SYSTEM DESIGN DOCUMENT
<STUDY LAB>

STUDY LAB
4601 MID RIVERS MALL DRIVE
COTTLEVILLE, MO 63376

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TABLE OF CONTENTS

Introduction

Study Lab is meant to be an online resource for anyone who wishes to securely keep track of their notes/lists of important information. Study Lab is a web application so it can be easily accessed by anyone. Any information a user stores will be stored in a database that can only be accessed by that users account.

Purpose

Users are prompted to login or create account upon loading the website.Users can access information quickly and securely. Only allow the user who created the file to access said file. Save created file to associated users account. Users can edit/delete any file they have created. Quickly store information in easily accessible format.

System Overview

Any information that is entered to be stored for the users are stored into a database table that matches the user's identification key. Information will be sent from user entry box in web application to database where the user can create/edit/delete any forms they have created. Database will be structured as to where every user has their own table and information that only they can access.

Design Constraints

Hardware or software environment
End-user environment
Availability or volatility of resources
Interface/protocol requirements
Data repository and distribution requirements
Security requirements
Memory or other capacity limitations
Performance requirements
Network communications
Verification and validation requirements

Roles and Responsibilities

The responsibility of maintaining the database will be reserved for the system designer of the database. This includes all future improvements and troubleshooting of the database. Database developer will ensure smooth access of information by end users. Web application development/ updates will also be left to the system designer to control/change as required.

Project References

Study Lab is designed in accordance with organizational guidelines, standards, analyses, and findings. These references serve as the basis that Study Lab is designed off of.

System Architecture

Study Lab is locally ran off of hardware that is sourced and allowed for use by Study Lab. Hardware and Software being used are as follows.

Hardware:

Computer for sole use of Study lab contains:

- 16GB DDR4 3200MHz RAM
- Nvidia GTX 1080 graphics card
- AMD Ryzen 5 1600x CPU
- 1TB M.2 SSD with 2TB Raid 0 HDDs
- ASUS B450-F Motherboard

Software:

- Eclipse IDE for Enterprise java and web developers
- MySQL database

Database Design

MySQL database is designed to where every user has their own table that they can save/edit/delete information from. Every user is stored with a unique key that is used to store/access the unique user's information.

Hardware and Software Detailed Design

Hardware:

No additional hardware design is required for Study Lab. The sourced hardware is for sole use of containing and maintaining Study Lab and its database.

Software:

The software used at Study lab allows for users to enter their own information to be stored inside the user's unique table. The design of the tables will allow for easy access and editing, and if the contents of a row are deleted, the row itself will be dropped and will move any following information up to prevent a lapse in information and to keep storage space low.

System Security and Integrity Controls

Study Lab uses a unique key assigned to every user to ensure that only that user is allowed to access their information. This allows every user to have access to only their information, and can never access another user's information as each user can only modify their own table inside the database. Each row of information will allow users to store information as a LONGTEXT to ensure that they do not quickly run out of space. Users will be able to create as many entries into their own table as they like. The User's unique key is created upon user registration and cannot be changed. User credentials can only be edited by Study Lab itself upon user's request, after validating that they are the original owner of the account.

SPONSOR ACCEPTANCE

Approved by the Project Sponsor:

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