chapter 3.5.3 Figure 4
3.	Field Survey Analytics	Chapter 2.2
4.	Skill Match requirement	Research Paper 2.1.2
5.	Error Rate Analysis	Chapter 4.2.4

Brief Bio-data (Resume) of Student

SACHIN AGARWAL

+91-9643699806 ▪ agarwalsachin1994@gmail.com

Objectives

To work in a company of international repute honing my engineering skills working in live projects.

Education

B.Tech, Computer Science Engineering, Jaypee Institute of Information Technology

CGPA 8.9 (Out of 10) TILL VIth SEMESTER

Relevant Courses:

Data structures and Algorithms

Software Engineering

Database Management & Systems

Operating Systems

Computer Networks

Senior Secondary, CBSE, New Era Public School

Aggregate Percentage 92.6 %

Secondary, CBSE, New Era Public School

CGPA 10.0

Projects

TRAVEL BLOG APP AND WEBPAGE

Created a Mobile App and a Web Page for blogging, sharing and reading about travel experiences to different places as a Minor Project.

ROUTINE MANAGEMENT APP

Created an elegant Mobile App based on weekly routines. The app notifies user for an upcoming routine which can be set for a weekly basis.

Programming

C

C++

Android

Other Technical Skills

MySQL

PHOTOSHOP

BASIC LINUX ADMINISTRATION

Interests

SKETCHING

READING

Shivam Gupta

CONTACT

A-10, Jaypee institute of information technology Sec-62, Noida

Uttar pradesh

shivam13103544@gmail.com 9718455700

OBJECTIVE

Looking for Cooperative Position in Computer science and Software Engineering to contribute my best in the world.

ACHIEVEMENTS

- Mentoring some sophomore students in their idea as a part of JSOC(Jaypee summer of code.
- 1st Rank in Robotics Annual College Robotics Event (Participated by People all over India)
- Contributing in Crowd Course, Stanford (An initiative to create online courses).

SKILLS

Languages/Frameworks - Ruby, Ruby on Rails,JAVA, C, C++, Android,Magento.

Soft Skills: Quick learner, creative, Adaptabilable, Honest ,free thinker.

WORK EXPERIENCE

Round 360(U.S. based startup) software intern

march 2016 — june 2016

I worked on the integration of Obuja(front-end template for ecommerce) with Spree e-commerce (a solution for e-commerce application development written in Ruby).

PROJECTS

Collnect - 2015(Ruby on Rails + Android)

- Notification Management System for Hubs in college
- Deployed: http://collnect1.herokuapp.com/
- REST API(Ruby on Rails)
- Front-End (HTML, Bootstrap,Javascript,Ajax)
- API for using Web kiosk authentication to limit the access up to college Source(ROR) : https://bitbucket.org/spiderOO7/project_collnect_finals Source(Android): https://github.com/spiderOO7/Collnect_android

Network collaborating tool:

- (Python) file sharing
- multiplayer networking game
- chatting

Tic-Tac-Toe - 2016 (Android)

- Android Game
- Source : https://github.com/spiderOO7/TikTakToe_android Spider_links - 2015 (Ruby on Rails)

link sharing app

Source: https://github.com/spiderOO7/spider_links live : http://spider-links-007.herokuapp.com/

INTERESTS

Politics, History Ruby Programing Badminton

EDUCATION

B.Tech

Jaypee Institute of Information technology CGPA - 7.3 (as of Semester 6)

MP Board, Class XII

H.S.S. Chambal Gadiya Raipur School 88%

MP Board, Class X

Modern Convent H.S. school 87%

REFERENCES

References available upon request.

RESUME

Name: **Sakshi Dubey**
Email: dubeysakshi22@gmail.com
Website: www.sakshidubey.com

CAREER OBJECTIVE

Seeking a position to utilize my skills and abilities that offers professional growth while being resourceful, innovative and flexible.

ACADEMIC PROFILE

Qualification	**Board/University**	**Year Passed/Expected**	**Percentage/CGPA**
High School	K.C.M. School	2010	9.8
Intermediate	K.C.M. School	2012	90.2
B.Tech	JIIT, Noida	2017	7.2 (Till Sem 6)
Branch	CSE		

INDUSTRIAL TRAINING

"Big Data" Technology using Hadoop at Hawlett Packard Enterprise India Pvt Ltd, Noida

TECHNICAL SKILLS

Area of Expertise	: C++, html, Hadoop
Basic	: C, Basic Java, Javascript, Basic php, Basic python, SQL

PROJECT DETAILS

Project Title	**Languages Used**	**Database**	**Tenure**
Twitter Data Analysis	Hadoop (pig, hive, map reduce)	HBase	June 17 - July 30, 2016
Healing System: Networking Project	Basic Python, Android	SQL	Jan 2016 - May 2016
Social Networking Website 'Knot'	Html, php	SQL	Aug 2015- Dec 2015

GLOBAL EXPERIENCE
Microsoft Student Partner (MSP) 2015-2016

HONORS / POSITION HELD	
Jaypee Youth Club :	Member
Member of Delegate Affairs :	Jaypee Model United Nations Organizing Committee
ACHIEVEMENTS & INTERESTS	
Public Speaking:	Anchoring, Debates, Declamations, Extempore, Speeches
Hobbies **:**	Swimming, Badminton, Article Writing

Declaration: I solemnly declare that all the above information is true to the best of my knowledge and belief.