
DBMS PROJECT REPORT

April 22, 2019

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Abstract

Our project serves as a portal for students to register for their 8th sem project, major or minor. It also provides an interface for teachers to form and choose panels. There also exists a coordinator that has access to everyone's team details and panels.

Tools and Technologies Used

An Apache server was used to host the website, and PHP was used for the backend. PHP was integrated with a postgresSQL database.

In addition to this, python was used to generate fake data and queries to populate the database initially.

To aid in the development process, git was used as the version control software.

Further scope for improving performance

User input should be cleaned before accepting it to minimize chances of SQL injections. There should be a log of transactions/backup to deal with unprecedented data loss or for roll back purposes (like using write-ahead logging to help ensure data integrity). Security can be made stronger wherever necessary.

Scaling techniques like sharding or multiple server architectures can be implemented to cope with heavier traffic.

Outcomes/Functionality

The user has to enter an ID to go to their respective webpage. If the ID fits the pattern of a student's SSN, but doesn't exist in the database yet, they are redirected to a page where they can enter their (and their team's) details.

In case it already exists in the student table, they are taken to a page where their team details are shown.

If a teacher logs in, they are taken to a page where they can view all the teams they are guiding, and if any of those teams do not have a panel yet, a link is generated and the teacher can fill in the panel details here.

In the teacher page, the information related to all the panels they are a part of is also

shown.

If a teacher is also a coordinator, then they have an option to view any student's team and panel details, and they also get to look at domain-wise, team-wise, etc. details of the data.

There are multiple users(student, teacher, coordinator) with different select and insert privileges to ensure better security.