

Project Proposal: CPSC 471 Team 1

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1. Introduction

The **problem** this project aims to tackle is the lack of affordable and efficient methods to track clientele and projects in a simple manner. The target audience of this database will be small businesses which are growing, but do not have the funds or resources to implement their own databases with specific customizations that can be modified based on the user.

The proposed **solution** is a database which can be modified to the specific business it is being used by and it will help keep track of clients and projects.

The **motivation** of this project is unique. The project has two distinct reasons: one of them is to accomplish the tasks of a small business database, and the other is to help our group member's small business. We wanted to create something which we can later see be used in real-life.

2. Problem Definition

What is the history of the problem?

- As technology advances, so do companies.. Or so the thought goes. The reality of the situation is that small businesses cannot compete with bigger companies unless they are tech-aware and tech-versed. This means that the "underdog" will go under if they do not adapt to the ever increasing technological advances.

Why is this problem interesting?

- This is an interesting problem as many projects that Computer Science students deal with seem far-fetched and unrealistic. This project will have a hands-on team who can test against concrete examples and experiences.

When and why does the problem occur?

- Almost all projects and businesses will run into this problem - how do we, as a business, keep track of existing customers and sales in a concrete and digitally safe manner, without having to resort to paper or memory, or anything that does not, and cannot grow in scale as business increases. For small businesses to grow, they need an organized and reliable overview of their clientele as well as projects and project status. Keeping track of these aspects of a business on paper or other methods can get chaotic and overwhelming.

Is the problem already solved?

- There are currently existing solutions

What is done now?

- The solutions are usually paid software that simplifies the process of tracking information needed to run a business.

Are there similar systems or solutions to the one you propose?

- There are indeed generic database systems and also systems for certain niches

If so, reference and briefly explain them.

- CashierPro
<http://www.cashierpro.com/>
- Clover Network
<https://www.clover.com/>
- Square, Inc.
<https://squareup.com/ca/en>

Are there possible improvements to current solutions?

- While there are generic database systems, or for certain niches, we want to create a web application designed specifically for our teammates printing business. Compared to other systems, we plan to implement our database such that modifying data will be increasingly intuitive and user-friendly, while ensuring security for both the clients and for the company.

3. Proposed Solution

This project achieves organization within a small business and privacy for clients and employees. The project is a database which organizes and stores the clientele of a small business. This solution will categorize companies within a hierarchy of elements and connect the respective projects to their status.

The **user** will be able to log in to the database and view the current projects in progress. Options such as:

- Searching for clients/projects/employees

The **administrator** will have the ability to:

- Add/edit/delete clients/projects/employees
- Give rights to employees and create new administrators

The **client** will have the ability to:

- View existing and past projects with the business
- For existing projects, request a change in a projects attributes. They can be, for example (Date completed [can only extend, not shrink], contact person [on their side]) etc. More details will be ironed out through the iterations

The difference in the rights between user and administrator is intentional, as we would still like employees to be able to view and access information, however all modifications need to go through the administrator. This enhances privacy.

The database will have a one sided interface specifically for the employees and managers of the company which implemented the database. While the business side will be the core function of the database, we also plan to implement the client side, but will be optional, and may be completed if time permits. The database will have an enhanced interface that is simple and easy to use, but keep a professional and elegant view.

Ideally, we would like the project to have an “invoice” feature which enables the administrator and user to print invoices for contracts and projects for tax purposes.

4. Motivation

Why do we need this solution?

- With this solution, client information can be stored/deleted/modified and the stored client information can be pulled for usage such as obtaining billing information, contact information and creating invoices.

What makes your project unique?

- It is going to be used for a personal business that is run by one of the group members. As a project that can be both beneficial to our education and as a useful application for the group member's business, it has become more of an interesting project we wanted to do.

Emphasize what your project contributes or achieves!

- Efficiency to pulling up or modifying existing client information.
- Ability to pull records based on certain criteria (city, year, order, etc.).
- Organized database of all past clients.

5. Conclusion

- With small businesses in mind, we understand the importance of having a concrete database that can be used to store client information and give users the flexibility to customize the stored attributes based on their needs. As a group that has a group member that is operating his own business, it seemed both beneficial and resourceful to use this project as an educational and useful application. Along with the stored records of clients, we want to make it user friendly with the functionality to be able to store/delete/modify records, and even be able to pull the records and apply the information to auto-populate invoices for easy creations. Also, we would like to be able to provide reports that can be created based on a specified query, in order for businesses to assess previous projects or client details.
- In terms of timeline, we are hoping to follow closely with the provided deadlines and ensure to complete the deliverables ahead of time in order for us to review and make any revisions as we see fit:

1. Project Proposal (Due Date: Monday, Sept 30th (11:59 PM))
2. Detailed ERM (Due Date: Friday, Oct 11th (11:59 PM))
3. Initial Relational Model (Due Date: Monday, Oct 21st (11:59 PM))
4. Initial Functional Draft Design (Due Date: Monday, Nov 4th (11:59PM))
5. Final Report (Due Date: Friday, December 6th (11:59 PM))

6. References

CashierPro, <http://www.cashierpro.com/>
Clover Network, <https://www.clover.com/>
Square, Inc., <https://squareup.com/ca/en>