Project Title

Database Project Report

Group-05

Report submitted December 26, 2021

A project submitted to Dr. Rudra Pratap Deb Nath, Associate Professor, Department of Computer Science and Engineering, Chittagong University (CU) in partial fulfillment of the requirements for the Database Systems Lab course. The project is not submitted to any other organization at the same time.

Table 1: Details of Group-01

Roll Id	Name	Sigature	Date	Supervisor Approval
				keep it blank

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Listings

Abstract

Explain the following points: Why are you doing this database project? What is the problem you choose? Why does it motivate you? What are current problems faced by the stack-holders? What solution will your system provide? What are the process you will use to develop your solution? The significance of your project, limitation and future work in short

1 Introduction

Explain from abstract level: Write why you are doing this project and writing this document.

The objective of this course is to develop a database application system by applying the theories, methodologies, tools, and technologies we learnt in [write database course theory code and name].

1.1 Background and Motivation

Write the background and motivation of project. What is the current state of the problem? What are the problems currently faced by the stack holders? What is your approach to solve/address the problems? Write the significance of your solution.

1.2 Problem Statement

Precisely state your problem statement, i.e., what is the problem and what you are going to address. Technically mention the entity types or relationships in the statement

1.3 System Definition

Also write a system definition: A concise description of a computerized system (that you are about to develop) expressed in natural language

A system definition example of a Conference planning system

"A computerized system used to control the ICCIT conference by registering participants and their payments to organizers using invoicing and other reporting methods. Controlling should be easy to learn, as ICCIT conferences use unpaid and untrained labor."

1.4 System Development Process

Write the system development process. Try to use a figure to describe the process. In brief, the steps are 1) Requirement gathering and analysis, 2) Database modeling: conceptual modeling, logical modeling, and normalization, 3) System architecture, 4) Implementation, and 5) Validation. Briefly describe each step. Remember the output of a step is the input of the immediate next step. Write that each step of the system development process will be a separate section of this document.

1.5 Organization

Write the organization of the document here. For example: Section 1 gives the overview of the project, Section 2 describes how the project and the resources are managed. .....Finally, the conclusion and the pointers to the future work are outlined in Section 11.

2 Project Management

Describe how the projects are resources are organized and managed in details, the roles of each members, used tools (Github, Trello ect.). See the scrum method.

3 Requirement Gathering and analysis

Explain how you gather the requirements of your problem: documentation, interviewing, survey, discussion, etc. Who are the stack-holders of your system?

4 Conceptual Modelling

Conceptually model your database using an E-R diagram. Use the legends in your diagram. Write how you find the entity types, relationships, and attributes from Section 3

5 Logical Modelling

Write a short description of Relation model. Write a how you convert your E-R model in Relational model

6 Normalization

From your Relational model, find the functional dependencies of each relation schema and show that they are normalized upto 3NF or BCNF.

7 System Architecture

Describe the architecture of your system using a figure: Describe how each component of the architecture communicate.

8 Implementation

Give some code snippet of each component you outlined in your System architecture. Some DDL query example. Use the listing environment for writing code. Listing 1 shows an SQL query.

```
select distinct name
from instructor
where salary > some( select salary
                        from instructor
                        where dept_name='CSE');
```

Listing 1: A SQL query example

9 Validation

Show that users are satisfied with your product. You can also give a user manual here describing how to use your system (process of completion of different tasks using your system) You can use some matrices (time, cost, resource etc.) to compare your system with the previous system.

10 Software Deployment

Describe how to install and configure your system so that a non-technical user can use your system.

11 Conclusion and Future Work

Write the conclusion of your project: what was the problem? what the developed solution offers, Significance of the project, limitations of the project and future work.

12 Bibliography

To add bibliography in your document, use the following steps:

1. First create a .bib file in the same directory where your .tex file is (in our case, the file name is references.bib). Also place the bibliography style file in the same directory. In our case, we are using the ios1.bst style file. We include the following commands in the .tex file for the style file and bib file:
   \bibliographystyle{ios1}
   \bibliography{references}

2. Import the BibTeX of your book or paper from Google Scholar or other sources into your .bib file. An example of BibTex is shown in Listings 2.

```
@article{kopka1995guide,
  title={A Guide to $\{$$\backslash$LaTeX$\}$--
     Document},
  author={Kopka, H and Daly, PW},
  year={1995},
  publisher={Citeseer}
}
```

Listing 2: A BibTeX example

3. Then, use the name of the BibTex (in Listing 2, the name is kopka1995guide) in the text of your .tex document where you want to refer it.

4. After saving your .tex document, execute the PDFLaTeX option one time; then execute the BibTeX option; then again execute the PDFLaTeX option for twice; finally, execute the QuickBuild option. Now your document refer the corresponding book or paper.