Penn State Berks IST 210 Project Instructions

Problem Instructions

As a team and aided by case materials, course content, and quality external resources, you need to create a proposal and a presentation to meet the requirements outlined by your client. Note that your client's requirements may not be clear in the problem description. It is your responsibility to define the problem and drive the requirements. Keep in mind that your team is not the only one bidding on this contract; several other teams are fiercely competing for this project! If you win, it could mean a sizeable contract for your company and revenue that you definitely need! Good luck to each of the bidding teams! May your solution be the winning one.

Problem Introduction

The goal of this problem is to create a database design solution that meets the needs of your client. Your client has sent out a Request for Proposals (RFP) to a series of potential vendors and your team has been chosen as one of the vendors solicited to bid on the project. As part of the bidding process, your team will be required to create a document (a proposal) and a presentation, which will be used to demonstrate your solution to your client. In addition, you are expected to create a demo version of your solution.

It is the responsibility of the bidder to demonstrate the nature of their solution by creating a proposal document which includes the information as outlined in the "Proposal Documents" portion of this document. Your team will also be required to present your solution to the Client. Each of your team members will, equally, need to demonstrate their understanding of the project by participating in the presentation process. It is highly recommended that, prior to starting the project, each member of your team choose a role from which you will play throughout the project. Choose the participants that you feel will most strongly make your case to the Client. Some possible roles team members can choose are:
- Project Manager
- Database Designer
- Information Architect
- Data Analyst
- Database Developer

Project Learning Objectives

After completing this problem, you should be able to:
- Generate a document covering the requirements set forth within a proposal.
- Evaluate a company's need to move to a database solution.
- Describe the impact the new database solution will have on the business.
- Develop a project plan for the design and development of the database project.
- Identify the resources needed to complete the database project.
- Create a budget for completing the database project.
- Identify the target audience for creation of a database solution.
- Report how data was analyzed to help make decisions for the database solution.

- Explain the data uses, issues and guidelines revolving around the creation of the database solution.
- Design a database that meets the needs of the organization.
- Generate the SQL statements needed to create the database structure. (Note:
- only use the Data Definition Language, DDL, capabilities of SQL)
- Plan for migrating data into a new database system.
- Plan for future areas of system development.
- Anticipate the organizational, legal, and ethical issues revolving around the creation of the database solution.
- Discuss the plans for providing access to data and security measure for the database solution.

Problem Assignment

Scope of the Proposal

Upon completion of the proposal, your team should submit one copy of the document to your instructor. You will also be required to develop a 10-15 minute presentation to be given to the Client. The contents of the document and presentation are outlined below.

Selection Criteria

In order to win this contract, your team will be competing against the other teams within your course section. The winning bid will be determined based on the Client's assessment of how well your team has met the requirements set forth within the proposal outlined in this document. The Client's decision will be based on both your document and presentation.

You are also provided with the project rubric. The Client will use this rubric to select the winning project.

Requirement of the Proposal Document

As part of the bidding process, your team will be required to create a proposal document. This document will be used to demonstrate your ability to analyze and create a solution to the Client's need.
- The document should be a minimum of 20, single spaced pages and maximum of 30 pages, excluding appendices.
- Use a San Serif Font (Arial, Veranda, etc) of minimum size of 10 and maximum size of 12.
- You must label your figures and tables with proper captioning.
- The margin of the document must be one inch in all sides.
- The page numbers should be display in the middle both of the page.
- Each section's contents and page requirements are outlined in this document:

Team Milestones

You are expected to return four draft reports. Draft reports are not graded. I use them to give your feedback. The team draft reports will be submitted according to following schedule.

Milestone	Scope	Due
1	IV. Project Overview	2 weeks
2	VI. Audience, Process and Data Analysis	2 weeks
3	VII. Database Design	1 week
4	V. Project Management	1 week

Details of the Document

I. RFP Cover (1 Page)

As part of the submission procedures for this proposal, you are required to prepare an RFP cover. The cover needs to include the following:
1. Proposal Title
2. Class Section
3. Instructor Name
4. Company Name, Address, and Telephone Number
5. Date of Submission
6. Any other Relevant Data

II. Table of Contents (1 Page)

Create a document table of contents that outlines the major document headings and subheadings.

III. Executive Summary (1 Page)

Create a one-page summary of your plan which is brief, to the point, and will hopefully evoke sufficient interest in the recipient to warrant taking a closer look. It is used to summarize the major parts of the document and entice the reader to continue reading the rest of the document.

IV. Project Overview (2-3 Pages)

A. Scope of Work

Discuss your understanding of the Client's needs and requirements for the new system. You should focus on demonstrating your understanding of the Client's need to move to a centralized database system.

B. Business Impact

Identify the potential business impacts a centralized database system may have on the Client. Focus on:
- Change Management issues
  - Change management issues with moving to a new system
  - Employee/customer/user reactions to the new system
  - Potential problems

- o How the new system could streamline their current processes.
- o Provide an explanation of the potential database issues that THE CLIENT may encounter with this new system and provide a solution for dealing with these issues.
- Provide a justification statement outlining the importance and the potential benefits of moving to a centralized database solution (i.e. Return On Investment (ROI), ease of use etc.)
- Be creative and go beyond the problem given to you.

V. Project Management (3-5 Pages)

A. Project Plan

Provide a proposed plan for completing the project that includes, at a minimum, the following information:
- An in-depth explanation of what it will take to complete the project (tasks)
- Proposed project timeline (includes a start and an end date) for each project task.
- Project deliverables
- Major milestones

B. Project Resources

Identify the resources you feel will be needed to complete the proposed project. You should focus on identifying the following:
- The personnel needed to be able to complete the project, the time they will need to spend on the project, along with job titles and the associated costs.
- A description of the roles and responsibilities for each of the identified personnel.
- Hardware, software, and infrastructure needed to complete the project with the associated costs for each.

C. Project Budget

Provide a budget for the completion of the project. This section should include at a minimum the following information:
- Employee times for designing and developing the database
- Cost for recommended hardware and software
  - o Proved a cost for both the hardware and software your are recommending
  - o Provide a justification for choosing each of the components

VI. Audience, Process and Data Analysis (4-6 Pages)

A. Audience & Process Analysis

Provide a detailed description of who will be using the system. Think about the following:
- Which will users (employees, customers, and others) be using this system?
- Description of how the system tasks will vary based on each user's profile, as well as what those tasks will be.
- Describe how users will be using the system.
- Describe the business process (e.g. sales process, human resources) that will be using your system.

B. Data Analysis

Present your process for collecting, analyzing, and using the current data to make decisions about the new system design. Think about, but do not limit your plan, to the following:

- Description of how you collected the data used in your analysis (feel free to reference any external resources or documents contained within this document) to design the system. For example, how would you discover the needs of your customer?
- Describe your process for analyzing the data you collected.

C. Data Uses, Issues and Guidelines

Provide a summary of how the data in the new system will be used based on your analysis and the guidelines for using the data.

- Describe how the data you collected was used in making your decisions about the design of the new system.
- Justify why the data you collected and analyzed was appropriate for the new system.

VII. Database Design (3-4 Pages)

Demonstrate your understanding of the design of the database by creating the following:

- Develop an E-R Diagram depicting the proposed structure of the database design. This must be created in Visio using Crow's Feet.
- The E-R Diagram should show all attributes, relationships, and cardinality.
- Create a set of normalized relational tables to the 3NF that reflect the relationships shown in an E-R Diagram.

VIII. Development, and Data Migration

- Implement your database in MySQL and PHP (Tables and Relationships)

- Create user interfaces and generate, test, and document the SQL statements needed to achieve the objectives/steps that you identified in the business process analysis.

- You need create a minimum of three user interfaces, one for adding data into the database, one for reading, and one more updating a record.

- Conceptualize and write at least 10 SQL queries to generate possible reports that the system users are likely to generate when they are using your system.

IX. Data Access and Security (2-3 pages)

Discuss the various levels of access to the data and your plans for keeping the data secure. When determining levels of access, refer back to your audience analysis. Focus on things such as:

- Who will have access to which data? (this should tie closely with your audience analysis)
- Who can add vehicle information to the database? (this should tie closely with your audience analysis)

- Who will be able to see information such as commission and gross sales? (this should tie closely with your audience analysis)
- What security measures will be put in place to prevent unauthorized usage from occurring?