Placement Automation System

Software Requirement System

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Introduction

This project is aimed at developing on online application for Placement Dept. of the institute. It has been developed on the basis of “Placement Cell” being presently used in the institute for storing and retrieving the information of students and companies who are registered in placement cell. This information can be accessed through out the institute and outside as well with proper login provided. Students logging should be able to upload their information in the form of a CV. Visitors/Company representatives logging in may also access/search any information put up by students.

1.1 Methodology

The Rational Unified Process (RJP) brings together elements from all of the generic process models, supports iteration and illustrates good practice in specification and design. The RJP is normally described from three perspective:

A **Dynamic** perspective showing the phases of model.

A **Static** perspective showing process activities.

A **Practice** perspective showing good practice used.

1.2 Purpose

The purpose of our project is to build a web-based software that will automate the placement procedure for the institute. It is a simple and systematic online application to properly store every data regarding students and company for placement cell, and it should be easily accessible by any user to retrieve any necessary data he wants in the most suitable way.

1.3 System Overview & features

This programme provides most basic facility to add students and company's details into the database. The various information uploaded by students are categorized in proper format during registration or updating profile. It is always possible to maintain and update profile. It is always possible to maintain and update individual profile. Graphical analysis chart will be created of previous year placements. Notification and notice panels are included for reminders. The user (company/student) can access various personal data only by proper login.

The features includes:
1) Student Registration Facility.
2) Student Login.
3) Individual Student Profile.
4) Recruiters Registration Facility.
5) Recruiters Login.
6) Recruitment Schedule Page.
7) Quick mail.
8) Online Chatting.
9) Reminder setup for Interviews and exams.
10) Feedback portal on recruiters.
11) Administration Control Panel.
12) Updates by Administrator.
13) List of selected students.
14) Placements statistics and Updates.

1.4 Technologies Used:

- HTML: It is basically the key component for the development of front-end part or the User Interface (UI) of the software. It is a very basic language and requires memorization of a few dozen HTML commands that structure the look and layout of web page.
- JS: It is also an important part in web-app development. It is a prototype-bases with first class functions making it a multi programme. It has an API that supports text, arrays, dates and regular expressions.
- CSS: It is a style sheet language used for describing the presentation of a document with mark-up language. It is primarily used for separation of document content from document presentation.
- Python: It is a widely used high level programming language which provides construct intends to enable clear programmes on both small and large scale.
- Django: It is an open-source web framework written in Python. Its primary goal is to ease the creation of complex, database-driven web-apps. It also provides an optimal administrative create, read, update and delete interface.
- MySql: It is an open-source relational database management system. It is most popular for database for web applications and is a central component of major web-based applications.
- Sublime text editor: It is the text editor used for writing codes.

1.5 Scope:

- There are three basic users: Students, Recruiters and Admin.
- All users with have their own profile.
- The users can store their information to be displayed.
- Students can search for the company according to their job profile and the same with the recruiters.

- Admins will be having authority to delete the user as well grant permission for various things.

1.6 Acronyms:

- HTML: Hyper Text Mark-up Language.
- JS: JavaScript.
- CSS: Cascading Style Sheet.
- Admin: Administration.
- ER: Entity Relationship.

System Analysis

This project is mainly intended for automating this procedure that can help the people who belong to the Placement Cell by saving their time. Based on this basic operation actually their activity is under two steps. The first one is to maintain the list of students and their credit records and the second job is to maintain the recruiter's details. Based on the recruiter's requirements, need to select the students and make the list of students branch-wise, which is more complex task. Here informing is through notice boards where this is also a bit old fashioned task which can be automated in our proposed system by sending mails to respective candidates.
This proposed system is far more advantageous than the existing one in many cases such as retrieving the student details is easily maintained in a manner that just one click we can easily attain the details of the company such as responsible person or company's contact details.
It also includes a an online chatting portal so that students can discuss issues or queries on their own by having a one-to-one chat with placement cell team as well as their batchmates. It is also having quick mail application resolving the issue of sending mails quickly.

2.1 Product Perspective:
Attributes included Company's page:

- **Notice Generation**: Here user has to provide information to the system about company name, date and venue at which campus drive might take place. With this after approval of admin, the information system will generate a notice which can be seen on student's account to initiate students about placement drive.
- **Student List Generation**: Here the user has to provide information to the system about the requirements of the company (such as cut-off grade, number of backlogs allowed etc.) and then can refine the list accordingly.
- **View Students profile**: Here the user is able to view a student's profile of his interest by giving the students roll number as input.
- **Result analysis**: Here the user is able to get the results which are released and store them for later use. He/she can also view the statistics of the previous placements and current placements drive's progress and can accordingly analyse.
- **Posts**: Here the user is provided to post any updates or any necessary details to students or others depending upon his needs but only after approval of admin.

Attributes included on Student's page:

- **Profile Update**: The user can register for the placement drive and accordingly update his/her profile by filling up the academic as well other required details.
- **View**: The user can view all the notices & notifications sent by companies. He/She can visit any of the company's page and then can know about the working conditions, benefits, future aspects and many other required details.
- **Results**: The user can view the up-to-date statistics of the campus drive along with the upcoming companies and their criteria for the placements.
- **Online Chatting**: The user gets an access to the online chatting portal where he/she can clarify all doubts among their peers as well as placement cell team. It is a kind of quicker way of communication for the students as well placement cell team.

- **Quick Mail**: With this the user would be able to send mails to the department as well as among peers regarding the placement drive or any other query without having a tedious job of logging in to their webmail portals.
- **To-Do list**: With this he/she can set a reminder of on which day the desired company is coming for placements and what other things need to be looked at.

Attributes included on Admin's page:

- **Authorisation**: The admin can provide access to the user by approving the user id and password for the user by checking all his details.
- **Database Management**: The admin will be managing all the data and records and will also be checking the details filled by the students.
- **Notice Approval**: The admin will be solely providing approval to the notices generated by the company as well as the placement team.

2.2 Software Interface

- Front-End: HTML, JS, CSS.
- Back-end : Python.
- Database Management: MySql .

2.3 Hardware Interface

- Processor: Intel p4 or later.
- RAM: 512 MB or more.
- Hard Disk: 40 Gb or more.

2.4 Product Function

Functional Requirements:

- A student should be able to login to the system through the first page of the application and mention his required credentials and he should get his details which he can view and update it.
- An administrator can login into his account and he can approve the edits made by the student and all other details.

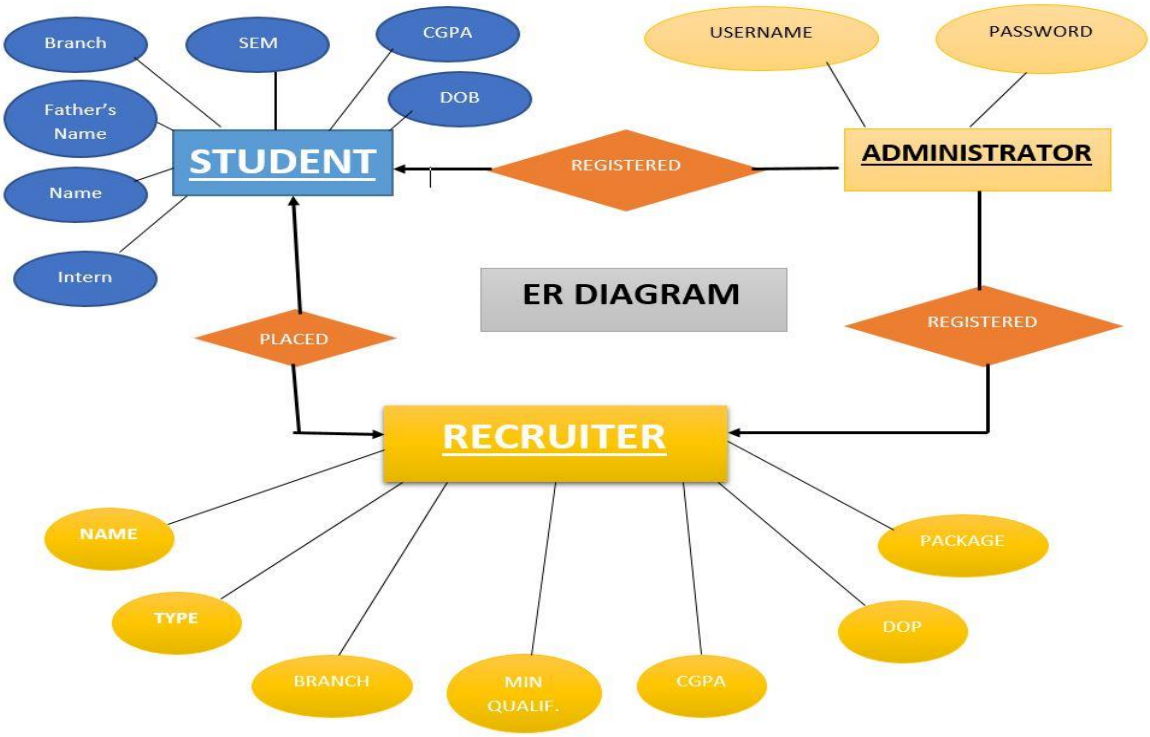
Non-Functional Requirements:

- Usability: As the project is made using python, it has fast loading time than website made using any other language.
- Interface: The user interface is based on the web browser. The application is developed using HTML and JS.
- Implementation: The system is implemented in web environment.
- The system exhibits high performance because it is well optimized. The business logic is clearly separated from UI.

2.5 ER Diagram

In software engineering an entity-relationship model is used which is similar to the data model for describing the data and information of a project. The importance of the ER diagram is that it helps in getting a better picture of the working of the project and in a systemized way. It is a composition of three parts namely: Conceptual Data model, Logical Arguments and Physical Data details. In other words it is a summary of working of the software as well as the inside or back-end part of the project.

Placement Automation System



2.6 Communication Interface:

- Client(customer) on internet will be using HTTP/HTTPS protocol.
- Client (System User) on internet will be using HTTP/HTTPS protocol.
- GUI is only in English.
- Login and password is used for the identification of users.
- Only registered students and recruiters will be authorized to use the services.

Feasibility Study

Feasibility Study is a preliminary study to determine the projects viability. The term is generally used for a output document. The results of this study are decision making of whether to proceed with the project, or table it. If it leads to a project being approved, it will — before the real work of the proposed project starts. It is an analysis of possible alternative solutions to a problem and a recommendation on the best alternative.

3.1 Operational Feasibility:

It is to find out whether the current work practices and procedures support a new system. It is like the sole thing responsible for the feasibility of project for future aspects. It will determine whether the given project will be helpful to the students or not. Also social factors i.e. how the organizational changes will affect the working lives of those affected by the system.

3.2 Technical Feasibility:

This involves questions such as whether the technology needed for the system exists, how difficult it will be to build, and whether the firm has enough experience using that technology. The assessment is based on an outline design of system requirements in terms of Input, Processes, Output, Fields, Programs, and Procedures. It is qualified in terms of volumes of data, trends, frequency of updating in order to give an introduction to the technical system. The application is the fact that it has been developed on Windows XP platform and a high configuration of 1GB RAM on Intel Pentium dual core processor. It is like the technicalities which we need to know before proceeding to the project.

3.3 Financial & Economic Feasibility:

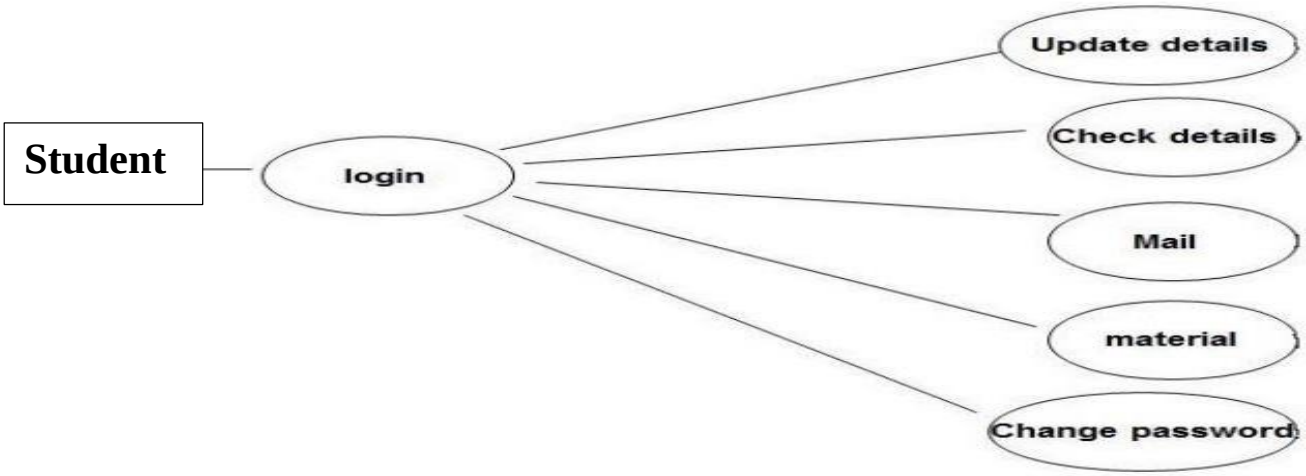
Establishing the cost effective proposed system. If the benefits don't outweigh then its cost effective. It is like the document supporting whether the project is feasible according to the economic background. Whether the project will be helpful to the society economically or not.

3.4 Handling Feasibility:

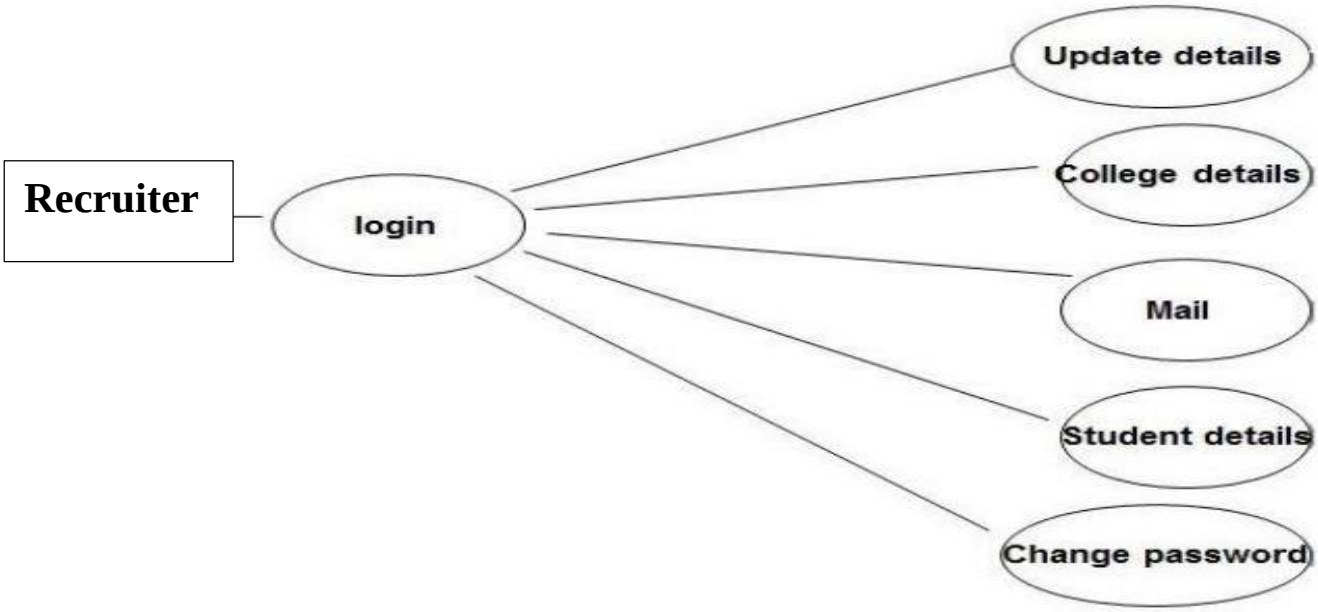
It looks after the handling of the software. Whether we would be able to use the project easily or not, it looks after that. It was because of the project guide and our Teaching Assistant(TA's) that we are able to run and proceed in the project swiftly.

Case Diagram

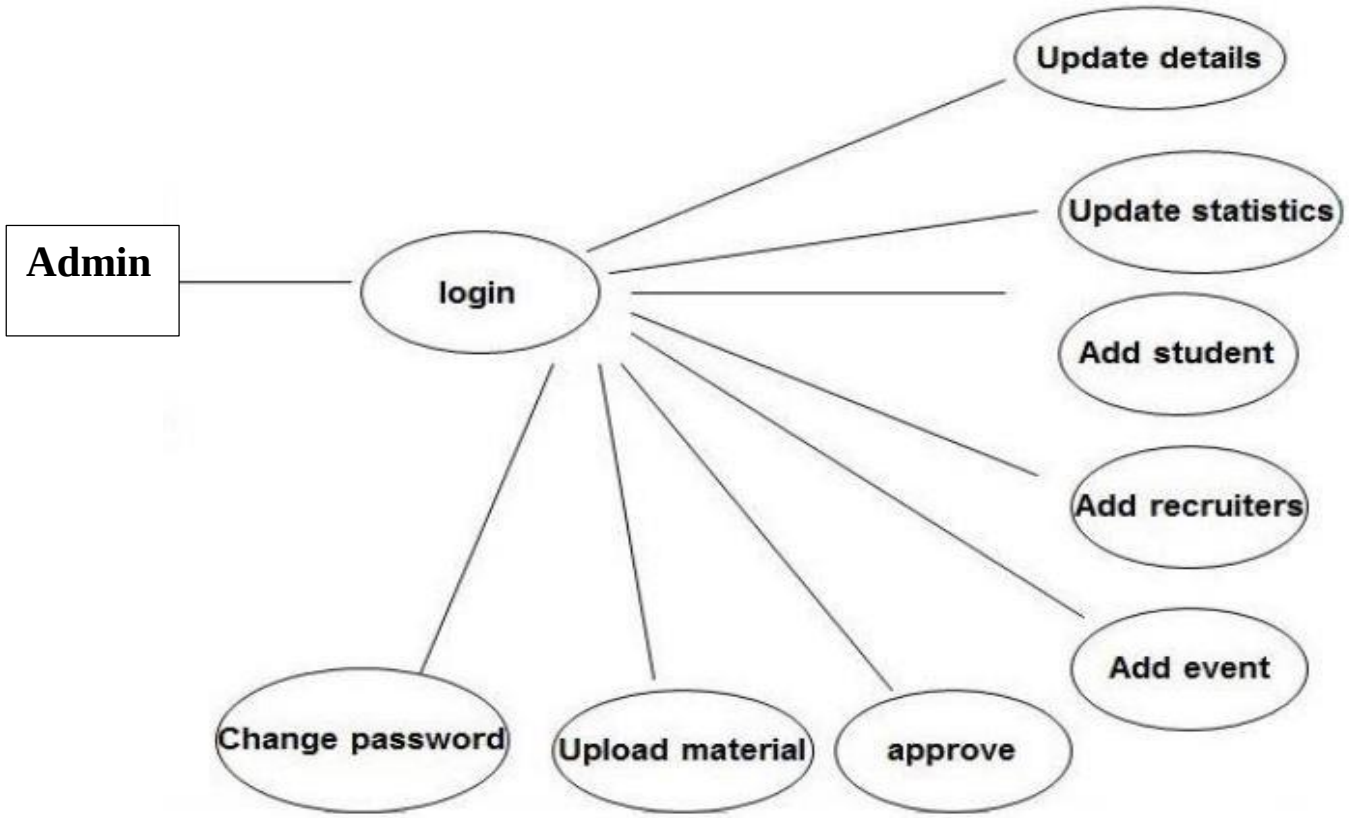
4.1 Student Side:



4.2 Recruiters Side:



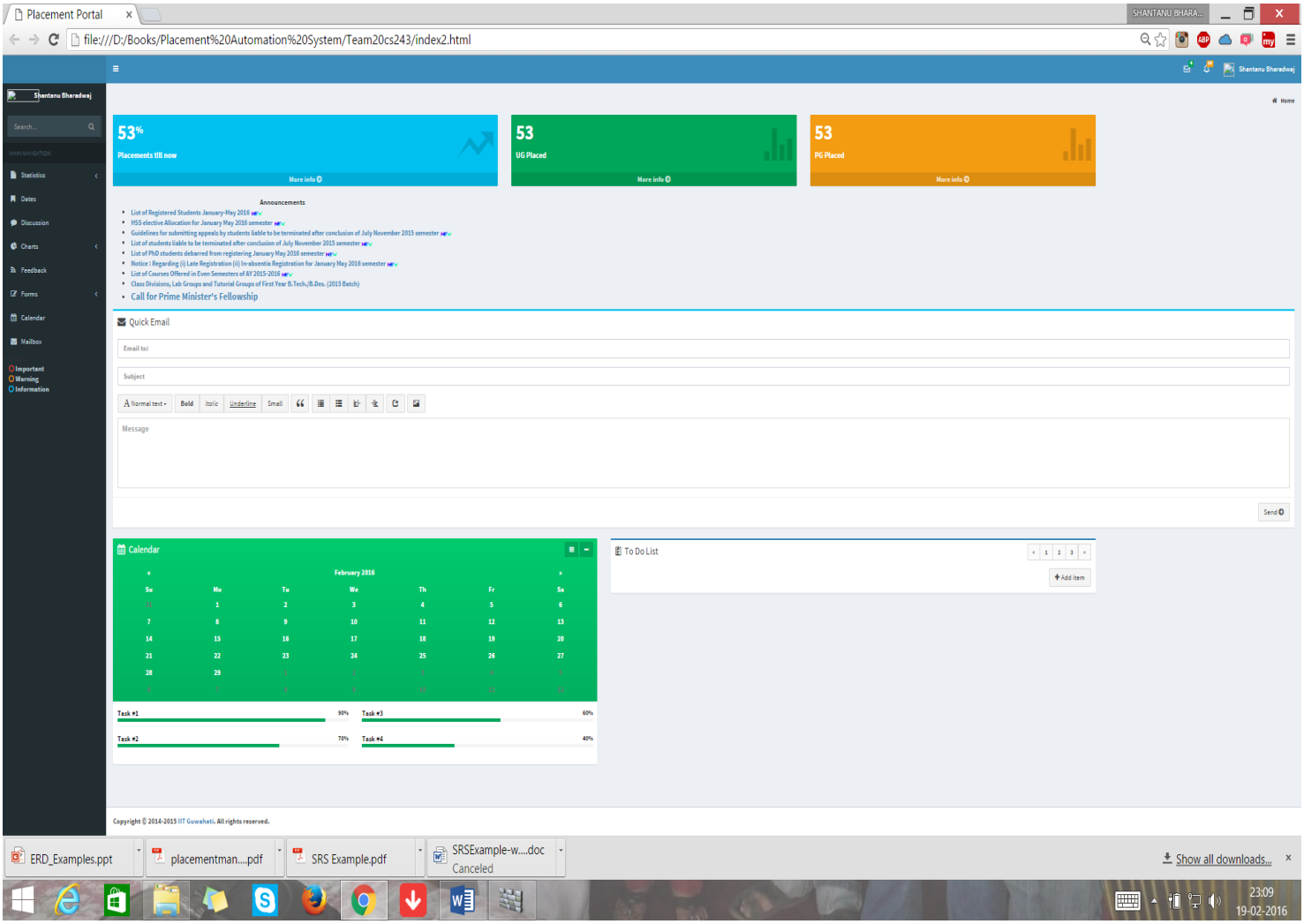
4.3 Admin Side:



License Information

Licence: GNU General Public Licence version 3.
This project is meant for an institution/organisation. It should get to use it the way it wants and modify it. One of the basic tenets of the GPLv3 is that anyone who aquires the material (our code) must make it available to anyone else under the same licencing agreement.
It does not cover activities other than the copying, distributing and modifying of the source code.
GPL v3 makes it obligatory for anyone distributing software it covered to also distribute any additional information or keys necessary to modify it and run the modified copies. An important protection against software patent litigation had been partially circumvented in the GPL v2. Under GPL v2, if a distributor is made to pay a licence fee to distribute the GPL v2 code - for example because it has been found to embody someone else's patent - then they must cease distributing altogether. This provision made suing over software patent infringement in GPL v2 software less appealing; you could stop its distribution, but not gain any ongoing fees through some kind of licensing deal with the distributor. However this provision in the GPL v2 only covered the direct relationship between patent owner and distributor. Less direct deals - for example agreeing not to sue each other's customers - were not prevented. Using deals like this, companies could create favoured versions of GPL v2 software which effectively had lower risks of patent litigation for their customers. GPL v3 stipulates that any such favours must be extended to the entire community, undermining their effectiveness as a tool to realise business advantage through threat of litigation.

Snapshot



Testing

It is the stage of implementation aimed at ensuring that the system works accurately and efficiently before live operation commences. The logical design and physical design is thoroughly and continually examined on paper to ensure that they will work when implemented and system test show the users that system works. Testing can be of 3 types:

- Unit: Testing done module wise. It can be either by examination of input/output values or coding part as in the case of black-box testing. Or it can be partitioning of domain into a set of equivalent classes done in a similar way so as to perform the boundary analysis of different equivalent cases like in Equivalence class partition.
- Integration: It is to test whether the module performs its task or not. Once all modules have been integrated it can be tested. In this project the login module, the candidate and recruiter's registration and list module are integrated after the completion of coding and proper functioning.
- System: Designed to validate a fully developed system of which the testing includes alpha & beta testing.

Maintenance

Maintenance of a typical software product requires much more effort than the effort necessary to develop the product itself. Maintenance involves performing any one or more of the following three kinds of activities:

- Error Correction: Correcting errors that were not discovered during the product development phase. This is called 'Corrective Maintenance '.
- Implementation: Improving implementation and enhancing the functionalities according to the requirements.
- Adaptive: Porting the software to work in a new environment. For example, porting may be required to get the software to work on a new computer platform or with a new operating system.

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