MINI PROJECT– I

SYNOPSIS

Department of Computer Science & Application

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SUBMITTED TO: -

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Acknowledgement

It gives us a great sense of pleasure to present the synopsis of the B.TECH mini project undertaken during B.TECH III Year. This project is going to be an acknowledgement to the inspiration, drive and technical assistance will be contributed to it by many individuals. We owe special debt of gratitude to MS Madhu, Technical Trainer , for providing us with an encouraging platform to develop this project, whichthus helped us in shaping our abilities towards a constructive goal and for his constant support and guidance to our work.

His sincerity, thoroughness and perseverance has been a constant source of inspiration for us. We believe that he will shower us with all his extensively experienced ideas and insightful comments at different stages of the project & also taught us about the latest industry-oriented technologies. We also do not like miss the opportunity to acknowledge the contribution of all faculty members of the department for their kind guidance and co-operation.

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ABSTRACT

The study described in this research report focused on variables which were posited to capture students' experiences of the online tutoring service, e-Learning, and relationships with the students' perceptions of their academic capabilities and academic performance. A theoreticalmodel incorporating variables from the Technology Acceptance Model, the Theory of Planned Behaviour, and Social Cognitive Theory was developed and tested. A total of 506 undergraduate students from a university located in Sydney, Australia, completed an online survey. Data were analysed using confirmatory factor analysis (CFA) and structural equation modelling (SEM). The results suggested that the perceived usefulness of E-Learning had a direct positive relationship with academic self-efficacy, and an indirect positive association with the students' academic grades through academic self-efficacy. There was a direct positive relationship between academic self-efficacy and students' academic grades. The implications of these results and directions for future research are discussed in this report.

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INTRODUCTION

The emergence of modern technologies has had profound impacts on the education landscape, with online learning now an integral part of the learning process. The main advantages of online learning are flexibility and accessibility (Wu, Tennyson, & Hsia, 2010). Student access to educators to assist them is no longer restricted to the hours of operationof schools and universities, but can be provided anytime and anywhere. Face-to-face tutoring is a well-established, and effective, instructional method. However, there is a need for more empirical research to be directed toward investigating users' experiences with online tutoring services, their impact on academic confidence (self-efficacy), and achievement scores. The purpose of this project is to develop a back-endapplication for e-learning applications and queries using graphical user interface. Mini-projects are quick, low stakes and engaging exercises that help us apply course material in a memorable way. The key is to not overcomplicate the exercises or make them too time consuming.

SOFTWARE AND HARDWARE REQUIREMENTS

- C
- MingW
- SQLite
- SQlite Library/API
- CSV file
- Database
- Visual Studio/Visual Studio code
- Free Storage/RAM

PROJECT DESCRIPTION

The purpose of this project is to develop a database application and queries using libraries and api's. DBInserter is implemented in C. DbInserter connects to sqlite database, and it insert the records given in "file.csv" into database.

High level Design

1. Line by Line, Read the Csv file--> Read the text in Csv, Example of line is given below
i.e. 1, Puroo,20

2. Need to parse the above record and put into a variable of below structure

```
structure
{
int rollnumber;
char Name[25];
int age;
}
```

Roll Number=1
Name =Puroo
Age: 20

3. Need to connect sqllite DB from C program

4. prepare insert command and execute it;

Low level Design
==========

1. Line by Line, Read the Csv file--> Read the text in Csv, Example of line is given below

a.Need to make file read function separate.

2. Need to parse the above record and put into a variable of below structre(strtok)

3. sqllite libary(Code in binary form) + API (Add(2,4)

(Exe(API) --> LIbrary)

4. Create separate file for each .h , source file and data base connect file

source:
main.c
csv_reader.c
database_connect.c

include:
csv_reader.h
database_connect.h

WORKING

1. As of now it DBInserter works for belowtable:

```
"CREATE TABLE Library(" \
    "book_id INT PRIMARY KEY NOT NULL," \
    "book_NAME TEXT NOT NULL," \
    "author_NAME TEXT NOT NULL," \
    "genre TEXT NOT NULL," \
    "book_price INT NOT NULL );";
```

2. This pick csv file from hardcoded path "library.csv" in source folder. Sample csv is also given.

3. Sqlite3, Mingw and visual studio code should already be installed at your machine, prior to compiling and executing this project.

4. This project is only compitable with sqlite3 database, and it test.db created in source folder only.

5. To comile download this project in any location at your machine, and change the "home" path given in Makefile located in source folder.

6. For compling at windows through mingw use "mingw32-make".

IMPLEMENTATION

SQLite is an embedded relational database engine. Its developers call it a self-contained, serverless, zero-configuration, and transactional SQL database engine. It is currently very popular and there are hundreds of millions copies worldwide in use today. SQLite is used in the Solaris 10, Mac OS, Android, or in the iPhone.

The sqlite3_libversion() function returns a string indicating the SQLite library.

```
#include <sqlite3.h>
```

This header file defines the interface that the SQLite library presents to the client programs. It contains definitions, function prototypes, and comments. It is an authoritative source for SQLite API. The sqlite3 structure defines a database handle. Each open SQLite database is represented by a database handle.

```
int rc = sqlite3_open(":memory:", &db);
```

The sqlite3_open() function opens a new database connection. Its parameters are the database name and the database handle. The :memory: is a special database name using which results in opening an in-memory database. The function's return code indicates whether the database was successfully opened.

If the return code indicates an error, we print the message to the console, close the database handle, and terminate the program. The sqlite3_errmsg() function returns a description of the error.

REFERENCES;

Books:

- Let Us C
- Getting Started with SQL
- Learning SQL

Websites:

- https://www.javatpoint.com/file-handling-in-c
- https://www.javatpoint.com/sql-tutorial
- https://www.sqlite.org/index.html
- https://sourceforge.net/projects/mingw/
- https://code.visualstudio.com/
- https://zetcode.com/db/sqlite/
- https://www.sqlite.org/cintro.html
- E:\DBInster tools\DBInserter-main\lib

Faculty Guidelines:

Ms Madhu (Technical Trainer in GLA University)

GitHub Repository link:

https://github.com/purookulsh13/DBInserter