**Data Structure and Algorithm**



PBL PROJECT PROPOSAL

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| **Group Partners** | **SAP ID** | **Section** |
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**Project Title:**

* Doc-Spot

**Project Description:**

DOC-SPOT is a new platform where university students can share and access documents for their courses. Users can choose to share their documents free or charge a fee for access. This platform not only helps students study efficiently but also promotes collaboration and discussion through its built-in forum.

**Structure:**

* Login
  1. Login using your university email and password.
  2. Option of SignUp if user does not have an account on DOC-SPOT
  3. Login Option
* Signup

1. NAME (First Name + Last Name
2. Chose University (Given By DOC-SPOT)
3. Email (University Email i.e with the domain of Given University)
4. Password
5. Confirm Password
6. Create Account

**Home Page:**

* Has newly shared documents or any resource in the same university or department group as user defines in tags.
* Has a Discussion Page in Side Bar/Tool Bar

A discussion can be started by any user of DOC-STOP with tags to the issue of that discussion.

Interested persons will be notified as a user uploads a document.

* My Profile
* My Docs
* My Wallet

**Profile:**

1. Profile (After Logging in or Signing Up)

Completing a profile is important.

Following things will be in Profile:

1. Name
2. Email
3. Age
4. Address
5. Department
6. Program (i.e BSCS , BSSE, BS English etc)
7. Semester
8. University Address (Pakistan Based Campus)

Chose a Campus from given ones by DOC-SPOT

1. Role (Student/Course Instructor)

**My DOCS:**

* Uploads (Each File is shown with encryption keys option at last {10 Encryption keys/password} each is useable only once. File Stats (i.e how many reads and purchases in case it is not public {i.e Free of Cost}.
* Downloads (i.e Files you bought).
* Upload a new File.

**My Wallet:**

1. Current Balance
2. Deposit a Balance
3. Withdraw
4. Take a Loan
5. Go to Home Page

**Concepts Used**

1. Data Structures like

* Queue
* Stack
* Sorting algorithm
* Searching algorithm
* Linked list etc.

1. Oops concepts like

* Classes
* Inheritance
* Polymorphism
* Encapsulation
* Virtual Classes
* Friend Function

1. Database

* Insertion of new Data
* Update the information / documents

1. Dynamic Programming

* Pointers with Objects
* Dynamic Memory with the use of pointer arrays/vectors etc.
* De-allocating memory.

1. Exception Handling

**Library Used**

1. iostream
2. string
3. conio
4. STL
5. vector
6. linkedlist
7. algorithms
8. mysqlconnection
9. cppconn/driver
10. cppconn/exception
11. cppconn/resultset
12. cppconn/statement
13. Others (to be decided in Development phase)

**Services Used**

1. MySQL Database
2. Git/Github
3. Windows (Operating System)
4. Dev C++
5. Visual Studio Code

**Future Work**

This platform will be completely developed on C++ and have no web integration so everything is done locally on local host database and local machine. We can build a website and host our whole software in web as well. This will benefit us, as our user will increase without having to install our software locally. Moreover, after web integration we have developed two kind of applications i.e A desktop application and a web application, after this we can build our software for both android and ios support. Extra functionalities like adding universities from all over the world can be done to broaden the domain of our software users.

**Timeline**

Planning Project Work Flow

Analyze Requirements and Assign Tasks

Design Database and Chose Data structures

Development Phase

NO

Testing Phase

Test Passed

YES

Documentation

Launch/Present

**PBL (Project Base Learning)**

**Submitted to:** Miss Atika Islam

**Proposal:** DOC-SPOT

**Semester:** 3rd

**Section:** B

Documentation