SourceCodesWorld.com

Project Bank

Student Project Allocation and Management with Online Testing System (SPM)

Title of the project

Student Project Allocation and Management with Online Testing System (SPM)

Abstract of the project

This project is aimed at developing a web-based system, which manages the activity of "Student Project Management" and "Online Testing". This system will manage the database and maintain a list of all student groups that have registered on this site, conduct their online test and shortlist those students who have passed the eligibility criteria as set by the professors.

Keywords

Generic Technology keywords

Databases, Network and middleware, Programming

Specific Technology keywords

MS-SQL server, HTML, Active Server Pages

Unix, Shell, C, Oracle

Project type keywords

Analysis, Design, Implementation, Testing, User Interface

Functional components of the project

This is a system used by Educational Institutions or other organizations, which are willing to give student projects. We have three roles in this system, an administrator, a professor and a student. An administrator logs into this system, and can register a professor who belongs to that institution.

Students register in this system and get userid (similar to a website like Yahoo). A student should register, provide his information (like semester marks , technologies familiar with, prior project experience etc.,) and also provide information about his team members. This is saved in a database.

After registering a student is taken to an Online Testing System. He/she is allowed to give the Online Test during a scheduled time interval (say of 2-3 weeks as decided earlier by the management). The test is an online test (say of 40-45minutes) which will be like any other competitive exam providing 4-5 options. After giving the test student's test score is saved in the database.

In the same system the professors who have been registered by the administrator can login and then shortlist students by their academic performance (percentage as entered by the students during their registrations) and/or test score. Following is a brief description of the flow of the system:

1. An administrator's role

    - Can login to the system through the first page of the application
    - Can create new user account for a professor and assign/change(if existing user) username and a password

2. A student's role

    - A student if he is a new user registers into the system.
    - He enters details like his name, age, date of birth, college, B.E. Percentage up to 6 semesters, his knowledge of the latest technologies and other prior experience details if any…etc.
    - He also enters the name of all his team members and their details
    - For the professor, this student would act as the primary interface between the student group and the professor
    - After entering successfully all details he is given a student group code which he shares with his team members.
    - Whenever, a student successfully logs in (after registration) is asked for for his project code and if successfully entered is taken to a screen (via link) where he can give an online test
    - His/her details are then stored in the database
    - In such a fashion he all team members give a test and their respective scores are listed

3. A professors role

    - A registered professor who is assigned a user name and a password by the administrator logs in, should enter at least one project and its description which he is willing to allocate to the students.
    - He/she is given an option to sort and shortlist students by various criteria such as percentage scored in the online test, academic performance, technologies familiar with, past experience etc. A professor can view all students' information.
    - He can see student status, such as whether the student is available or has been assigned a project by any other professor, and if assigned then by which professor
    - A professor after short-listing students, clicks a button so that he locks the student group. i.e. no other professor can assign them any projects now, as they have already been assigned one by this professor, thus assigning the a status

- A mail is automatically, sent to the student group i.e. all its team members that they are assigned a project, by this professor

4. The main highlights of the project are:
   - The online testing system, which starts automatically and stops after a particular stipulated time.
   - Auto generation of emails as soon as the professor assigns projects to the student groups, intimating them that they have been assigned project and need to report to the professor within 1-2 weeks.
   - Validations like the student doesn't give the test twice etc.

Steps to start-off the project

There are couple of alternatives to implement such a system.

A. Microsoft platform: The system is developed using VB/VB.Net/ASP as the front end and SQL Server as the back end.

B. Unix-based platform: PHP/JavaSwing as the front end, the scripting language could be JavaScript, MySql as database and Linux as the Operating System. The online test part can be handled by Servlets/PHP.

The following steps will be helpful to start off the project.

1. Study and be comfortable with technologies as mentioned above.(whichever platform you choose)

2. Assign a mail-admin who will create mail-ids for the people in the intranet of your lab or in the internet. These mail-ids will be used for sending automatic notifications and reports. The mail-admin will also take care of assigning the logins to the users of Project Management System.

3. Create the front-page of the Project Management System giving a brief description about the system and a sign up section, where rules such as a student can give a test only once etc are mentioned.

4. Create the help-pages of the system in the form of Q&A. This will help you also when implementing the system

5. Create other sub-systems like automatic notification, screens for various functions (like filling-up student details, taking online tests etc)

Requirements

Hardware requirements

Number	Description	Alternatives (If available)
1	PC with 2 GB hard-disk and 256 MB RAM	Not-Applicable
2		

Software requirements

Number	Description	Alternatives (If available)
1	Windows 95/98/XP with MS-office	Not Applicable
2	MS-Studio(VB/VB.Net)	JavaSwing/Java related softwares
3	MS-SQL server	MS-Access
4	Linux	Not Applicable
5	Oracle database system	POSTgres

Manpower requirements

4 to 5 students can complete this in 4 – 6 months if they work full time in their college curriculum on the project.

Milestones and Timelines

Number	Milestone Name	Milestone Description	Timeline Week no. from the start of the project	Remarks
1	Requirements Specification	Complete specification of the system (with appropriate assumptions) including the flow of data through the screens and basically the flow of data through those screens. A document detailing the same should be written and a	2-3	Attempt should be made to add some more relevant functionalities other than those that are listed in this document.

		presentation on that be made.		
2	Technology familiarization	Understanding of the technology needed to implement the project.	4-5	The presentation should be from the point of view of being able to apply it to the project, rather than from a theoretical perspective.
3	Database creation	A database of atleast 20 entries of student groups. Also the administrator's profile should be created. The professors' details should also be created. All this data is sample data which should be created to begin with the design of tables etc.	5-7	It is important to finalize on the database at this stage itself so that development and testing can proceed with the actual database itself.
4	High-level and Detailed Design	Listing down all possible scenarios (like a student entering his details, taking the online test etc) and then coming up with flow-charts or pseudocode to handle the scenario.	7-9	The scenarios should map to the requirement specification (ie, for each requirement that is specified, a corresponding scenario should be there).
5	Implementation of the front-end of the system	Implementation of the main screen giving the login, screen that follows the login giving various options, screens for each of the options.	10-12	During this milestone period, it would be a good idea for the team (or one person from the team) to start working on a test-plan for the entire system. This test-plan can be updated as and when new scenarios come to mind.
6	Integrating the front-end with the database	The front-end developed in the earlier milestone will now be able to update the student details. Other features like mail notification etc should be functional at this stage. In short, the system should be	12-13	

		ready for integration testing.		
7	Integration Testing	The system should be thoroughly tested by running all the testcases written for the system (from milestone 5).	14-15	Another 2 weeks should be there to handle any issues found during testing of the system. After that, the final demo can be arranged.
8	Final Review	Issues found during the previous milestone are fixed and the system is ready for the final review.	16-18	During the final review of the project, it should be checked that all the requirements specified during milestone number 1 are fulfilled (or appropriate reasons given for not fulfilling the same)

Guidelines and References

All study material should be referred from websites and books.