

Online Career Counselor

## **Career Counselor**

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Online Career Counselor

## **CERTIFICATE**

It is certified that the contents and form of thesis entitled “**Career Counselor**” submitted by **Atif john** and **Muhammad Ilyas** have been found satisfactory for the requirement of the degree.

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Online Career Counselor

**DEDICATION**

To Allah the Almighty

&

To our Parents and Faculty

## **ACKNOWLEDGEMENTS**

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## TABLE OF CONTENTS

ACKNOWLEDGEMENTS .....	4
Chapter 1 .....	11
1 INTRODUCTION .....	11
1.1.1 Career Defination:.....	11
1.2 Career Modules .....	12
1.2.1 Career selection.....	12
1.2.2 Career developmet .....	13
Chapter 2.....	
LITERATURE REVIEW .....	
2.1 Career counseling Service.....	
2.2 Why Career Guidance.....	
2.3 Existing Tools Limitation and Challenges.....	
2.3.1 ContactPakistan.com.....	
2.3.2 CareerPlanner.com.....	
2.3.3 CareerPath.com.....	
2.3.4 Infozee.com.....	
2.3.4 My Career.pk.....	
2.3.5CareerKey.....	
2.4 Research Based Conclusion.....	
2.5 Motivation.....	
2.6 REVIEW OF JOOMLA TECHNOLOGY .....	
Chapter 3.....	
METHODOLOGY .....	
3.1 Technology .....	
3.2 Architecture.....	
3.2.1 MVC.....	
3.2.1.1What is MVC.....	

## Online Career Counselor

3.2.1.2	How It Works.....	
3.3	High Charts.....	
Chapter 4	.....	
IMPLEMENTATION.....		
4.1	Project Flow Diagram.....	
4.2	Use Cases Diagram .....	
4.3	Use Case To Object Modeling.....	
4.4	Data Base.....	
4.4.1	ERD.....	
4.4.2	Dimensional Modeling.....	
4.4	Interface Design.....	
4.5	Module Implemented.....	
4.5	Admin Panel.....	
4.5.1	Universities Comparison.....	
4.5.1	Searching Jobs.....	
4.5.1	Tests Demos.....	
Chapter 5	.....	
RESULTS.....		
5.1	Analysis .....	
5.1.1	Evaluation.....	
5.1.1.1	Availability.....	
5.1.1.2	Visualization.....	
5.2	Filtering.....	
5.2	University Filtering.....	
5.2.1	Provincial Basis.....	
5.2.2	Field Basis.....	
5.2.3	Fees Basis.....	
5.3	Job Filtering.....	
5.3.1	City Basis.....	
5.3.2	Title Basis.....	

## Online Career Counselor

Chapter 6.....	.....
CONCLUSION AND FUTURE WORK.....	.....
6.1 Career Counseling.....	.....
6.2 Job Portal.....	.....
6.3 Test Demo's.....	.....
6.4 Ease Of University Selection.....	.....
6.5 Conclusion.....	.....
Chapter 7.....	.....
REFERENCES.....	.....

## LIST OF FIGURES

Figure 1 .....	<b>Error! Bookmark not defined.</b>
Figure 2 .....	<b>Error! Bookmark not defined.</b>
Figure 3 .....	<b>Error! Bookmark not defined.</b>
Figure 4 .....	5
Figure 5 .....	7
Figure 6 .....	8
Figure 7 .....	9
Figure 8 .....	0
Figure 9 .....	
Figure 10 .....	
Figure 11 .....	
Figure 12 .....	
Figure 13 .....	
Figure 14 .....	<b>Error! Bookmark not defined.</b>
Figure 15 .....	<b>Error! Bookmark not defined.</b>
Figure 16 .....	<b>Error! Bookmark not defined.</b>
Figure 17 .....	<b>Error! Bookmark not defined.1</b>
Figure 18 .....	<b>Error! Bookmark not defined.2</b>



## INTRODUCTION

Giving young people the tools and knowledge to realistically plan for their futures is a primary goal of education? Career development is vitally important for today's youth, Who are more than ever "motivated but directionless" (Schneider & Stevenson, 1999).

Young people have high ambitions, expecting to be highly educated and have Professional careers, yet research has found that many do not develop coherent plans for Achieving their goals (ibid.). Almost two-thirds of high school graduates enter Postsecondary education immediately after high school; yet more than a third of those Leave within two years without earning any degree (NCES, 2001). Career guidance and Academic counseling can provide students with the necessary tools to set career goals, and give them an understanding of the education and skills they need to meet their goals.

**Guidance**— an umbrella term encompassing many services aimed at students' Personal and career development.

**Career guidance**— the portion of the guidance program focused on students' Career development; this can include career counseling (below) or other career related Services.

**Career counseling**— the portion of the guidance program in which trained Professionals interacts with students to assist them with their career development.

## **ABSTRACT**

A PERSON'S aim in life determines his success. The clearer and more focused a person's aim is the higher the success he/she will reach. An aim is the very basis of a man's success. Carlyle said: "**know your work and do it**".

Truly, we have first to know our target in life and only then can we go about achieving it. But one shouldn't have an aim that is beyond reach. I am a very practical and country loving student. I have, therefore, decided to become a political leader. Because I want to make a difference to India's many problems. These are poverty, unemployment, illiteracy, over population, social evils, backwardness and corruption.

I know that ruling a nation is not an easy job. It cannot be done without the active support of the people. I shall try my best to educate people in order to eradicate all types of social evils. A strong sense of patriotism has to be inculcated in the citizens' minds. I shall take appropriate steps to revive our national pride.

I think aim is the same thing as career or I may say career selection .Because whole of the life depends upon our decision of career selection.

## **CHAPTER 1: INTRODUCTION**

### **1.1 CAREER**

#### **1.1.1 CAREER DEFINITION:**

Is the process of establishing career objectives and determining appropriate educational and developmental programs to further develop the skills required to achieve short- or long-term career objectives.

The progress and actions taken by a person throughout a lifetime, especially those related to that person's occupations. A career is often composed of the jobs held, titles earned and work accomplished over a long period of time, rather than just referring to one position.

While employees in some cultures and economies stay with one job during their career, there is an increasing trend to employees changing jobs more frequently. For example, an individual's career could involve being a lawyer, though the individual could work for several different firms and in several different areas of law over a lifetime. See also career ladder

## 1.2 CAREER MODULES

There are two career modules we are implementing in this project: Career Selection and Career Development.

### 1.2.1 CAREER SELECTION



Fig 1

This module will target those students who are looking just for universities after their O/A level or intermediate.

They will be provided with guideline about right course and university suitable for them. And guideline about prerequisite tests of local and foreign universities like, GAT, TOFEL and IELTS.

### 1.2.2 CAREER DEVELOPMENT



Fig2: Career Development Lifecycle

This module will target fresh graduates looking for appropriate jobs. This will consist assessment tool to analyze strengths and weakness of a student. Then facts based on their strengths and weakness will decide about their career

## **CHAPTER 2: LITERATURE REVIEW**

### **2.1 CAREER COUNSELING SERVICE**

There are many existing tools and web portal software providing service of career guidance and career development. But they have their own limitation such as they concentrate on a particular part of counseling.

Existing application provide abstract level help to students some of them only touch foreign country universities guidance and other high level guide to Pakistani students. These tools not deeply analyze a student and professional's strengths and weakness and not suggesting right career direction and prerequisite certificates for job improvements and achieving satisfaction of job. We are developing software that will provide complete solution for finding right career and universities admission procedure information. And will suggest specific certificates related to job.

### **1.2 WHY CAREER GUIDANCE**

Most of students just after their intermediate level don't know what to do, and how to do. They don't know what subjects they should choose for their future. They don't know when the admissions open and what is the process of getting admission in a particular university. Some of them want to join foreign universities, so how this could be possible for them. Some are looking for jobs or specific types of courses in a unique field to get their desired job but how.

### **1.3 EXISTING TOOLS LIMITATION AND CHALLENGES**

#### **2.3.1 CONTACTPAKISTAN.COM**

Web portal is also providing guidance to students but limitation exists. No help for career selection at all, mostly targeting foreign universities. Only targeting engineering and technology programs and it is helpful only for graduate students not helpful for intermediate level students for getting admission information.

### **2.3.2 CAREERPLANNER.COM**

This portal has their own limitation such that it provides help in only foreign universities guidelines not for Pakistani universities information. Not any assessment tool for identifying strength and weakness of a student in specific knowledge area and a professional skills analysis. This assist in career selection, not in career development and career improvement.

### **2.3.3 CAREERPATH.COM**

This portal is targeting only professional level students and particularly assists in finding a good job, improving jobs and changing jobs. And there are only link of specific universities not providing complete information about procedure of admission and not giving experience of entrance test of different institutes.

### **2.3.4 INFOZEE.COM**

This provides abstract level information about tests like GMAT, GRE, TOFEL and IELTS. There is no guidance for Pakistani universities at all. It cannot assist in career development and career improving and not tools for finding right career direction but provide general information about admission procedure of some foreign universities.

### **2.3.5 MYCAREER.EDU.PK**

This is providing service of sharing knowledge of lots of degrees in Pakistan and whole information about jobs at different areas in Pakistan. There is also environment for taking prototypes and background of tests like MCAT and ECAT. There are some limitation of this tool like no method for career choosing and not suggestion about jobs.

### **2.3.6 CAREERKEY.ORG**

This portal provide career key test for choosing suitable career and giving all option of career matching according to interest of students .limitation of this application are because there is no information for any institution, mostly for foreign universities and helping only at graduate and master level students not for O,A level students.

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## Online Career Counselor

- 1) There is also support for defining different roles for specific users such as admin role and user role. This is mechanism for maintaining authority and security of usage of an application

There is also support for defining different roles for specific users such as admin role and user role. This is mechanism for maintaining authority and security of usage of an application

### **2.4 CONCLUSION**

According to our research work, we have studied many alternative tools working as career counseling and we have also worked on identifying the problems faced by most of the Pakistani students. A large number of students get admission in specific courses that are not related to their interests and psychology but after some period they realize that this particular course is not related to their future work and they change career and so they waste a lot of time and money. This is a big problem of students. To solve this problem, it is required that career counseling can help students in choosing right career according to their interests and personality.

### **2.5 MOTIVATION**

Information at one spot but concentrating a specific part of counseling. We are developing an application that will provide a complete knowledge about career selection and providing prototypes of all kinds of tests like GAT, IELTS, and TOFEL and providing complete report of test bands results, career development tips and suggestion.



## CHAPTER 3: METHODOLOGY

### 3.1 TECHNOLOGY

We are JAVA technology according to company requirement and also to fulfill new needs of projects.

#### **Tools:**

We choose Net Bean as tool for development of web application and SQL for database layer.

Frameworks: We choose J2EE technology for better front end presentation.

### 3.2 ARCHITECTURE

#### 3.2.1 WHAT IS MVC?

##### **MVC is model view controller architecture**

The main aim of the MVC architecture is to separate the business logic and application data from the presentation data to the user.

Here are the reasons why we should use the MVC design pattern.

They are reusable: When the problems recur, there is no need to invent a new solution; we just have to follow the pattern and adapt it as necessary.

1. They are expressive: By using the MVC design pattern our application becomes more expressive.

1). **Model:** The model object knows about all the data that need to be displayed. It is model who is aware about all the operations that can be applied to transform that object. It only represents the data of an application. The model represents enterprise data and the

business rules that govern access to and updates of this data. Model is not aware about the presentation data and how that data will be displayed to the browser.

2). **View:** The view represents the presentation of the application. The view object refers to the model. It uses the query methods of the model to obtain the contents and renders it. The view is not dependent on the application logic. It remains same if there is any modification in the business logic. In other words, we can say that it is the responsibility of the of the view's to maintain the consistency in its presentation when the model changes.

3). **Controller:** Whenever the user sends a request for something then it always goes through the controller. The controller is responsible for intercepting the requests from view and passes it to the model for the appropriate action. After the action has been taken on the data, the controller is responsible for directing the appropriate view to the user. In GUIs, the views and the controllers often work very closely together.

### MVC Architecture:

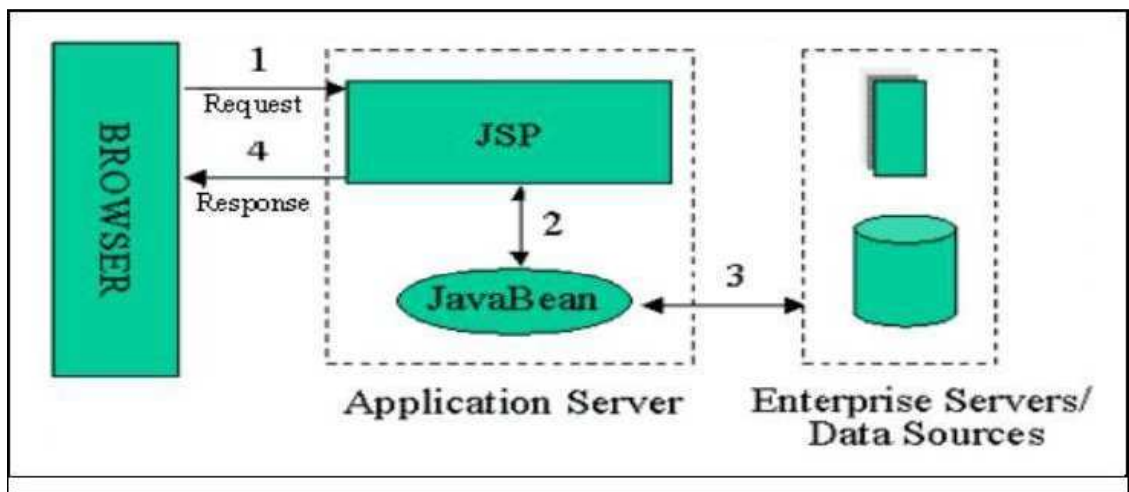


Fig 3

## Features of MVC:

1. Html or jsp files are used to code the presentation. To retrieve the data JavaBeans can be used.
2. In mvc1 architecture all the view, control elements are implemented using Servlets or Jsp.

## 3.3 HIGH CHARTS FOR UNIVERSITIES COMPARISON

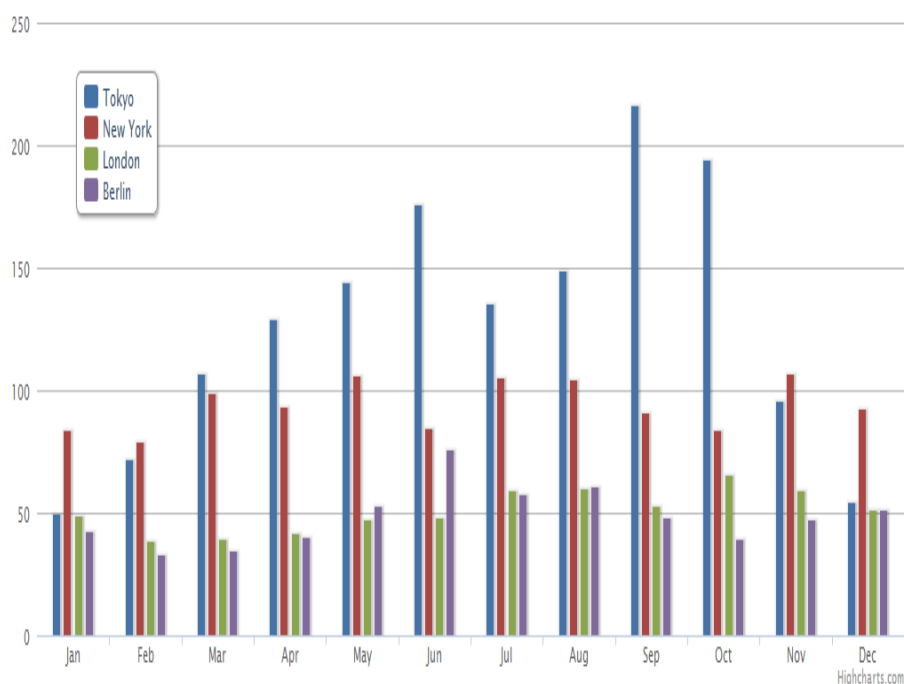


Fig 4

### 3.3.1 WHAT IS HIGH CHART?

It is an interactive library used to visualize the data through different graphs.

### 3.3.2 HOW TO USE?

Fetch values from the database and then parse them to the JS (java script) through JSON by parsing the values using arrays.

## CHAPTER 4: IMPLEMENTATION

### Project Flow Diagram

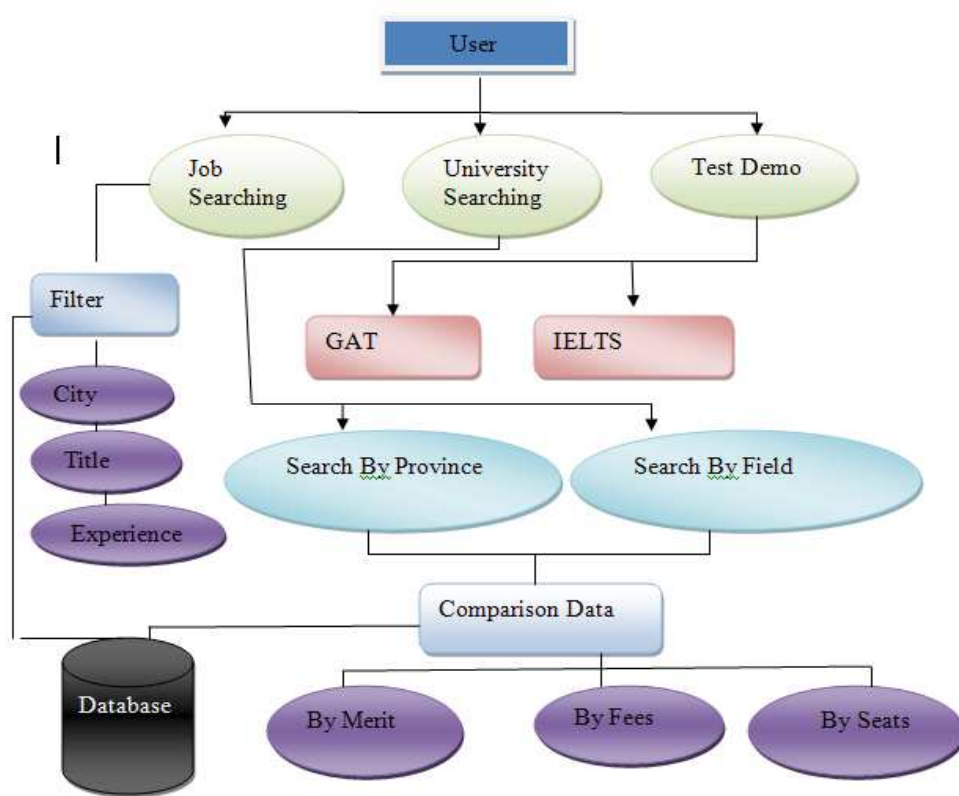


Fig 5(Flow Diagram)

# Online Career Counselor

## 4.1 USE CASES DIAGRAM:

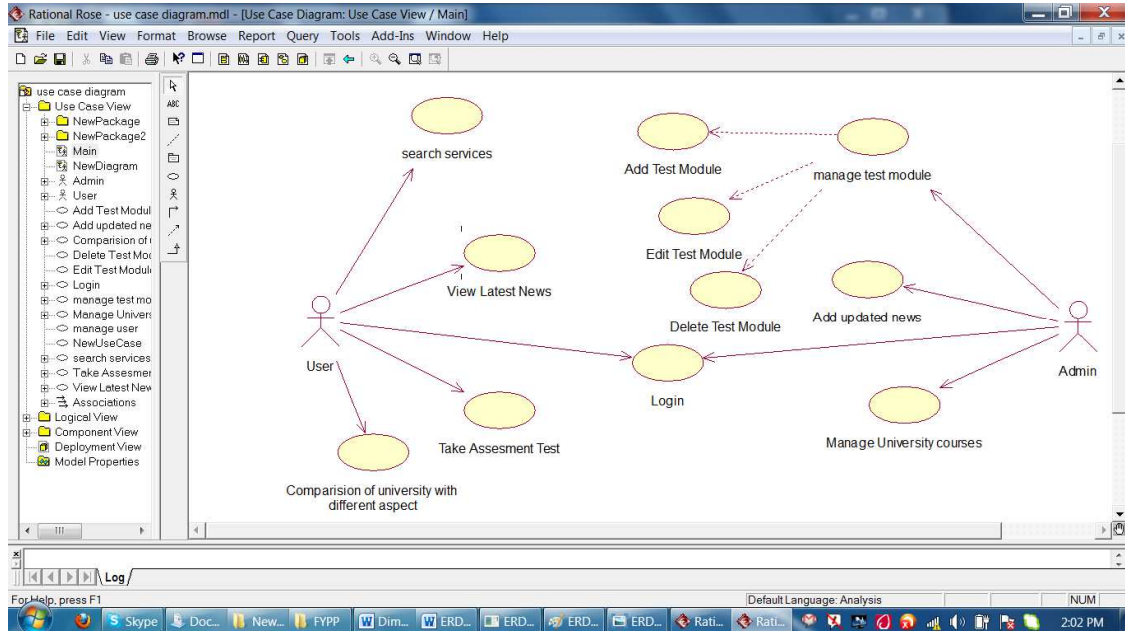
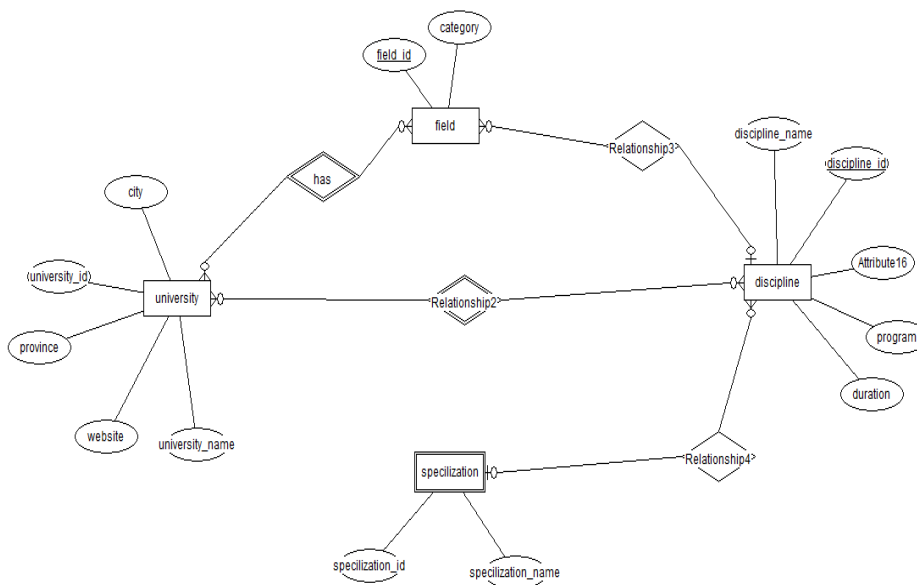


Fig 6(Use Case Diagram)

## 4.3 DATABASE

### 4.3.1 ERD



### 4.3.2 DIMENSIONAL MODELING

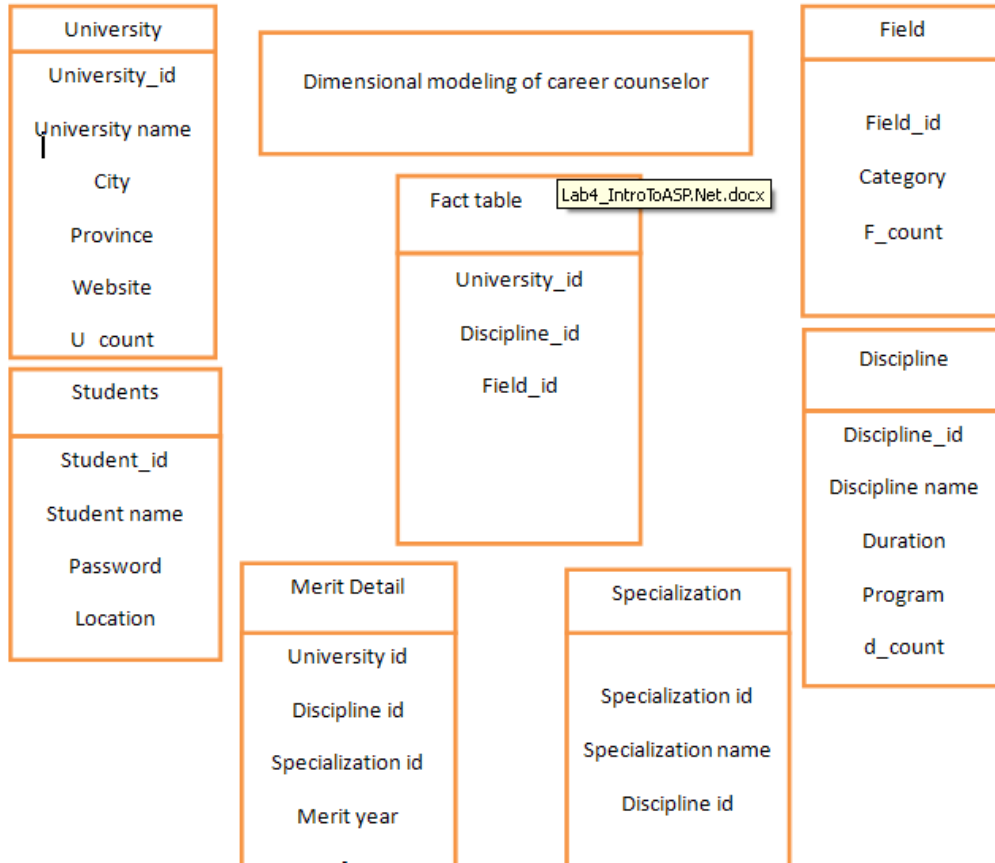


Fig 8 (Dimensional Modeling)

## 4.4 INTERFACE DESIGN



Fig9 (Interface of Career Counselor)

## 4.5 MODULE IMPLEMENTED

### 4.5.1 SEARCHING UNIVERSITY

User can use this software to search universities by university region, ranking and desired courses in any field. Here we are providing data of almost 45 universities with their major fields and their offered courses.

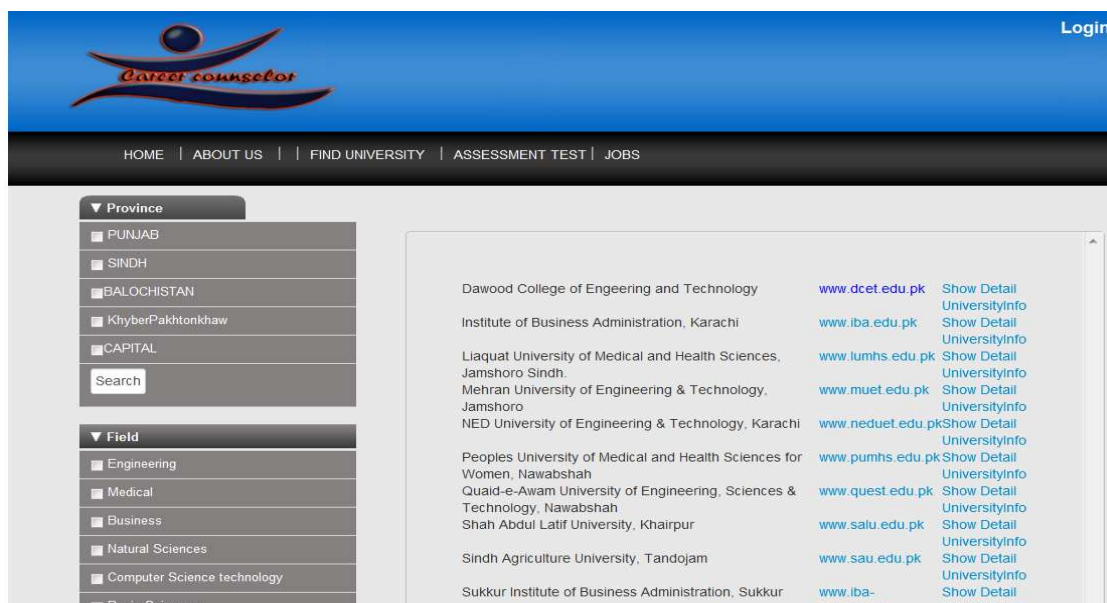


Fig 10 (University Searching)



### 4.5.2 SEARCHING JOB

There is a complete job portal attached with this app that is very useful for the career development user can look for jobs here on this portal and also can filter jobs on their desired aspects.

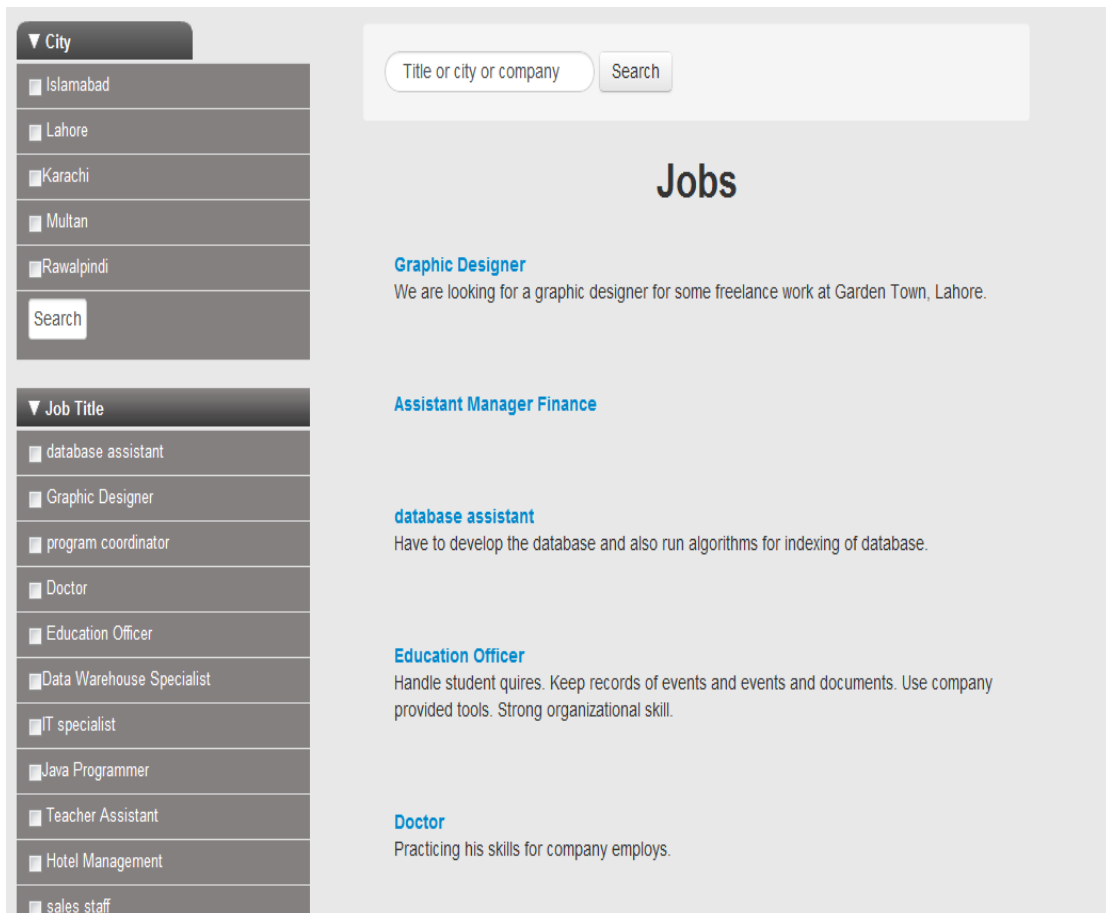


Fig 11(Job Portal)

### 4.5.3 TESTS DEMO

User can experience the same environment before going to actual test. Here GAT and IELTS demos are provided for better assistance of user. So they know each and every thing before going to actual test. This will save their money and time also.

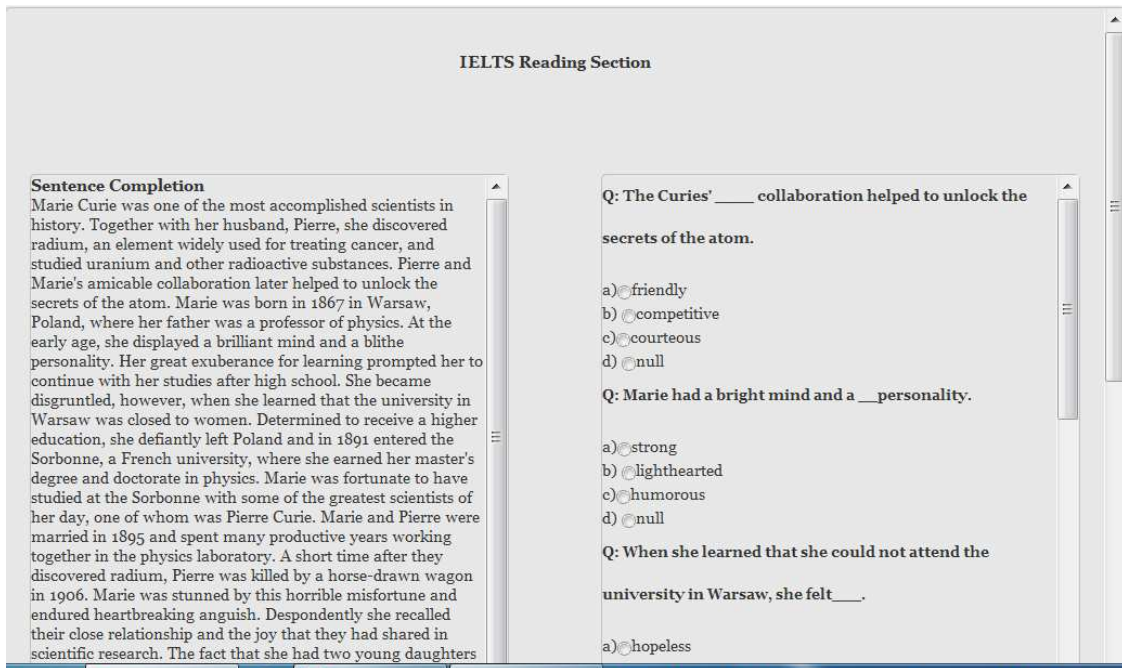


Fig 12(Test Demo)

## Online Career Counselor

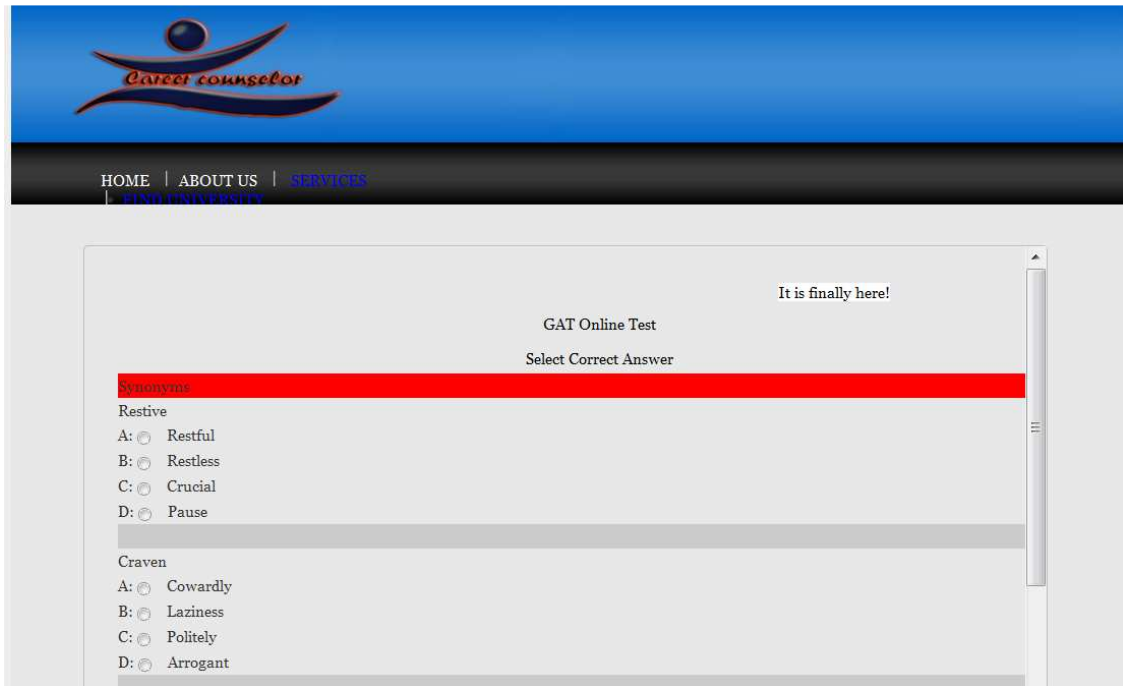


Fig 13(Test Demo)

## **CHAPTER 5: RESULTS**

### **5.1 ANALYSIS**

We have to first check that how our tool could be useful for the students and up to what limit it will help of the students. And It is useful for the students just out of college for further studies.

#### **5.1.1 EVALUATION**

We evaluate the tools on the basis of the following:

- Availability
- Visualization
- Usability

##### **5.1.1.1 AVAILABILITY**

Since Our career counselor is online application so its availability is 100 % while other career counselor may be available some time and you might could not get a meeting fixed with them or else you may not have enough time to go to them .So this app is solving the problem, You can get information of whatever kind you need just sitting in your home.

### **University Comparison by different Aspects and Visualization**

**Comparison of university specific program with respect to**

- (1) Merit
- (2) Fees
- (3) No of seats
- (4) Ranking

##### **5.1.1.2 VISUALIZATION**

For better understanding of user we used the visualization of our results through using high chart. It is as easy to use as it is clear in picture students can search their desired

## Online Career Counselor

information by just filtering the data and everything is working according to the rules of HCI (human computer interaction). For visualization we are using the API high chart .It is available in both PHP and JS so we are using its version written in JS that provides an interactive display of results along with custom summarizations and any user can understand just with a glimpse of eye that what is happening and what we are trying to tell through those charts /graphs.

For better visualization we are using charts .There are different harts that are fetching data from database run time and draw those interactive graphs with in no time ,So this is not time consuming also and hence increase the users understanding 100 % .

There are two types of graph

### ➤ Bar charts

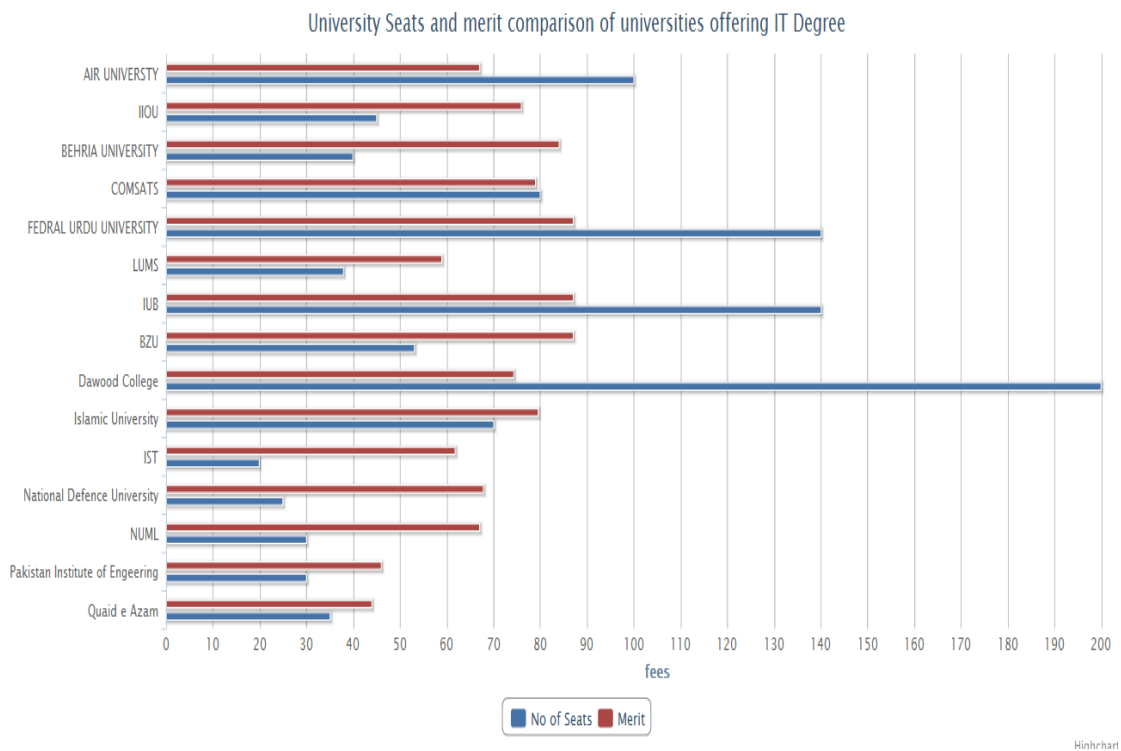


Fig 14(Graphical Comparison)

➤ Vertical Bar charts

In Bar charts fees schedule and merit detail is fetched from the data base and draws that for user's better usability. In same way the other graph is working and working to achieve better understanding.

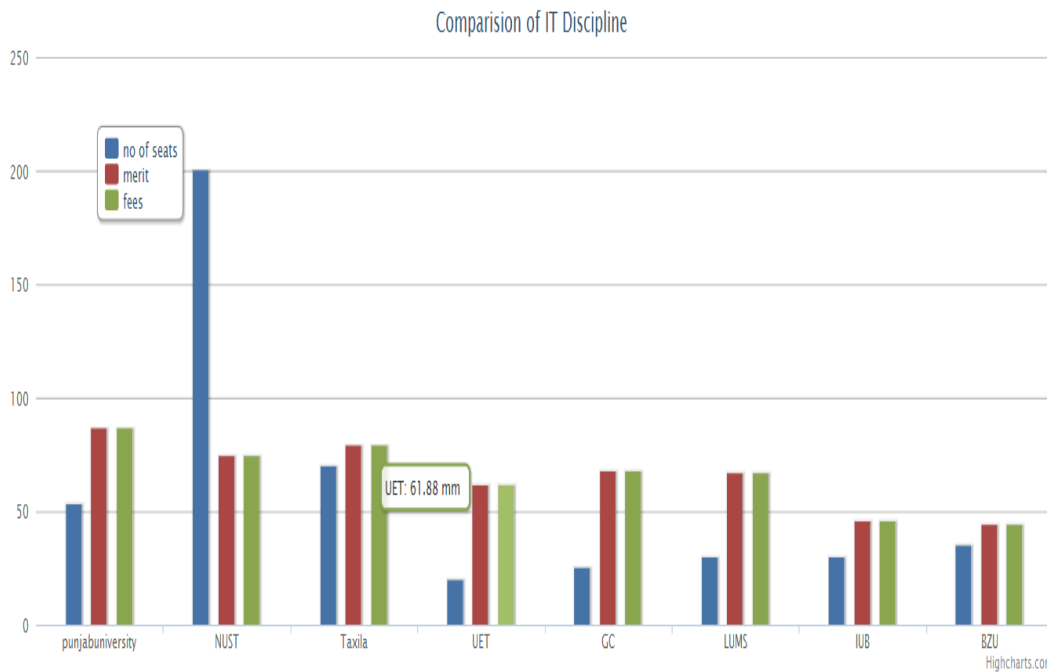


Fig 15(Graphical Comparison)

## 5.2 FILTERING

There is a complete database of all universities from Pakistan that is made available to the users .So user can apply filters to fetch data of his interest .These filters are of different types as given below.

## Online Career Counselor

The screenshot displays a web interface for an online career counselor. On the left side, there are three filter sections: 'Location' with options for Karachi, Multan, and Rawalpindi; 'Job Title' with a list of roles including database assistant, Graphic Designer, program coordinator, Doctor, Education Officer, Data Warehouse Specialist, IT specialist, Java Programmer, Teacher Assistant (selected), Hotel Management, sales staff, and legal advisor; and 'Career Level' with options for Entry level, Experienced, Manager (selected), and Executive. A 'Search' button is present below each filter section. The main content area on the right is titled 'Jobs' and lists several job postings with their titles and brief descriptions. The footer contains navigation links: Home, About Us, Services, University Tests, Jobs, and Contact Us.

**Jobs**

**Graphic Designer**  
We are looking for a graphic designer for some freelance work at Garden Town, Lahore.

**Assistant Manager Finance**

**database assistant**  
Have to develop the database and also run algorithms for indexing of database.

**Education Officer**  
Handle student quires. Keep records of events and events and documents. Use company provided tools. Strong organizational skill.

**Doctor**  
Practicing his skills for company employs.

**Programe Coordinator**  
Ensure program meet national and international stranded .

**Graphic Designer**  
Strong practical background in graphic designing required . Coral Draw will be plus point.

Home | About Us | Services | University Tests | Jobs | Contact Us

Fig 16(Job Filtering)

As you can clearly see the multi filters applied on career development module.

### 5.2.1 PROVINCIAL BASIS

User can sort and filter data based on provincial boundaries. All universities belonging to one region will be shown as soon user applies filters on provincial basis.

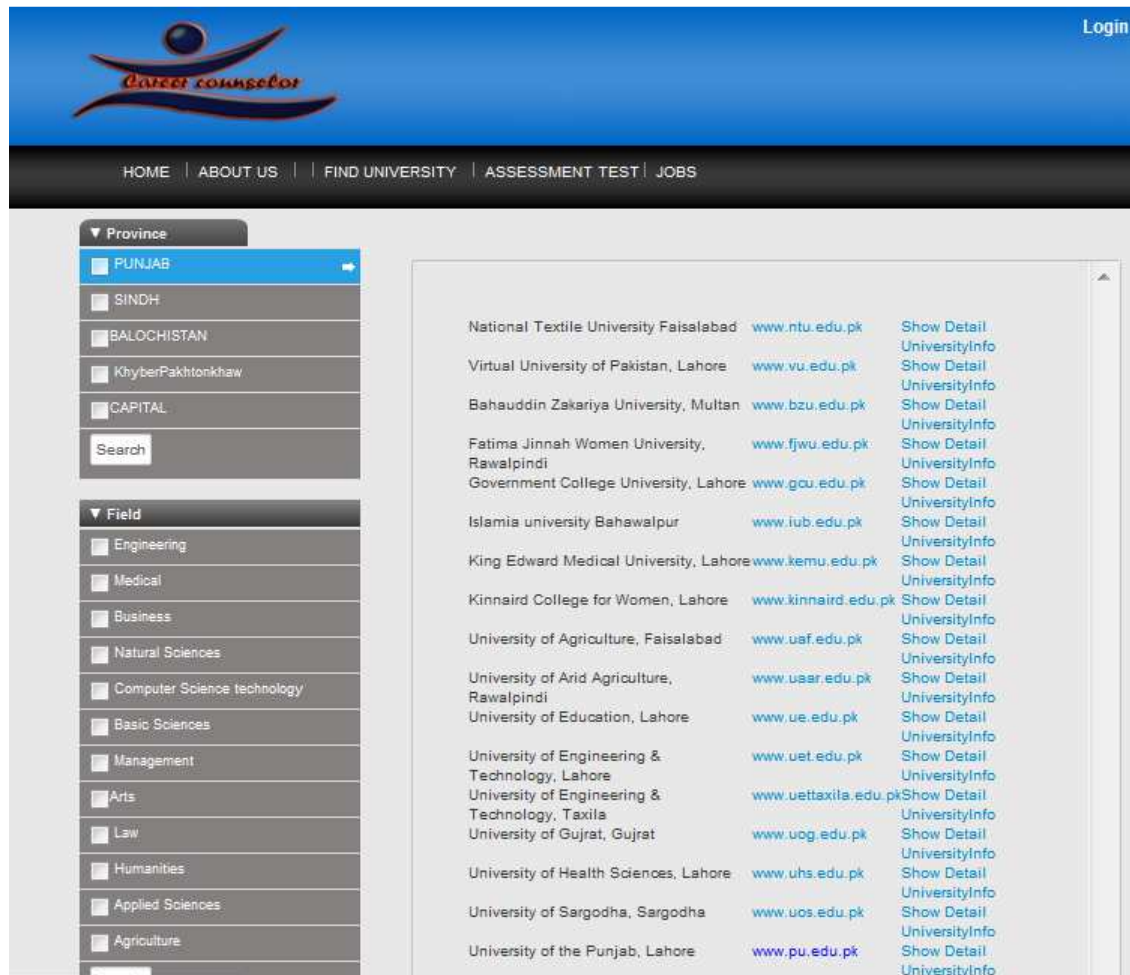


Fig 17(Provincial Based Filter)

### 5.2.2 FIELD BASIS

User can also apply filters on fields basis .There are many major fields under which then come the discipline so user can search something on this basis.e.g he want to search the Engineering field offered in all of the universities throughout Pakistan so he can simply choose field basis filter and select engineering fieldand software will automatically give him everything related to his search.



## FILTERS FOR CAREER DEVELOPMENT MODULE

### 5.2.3 (EXPERIENCE BASED FILTERING IN JOBS)

In our other module of career development we are also offering the professional for job searching there user can also filter data on different basis like experience user can search jobs like entry level, experienced and executive level.

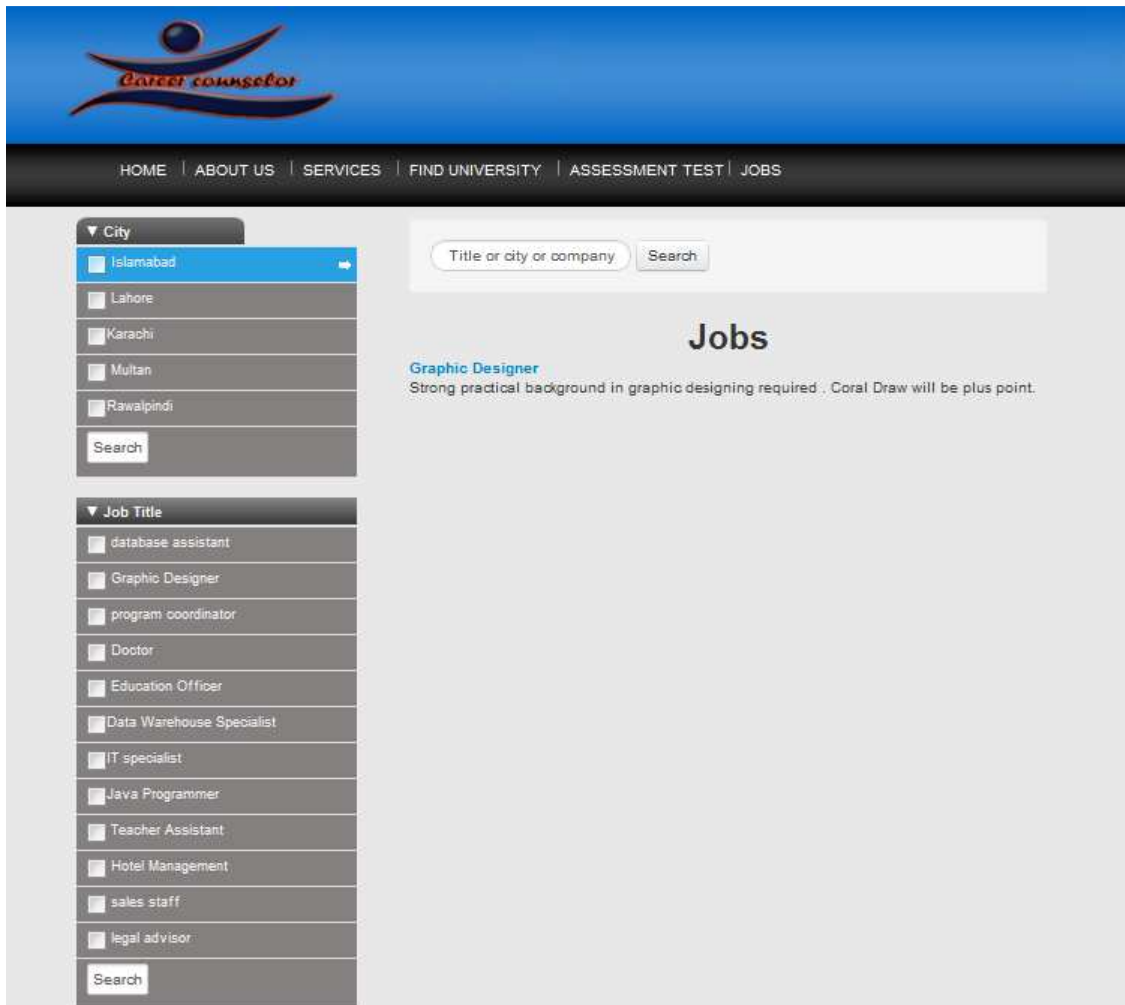


Fig 18(Job Specification)

Here jobs are filter on just location based .I got this record after applying the location filter of Rawalpindi.

#### **5.2.4 (COMPANY BASED FILTERING IN JOBS)**

User can look for some specific company jobs offered .There is searching option for him to do whatever he want. Just enter the company name and press filter so career counselor will solve your problem in seconds and just bringing data for you in time and also giving you detail of each and every thing.

## **CHAPTER 6: CONCLUSION AND FUTURE WORK**

### **6.1 CAREER COUNSELING**

With use of this career counselor user can better evaluate the universities basis on their merit ,their fees and ranking through visualization if graphs at real time .So it will be easy for him to check either that he could afford some certain discipline of a specific university ,Because we will be showing the all these parameters of last year's .So he can over view the things better .

### **6.2 JOB PORTAL**

Admin have controls of posting jobs so in future we could extend some of the controls to some specific companies so they can post their jobs and announces their vacancies on job portal of career counselor that will be a useful resource for the users.

### **6.3 TEST DEMO'S**

In start we are just providing demos for 2 of the tests but later on we could extend this demo and add further demos and also by extending we could add lot more things that could be proved helpful for the user. By keeping track of test taken we could give better suggestion to our users for a full preparation of these tests.

### **6.4 EASE OF UNIVERSITIES EVALUATIONS**

If this project is to the HEC and data is saved from universities from all over Pakistan number of students in and number of students out ,no of faculty and research papers and fees and ranking than at the end of the day that would be very use full software that will be evaluating universities on their different aspects and drawing graphs for clarity of each and every thing and also it will make easy for HEC to keep an close eye on all the universities.

## **6.5 CONCLUSION**

This project has demonstrated how to get a fully functional embedded product Developed from scratch. This include university comparison module, Assessment Test Module, Job Module .This software was developed for time saving of students by providing them timely admission news and criteria and also suggesting best university match according to his ability. Overall we are proud of what we have produced before began this project we were not familiar high chart library for visual representation of comparison of universities .We meet all functionality set by project sponsor and meet requirement of project .

## CHAPTER 7: REFERENCES

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- Functions used and help <http://www.highcharts.com/ref/>
- High charts API is used for making graph for better understanding of user.
- JSON used is <http://www.json.org/js.html>
- Also got help from <http://code.google.com/p/json-simple/>
- Custom Tags [http://java.sun.com/j2ee/tutorial/1\\_3-fcs/doc/JSPTags.html](http://java.sun.com/j2ee/tutorial/1_3-fcs/doc/JSPTags.html)
- tom Tags <http://docs.oracle.com/javaee/5/tutorial/doc/bnalj.html>