



## AN INTERACTIVE UTILITY TOOL FOR PLACEMENT CELL MANAGEMENT

Paul Pringle A., Pothi Raja M. and A. Pravin

Department of Computer Science and Engineering, Sathyabama University, Chennai, India

E-Mail: [paulpringle27@gmail.com](mailto:paulpringle27@gmail.com)

### ABSTRACT

Every University has a separate faculty for planning and organizing placement activities for students. In order to provide information to students they would have created an email group for their students. But this method has some serious flaws such as, messages sent in these group is not received by a majority of students. This flaw can be overcome by building a messaging application for placement cell. Other than this messaging system this application will also provide a query system where students can post their queries. It will also provide information about previous year campus recruitments, practice test links for training purposes and information about the faculty's working in placement cell.

**Keywords:** placement cell, university, query, student.

### 1. BACKGROUND

Campus placements are a part in a student life where global companies visit their college campuses for recruiting them. Each college has different ways for organizing these activities. Some universities will provide a separate faculty for planning these activities. This faculty's where responsible for organizing the placements and providing information and training to their students. For providing information to the students they would follow various methods like creating an E-mail group, sending a circular to each class etc. But these methods have some failures such compatibility failure in E-mail etc. Hence some students may not able to receive these information's.

Also many students were ignorant of their colleges previous year placement records and each companies eligibility criteria. Placement cell may conduct some online practice tests to train their students. But they may conduct these tests in different websites each time. Hence students were confused each time while using these tests.

### 2. RELATED WORK

The broad utilization of smart phone advancements when contrasted with the utilization of PCs can be plainly seen over all kinds of different backgrounds. While web clients tend to utilize mastery by center and high class society, the infiltration of the innovation clients appear to move over the lower and the minority class limits. These incorporate the lower class bunches youthful grown-ups, and senior clients.

The part of advanced mobile phones in the field of training has been expanding each day. In India the vast majority of universities will have an android or IOS application for themselves. For example [4] Sathyabama university, Chennai has created an android application which provide functions such as providing attendance information to the students, providing information about each students mark etc.

[3] Even in many colleges smart phones are used to provide digital library functionalities.

[6] Likewise a construction company has created a web based application called TITUS which provides six major functions including data exchange, information exchange, Internet chat, live video-cam, search engine and auxiliary service.

### 3. PLACEMENT CELL APPLICATION

This proposed application will contain a messaging system which will ensure that the messages sent are received by the students. It will also contain a query system where students can post their queries. It will also provide previous year's placement records such as number of companies visited their eligibility criteria etc. It will also contain a quick links menu where placement cell provide information about various services such as online services etc. It will also provide information about the faculty's present in placement cell. It will also benefit students by providing information about companies which they are eligible for placement from their marks and other eligibility criteria.

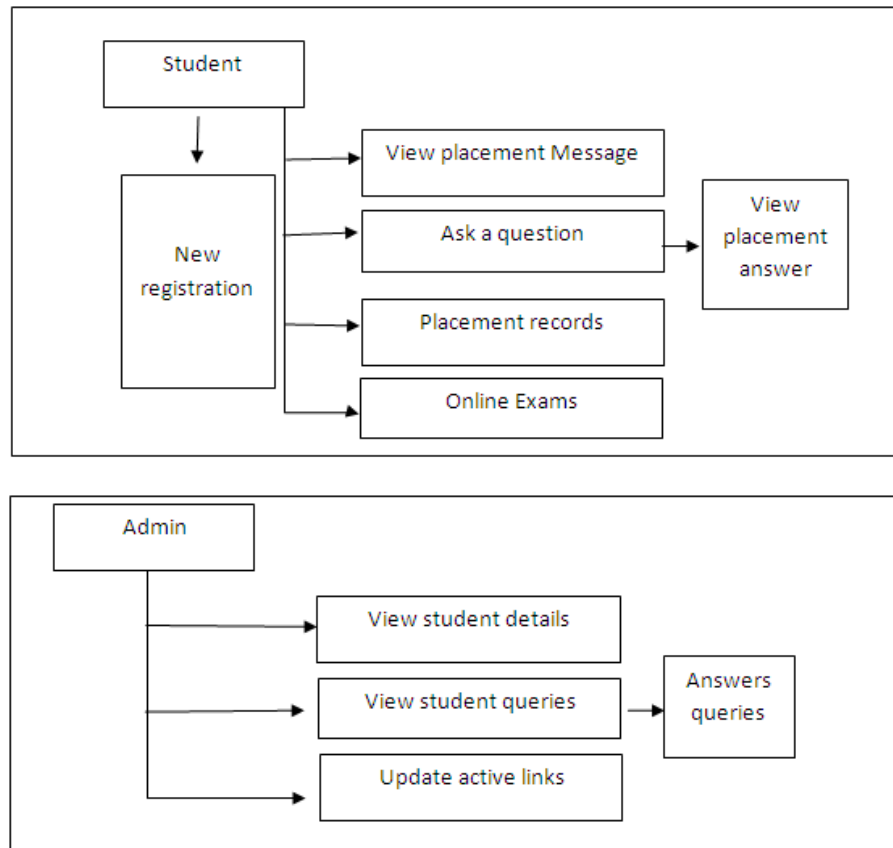


Figure-1. Placement cell application.

#### 4. PROJECT DESCRIPTION

Placement cell application comprises three modules

- 1) Student module
- 2) Server module
- 3) Admin module

##### 5.1 Student module

At whatever point the understudies opens the application a solicitation with the understudies Google id is sent to a server. In the event that the server finds this understudy as legitimate then it will downloads the different arrangements data alongside a counter, situation id. The understudies gets the email sent from the email amasses straightforwardly. At whatever point the understudy asks an inquiry it will send this message headed with the situation id to the server to get approved.

##### 5.2 Server module

At whatever point the understudies opens the application a solicitation with the understudies Google id is sent to a server. On the off chance that the server finds this understudy as substantial then it will downloads the different situations data alongside a counter, arrangement id. The understudies gets the email sent from the email

bunches straightforwardly. At whatever point the understudy asks an inquiry it will send this message headed with the arrangement id to the server to get approved.

##### 5.3 Admin module

At whatever point the administrator's opens the application a solicitation with the administrator's Google id is sent to a server. On the off chance that the server finds this present administrator's as substantial then it will downloads the different positions data alongside a counter, situation id. At whatever point an administrator gets a question the application will naturally perform a string acknowledgment program (TF-IDF) to organize the inquiries in a request.

#### 6. TERM FREQUENCY - INVERSE DOCUMENT FREQUENCY

The TF-IDF is normally a text statistical-based technique which has been widely used in lots of search engines and various information retrieval systems.

Assume that there exists a corpora of 1000 docs and the duty is to compute the similarity between two given docs. The next describes the measures of acquiring the similarity value:



### 6.1 Document pre-processing steps

Tokenization: A data file or document is treated as a bag of words, and partitioned into a set of tokens.

Removing stop words: Stop words are generally occurring, insignificant words. This task eliminates the stop words.

Stemming word: This stride is the procedure of conflating tokens with their root structure (association - > interface).

### 6.2 Document representation

Generating N-distinct words and phrases from the corpora and call them as vocabulary. The document collection is then simply represented as a N-dimensional vector in term space.

### 6.3 Computing term weights

Term Frequency.

Inverse Document Frequency.

Compute the TF-IDF weighting.

### 6.4 Measuring similarity between two docs

Capturing the similarity of two docs by applying cosine similarity. The cosine similarity is normally calculated by calculating the cosine of the angle between two document vectors.

### 6.5 Extension

This library likewise incorporates Martin Porter calculation, and N-gram content era modules. On the off chance that a token-based framework did not function of course, then settle on another decision with N-gram based.

#### 6.5.1 The problem, straight Boolean logic

To a hefty portion of clients the expression "relevancy ranked search results" is a riddle. An improved expression might have been "really enormous inquiry things". Taking such a procedure, the utilization of measurable investigation against writings has its data recovery positive viewpoints over direct Boolean rationale. Take for instance, the following three records comprising of various words,

**Table-1.** Documents having certain words.

Document 1	Document 2	Document 3
Word	Word	Word
Airplane	Book	Building
Blue	Car	Car
Chair	Chair	Carpet
Computer	Justice	Ceiling
Forest	Milton	Chair
Justice	Newton	Cleaning
Love	Pond	Justice
Might	Rose	Libraries
Perl	Shakespeare	Newton
Rose	Slavery	Perl
Shoe	Thesis	Rose
Thesis	Truck	Science

A quest for "rose" against the corpus will give back three hits; however which ought to begin perusing, from the latest record, the archive by a specific creator, or in a specific organization? Regardless of the fact that the corpus contains 2, 000, 000 docs and a quest for "rose" give back just 100 conditions that remaining parts. Which ones would it be a good idea for us to utilize our valuable time getting to? Yes, we're ready to confine our hunt in essentially any number of ways, however unless we are performing an understood thing look it is very likely the indexed lists will return more than we utilize, and data proficiency aptitudes will just go in this way. One of the productive approach to take care of this issue is Ranked query items. All it requires is the use of fundamental number juggling against the records being looked.

### 6.6 Simple counting

This can start by checking the quantity of times each of the words shows up in each of the documents.

**Table-2.** Word Counting.

Document1		Document 2		Document 3	
Word	C	Word	C	Word	C
Airplane	5	Book	3	Building	6
Blue	1	Car	7	Car	1
Chair	7	Chair	4	Carpet	3
Computer	3	Justice	2	Ceiling	4
Forest	2	Milton	6	Chair	6
Justice	7	Newton	3	Cleaning	4
Love	2	Pond	2	Justice	8
Might	2	Rose	5	Libraries	2
Perl	5	Shakespeare	4	Newton	2
Rose	6	Slavery	2	Perl	5
Shoe	4	Thesis	2	Rose	7
Thesis	2	truck	1	Science	1
Totals (T)	46	Totals (T)	41	Totals (T)	49

**Table-3.** DF and IDF.

Document 1			Document 2			Document 3		
Word	DF	IDF	Word	DF	IDF	Word	DF	IDF
Airplane	1	3.0	book	1	3.0	building	1	3.0
Blue	1	3.0	Car	2	1.5	Car	2	1.5
Chair	3	1.0	chair	3	1.0	Carpet	1	3.0
Computer	1	3.0	justice	3	1.0	Ceiling	1	3.0
Forest	1	3.0	milton	1	3.0	Chair	3	1.0
Justice	3	1.0	newton	2	1.5	cleaning	1	3.0
Love	1	3.0	pond	1	3.0	Justice	3	1.0
Might	1	3.0	Rose	3	1.0	libraries	1	3.0
Perl	2	1.5	shakespeare	1	3.0	Newton	2	1.5
Rose	3	1.0	slavery	1	3.0	Perl	2	1.5
Shoe	1	3.0	thesis	2	1.5	Rose	3	1.0
Thesis	2	1.5	truck	1	3.0	Science	1	3.0

### 6.7 TFIDF analysis

By taking into contemplations both of these elements - term frequency (TF) and inverse document frequency (IDF) - you'll have the capacity to dole out "weights" to discover results and therefore we're requesting them measurably. Put another real way, a search result's rating ("ranking") is the multiplication of TF and IDF:

TFIDF = TF \* IDF where:

TF =  $C / T$  where C = number of times a given word or expression shows up in a doc and T = absolute number of words or expressions in a doc.

IDF =  $D / DF$  where D = absolute number of reports in a corpus, and DF = all out number of archives containing a given word

### 6.8 Automatic classification

TDIDF can even be used as a priori to indexing/searching to generate browsable lists hence, automatic classification. The table lists each word with TFIDF measure:

**Table-4.** Total classification.

Document 1		Document 2		Document 3	
Word	TFIDF	Word	TFIDF	Word	TFIDF
Airplane	0.326	Milton	0.439	Building	0.367
Shoe	0.261	shakespeare	0.293	Ceiling	0.245
computer	0.196	car	0.256	Cleaning	0.245
Perl	0.163	book	0.220	Carpet	0.184
Chair	0.152	pond	0.146	Justice	0.163
Justice	0.152	slavery	0.146	Perl	0.153
Forest	0.130	rose	0.122	Rose	0.143
Love	0.130	newton	0.110	Chair	0.122
Might	0.130	chair	0.098	Libraries	0.122
Rose	0.130	thesis	0.073	Newton	0.061
Blue	0.065	truck	0.073	Science	0.061
Thesis	0.065	justice	0.049	Car	0.031

### 6.9 Cosine similarity measure

Cosine comparability is a measure of closeness between two vectors of  $n$  measurements by finding the cosine of the edge between them, regularly used to look at archives in content mining. Given two vectors of qualities,  $A$  and  $B$ , the cosine comparability,  $\theta$ , is spoken to utilizing a speck item and greatness as

$$\text{SIMILARITY} = \cos(\theta) = \frac{A \cdot B}{|A| \cdot |B|}$$

For content coordinating, the quality vectors  $A$  and  $B$  are typically the tf vectors of the reports. The cosine closeness can be seen as a technique for normalizing archive length amid examination.

### 6.10 Similarity measures

The idea of similitude is on a very basic level vital in verging on each logical field. For instance, in science, geometric techniques for surveying comparability are utilized as a part of investigations of compatibility and homothety and also in associated fields, for example, trigonometry. Topological techniques are connected in fields, for example, semantics. Diagram Theory is generally utilized for surveying cladistics likenesses as a part of scientific categorization. Fluffy set hypothesis has likewise built up its own particular measures of likeness, which discover application in zones, for example, administration, pharmaceutical and meteorology. A vital issue in sub-atomic science is to gauge the grouping comparability of sets of proteins.

## 7. CONCLUSIONS

We proposed this application to diminish the work of placement cell labourers. This application will guarantee security, straightforwardness, and simple to utilize qualities. This application will guarantee an open correspondence in the middle of student and the placement administration. This will give time administration to the administration and legitimate coordination to arrangement exercises for understudies. It will be utilized as an extension between placement cell and students.

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